



ABSTRACT BOOK

7th WORLD CONFERENCE ON RESEARCH INTEGRITY 2022

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Introduction

- Abstracts are grouped and ordered according to sessions on the conference programme
- Abstracts are listed by abstract number, title and author/s
- You are able to use the search options in this PDF
- Please note **no edits** have been made to any abstracts. They have been included as per the original abstract submission.

Oral Presentation Abstracts

Pecha Kucha Session 1

PK 1.1

NYU-UG Research Integrity Training Program: A Model for Capacity Building in Research Ethics, Integrity, and Governance

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The New York University–University of Ghana Research Integrity Training Program (NYU-UG RITP; MPI: Caplan, Ogedegbe, & Laar; R25TWA10886) is a five-year capacity-building project funded by the Fogarty International Center, NIH. It has two specific aims: 1) to produce a core group of expert researchers who have mastery of research ethics, research integrity, and research governance in Ghana, who will go on to lead international research teams, teach bioethics, review research protocols, and develop institutional and national policies on research integrity and governance; 2) to establish at UG School of Public Health a M.Sc. in Bioethics program, the first such program in Ghana. To achieve Aim 1, our team designed and implemented the NYU-UG Fellowship Program in Research Integrity, which has trained 30 fellows across three cohorts. In this presentation, we characterize the Program’s curriculum and mentored collaborative research activities, articulate the reasons for our approach, and offer the program as a model for training programs in other low- and middle-income countries (LMICs).

The Fellowship Program’s curriculum comprises three intensive courses (ICs): IC1) History and Philosophy of Research Ethics; IC2) Research Integrity; and IC3) Developing a Collaborative Research Output. The training is valuable in that it provides the in-depth knowledge, skills, and competencies trainees need to become assessors and change agents in Ghana’s research regulatory system. Through its content and collaborative approach to teaching, research, and mentoring, the Program ensures that its training and research outputs are relevant to the culture, health care system, and research systems in Ghana.

Following completion of courses, fellows engage in mentored research collaborations. The aim of this research program is to gather empirical data and stakeholders’ perspectives on what areas of Ghana’s health research landscape need improvement and how those improvements might be achieved. Thus, fellows are creating the first comprehensive empirical and analytical scholarship on research ethics, integrity, and governance issues specific to Ghana.

The foundational commitment behind our approach is that research ethics, integrity, and governance policies and reforms must be locally authored rather than merely imported, and that they must meet needs as they are understood based on locally produced knowledge.

PK1.2

Improving clinical trial transparency with trial-level report cards: a pilot study at the Charité - Universitätsmedizin Berlin

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Objective: To evaluate the usefulness and impact of an intervention at the level of trialists to increase clinical trial transparency at the Charité – Universitätsmedizin Berlin. Research transparency is crucial to

the accessibility and usefulness of clinical trials. Transparent practices include prospective registration, timely reporting of results in the registry and as openly available publications, and registration-publication linkage.

Methods: We evaluated a sample of clinical trials conducted at the Charité across select practices for clinical trial registration and reporting. We generated report cards via code to inform trialists about their performance, as well as to provide tailored recommendations to improve the specified trial's transparency. We also survey researchers on their perceived usefulness of the report cards and infoshets. After a follow-up period of 6 months, we will evaluate improvement on select transparency practices.

Results: The intervention will be conducted this fall. We will present results from the survey that evaluates the usefulness of the report cards and infoshet. We will also present interim results for the evaluation of improvement on a subset of transparency practices that can still be improved after trial completion. These include reporting of trial results in the registry and as a journal publication, linkage of the registration and publication, and archiving paywalled publications in a repository for discoverability.

Conclusion: We evaluated trials for responsible practices using automated approaches, developed an intervention to feedback the findings to researchers, and cooperated with core facilities to conduct and analyze the impact of this intervention. This pilot study generates lessons learned and may be scaled at other institutions or adapted for use in other disciplines.

PK1.3

Teaching Research Integrity to High School Students: A Practical Demonstration of the Tools Developed by the INTEGRITY H2020 Project

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The primary aim of the INTEGRITY H2020 project is to empower students for responsible research conduct through evidence-based and scaffolded learning. This has been achieved by designing and building a variety of innovative tools and resources for students at high school, undergraduate, and PhD levels. The main purpose of the INTEGRITY H2020 tools is to bring ethics and research integrity alive in the classroom in order to equip the next generation of students and researchers with the knowledge and skills needed to address new and previously unforeseen research challenges.

The high school tools have been developed by a team of researchers from Trinity College Dublin, Science Gallery Dublin, Universidade do Porto, and the University of Ljubljana. In addition, high school students and teachers from across Europe were involved in co-creating the tools at the INTEGRITY European Student Convention 2021 and various other events facilitated by Science Gallery Dublin. The high school tools consist of a full research integrity course made up of 10 modules which are designed to be delivered over approximately one full school week. Modules include: Introduction to Research Integrity, Technology, Art & Activism, Fast Fashion, Music, Space, Epidemiology, Animal Experimentation, Data Transmission, and Genetic Testing. All modules relate their subject matter back to key issues of research integrity and research ethics in creative and innovative ways. The modules also incorporate various teaching methodologies and pedagogical approaches, and have been designed to be delivered by teachers in-person in the classroom, fully online, or in hybrid and blended environments.

We propose a practical demonstration of a selection of our INTEGRITY high school tools. The demonstration will be designed to showcase module content, the teacher manuals, quick start guides, and other materials and resources developed, and will show how the module material is used to empower students for research integrity and responsible research content. We will also highlight the flexibility of delivery methods which are possible, and the wide range of pedagogical approaches which can be adopted by the teacher when delivering the materials.

PK1.4

Hungarian researchers' perceptions of research integrity climate and publication pressure

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Introduction: Research integrity climate and publication pressure are substantial factors that influence an individual's behavior. A strong research integrity culture can lead to better research practices and responsible conduct of research. Contrarily, publication pressure can increase the likelihood of research misbehaviors. Investigations on organizational climate and publication pressure can be a valuable tool to identify the strengths and weaknesses of each subgroup and develop targeted initiatives. Therefore, our study aims to assess the perceptions on integrity climate and publication pressure in three universities in Hungary.

Methods: A cross-sectional study was conducted with PhD students, postdocs, and professors from the Universities of Debrecen, Szeged, and Miskolc between January and March 2021. The survey included demographic questions, such as gender, age, scientific field, and career stage. It also includes the Survey of Organizational Research Climate (SOuRCE) and the Revised Publication Pressure questionnaire (PPQr). **Results:** A total of 438 participants completed the survey. In the integrity climate adjusted results, career stage was associated with the RCR resources, Institutional Regulatory Quality, Integrity Socialization, and Expectations scales. Overall, postdocs and assistant professors perceived integrity climate more negatively than PhD students and full professors. In contrast, PhD students perceive more positively than the other groups. The scientific field was associated with three integrity climate scales. Biomedical sciences perceive fairer regulatory bodies than the Natural Sciences. Natural sciences also perceive more negatively how the department values integrity when compared to Humanities. Humanities perceive more positively Advisor/Advisee Relations than Biomedical Sciences. The scientific field was not associated with perceived publication pressure. Associate and full professors perceive Publication Pressure more positively than the other groups regarding the resources involved in the publication process, while PhD students perceive a lack of resources.

Conclusion: Our results suggest that institutions should pay more attention to early career researchers, especially insecure work positions, such as postdocs and assistant professors. They should provide RCR resources, socialize them in RCR, and set more reasonable expectations. Moreover, department leaders should develop initiatives to foster better integrity climates.

PK1.5

Trust in Medical Research among hospitalized persons and community members in Lira District, northern Uganda.

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Objectives: We tested the hypothesis that levels of trust may be lower among community members compared to with those with recent contact with health care workers such as those currently hospitalized.

Methods: We conducted a cross sectional study in Lira district of northern Uganda and administered structured interviews to community members and hospitalized patients. Community members were selected at household level using a multistage sampling procedure and hospitalized participants were selected using systematic sampling at the general adult wards of Lira Regional Referral Hospital. The primary outcome variable was trust in medical research and was measured using a validated 12-item tool designed by Mark and Hall. We conducted a correlation analysis to explore relationships between trust and several variables. We also conducted multiple linear regression analysis to examine whether community versus hospitalized patients was associated with medical trust after adjusting for several potential confounding variables. All analyses were done using Stata version 12.

Results: We enrolled 296 participants with 148 (50%) from the community. Overall, 192 (65%) were female, average age 29.5 (9.2). Mean level of trust for medical research was higher among hospitalized persons compared to community members ($p=0.0001$). Results from the regression indicated that willingness to participate ($p=0.0001$), age ($p=0.01$) and prior benefit from research ($p=0.02$) showed a positive association with level of trust. However, being employed ($p=0.009$) showed a negative association with trust. The final model explained 17% of the variation in level of trust for medical research.

Conclusion: Our findings suggest that trust for medical research is higher among hospitalized patients compared to community members. Interactions with medical personnel may explain the higher levels of trust and such interactions should be encouraged for persons in the communities. Such interactions should also target younger persons.

Acknowledgement: This study was undertaken with funding from Mbarara University Research Ethics Education Program (MUREEP), an NIH-FIC funded project.

PK1.6

Publication integrity viewed from different perspectives: a focus group study

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Objective: We conducted focus group discussions to learn about publication practices existing across different disciplinary fields and research organizations. We also explored the impact of research culture on publication practices existing in different research organizations, countries, and global system of science, and we explored the roles of funding organizations and other stakeholders in preserving good

publication practices in research (for example, honest and fair authorship distribution, data sharing, preprint publishing, etc.).

Method: Within the SOPs4RI project, we conducted 30 focus groups. We used a purposive sampling strategy and snowballing technique to recruit researchers from different disciplinary fields, different levels of seniority, and geographical locations. We also recruited other stakeholders, such as research integrity officers, funding organizations, and industry members.

Results: The focus groups discussions were conducted with participants and other stakeholders from humanities, social sciences, natural sciences and engineering, and biomedical sciences. The focus groups were conducted in eight European countries (Belgium, Croatia, Denmark, Germany, Greece, Italy, Spain, and the Netherlands). We will employ the thematic analysis approach to develop the thematic map with identified themes and sub-themes. We developed the first version of the codebook, and the findings will be ready for presenting at the WCRI. Some of the codes available in the first version (based on the literature reviews and data available from the focus groups) are: authorship distribution; authorship, publications, and academic career; research publication and dissemination (examples of good and poor publication practices); peer review (good and poor peer review practices); journals, publishers, and funders facilitating good publication practices, open science.

Conclusion: Fostering good publication practices is important since future research endeavors rely on previously disseminated knowledge. Exploring the currently existing challenges and practices in the publication process and obtaining insights from researchers and other stakeholders from different disciplinary fields, countries, and publication cultures may help us develop policies that will enhance publication integrity.

PK1.7

Research misconduct during the COVID-19 era: A systematic review of retracted medical and life science publications during the pandemic

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Objective: To present the results of an ongoing systematic review of the retracted publications in health and life science during the pandemic of SARS-CoV-2.

Method : Two independent reviewers will search for retracted articles in PubMed, Web of Science, BVS, Google Scholar and Retraction Watch databases. The protocol to be followed is under registration at PROSPERO. Articles published and retracted between 2019 and 2021 will be included. Data will be collected according to PROSPERO registered protocol.

Results: The data collection and analysis ends December 2021 which will provide enough time to prepare results for the presentation at 7th WCRI in June 2022. It will reflect 2 years of research production since the beginning of the pandemic and illustrate the main reasons for retractions at a moment of crisis. Is it mostly due to research misconduct? Were these publications available at preprint repositories?

The pandemic scenario was market by the need of a fast and trustful response from the scientific community that culminated in a lot of research production and report. However, there were several retractions and article withdraw during this period. The large number of retractions in short notice is a reflex of the development of effective strategies to foster research integrity. It is important to understand if the main causes for these retractions was due to research misconduct or purely flawed science. Either way, it is a call to scientific rigor and integrity since science was impacting directly medical decisions, public health policies almost at the same instant of its publication.

Conclusion : This review results will pave the way for a better

understanding of the impact of SARS-CoV-2 towards research integrity and ethics for use in evidence-based practice. Encourage monitoring of the quality and scientific integrity of available studies to support assistance in emergency situations such as the pandemic.

Pecha Kucha Session 2

PK2.1

Retroactively Prospective Clinical Trial Registration: A Review of Clinical Trial Registration Changes.

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Objective: To determine the number and proportion of 'retroactively prospective' clinical trial registration, among trials registered in 2015. We define these as trials which report a start date that lies before the first registration date (retrospective registration) at study start, but whose start date is subsequently changed so that by 5 years post-registration, the start date lies after the first registration date (prospective registration).

Methods: ClinicalTrials.gov allows registry entries to be changed at any time, creating a trail of historical versions. To ensure an appropriately long and equal follow-up, we drew a sample of all ClinicalTrials.gov entries registered in 2015 (n=11,910). We then built a web scraper to extract data from all historical versions of a trial, including version dates, start dates, status, phase, and indication area. For a sample of 200 'retroactively prospective' clinical trials and 200 comparators, human raters determined whether the changes to the start date were reported in the accompanying publication.

Results: We found 249 registered trials to be 'retroactively prospective' (2.1%). The majority of these (169, 67.9%) had changed their start date to be prospective after the clinical trial had been completed. This compares to 6,036 trials (50.7%) that have always been prospective, and 5,503 trials (46.20%) that have always been retrospective. Concordance between the original start date and the start date reported in the publication was much lower in 'retroactively prospective' clinical trials compared to comparators ($\chi^2 = 46.9$, $p < .001$).

Conclusion: To our knowledge, our study is the first to shine light on the questionable research practice of 'retroactively prospective' clinical trial registration. Prospective registration of all clinical trials is mandated by the International Committee of Medical Journal Editors (ICMJE), and an ethical requirement of the Declaration of Helsinki. Our method provides journal editors and peer-reviewers with an automated tool to easily uncover potential non-adherence to these requirements.

PK2.2

How can institutions foster research integrity without imposing unwanted bureaucracies?

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Initiatives to foster research integrity (RI) are not always applauded by researchers who might perceive them as increasing bureaucracy and creating excessive burdens. Some fear that they lead to a 'checkbox exercise' mentality that actually hinders academic progress. In fact, many RI initiatives do involve bureaucratic mechanisms to regulate research practice, such as codes of conduct which lead to rules and regulations operationalized in bureaucratic processes. This has led to two opposing perspectives: on the one hand, that rules and regulations are crucial in setting RI standards and improving research practice, and on the other hand, that increased bureaucratization should be avoided because it hinders the research endeavor and does not result in real changes in practice. In this presentation, we will try to make sense of these two perspectives, by asking the question: how can RI be fostered by institutions without imposing unwanted bureaucracies?

We turn towards governance theory, to argue that there are three modes of governance available to research institutions to foster RI: markets (governing through incentives), bureaucracies (governing through rules and regulations), and networks (governing through co-creating agreements in a group). We will argue that network processes are necessary to legitimize and support market and bureaucratic modes of governance. We shall delve into a case study to analyze how network processes can support bureaucracy in practice. Namely, we will analyze how the Science Committee established at Tilburg University in 2012 in response to the Stapel misconduct case has navigated between and combined network and bureaucratic modes of governance.

We will show that the Science Committee has driven substantial improvements in data management practices at Tilburg, by legitimizing its bureaucratic mechanisms (including setting rules and conducting audits) through network processes. These network processes include focusing on co-creating policies and learning together with researchers rather than emphasizing policing and enforcing rigid rules. These insights suggest that institutions can create some bureaucracies to foster RI, as long as these bureaucracies are minimal, and are legitimized and sustained by network processes. We end our talk with recommendations on how institutions can foster RI without creating unwanted and ineffective bureaucracies.

PK2.3

Lessons learned from developing and implementing Estonian national research integrity system

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The aim of our article was to analyse the process of developing Estonian Code of Conduct for Research Integrity since there are numerous codes of conducts available but limited reports on the process of compiling itself.

This is qualitative empirical study based on the document analysis and semi-structured interviews with different stakeholders participating in either the working group or in the feedback rounds.

Different reasons were brought out for developing the code. These included the need to regulate research integrity issues on national level, but also to train and raise awareness, prevent scientific misconduct and to keep up with other countries. Interviewees highlighted that the fact that the code was created from scratch created the sense of responsibility. The lessons learned include the fact that the key to success is to engage as much of the research community as possible; the research funding institutions should support the initiative; and time should be taken for the discussions in order to solve the disagreements.

We conclude that for promoting the research integrity culture, other elements of the research integrity system need to reinforce the code. The code and the national research integrity system support each other.

PK2.4

Personality profiles of academic cheaters: comparing health and non-health students

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Objective: Personality is known to influence student acquisition of ethical and humanistic qualities, which are core values that underpin health professionals' practice. In a previous study, we found that personality attributes were linked to academic misconduct in medical students, with Machiavellianism showing the strongest associations. However, little evidence has examined whether health students share distinct personality traits from those on non-health courses, and what is their role in predicting academic cheating.

Method: First and final-year undergraduate Portuguese students attending health and non-health courses at the University of Porto (UP) will be considered for this quantitative, cross-sectional study. Validated, Likert-scale questionnaires will be used to assess students' academic misbehaviour and a broad range of personality traits, aiming to cover both "bright" and "dark" sides of personality. A regression model adjusting for personality traits, demographic and academic information of the students will be performed. This study will follow the ethical principles approved by the Ethics Committee of the UP.

(Prospective) Results: This study is part of a PhD thesis integrated in an institution-wide project taking place at the University of Porto, in collaboration with the European Network for Academic Integrity (ENAI). Data collection will be conducted within the next couple of months. The results should provide an insight into which personality profiles are more prone to academic misconduct among health and non-health students, as well as factors affecting the relationship between personality and cheating.

Conclusion: Overall, this study will help academic institutions to better adjust their strategies to support students at risk of cheating, as students who engage in academic misconduct may not only fail to develop core professional skills and values, but are also likely to extend it to their practice, having detrimental effects on society.

Pecha Kucha Session 3

PK3.1

Is research integrity one of the core epistemic responsibilities of the university?

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Objectives

Epistemic responsibilities (ERs) of universities are responsibilities that concern equipping and empowering its researchers, students and lecturers to attain, produce, exchange and disseminate knowledge. In particular, the realization of core ERs is thought to be essential for good research, adequate education and serving society well. However, what are these core ERs? What are the elements constituting each ER? How do they relate to one another, and to research integrity (RI) specifically? To come to a consensus-based taxonomy of the core ERs of universities we performed a Delphi study.

Methods

We invited 229 experts, globally, to participate in our three-round online Delphi study. In each round we asked to what extent panellists agreed with questions about candidate ERs and their constituting elements. Open questions were asked to improve the descriptions and map relations between ERs. The first 2 rounds focused on reaching consensus on the ERs and their elements, round 3 on how levels of meeting an ER can be operationalized.

Results

In the preparation phase, we identified the potential ERs to include 1) fostering RI 2) stimulating the development of intellectual virtues 3) addressing the big questions of life 4) cultivating the diversity of disciplinary fields 5) serving and engaging with society, and 6) safeguarding and cultivating academic freedom. In Round 1 (n=39) we reached consensus on these six ERs, and their 27 constitutive elements. Before the conference we will have finalized and analysed Round 2 and 3. In these rounds we aim to further improve our understanding of the ERs, minimize overlap between different ERs, operationalize the levels of meeting the ERs and explore ways towards assessing the ERs.

Preliminary conclusions

Fostering RI is marked as one of the core ERs of the university. Our findings will provide insight into how well universities are fulfilling their responsibilities in the realization of specific ERs, and how fostering RI relates to other ERs. We received a relatively low response rate, however, a strength is we included global perspectives. We believe that our study can inform the debate about fostering RI and its interrelation to the other core functions of universities.

PK3.2

AI-inspired integrity implications in grants review: Russian Science Foundation experience

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With enormous public research money, funders make sure these funds are used ethically. By development and deployment of computer-assisted review processes, Russian Science Foundation

intends to overcome the existing human-attributed bias challenges and offer measures that may help improve review integrity nationwide.

We analysed traditional review process when 9 panel chairs assign appropriate reviewers to each proposal manually and compared it to the automated process by computer algorithms. Almost 1300 proposals were submitted for each of these calls, each proposal required the assignment of three reviewers.

The evaluation scores in our trial turned out similar. This means the innovation did not affect the quality of review. The polarity of evaluations somewhat decreased.

It was expected that due to the insufficiently accurate indication of discipline codes and keywords in reviewers profiles, the number of rejected assignments would increase because the applications got inappropriate reviewers. This has not happened.

With AI-assistance, rejections increased a bit but rejections due to conflict of interest and unavailability reasons, on the contrary, decreased. The computer does not know the competence of reviewers as much as the panel chair does, but it is more efficient in thorough checks of affiliations. Effectively, algorithms check if the reviewer is an applicant in the same call, if the reviewer is not employed in the same organization, if the reviewer already accepted many proposals, etc. But AI is not yet capable to detect family ties and complex relations between different groups of researchers in the same field.

The first results of AI-deployment are promising. The percentage of appeals to review submitted by applicants felt from 0.32% to 0.28% in computer-assisted trial. This evidence suggests AI use in peer review may help improve the process, boost the quality of reviews, ensure a better integrity and save time of the panel members considerably.

Based on big data of past evaluations, RSF digitalized portraits of reviewers thereby making assessment of a single application more objective with consideration of predominantly "negative" and "positive" reviewers. RSF plans to integrate semantic analysis and machine learning to add more value to the review process.

PK3.3

Guidance on research integrity provided by European discipline-specific learned societies: a scoping review

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Objective: The European Code of Conduct for Research Integrity (ALLEA code) provides recommendations on responsible research for researchers across disciplines. How these compare to recommendations developed by European discipline-specific learned societies has not yet been investigated. Therefore, we aimed to; 1) quantify the distribution of research integrity (RI) guidance from these societies, 2) compare societies' guidance with the ALLEA code, and 3) highlight differences in guidance between societies of different disciplines.

Method: A scoping review consisting of; 1) a search for relevant societies, 2) identification of RI guidance provided by these societies, and 3) a qualitative content analysis and comparison of the ALLEA code and societies' guidance.

Results: Of 245 societies, 46 had developed their own RI guidance in a total of 58 documents. Twenty-five percent of Social Sciences societies, 24% of Medical and Health Sciences societies, 16% of Natural Sciences societies, 12% of Humanities societies, and 5% of Engineering and Technology societies provided guidance. Society recommendations not reflected in the ALLEA code related primarily to equality, diversity and inclusion (EDI) and some other aspects of research culture and environment.

Between disciplines, there were differences in the detail and variety of recommendations made across research practices. Medical and Health Sciences societies focus on planning and performing research, whereas Natural Sciences societies focus on the reporting, review and dissemination of research. Recommendations from Humanities and Social Sciences societies are heterogenous and relate to the nature and practical considerations of specific sub-disciplines (e.g. psychology, archaeology, etc.).

Conclusion: The majority of societies provided no RI guidance. None of the available recommendations contradicted the ALLEA code, however certain practices not considered applicable by some societies may not have been included in their guidance, and some societies' guidance raised important considerations not directly addressed by the ALLEA code. These differences likely reflect different epistemological or methodological orientations and the practicalities of how research is conducted across disciplines, and the specific roles and responsibilities of societies as membership organizations (as opposed to research performing organizations). Societies from certain sub-disciplines produced substantially more guidance than others, causing a somewhat biased representation of some disciplines in this sample.

PK3.4

Using behaviour change theory to increase usage of reporting guidelines

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Objective: Reporting guidelines seek to reduce waste caused by incomplete reporting by influencing the behaviour of authors writing medical research articles. Usability testing has focussed on the perceived clarity and importance of guideline content, but has neglected how authors discover, access, understand and apply guidelines in real life. Guideline documents form part of a behaviour change intervention, whereby an author's behaviour is also influenced by websites (e.g. journal instructions, the EQUATOR Network website) tools (e.g. checklists) and other people (e.g. colleagues, editors, reviewers). Our objectives were to understand and address the limitations that currently stop people from using reporting guidelines.

Methods: We used the COM-B model of behaviour change(1) to identify behavioural drivers underlying authors' experiences of using reporting guidelines. We had identified these experiences previously in a systematic review and thematic synthesis of descriptive research(2). We then used the Behaviour Change Wheel method(3) to identify improvements which we are implementing by extending the EQUATOR Network website with new content, functions, and services (to be complete by April 2022).

Results: We identified a wide range of factors limiting the impact of reporting guidelines, spanning the capability, opportunity, and motivation COM-B domains. We found that all stages could be improved,

from discovery to application. We will present the identified limitations, our proposed improvements, and our progress in implementing these improvements.

Conclusions: Behavioural change methods helped us to identify limitations in guidelines and improvements to target behavioural drivers, which can now be evaluated for efficacy.

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PK3.5

Emerging tools to prevent academic and research misconduct in response to COVID-19 outbreak challenges: a systematic review

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Objective: To collect emerging strategies and tools published since the first wave of COVID-19 outbreak to prevent misconduct in students and researchers.

Method: A literature search will be performed in PubMed, Scopus, Web of Science, and Google Scholar from December 31, 2019 to October 31, 2021 with the keywords: academic/research/scientific misconduct/integrity/dishonesty, questionable research practices, fraud, students, researchers, and higher education. Grey literature and reference lists will be also screened. Criteria for inclusion will be original studies to assess misconduct in academia; original studies to prevent misconduct in academia. Exclusion criteria comprise studies published before the COVID-19 outbreak; studies with no reference to the target population; studies without available abstract and/or full paper after contact with authors; systematic reviews, meta-analysis, reviews, letters, commentaries, guidelines, and editorials. No language or geographical restrictions will be applied. Titles, abstracts, and full papers will be independently screened and reviewed by two authors and data on strategies and tools characteristics will be collected. The 10-item Medical Education Research Study Quality Instrument (MERSQI) will be used for the risk of bias assessment. This study will be performed on Review Manager (version 5.4.1) in accordance with Cochrane guidelines and reported as stated in PRISMA 2020. The protocol of the study is published in <http://osf.io/j2hzc>.

Perspective results: We are currently performing the literature search, which will be expectably concluded on October 31, 2021. The included studies will be reviewed, and the evidence will be synthesized in tables reporting the relevant characteristics of studies, such as authors, publication year, study type, study origin, scope, type of tool/strategy, delivery approach, target population, and availability. We expect to conclude the study by January 2022.

Conclusion: Strategies and tools will be categorized to obtain an updated overview of the available resources to prevent misconduct in academia after the first wave of COVID-19 outbreak. This systematic

review will be a valuable instrument for teachers and institutions and will ultimately benefit students and researchers. This study will address efforts to disseminate the best academic and research practices to deter misconduct under stressful conditions.

PK3.6

Incorporating Research Data Management in a Responsible Conduct of Research course. Lessons learned in teaching Data Management.

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Introduction:

Data management is an integral component of Responsible Conduct of Research (RCR). However, it does not get much attention as other aspects of RCR. A program of teaching RCR by the Moi University, AMPATH and Moi Teaching and Referral Hospital, in Kenya, included the topic of Research Data Management focusing on integrity issues. This paper discusses lessons learned during the teaching of the data management topic on the RCR course, titled "Developing Capacity of Moi Teaching and Referral Hospital/Moi University Institutional Research Ethics Committee to Prevent and Manage Research Misconduct". International Center (NIH-FIC).

Objective:

To demonstrate lessons learned in teaching Data Management as part of a course on Responsible Conduct of Research.

Methods:

The course was organized as a three-day workshop. A total of 6 workshops were planned to be held over 3 years. The participants were University academic staff, Researchers, Institutional Research Ethics Committee members, Research program administrators/managers, and graduate students undertaking masters and doctorate studies. Each workshop was arranged to have participants from a similar background.

The teaching of the Data Management took into account the sections proposed by Boddy. J et al. (2012). The sections were as follows: Data selection, Data collection, Data handling, Data Analysis, Data ownership and sharing, Data reporting and publishing. Integrity issues in each area were discussed regarding their nature, underlying causes and ways of prevention and mitigation. An interactive participatory approach was used in the teaching.

Conclusion:

The participants had difficulty understanding the concepts of Data Selection and Data Ownership/sharing. However, the concepts of Data Collection and Data Handling were better understood.

The lessons learned were:

1. Data management is key in Research Integrity but is not well appreciated by various groups involved in the research process.
 2. Teaching of data management is facilitated by discussing the topic in sections as proposed by Boddy et al. (2012).
 3. An interactive participatory method of teaching achieves better understanding of Research Data Management.
 4. More training is required on the role of data management in research integrity to researchers and research staff, IRB members, University academic staff and Research administrators/managers in Kenya.
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Pecha Kucha Session 4

PK4.1

Prevalence of offensive comments in the PEERE database

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Objective: To estimate the percentage of manuscripts with at least one offensive comment.

Methods: A cross-sectional study of Elsevier review reports available in the PEERE database*. Our sample size calculation indicated that 380 out of 297,026 manuscripts should be analysed to detect a prevalence of 1% of manuscripts (0 to 2% range) having at least one offensive comment. We used randomized stratified sampling to preserve scholarly field distribution. We then extracted all review reports (N=1,147) from sampled manuscripts. Analysis of the reports is currently ongoing and is being done independently by 3 researchers, who are reading and coding instances of offensive comments. Initial categories were devised from previous research on this topic, and will be further developed during the reading of reports.

Results: The study is still ongoing and is expected to finish in the beginning of 2022. Currently, 500 out of 1,147 review reports were analysed, pertaining to 163 manuscripts, of which 20 (10%) had at least one offensive comment. Examples included: "makes one wonder whether the authors understand the basic premise of photochemistry"; "this raises further concern over the authors grasp of the subject material"; "it seems like the article has not been accurately reviewed by an experienced researcher"; "first they need to learn how to properly structure a biomedical research paper"; "their statistical approach would benefit greatly from the input of someone who analyses survey data professionally".

Conclusions: While the PEERE database presents the largest collection of confidential review reports shared by publishers, it might not be representative of all journals. Nevertheless, to the best of our knowledge, this is the first study of offensive comments that utilised random sampling and that could provide us with more accurate estimates of offensive comments in peer review. Further work will be needed to evaluate the effects of these comments on the authors, and if, and how, they respond to them.

*For details on the PEERE database please see: <https://www.peere.org/peer-in-a-nutshell/>

PK4.2

Reflections on Postgraduate Student Research Ethical Approval in Developing Countries

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Background

Globalization has meant that postgraduate students increasingly conduct research in countries different to their host institution. This often requires students to obtain ethical approval from the country in which the research will be conducted. Although the principles of good ethical practice may be the same, the technical requirements for ethical approval may vary amongst countries, posing a challenge to

researchers. This reflective piece describes the experiences of two postgraduate researchers conducting health-related research in Ghana and Trinidad and Tobago (T&T). The aim is to provide postgraduate students, early career researchers and ethics committees with an account of what researchers experience when applying for ethical approval in developing countries.

Approach

The reflections are based on two unrelated research protocols (qualitative study and a mixed methods study) which were submitted for ethics review in Ghana and T&T. An overview of the health systems and research ethics process in both countries are first described in order to provide context. We then describe the practical process of obtaining ethical approval and the challenges encountered.

Practical experiences

Although the ethics application process is intended to be straightforward, the practical implementation may not be so. In Ghana, inadequate information on requirements created unnecessary delays. In T&T, at the time of conducting the research, the study hospital did not have a formal ethics committee. As such, ethical approval was first obtained from a local university to satisfy this criterion. Some recommendations from the committees were more generic than practical. In Ghana, the committee requested reports on all serious adverse events; this was not applicable because the study design consisted of surveys and interviews. In both countries there was reliance on personal networks to facilitate the process.

Practical implications

Researchers undertaking research in developing countries should be aware of research policies, reflecting on these in advance in order to plan appropriately. There is a need for research ethics committees in developing countries to improve communication and access to information. Where possible, committees should consider electronic submission processes, which are more efficient. Adding student representatives to committees may be useful in addressing student needs when conducting research.

PK4.3

Research Integrity in the postgraduate students' research: a review of literature and call for action

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Abstract

Research integrity is of utmost importance in research writing. They both cannot work successfully in isolation. The quest to complete a postgraduate research program or to publish articles might lead to a postgraduate student fabricating, plagiarising and falsifying the process of gathering data as well as research results. These unacceptable and unethical acts might be influenced by student's desperate need to build their profiles academically or by hectic deadline pressures from Higher Education Institutions, funders and publishers across the globe. This article presents findings of a systematic literature review on the topic of integrity in the postgraduate research in the South African context. The study begins with suggestions for more precise definitions of the terms "research integrity, academic writing process,

characteristics of a postgraduate researcher, research code of conducts, factors that may lead to postgraduate student's research dis-integrity and characteristics of a good writing skills.

A total of 106 masters and doctorate thesis published between 2010 and 2020 were sourced from various university websites in South Africa. Our study revealed that there is an increase in the number of dissertations published every year, but with an overall limited amount of research contribution. The study further found that, in most cases, postgraduate students in South Africa who have completed their degrees have not published any work from their thesis to contribute to their respective fields.

This study could make significant contribution to the universities and private institutions for their respective postgraduate students on effective ways of conducting and reporting research with integrity. We provide tangible recommendations to uplift and accelerate the research agenda on integrity in the postgraduate students' research in South Africa and on a global level. We concluded that there is a dire need for a call of action for increased studies to better understand research integrity as a driver of research excellence and public trust.

Keywords: Research Integrity, postgraduate students', postgraduate research, masters, doctorate.

PK4.4

Addressing north – south discrepancies in global health publication: beyond mandatory collaboration to mandatory authorship requirements in Malawi

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Introduction

Collaborative research between investigators from High Income Countries (HICs) and Low – Middle Income Countries (LMICs) is common. Such collaboration provides resources to address locally relevant health research gaps and capacity building in LMICs. However, power differentials, differing research and cultural norms and discrimination often result into questionable authorship practices. Researchers from LMICs are often underrepresented in first and last authorship positions; or not included at all as authors in locally conducted research.

Main text

Malawi research guidelines include recommendations to involve local researchers in locally conducted, collaborative research. They also recommend, where necessary, capacity building to address local gaps in skills, training and technology. However, there is no provision requiring joint authorship in final published research papers. This is apparent for both publically funded and industry funded research. This represents a missed opportunity to address authorship inequalities. It perpetuates "research about Africa without Africa" practices, negatively influencing LMIC researchers' ability to secure grants, gain academic prestige and set global research agendas.

Recommendations on authorship criteria such as International Committee of Medical Journal Editors provide frameworks to guide authorship in research publications. However, such criteria can disadvantage LMIC researchers in collaborative research. For example, requirement for authors to make substantial contributions to conception or design of the work may favour research grant holders, often from HIC. Systematic and holistic changes proposed to address power asymmetries at the core of the problem include decolonising global health, more funding directed to LMIC researchers and increased LMIC government research funding. These proposals may take long to materialize, requiring global efforts to realize. Ad interim, local institutions can take more direct action to address inequalities. National regulators must establish an office of research integrity to work with or within institutions such as The National Health Sciences Research Committee (NHSRC) and the College of Medicine Research

Ethics Committee (COMREC) enforcing mandates for increased opportunities for authorship in collaborative research.

Conclusion

Questionable authorship practices often disadvantage LMIC researchers in international collaborative research. While global measures to address such practices have been proposed, local action to recommend or mandate more equitable authorship roles may be required.

PK4.5

Mapping the Landscape of COVID-19 Clinical Trial Results

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Transparent, timely communication of studies is a core responsible research practice for preventing bias and waste. Timely results reporting promotes research integrity, trust in the scientific endeavor, and helps realize societal value of research. The importance of these goals is amplified during public health emergencies, especially for costly, high-risk clinical research. The Dissemination of REgistered COVID-19 Clinical Trials (DIRECCT) project examines how and when COVID-19 clinical trial results are disseminated.

We investigated a cross-section of registered COVID-19 interventional clinical trials completed by 30 June 2021. We searched for results publications using automated and manual strategies leaving at least six weeks between trial completion and searches. We evaluated aspects of reporting, such as dissemination route (i.e., journal article, preprint, registry) and time to report, and plan to build on these results in further analyses.

In Phase 1 of the project, we searched 285 trials completed by 30 June 2020. We located 41 trials (14%) with results available by 15 August 2020. The most common dissemination route was preprints (n = 25) followed by journal articles (n = 18), and registry results (n = 2). Of these, four trials were available as both a preprint and journal publication. The cumulative incidence of any reporting surpassed 20% at 119 days from completion. Phase 2, including searches of all trials completed by 30 June 2021 (n>2000), is nearing conclusion. The larger sample and expanded follow-up time will offer a more comprehensive picture of the pandemic research environment.

COVID-19 trials completed during the first six months of the pandemic did not consistently yield rapid results in the literature or on registries, however preprints played an important role in results dissemination. These preliminary results suggest results may be appearing more rapidly compared to routine practice. Issues with the reliability and timeliness of trial registration data may impact our estimates. Ensuring both accurate registry data as well as timely dissemination promotes research integrity and should be a priority for the research community, especially during pandemic conditions. Our expanded results will offer further insight into how the pandemic response altered dissemination patterns of clinical trial research.

PK4.6

Labyrinth moments: evidencing reflexivity in intersectional research that uses constructivist grounded theory

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Orientation – Reflexivity, in general, forces researchers to confront deeply embedded aspects of their identity, personal bias, values and relationships that emerge in different ways, and at different stages of the research process. The first author is a Coloured woman manager, conducting research on the lived experiences of Coloured women leaders in contemporary South Africa. She started the research at a time when her Coloured identity was at the center of a long-drawn negative experience at work. Between the autobiographical nature of the research question and inevitable activism in Intersectionality, the scene is set for integrity violations, intentional or otherwise.

Aim – To share experiences of conducting what has often felt like an autobiographical research project and to demonstrate how reflexivity in constructivist grounded theory can help guard against potential integrity transgressions.

Discussion – Being mindful of the role that personal experience, inter- and intra-personal dialogue can play in the co-construction of knowledge, the authors provide a reflexive account of how the first author confronted her own positionality in the field. She shares her fieldwork experiences about how she, working in collaboration with the second author, navigated the entangled and entangling data collection and analysis processes. Adopting reflexivity practices, she acknowledges and embraces her subjectivity as a researcher and the experience she brings to the research process. The research supervision relationship is presented as a space within which potential integrity transgressions were confronted and worked through.

Practical implications – The paper provides a roadmap, with key markers, including twists and turns, on how doctoral candidates could evidence reflexivity as they execute their studies.

Conclusion – From a constructivist perspective, qualitative research is an interpretive process where the researcher is the primary instrument of analysis. This paper uses extracts from the researcher's research journal and memos to show how she evidenced reflexivity in a practical manner. This is a candid account on actual, lived fieldwork experience.

Key words – 'colouredness', constructivist grounded theory, interpretive process, intersectionality, reflexivity

Oral Presentation Sessions

Oral Presentations 1: QRP and misconduct

OP1.1

Blind citations of retractions

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Objective: Citations of retracted papers would pollute science. For instance, hundreds of falsified microRNA studies, a news hotspot of retractions, were retracted but [blindly] cited after retractions by thousands of new papers. The present [on-going] study aims to identify this avoidable misconduct in reporting research, to characterize the misconduct, and to find its possible causes.

Methods: A systematic literature search was conducted on databases including PubMed, Web of Science, and Retraction Watch to identify retracted papers on microRNAs in accordance with pre-specified search strategy and study selection criteria. Statistical characterization of the retracted papers was performed on relevant variables, including authors' affiliations, years of publication and retraction, journals, publishers, citation metrics (journal impact factors, JIF), reasons for retraction, disease types, and associated microRNAs.

Results: Out of a total of 887 retracted papers originally published from 1999 to 2021 meeting the study selection criteria, 756 (85.23%) papers were affiliated with institutes in China. The top 3 journals that retracted (28.52%) miRNA papers were: European Review for Medical and Pharmacological Sciences retracted 122 (13.75%) papers; Journal of Cellular Biochemistry retracted 91 (10.26%) papers; and RSC Advances retracted 40 (4.51%) papers. The top 3 publishers that retracted (46.34%) miRNA papers were: Wiley retracted 149 (16.80%) papers; Springer-Nature retracted 140 (15.78%) papers; and Verduci Editore retracted 122 (13.75%) papers. The retractions tended to occur in journals with low/no JIF. Against the expectation that retractions would stop citations, 43.51% of citations happened 12 months after retraction. The 887 retracted papers were cited 6327 times after retraction; 78.41% of the retracted papers were cited at least once after retraction; 29.67% of the retracted papers were cited even more frequently after retraction. A random sample (10%, n=89) of the retracted papers recorded 478 citations after retraction. Most citations (464/478) were made in main text. Only 3.97% (19/478) of the citing papers gave notices about the retractions.

Conclusions: Retraction of papers did not halt their citations. Researchers and editors must beware of the retracted papers and avoid citing them. The journals and publishers should implement stringent measures to avoid publishing the papers that take no notice of retractions.

OP1.2

Detection and analysis of wrongly identified nucleotide sequence reagents in high impact factor cancer research journals

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Objective

Fact-checking nucleotide sequence reagents provides a measure of research reliability in cancer and genetics research, as nucleotide sequence reagents are widely used across different experimental techniques. Whereas our previous analyses have focused upon lower impact factor cancer and genetics journals (1), we are now fact-checking nucleotide sequence identities in high impact factor cancer journals.

Method

We screened original papers in the journal *Molecular Cancer* that were published in 2014, 2016, 2018 and 2020. Papers were visually inspected for the presence of nucleotide sequence reagents. Nucleotide sequences were extracted and manually submitted to fact-checking using BLASTn and BLAT algorithms, and verified genetic identities were compared with claimed identities in the text (1). Proportions of wrongly identified sequences and problematic papers were compared according to publication years and other features (1).

Results

We confirmed the identities of 6,295 nucleotide sequences in the 341/500 (68%) *Molecular Cancer* papers that described nucleotide sequence reagents. Analyses to date indicate that 480/6,295 (7.6%) fact-checked sequences were wrongly identified. Percentages of wrongly identified sequences per year rose from 5.3% (2014) to 9.2% (2020), when the journal's impact factor also rose from 4.257 (2014) to 27.401 (2020). The 480 wrongly identified sequences mapped to 146/500 (29%) papers, from a minimum of 6/59 (10%) papers/year (2016) to a maximum of 40/82 (49%) papers/year (2020). Most (121/146, 88%) *Molecular Cancer* papers with wrongly identified sequences were authored by teams from China. Future analyses will examine the institutional affiliations of papers with wrongly identified sequences (1), and why the proportions of both wrongly identified sequences and affected papers were highest in *Molecular Cancer* papers that were published in 2020. We are also performing similar analyses of original papers published in *Oncogene* (impact factor 9.687 in 2020).

Conclusion

We have identified wrongly identified reagents in 29% *Molecular Cancer* papers published across 2014, 2016, 2018 and 2020. This concerning result indicates that serious research integrity problems in the cancer literature may not be restricted to low impact factor journals, although similar analyses of other high impact factor cancer journals are clearly required.

(1) Park Y, et al. (2021). bioRxiv 07.29.453321

OP1.3

Explaining occurrences of questionable research practices: insights from a qualitative study among Norwegian researchers

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Objective: In a recent survey in Norway, we found that the number of researchers who report having committed one questionable research practice (QRPs) during the last three years reached 40 %. The survey was followed up by a qualitative study, and in this paper we outline the multiple explanation models for the occurrence of different QRPs that emerged in the study.

Method: This qualitative study contains focus group- and individual interviews with natural and social scientists in Norway. In the interviews, six specific QRPs were discussed in an open-ended manner. Additionally, 1134 short comments posed by researchers to a large-scale survey on QRPs were collected and scrutinized. The interview transcripts and survey comments were analyzed using Nvivo and themes were identified inductively.

Results: In the identification of central themes in the transcribed interviews and comments, four different explanation models for the occurrence of different QRPs emerged: 1) Interpretation of guidelines/practices: Guidelines are interpreted differently, and practices are complex and thus deviations may occur. 2) Social relations: Desire to enhance collaboration or hierarchical pressure may increase some QRPs, particularly related to scientific publications. 3) Research culture and work climate: National, institutional and professional cultures may lead to normalization of some practices. 4) Structural pressure – e.g. financing system, incentive system, publication pressure increase incentives to take ethical short cuts. The explanation models thus reflect four levels, from individual, social, cultural, and structural. Whereas similar explanation modes are discussed in literature on research integrity, it is common to focus on one explanation model, such as publication pressure (structural pressure). The QRPs we focused on are attributed to several of the explanation models. As example, sloppy citation practices are linked to individual interpretations, but also to structural pressure, while gift and ghost authorship are linked to all of the explanation models.

Conclusion: Occurrences of different QRPs can have several interacting explanation models, ranging from individual, social, cultural, and structural. We suggest that further research should focus on the specificities of the different QRPs and how explanatory models related to each QRP may interact, to find targeted measures to enhance integrity in research.

OP1.4

QRP and the limitations of the FFP definition of research misconduct

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When research misconduct is discussed, the debate often centres on falsification, fabrication, and plagiarism (FFP). The FFP definition of research misconduct is perhaps the most commonly accepted one. Accordingly, any other deviation from good research practice is labelled questionable research practice (QRP), suggesting that it constitutes problematic behaviour, but is not serious enough to be labelled misconduct. In their paper 'Measuring the prevalence of questionable research practices with

incentives for truth telling', John et al. (2012) demonstrated that the prevalence of QRP is not only 'surprisingly high' but that 'some questionable practices may constitute the prevailing research norm'. These are troubling findings, since they essentially show a lack of good research practices in a grey area, where misconduct sanctions do not apply.

In our presentation, we will put forward a new perspective on QRPs by raising questions about the threshold, created by the common FFP definition, between QRP and research misconduct. We will discuss the advantages and disadvantages of a narrow FFP definition and attempt a classification of various QRPs. In doing so, we will also highlight how QRPs are dependent on established norms in different fields and disciplines. This focus offers a key to assess the seriousness of different types of QRP and to highlight their potential harmful impact on the reliability of research as well as research integrity. Both QRP and research misconduct, according to the FFP definition, constitute a deviation from good research practice. This raises further questions about possible and appropriate responses to QRP. What types of preventive measures and sanctions would be suitable to target both FFP and QRPs? Putting QRPs in the spotlight does not play down the seriousness of FFP, but instead will help to foster a more robust science. The goal is to facilitate a debate to rethink what research misconduct means in contemporary science and what could be done to safeguard research integrity.

OP1.5

Questionable Research Practices and Perceived Work Environment.

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Observations of Questionable Research Practices (QRP) will most likely exert a negative impact on the work environment. Even so, there are few systematic investigations of the associations between the two. In this paper, we examine this relation in greater detail. Based on data from a large national survey on research integrity in Norway (the RINO-project), we analyze the association between Norwegian researchers' observations of QRPs and their perceptions of their work environment. Three questions are addressed:

1. What is the association between observed QRPs and perceptions of the work environment?
2. Can distinct subgroups be identified?
3. How are they to be interpreted?

Data and Method

Data stem from a survey in the RINO-project, distributed to all researchers at Norwegian universities and research institutions (N=7291). Data are analyzed by way of multiple correspondence analysis, or MCA, a technique which identifies latent structures in a set of categorical variables and ascending hierarchical cluster analysis. The clusters are also interpreted based on over- and underrepresentation of structural characteristics (sex, age, position etc.)

Results:

- There are two main dimensions in the data. Dimension 1 describes an opposition between having and not having observed QRPs. Dimension 2 describes an opposition between one vs. many observations of QRPs.
- Along Axis 1, there is a clear negative association between observed QRPs and the perceptions of the work environment.
- There are four clusters or subgroups in the "space of observed QRPs".
- The largest cluster, 62%, has not observed any QRPs.

- The second largest cluster, 29%, has observed sporadic occurrences of QRPs related to publications.
- Cluster #3, 3%, has observed several QRPs
- Cluster #4, 6%, has observed frequent occurrences of QRPs

Conclusion

The space of observed QRPs is bi-dimensional, with a strong opposition between those who have vs. those who have not observed QRPs. This is also an opposition between negative and positive perceptions of the work environment. This highlights the necessity of focusing on QRPs; they not only have a negative impact on trust in science but are also strongly linked to negative perceptions of the work environment.

OP1.6

A Novel Survey to Assess Climate and Needs for Responsible Conduct of Research (RCR) in a Military International Research Organization

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Objective

We present here the rationale, design, and results of a novel survey of views about research climate and current needs related to RCR among research personnel at the Walter Reed Army Institute of Research (WRAIR), with an aim to inform efforts to improve our institution's RCR practices.

Method

We designed the Qualtrics survey and distributed it to investigators and other research personnel at WRAIR sites in the United States, Kenya, Thailand, and other international locations. We used standard descriptive statistics (means and cross-tabulations) to analyze survey data, and applied basic qualitative techniques to analyze open-ended survey comments.

Results

Out of 2,268 estimated eligible research personnel, 729 (32.1%) completed survey screening questions and 649 (28.6%) answered every applicable question; response rates were somewhat lower for respondents at African and Southeast Asian sites. Respondent demographics matched those of the study population, including experience levels, research roles, and employment type (military, government, contractor, etc.). Reported levels of satisfaction were high (>80%) for overall research climate, leaders' support for RCR, and RCR-related policies and procedures, and they were somewhat lower (>70%) for RCR education, ability to express concerns openly, knowledge of expert support, and knowledge of research misconduct reporting. Satisfaction with the elements of RCR varied, with higher satisfaction with animal research, human subjects research, and research misconduct, and notably lower satisfaction with authorship and publication, collaboration, data management and analysis, (internal) peer review, and research mentorship. Respondents who experienced a recent RCR-related challenge showed lower rates of satisfaction with climate and elements of RCR. Open-ended survey comments provided valuable information about concerns related to inappropriate authorship, difficulties with collaborative business agreements and competitive research culture, deficits in data management capabilities, and weak mentorship practices. Respondents from Africa and Southeast Asia generally reported higher rates of satisfaction on all items but patterns of problem areas were similar for international and U.S. sites.

Conclusion

WRAIR's diverse and international research personnel reported largely consistent patterns of satisfaction with the overall RCR climate and current practices related to RCR. Survey results are now guiding interventions to support research ethics and integrity across the organization.

Oral Presentations 2: Research Integrity

OP2.1

Towards a Guide for Preclinical Confirmatory Multicenter Trials

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Evidence generated in preclinical efficacy studies is often weak. Low numbers of animals, selective reporting, publication bias and consequently inflated effect sizes threaten translation into clinical contexts and threaten research integrity. To strengthen preclinical evidence, confirmatory studies are proposed as a powerful tool to weed out false positives, gain a deeper understanding about mechanisms, and refine the experimental design based on the exploration by increasing internal, external, and translational validity. However, there is hardly any guidance as to what comprises a confirmatory study and how it can specifically strengthen research integrity. Drawing on the joint expertise from statisticians, preclinical scientists, and clinicians, we are developing a framework how robust evidence in confirmatory multicenter preclinical studies can be generated. Here, we present key aspects to guide decisions before engaging in a confirmatory study. We propose possible criteria that should be fulfilled before actually committing to a confirmatory study. That is, what evidence is needed and how to measure this evidence from exploratory study. Then based on this evidence, how should one plan a confirmatory study? We provide suggestions on sample size calculations that balance reliability of results against ethical concerns (3R, refinement, replacement, reduction) under consideration of exploratory evidence. We further offer an overview of currently debated measures to improve experimental design of confirmatory studies. Examples include systematic heterogenization and the introduction of clinical biomarkers as means to increase external and translational validity. Based on concrete examples from current confirmatory projects funded by the German Federal Ministry of Education and Research, we are able to show that best practices and recommendations are highly depending on the research question and the aim of the confirmatory study (efficacy and clinical translation or elucidation of e.g. mechanisms underlying a disease). In this context, we will highlight issues where in-depth communication of involved parties is needed to preserve research integrity and increase the value and utility of confirmatory experiments. Consequently, a close interaction between the statisticians, preclinical scientists, and clinicians is always essential for high quality research.

OP2.2

Inclusion in clinical research: assessing potential barriers to informed consent in randomized controlled trials published in high-impact medical journals

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Objective: To assess the prevalence of randomized controlled trials (RCTs) on diseases that disproportionately affect African, Latinx, and Native Americans that use English language exclusive eligibility criteria described in informed consent documents. Additionally, to determine the readability of eligibility criteria in informed consent documents and in ClinicalTrials.gov study records of the RCTs.

Method: Database search for RCTs published in high-impact journals with informed consent documents (ICDs) and eligibility criteria in ClinicalTrials.gov. Race/ethnicity data and content analysis of the frequency of words in ICDs and eligibility criteria describing English language proficiency of participants will be reported as percentages. Readability of ICD and eligibility criteria will also be assessed.

Results: The results from this study will provide an overview of RCTs published in high-impact journals that require English language proficiency of their participants. The results are expected to be available in April 2022, allowing sufficient time to present them at the WCRI in June 2022.

Conclusion: We anticipate that our research will highlight the importance of creating ICD and eligibility criteria without language or readability restrictions so that RCTs include the underrepresented people that may benefit from the findings.

OP2.3

Building and reflecting on a framework for research integrity at a portuguese biomedical research institution: why dialogue and narrative matter

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At the Institute of Research and Innovation in Health (i3S, University of Porto), an official framework for research integrity has been developed since 2019. Our aim has been to promote integrity and responsibility among researchers, rather than to focus exclusively on misconduct such as fabrication, falsification, plagiarism and guest authorship. Bearing in mind that the meaning of integrity for researchers is not homogeneous, being clearly influenced by one's own experience, training and work environment, i3S Integrity Office has been implementing a bottom-up approach, which implies

- working close to the researchers, answering their queries and promoting their training in Ethics and Responsible Conduct of Research;
- being the contact point for those wishing to report, in confidence, cases of research misconduct, before any formal allegation is made; issuing guiding procedures to make allegations of research misconduct;
- supporting the i3S community in the implementation of international codes of conduct and best international practices in research ethics and integrity;
- working in collaboration with other national and international institutions of excellence in the field of Ethics and Responsible Conduct in Research;
- conducting training actions on vital areas pertaining to bioethics and responsible conduct of research, as well as other scientific activities and consequent results dissemination.

We would like to promote a debate on the strategies and tools that we have been using to implement what we designate as the three R's of Research: Responsibility, Reflection and Reciprocity. In our meetings with the different research groups (currently there are 70 research groups at i3S), in the open lectures and in the one year-length course on research ethics/ integrity that was developed by the Integrity Officer (2019-2020; 2020-2022), there has been a special focus on a dialogical and narrative approach. We would like to share the main issues of concern for researchers and some of the outputs of the dialogical sessions.

OP2.4

Tensions and contradictions in group supervision: what then of potential relational and research integrity transgressions?

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The growing popularity of group supervision bears witness to its many benefits. Group supervision not only provides opportunities to fine tune research and research supervision skills, but relational skills as well. For, in group supervision, members' individual psycho-social and political makeup gets tested. The ability to own and manage task and relational anxiety becomes critical in developing mutually generative, trusting and supportive relationships. The fact that social science research, and doctoral research in particular, is, oftentimes, both a personal and an academic quest further complicates the picture. This duality alone is a potential mine field for intellectual, intra-psychic and inter-personal fallouts. If not properly managed, group supervision can easily translate into integrity transgressions.

This reflective piece draws on the authors' lived experiences of group supervision to explore how tensions and contradictions inherent in collaboration and learning are potentially both generative and destructive, and how, if not worked with, might lead to ethical issues, as well as intellectual, intra-psychic and inter-personal fallouts. The paper employs systems psychodynamic perspectives on the paradoxes of collaboration and learning to elucidate the trials and tribulations of group supervision. In particular, issues of belonging (identity, individuality, involvement, boundaries), engaging (disclosure, intimacy, trust, regression) and speaking (authority, courage, dependency, creativity), all critical in successful group supervision, are explored. Suggestions on how potential relational and integrity transgressions can be managed are presented.

OP2.5

The DFG's web portal "Research Integrity" – an up-to-date, community-driven source of reference

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In 2019 the German Research Foundation (DFG) revised its Code of Conduct "Guidelines for Safeguarding Good Research Practice" due to wide-ranging changes in research brought about by the digital turn and new developments in publishing, the structure of research institutions and forms of cooperation. The conceptual core of the Code and a paradigm shift from the previous white paper is to embed a culture of research integrity in research institutions based on a positive approach to the topic. Rather than focusing on violations of good research practice, the emphasis is now on the professional

ethics of researchers. The Code itself describes appropriate standards for research work and is structured into three levels reflecting different levels of abstraction. Together the guidelines, explanations and subject-specific in-depth contributions provide a reference tool for researchers and senior administrators to align their actions, internal structures and processes.

Whereas an expert committee was tasked with drafting the guidelines and explanations (first and second level), the content of the third level is based on a 'community approach'. Especially via workshops various stakeholders develop detailed commentaries, case studies, frequently asked questions, thereby gaining ownership of the topic of research integrity and contributing to the further development of standards in the German research system. It is the academic research community that shapes and concretizes the rules of good research practice.

Since its launch in December 2020 the third level of the Code is available in German, since July 2021 in English via the portal "Research Integrity" (<https://wissenschaftliche-integritaet.de/en/>). As a continuously growing body of content, the portal now comprises approximately 400 articles and has attracted considerable interest among the academic community which is reflected in the visitor numbers. The DFG, as the initiator of the portal, secures quality assurance of all content.

OP2.6

Make Academia Great Again – mental health in academia. How to become a healthy and responsible researcher?

Dr Joeri Tijdink¹

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Objective and aim of the talk:

In recent years, several studies have put emphasis on the increasing prevalence of mental health problems that exist among (early-career) researchers (ECR). This should be a concern. Not only burn out, depression and other mental health problems can have a detrimental effect on the research process and responsible research practices (RRP), it also hinders the effectiveness of the academic enterprise and could be a pressing financial burden. In this talk, I will present an overview of prevalences of mental health problems and present a set of possible, (evidence-based) interventions that can help individual researchers to deal with stress in academia, learn to survive in academia and become responsible researchers, and highlight what institutions can do to improve mental health in their researchers.

Background:

The content of this presentation is threefold. It is partially focusing on 1) prevalences of mental health problems among academics, 2) gives an overview based on evidence from psychiatry, psychology, and RCR-research; and 3) its foundation is based on our empirical research (surveys, focus groups, and pilot interventions) that have demonstrated that responsible research practices can contribute to a less stressful research climate. It emphasizes good mentoring, open research culture for young researchers, better recognition and reward structure and present how we deal with mental health issues in academics. I will draw lines between those elements and mental health and emphasize why this is closely related to mental health. Lastly, I discuss elements of a self-help guide for researchers entitled "scholar on the sofa, how to survive in academia". This book helps researchers to become a responsible researcher, enables them to protect them against too much stress and pressure.

I will end the talk with why I think there is momentum to make a change in academia. I will present a range of existing initiatives that are currently being developed that try to change academia. This included initiatives on research culture, supervision, open science and better assessment criteria. I will highlight these initiatives, their relation with mental health and end with why I think we can make academia great again.

Oral Presentations 3: Guidelines and Policies

OP3.1

What can research institutions do to support good supervision and leadership?

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Objective

While the importance of responsible supervision and leadership in fostering research integrity is widely acknowledged, it is not always clear what role research institutions play in supporting these practices. Therefore, research institutions need guidance on their responsibilities regarding supporting responsible supervision and leadership. As part of the SOPs4RI project, we aimed to develop these guidelines.

Methods

The development of the guidelines results from an iterative process involving multiple steps within the SOPs4RI project. Based on the project's preliminary steps, we performed a workshop involving selected stakeholders to co-create new recommendations on the topic. This first draft was further revised within a dedicated working group to make it ready for a piloting phase.

Results

An exhaustive set of guidelines focusing on responsible supervision and leadership was developed. Specifically, we co-created guidelines targeting supervisors, PhD candidates and research leaders. Although each targeted guideline identifies unequivocal recommendations, it is possible to identify specific overarching themes across guidelines. First, institutions can support the development of doctoral candidates, supervisors and team leaders at an individual level by providing specific training. Second, research institutions can support interactions within and across the three target groups by creating dedicated structures for encouraging cooperation and collaboration. Third, we recommend that institutions define the rights and responsibilities of each group, in order to manage expectations. Finally, institutions should focus on supporting supervisors, PhD candidates, and team leaders by creating a dedicated support and consultancy system.

Conclusion

The recommendations created throughout different stages provide institutions with specific guidelines to support good supervision and leadership. This can be done by institutions supporting supervisors, PhD candidates and research leaders during their academic careers. The guidelines have been developed together with lead users. The guidelines provide research institutions with a comprehensive overview of what they can do to support responsible supervision and leadership.

OP3.2

Can ethical guidelines help decolonizing academic partnerships? – the case of Finland

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Recently, Finland's landscape for global academic collaboration has changed: national initiatives for research, education, and innovation collaboration with the Global South have increased, encouraging universities to develop and build new partnerships. Even though in principle, these collaborations are expected to be based on equitability and responsibility, the North-South collaboration discourses and

practices still often turn out to be fairly Eurocentric. Additionally, the increasing volume of global collaboration implies the inclusion of a greater number of researchers from Finnish universities, who may not have previous experience cooperating with partners from and in the context of the Global South. Hence there is a need to create support for decolonizing Finland's partnerships with the Global South and increasing the researchers' understanding of the ethical issues related to the complex global and local contexts and power relations in academic collaborations.

There are several existing guidelines and handbooks focused on developing academic North-South collaborations. The topic is wide, including aspects related to building and leading responsible partnerships in general, but also field-specific issues relevant to global south collaboration. In Finland, the universities are committed to the ethical guidelines provided by the Finnish National Board on Research Integrity. However, ethical issues related to engaging in academic partnerships with the Global South specifically have not been considered in this context in Finland.

The Finnish University Partnership for International development, UniPID, is a network of Finnish universities aiming at fostering responsible academic collaboration with Southern partners. UniPID is addressing these concerns by working on guidelines related to collaborations with the Global South to complement existing principles, as well as by developing training and toolkits for universities related to ethical considerations of global academic partnerships. These initiatives aim to increase researchers' and other university actors' understanding of the global and local historic, cultural, political, and economic contexts for collaboration, in order to strengthen researchers' knowledge and understanding of the complex issues that may arise when building collaboration with partners from the Global South. This discussion will present these efforts within the Finnish landscape and explore the extent to which these may help to decolonize Finland-Global South partnerships.

OP3.3

Understanding challenges relating to Cooperation and Liaison between Universities and journal Editors on research integrity cases: focus on CLUE Guidelines

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Background

Responding to research integrity cases and allegations often involves cooperation between research institutions and journals but these interactions can be problematic. Recommendations on Cooperation & Liaison between Universities and Editors (CLUE) were published in 2021 after lengthy consultation. However, in developing this guidance we recognize that some issues remain problematic and some of the recommendations may be controversial.

Objective

To discover perceived challenges and barriers to implementing the CLUE recommendations among research integrity professionals at institutions.

Methods

Perceptions will be documented quantitatively via electronic surveys of the 105 subscriber institutions of the UK Research Integrity Office (UKRIO) (mainly comprising UK universities and other research institutions). Issues identified in the survey will be examined in depth using qualitative methods with small groups (eg virtual focus groups of 10-15 participants) of research integrity professionals from UKRIO subscriber institutions.

Results

Quantitative results from surveys and qualitative data from focus groups will be presented.

Conclusion

Although we recognize international and regional variations, we hope that developing a deeper understanding of perceptions of research integrity professionals working in the UK will help the development of future versions of CLUE or of clarification and guidance to support the current recommendations.

OP3.4

The scientific integrity and research ethics framework of the JRC, the European Commission's Science for Policy Service

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The Joint Research Centre, JRC, is the European Commission's science and knowledge service. At JRC, scientists with diverse professional backgrounds, including life sciences, economics, remote sensing, informatics, nuclear, etc., are carrying out research activities and developing scientific knowledge in order to deliver independent scientific advice to European Union policies. In total, more than 3,000 colleagues from all EU Member States work at the JRC's five research sites, located in different Member States and headquartered in Brussels.

The reputation of JRC as a provider of science to inform EU policy is built on the quality of its research and on the scientific rigour with which evidence is prepared and presented. Proper conduct of research requires high standards of scientific integrity and in 2020, the JRC adopted a new Scientific Integrity and Research Ethics Framework with a set of instruments that will ensure compliance with a high level of scientific integrity and research ethics. The instruments include a Scientific Integrity Counsellor, an Editorial Review Board, a Research Ethics Board, a policy for Research Data Management, and efforts on Responsible Conduct of Research, including on information and training.

The framework, which was designed in close collaboration with JRC researchers and research managers, demonstrates the JRC's commitment to scientific integrity and ethics and creates trust and confidence in JRC's research results and scientific knowledge, among policy-writers, decision-makers and stakeholders.

This paper discusses the different parts of the JRC's scientific integrity and research ethics framework. The specific issues of scientific integrity that a science for policy organisation must address are highlighted along with how they can best be met.

Oral Presentations 4: Research infrastructures and environments

OP4.1

Communicating scientific evidence in plain language while maintaining scientific rigor: results of two experiments

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Objective: As many (non-scientific) people as possible should have access to the evidence that researchers create day-to-day. But how can we communicate scientific evidence in a lay-friendly way and still maintain scientific rigor? In project P_{lan} Psy, we aim to develop evidence-based guidelines for writing plain language summaries (PLS) of psychological meta-analyses that are understandable and valuable for the public. In this talk, results of the projects' first empirical studies will be presented.

Method: We conducted two preregistered online experiments with 2288 and 2211 participants. Samples were stratified for education status, age and gender. Participants read two different PLS and filled in questionnaires afterwards. We systematically varied six different characteristics of the PLS and investigated how this affected perceived accessibility, understanding, empowerment and knowledge.

Results: We found that PLS accessibility, understanding and empowerment was significantly higher when technical terms were replaced by lay-friendly terms or when they were replaced in a glossary compared to the use of technical terms ($R^2 = .007-.022$, all $p < .001$). Participants better understood and knew more about the quality of evidence of a meta-analysis when we added an explanation of what a meta-analysis is (OR = 1.29-1.73, all $p < .01$), while this additional text did not affect other outcome measures (all $p > .22$). PLS accessibility, understanding and empowerment was lower if we explained the study's method in detail compared to when we left this information out (all $p < .05$) and when we used a glossary to explain statistical terms compared to when we left this glossary out (all $p < .05$). Structuring a text improved accessibility if the PLS was complex ($R^2 = .003$, $p = .04$).

Conclusion: Writing a lay-friendly research summary is a balancing act. Explaining and adding information might improve understanding and knowledge acquisition in some ways but might backfire in others. We deduce the following criteria for writing PLS: Replace technical with lay-friendly terms; put research into a meta-context; structure the text if it is complex; and do not explain too many methodological details.

OP4.2

Indicators for / of research integrity

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WCRI statements, codes such as that from ALLEA (The European Code of Conduct for Research Integrity), and national codes provide a relatively consistent high level definition of the main elements of research integrity and the principles upon which they are based. Few research systems, though, are systematic in their evaluation of how, and how well, these principles are put into practice in the research community. Difficulties in doing so may include a lack of agreed indicators, ill-defined or inaccessible data that would

drive those indicators, and associated costs. However, the potential benefits may include better information for all those working in the research system, to plan interventions, predict and monitor intervention effects, and track the overall level of research integrity.

High integrity research, such as that underpinning vaccine development and testing, has been vital during the COVID emergency. However, the research community has been concerned by high profile cases of apparent misconduct and, more generally, there is indirect evidence that cases of misconduct may be under-reported. There is also increasing evidence of endemic questionable research practices in an environment that does not always provide the incentives and resources that promote and reward responsible research. Robust indicators of the main elements of research integrity, including honesty, rigour and transparency, could help track improvements in that culture and environment.

As a contribution to this work, UK Research and Innovation (UKRI) has partnered with the medical research charity Cancer Research UK, and with GuildHE, which represents small and specialist UK research organisations, to explore what indicators might be valid, reliable, ethical and practical to monitor research integrity. In doing this, we are mindful of unintended effects of developing and using indicators, and we will convene international experts in both research integrity and in research indicators to test our conclusions. The project is very much a preliminary step toward a potential framework, and will be UK-focused. However, it will engage internationally and be based on internationally recognised principles, so that by mid 2022 we expect it to have made a useful contribution to the evaluation of levels of research integrity.

OP4.3

The Journey of Developing an Intra-Faculty/College Integrated Research Management System (Session 1)

Prof Minrie Greeff¹

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Since the promulgation of the National Health Act No 32 of 2003, health and health-related research ethics in South Africa has become highly regulated, requiring review by a National Health Research Ethics Council registered Research Ethics Committee. Special guidelines were formulated in 2008, and reviewed in 2015. As such in 2014, the North-West University had to adjust its approach to the management of health research ethics. As a former school director and professor in research, I was requested to develop a new system to address these new requirements and set up an ethics office within the Faculty of Health Sciences (FHS).

In 2019, I was again faced with a similar challenge when I was requested to develop a system for managing research integrity. While research ethics is regulated in SA, the management of research integrity is an institution's personal choice and, to date, only a few institutions have had the foresight to take up this challenge. However, an increase in cases and a growing awareness of research integrity, has led to many models being implemented to establish research integrity at institutions i.e. either as part of existing research ethics structures or as separate entities either hosted in the offices of registrars, deputy vice-chancellors or research support offices, mostly tasked with handling more serious cases of research misconduct.

However, what happens to the less serious cases within a Faculty? What if a more proactive and constructive approach to fostering a climate of responsible conduct of research, is the goal? The FHS, in 2019, decided to take a much broader and more integrated approach to research integrity management by developing an "Integrated Research Integrity Management System" (IRIMS) focusing on both a) the fostering of a climate of responsible conduct of research focussing on support, organization,

communication, and training, as well as b) developing an intra-faculty system for handling the less serious cases of research non-compliance and violation of good research practices, in a more restorative fashion, including an individualized mentorship program, while also effectively processing the more serious cases of misconduct. This presentation focusses on this journey of establishing the IRIMS.

OP4.4

The case for an open and searchable jurisprudence platform to improve investigations of scientific misconduct

PhD Yvonne MYHG Erkens, PhD Frits R. Rosendaal, **Dr Bob Siegerink**

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All Dutch academics have to adhere to The Netherlands code of scientific conduct. This code, based the principles of honesty, scrupulousness, transparency, independence and responsibility, is the guiding document when allegations of scientific misconduct arise and require investigation. Even though the 2018 version introduced 61 standards for good research practice, there is still ample room for interpretation of the code during the investigative procedures – especially when one considers the infrequent and idiosyncratic nature of the allegations.

We will argue that the quality of the procedures regarding scientific misconduct, and by extensions the effectiveness of the code, can be increased by using jurisprudence in five ways. It will help to 1- define the reach (helps to define which activities fall under the code and which do not), 2- stimulate law-forming (helps to translate general concepts of the code to specific cases), 3- promote clarity (researchers will more easily understand how a certain practice will be valued), 4- ensure equality for those involved (people who work under the same norm or code can expect to be treated equally), 5- codification (signals from the jurisprudence can lead to future revisions of the code in order to better reflect the norm).

We will describe how we are currently working on a jurisprudence platform on research integrity in the Netherlands, with involvement from all Dutch Universities. This platform will not only include all outcomes of the ~500 procedures investigating allegations of scientific misconduct since the the first case in 2004 (i.e. the jurisprudence), but will also include future procedures (~ 50 new cases a year) well as secondary material that will provide the necessary context. This can include landmark case descriptions, quantitative analyses, and descriptions of changes in certain concepts over time. In accordance with the five guiding principles, the platform will be open to all and allow searches on indexed keywords as well as free text. Moreover, copies of the underlying dataset will intermittently be made available through an open data repository.

Finally, with the Netherlands as our motivating example, we will explore general aspects of a jurisprudence platform for other research institutions.

Oral Presentations 5: Research Integrity

OP5.1

Key values and principles for the safe, secure and responsible use of life sciences

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Background

The World Health Organization (WHO) Science Division is developing a user-friendly global guidance framework on the responsible stewardship of the life sciences. The framework will be focused on risks caused by accidental and deliberate misuse of life sciences knowledge, materials and skills to cause harm.

Objective

WHO convened a series of consultations and working groups with a broad group of stakeholders. One group identified a series of key values and principles to underpin WHO global guidance framework for the safe, secure and responsible use of life sciences research.

Method

The group was composed of 13 members with expertise in various fields, including bioethics, social and medical sciences, public policy, security, with gender-balanced and broad global representation. In 2021, the group had a series of meetings to discuss and agree on a set of values and principles.

Results

The group identified nine values and principles and a series of associated commitments:

- 1) Health, safety and security;
- 2) Responsible stewardship of science;
- 3) Integrity;
- 4) Fairness;
- 5) Openness, transparency, honesty and accountability;
- 6) Inclusiveness and collaboration,
- 7) Social justice;
- 8) Intergenerational justice;
- 9) Public education, engagement and empowerment.

On integrity, the working group highlighted the following three commitments:

- 1) to uphold the integrity of the scientific process by generating and disseminating high quality information in sufficient detail to permit reproductivity, while at the same time increasing capacities to identify and effectively deal with risks to health, safety and security;
- 2) to responsibly communicate accurate scientific information that could result in biological threats and to counter the dissemination of information that misinterprets or mischaracterizes ideas, knowledge and data;
- 3) to report possible illegal, unethical or unsafe basic and applied life science to relevant institutional, national and international authorities.

Conclusion

Along with other governance tools, mechanisms and activities, increasing awareness on the risks posed by the advances of the life sciences to global health through the framing of the responsible governance of the life science and research integrity could contribute to harnessing the responsible use of the life sciences.

OP5.2

Decolonising Research Integrity in an Unequal World: A Research Management Perspective

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Decolonising, Indigenising, Africanising and Re-Africanising have become part of the rhetoric of universities in response to an education system tainted by historical inequalities and racial inequalities. In recent years, they have also become buzzwords to challenge the prevailing imperialistic knowledge generation systems and to support transformative work throughout universities. Transformation is a fundamental strategic driver in most South African universities to address the lingering effects of colonialism on these institutions.

Amidst the burgeoning body of decoloniality literature, both popular and academic, there is a paucity of scholarly literature and debates around decolonialism in the field of research integrity management.

Decoloniality debates are often described as 'troubling' conversations, especially among individuals with ties to earlier colonisers. The aim of this theory and literature informed study was three-fold: first, to provide an account of how research integrity managers can make sense of these concepts as they relate to their roles and positions in institutions, second, to show why research integrity managers cannot remain on the margin when issues of power, voice and legitimacy are discussed in academic spaces and third, to describe modest steps that can be taken in decolonising research integrity management in response to a call for action.

OP5.3

Conceptual Paper on Decolonizing research and the researcher and its usefulness in Indigenous research

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Conceptual Paper on Decolonizing research and the researcher and its usefulness in Indigenous research

Andiswa P Mdlankomo, (pamellamlankomo78@gmail.com)

Abstract: Indigenous peoples around the world have preserved distinctive understandings rooted in a cultural experience that guide relationships among humans, nonhumans, and other-than-humans in specific ecosystems over time. These understandings and connections constitute a system generally called Indigenous knowledge, or Native knowledge. Indigenous cultures are thought to have been suppressed by Colonial academics for a long time. According to a current study, Indigenous communities may be regarded as "oppressed" by non-decolonized colonial research. However, a collaborative research knowledge base that is culturally appropriate, respectful, honouring, and cautious of the Indigenous population is possible. As a result, it is necessary to sow the seeds of Indigenous research tools. Many researchers have done studies on Indigenous peoples without decolonizing their research training, according to the literature assessment. Today each Native people equipped with re-experience cultural identity has reached the starting point of decolonizing knowledge, decolonizing self and decolonizing research. Our system of education facing people ashamed of their culture. Using cultural and contextually relevant methodologies will be useful for Indigenous people in exploring their own

readiness for indigenous research. Economic injustice, displacement, loss of traditional livelihoods, and considerable damage to many Indigenous people can result if Colonial research does not honour and/or treat decolonisation as significant and scientific. As a result, the decolonization of the research process will aid in regaining control over Indigenous ways of knowing and being, as well as strategies to employ research for social justice.

Keywords: Indigenous, research, people, knowledge, decolonizing, results

OP5.4

Influence of retractions on the review of grant proposals: Perceptions of reviewers in the US

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Retractions have gained the attention of several groups, which have generated insightful data about the reasons behind retractions and patterns of citations . A possible correlation between retractions and scientific productivity has also been investigated, but little is known about the influence of retractions on the reward systems of science. This study investigates the possible influence of retractions on the perception of grant reviewers for the National Science Foundation (NSF), the National Institutes of Health (NIH), and other US funding agencies.

Objective: The objective of this study was to assess perceptions of US researchers with experience as reviewers for NSF, NIH and other US funding agencies about the influence of retractions and self-correcting of the literature on the review process of grant proposals.

Method: Research faculty at the University of California, San Diego (UCSD) with experience as reviewers for NSF and NIH were invited to complete an online survey regarding the influence that retractions have or should have on the overall evaluation of grant proposals.

Results: Responses were received from 224 (24% response rate) UCSD faculty members who reported having served on panels primarily for NSF, NIH, but also a few international agencies (such as Wellcome Trust, European Science Foundation and others). Overall, reviewers were skeptical of the influence of retractions on the grant review process. In fact, many participants highlighted that reviewers might not even be aware that a researcher may have had one or more retractions in their research record. However, the majority of participants in our sample perceive retractions as an important mechanism to strengthen the reliability of science. Additionally, our results corroborate previous findings on the impact of retractions for misconduct on citations. For example, if retractions in the record of an applicant were known by reviewers, this fact would influence the review of the grant proposal. On the other hand, retractions for honest error would play little or no role in the process.

Conclusion: Our survey results corroborate our findings in the previous pilot study. Despite concerns over retractions, the influence of these mechanisms on the reward systems of science is still an open question.

Oral Presentations 6: RCR training, education and mentorship

OP6.1

Teaching and promoting research integrity - Polish experience in the process of building a culture of research integrity.

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Based on the experience of active participation in two international projects devoted to the promotion of research integrity among different groups of participants, the authors would like to share their first experiences of conducting meetings and classes in the pilot programme on research integrity in Poland – a post-communist country in Central and Eastern Europe.

We will look at the Polish cultural and political context of teaching research integrity. Polish science is just opening up to internationalisation, occupies a peripheral position in relation to world science, and faces the challenge of building awareness of the universal principles of scientific integrity (contained in the "ECOC") in the academic community and Polish society. We will focus on specific problems related to the promotion of scientific integrity in our country.

We will analyse and show the outcomes of using teaching and information materials developed during two European Union projects implemented under the Science with and for Society Horizon 2020 programme: "Rotatory role-playing and role-models to enhance the research integrity culture - Path2Integrity" and "Virtue-based ethics and Integrity of Research - Virt2ue". Both projects emphasise the role of the principles, virtues and role models in the process of building a culture of research integrity. Finally, we will present the RI mobile laboratory concept for teaching scientific integrity.

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OP6.2

Data Stewardship as an effective approach towards responsible conduct of research (RCR)

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Adopting good Research Data Management(RDM) practices is listed as institutions' duties of care in the Netherlands Code of Conduct for research integrity 2018. Open data and good RDM is one pragmatic and important component of doing good science and is closely related to daily research activities. TU Delft(TUD) recognized that the challenge of enabling researchers to do good RDM does not necessarily

originate from technological solutions nor institutional policies. It is more the research environment and researchers' mindsets that influence the research behaviour the most.

The Data Stewardship at TUD, as part of the university research integrity infrastructure, aims to address disciplinary needs regarding RDM. It includes a team of eight disciplinary data management experts, aka data stewards, who are embedded in each of the eight faculties, and one coordinator who is centrally positioned at the university library. The team of data stewards has connections with other research support services (legal, privacy, ethics and ICT) at TUD, and serves as the bridge between researchers and all these services by informing researchers about available services, facilities and related requirements, and bringing researchers voice (challenges, needs, feedback on services) to the university level.

Data Stewardship has gradually enabled researchers to be more responsible with their RDM activities and shifted the culture at TUD. In the last few years, researchers have become more aware of various issues such as ethics, privacy, legal and other issues in handling research data. The data stewards facilitated community building to promote good science and RDM practices. For instance the Data Champions and Open Science Community Delft, the Open Hardware community and the Digital Humanities community. Addressing RCR issues in conversations with disciplinary focus and relevant daily activities provides fruitful results in cultural change. Along with building these communities helping researchers develop the skills needed to implement good RCR practices is important and this is accomplished by the training provided including software and data carpentry training, training on writing reproducible code and training on working with high-performance computing clusters. Via these trainings, the message of the impact of conducting transparent and reproducible research has been communicated and well received.

OP6.3

Integrity Games: A research based online teaching tool for undergraduate students

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Integrity Games (<https://integgame.eu/>) is a newly developed, freely available online teaching tool on academic integrity aimed at undergraduate students across the faculties. The tool aims to engage students in reflections on realistic and relevant grey area issues on academic integrity and thereby 1) motivate them to learn more about academic integrity, 2) increase their awareness of the grey zones between good academic practice and clear-cut cheating, and 3) deepen their understanding of plagiarism, falsification and (to a lesser extent) fabrication. To achieve these aims, the tool presents five gamified cases. In each case, students have to make a series of choices on how to act in concrete situations where academic integrity is at stake. The cases were developed based on a major mixed methods investigation of the academic integrity issues that European undergraduate students face during their studies (partly reported in Goddixsen et al [2021]), and gamified in collaboration with ImCode (<https://imcode.com/>), who are experts in developing engaging online teaching materials.

In the talk we will introduce the tool and the ideas behind it. We will also present results from a randomized controlled experiment with N>200 participants, conducted in three European countries and cutting across the natural, social and humanistic sciences. The experiment measures the effect of the tool on students motivation to learn about academic integrity, their awareness on grey area issues, and their understanding of plagiarism and falsification.

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OP6.4

Developing Massive Open Online Courses (MOOCs) on Responsible Conduct of Research

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Two massive open online courses (MOOCs) for students in higher education were developed from the same underlying pedagogical view on Responsible Conduct of Research (RCR) education (van den Hoven and Krom 2020). We present this view that focuses on dealing with grey area issues in daily practice and how this view has been used in the design and development of the MOOCs. First evaluations of the learning experience will also be presented. As part of two European projects on research integrity (Erasmus+ project and a H2020 project) we developed the two online courses (one for Master students, one for PhD students) that are openly accessible to all. The underlying teaching philosophy was translated in a competence profile to serve as a standard in the development of RCR educational tools. Core pillars are:

- Students should build capacities to become responsible researchers and to reflect on integrity issues;
- Students need to take a pro-active attitude in dealing with these issues;
- Students understand how this is relevant to them in daily practice (i.e. a focus on grey areas; Katsarov, J. et al. 2021).

A MOOC offers challenges how to activate participants in the course, as active engagement of participants is often limited and success rates of MOOCs are low. In this presentation we will show how we have utilized our teaching philosophy in the design and development of both MOOCs. The E+ MOOC is already available at <https://elevatehealth.eu/courses/integrity-in-practice/>. The H2020Integrity MOOC will be available from January 2021. We will explain how we developed and tested both courses, what current success rates (May 2022) are and how we evaluated the learning experience of participants, using a reflection module in both courses.

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Oral Presentations 7: Conflicts of Interest; Research Ethics Committees or Institutional Review Boards; Cheating and academic misconduct

OP7.1

Optimizing training of ethics committee members in Pakistan for ethics review during Public health Emergencies: Local solution

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Objective:

An in-depth inquiry focusing on ethics committees in Pakistan using mixed method research identified the need to optimize the mechanisms for training of ethics committee members in Pakistan for ethics review during Public health Emergencies (PHEs).

Method

Mixed method research including evidence gathering by literature review, workshops, surveys and open call of contribution was carried out. Learning from evidence gathering exercises helped in situational analysis which in turn inform policy recommendations and a call for action for regulatory reforms and optimizing training of members serving on ethics committees.

Results:

Significant proportion of ethics committees' membership do not have any formal training in bioethics. This gap is present during normal times and its implications are heightened during PHEs. In Pakistan, Bioethics training is institutionalized with conscious effort of indigenizing bioethics to local needs. However brain drain of highly trained personnel could be a trend contributing to current trend. Current COVID-19 PHE calls for urgent action to address this. Both short term and long term planning is needed to relieve ongoing struggle and cultivate sustainable trained pool of personnel to support efforts in the field of research ethics.

Initiated a Local and national level dialogue (through workshops, and forum of interaction) with stakeholders and ethics committees' members aimed to understand perceived training needs ii) development of a training curriculum for ethics committees' members and iii) initiatives to increase knowledge and understanding of general membership iv) Development of IRB professionals training and career progression pathways can develop leaders to counterpart ongoing international ethics preparedness movement

Results will be presented at the time of conference.

Conclusion:

Human resources must be sufficiently trained to steer Ethics review system which is internationally compatible during both PHE and non-PHE times.

OP7.2

'Paradox in health research ethical clearance': Researchers' lived experiences with the ethical watchdog in Zimbabwe

Mr Emmanuel Maziti¹, Mrs Patience Mabika¹

¹*Great Zimbabwe University, Masvingo, Zimbabwe*

Objective: To reveal inconsistencies that hinder integrity in research in Zimbabwe.

Method: The study population consist of all researchers who deal with human participants in health-related researches with 25 participants selected through snowballing strategy. The study used qualitative research method, using phenomenology design. In-depth interviews were used to collect data and thematic analysis was used to analyse data.

Results: The study identified a number of themes. On a positive note, the study realised that there is almost no research dealing with human and health related that can kickstart without the approval of the watchdog. Furthermore, the watchdog is thorough and critical in aspects such as identification of subjects, consent/assent process, data collection and analysis, safe keeping of data and its disposal and compensation of participants. However, under the guise of promoting integrity in research, the watchdog is promoting unethical behaviour in researchers through its practices. Firstly, the fees charged for an ethical clearance is discouraging (foreign currency) for students who are registered with foreign institutions, majority of their assessment comments had nothing to do with ethical issues. They also present some stringent measures without an alternative and demand submission of application in hard copies even during COVID-19 pandemic period. The level of inflexibility on issues that does not concern ethical approval has led to hand greasing along the way. Therefore, applicants in the process and potential applicants by-pass the watchdog, collected data without ethical clearance, thereby compromising integrity in the process.

Conclusion: The watchdog preaches a mile and lives by the inch. The inconsistencies, inflexibility and the insincerity presented has led many to by-pass the ethical clearance process, thereby jeopardising the integrity they preach to uphold. However, data was collected using in-depth interviews, corroboration using FGDs were impossible due to COVID-19.

OP7.3

University-Industry-Government collaboration in food-based research and innovation: Managing Scientific integrity and public perceptions

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Collaborative arrangements in research and innovation between academia, industry and government are of key importance for technological and economic progress in the knowledge-based economy. This

triple helix model of collaboration was first described by Etzkowitz and Leydesdorff (1997; 2000), and refers to the complex interactions between the three parties. This model's success has enhanced increasing engagement between policy makers from academia and relevant industry/ private sector in the development of policy where industry serves as the main beneficiary. In recent years, a number of research misconduct incidents involving public-private collaboration in life sciences and pharmaceutical research, have increased public doubt of the intent, roles and functions of the private sector/ industry in research and policy making.

This presentation is a collaboration of different entities within the International Life Sciences Institute (www.ilsa.org), an international global non profit organisation.

ILSI's shared values uphold that scientists from industry, government, and academia and other sectors of society can and should work together to identify and address topics of common interest. ILSI has researched and developed a broad framework for scientific integrity which is embraced across all ILSI. The presentation will discuss the role and added-value of triple helix collaborations in research and policymaking. The focus of this presentation will be the South East Region with a special focus on food and nutrition research. Industry, academia, and government have shared their challenges, views, and insights on research collaborations and how they have managed COIs in ensuring research integrity and share policies, collaterals, training, and active management measures. This presentation will also provide perspective and insight into the challenges in managing the expectations of the various stakeholders including the general public in research collaborations and the lack of focus on governance systems and how this can be remedied. The private sector will share expertise and industry-specific knowledge in developing public policy. Case studies/ examples will be shared to better illustrate the challenges. Finally, we will also share the lessons learned from cases/ experiences and how new practices/ measures are developed or could be developed to better manage COIs, and ensure scientific integrity within ILSI's triple helix collaborations.

OP7.4

The 'Problematic Paper Screener' automatically selects suspect publications for post-publication (re)assessment.

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Objective:

Post publication assessment remains necessary to check erroneous or fraudulent scientific publications. We present an online platform, the 'Problematic Paper Screener' (PPS) that leverages both automatic machine detection and human assessment to identify and flag already published problematic articles. We provide a new effective tool to curate the scientific literature.

Method:

PPS combs the scientific literature for a variety of research integrity issues. Malpractices are automatically identified thanks to specific 'fingerprint-queries' submitted to the academic search engine Dimensions.ai. Peer judgement can then confirm (or refute) the status of suspect papers. The public online interface allows public users to propose new 'fingerprints'

Results :

As of today (Oct. 2021) the PPS (<https://www.irit.fr/~Guillaume.Cabanac/problematic-paper-screener>) lists papers containing meaningless computer-generated texts (N=264 SCIdgen, 11 Mathgen, 4 SBIR). For this kind of malpractice, 'fingerprint-queries' are specific sequences of words extracted from the

probabilistic context free grammars like 'though many skeptics said it couldn't be done'. The PPS also lists papers containing suspected plagiarized passages by automated synonymizing and automated paraphrasing. These papers feature 'tortured phrases' like 'fake neural organization' instead of 'artificial neural network'. The PPS uses a set of 276 tortured phrases as fingerprint-queries to identify (N=1694) problematic papers. The PPS queries Dimensions.ai regularly to identify new suspects among recently published/indexed papers. The PPS public online interface provides public users with the necessary information to assess suspected papers: access links (Dimension.ai record, DOI...), set of fingerprints found in the fulltext, link to existing PubPeer posts... User feedback is a means to both assess papers and identify new fingerprints/tortured phrases. Among the public list of suspected problematic papers (N=2088), 744 have been classified as problematic by various users and 1344 are still waiting for human assessments.

Conclusion:

The 'Problematic Paper Screener' automatically retrieves suspected published papers for scientists to reassess. The fingerprint-query approach is effective to identify computer-generated papers and synonymized plagiarism. In the future the approach will be tested for other problematic practices, such as the reporting of misidentified biological materials.

Oral Presentations 8: Research infrastructures and environments

OP8.1

Engendering best practice and equity in research integrity between global partners

Mr Simon Glasser¹, **Mr Liam McKervey**¹

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Objective

Forming equitable partnerships between global research institutions requires navigating the potential power dynamics between partner organisations. This conference paper demonstrates that to implement robust research integrity processes it is important to build honest relationships, identify realistic plans for mutual capacity sharing, to enable setting up projects for successful delivery.

Method

Through building networks with our Southern African partners, sharing best practice we have increased our understanding of their professional environments and research landscapes, educating our approach to global research integrity. We have influenced changes to our own institutional policies and are exploring future joint activities to develop best practice.

Results

Connecting globally with a skilled group of research managers in Africa, we are recognising the need to better understand the power dynamics and local research environments experienced by our global partners who positively engage with research integrity. Taking a holistic approach to supporting the research process, rather than just on the research itself, develops a robust framework to successfully deliver the project with shared research integrity principles, positive research outcomes, innovation, and impact. This includes developing open and honest relationships during the partnership development phase, working collaboratively with professional service teams in identifying funding concerns during

the grant bid process and working closely with relevant professional service teams in post award to enable the successful delivery of the project.

By facilitating an open honest discussion at the outset of the project, identifying the resources available and strategically deploying resources where necessary, can lead to positive engagement of good research practice and research integrity of all involved. Professional service teams have an important collaborative role within global research partnerships to help navigate and address power dynamics, which derive either from grant terms and conditions, global regulatory frameworks or partners own organisational processes.

Conclusion

The development framework characterises most research funding with African partners. Whilst acknowledging that development can be done well, to contribute to decolonising the global research environment, collaborating with our African colleagues we need to develop better ways to facilitate research integrity and development within academic partnerships to achieve this goal.

OP8.2

Researching responsibly from home: Supporting research integrity remotely during the COVID-19 pandemic

Dr Daniel Barr¹, Dr David Blades¹, Ms Anita Arndt¹

¹*RMIT University, Melbourne, Australia*

The need for rapid, open, and trustworthy research about the COVID-19 pandemic is complicated by physical distancing restrictions and other public health interventions that change how research can be responsibly conducted and managed. For many researchers and research managers there was an immediate shift to remote working at the start of the pandemic. For RMIT University, which is based in one of the world's most locked-down cities, public health controls and remote ways of working have persisted. We discuss new and adapted services at RMIT University that ensure and promote responsible research during the COVID-19 pandemic.

Although initially challenging, the adaptation of our services for researchers from face-to-face to online appears to have certain advantages. We designed and delivered research integrity education fully online, predominately using interactive webinars, which enabled us to connect with all enrolled student researchers and has resulted in a library of training resources. We supported a network of advisors and conducted investigations into potential breaches of research integrity fully online, which allowed us to easily access academic experts from across Australia. Similarly, we facilitated an expert review of research integrity at RMIT University by an external and international panel fully online, which allowed for review activities to be staged across months as compared to days.

The COVID-19 pandemic quickly changed research environments and appears to have introduced new stressors for trustworthy and ethical research. In response, we co-developed new guidance for researchers with researchers and experts to provide advice and resources to address these specific issues. The guidance covers: Governance of research integrity; Conducting COVIDSafe research; Changing research directions; Responsible research about the COVID-19 pandemic including ways to ensure rigour and the rapid sharing of results; and, Responsible research during the COVID-19 pandemic including guidance on remote supervision and data management.

In combination with other research integrity controls delivered remotely, specific guidance for research integrity during the COVID-19 pandemic aims to mitigate diverse risks in research. Further, remotely delivered services have benefits and appear to enable researchers to meet unchanged principles for responsible research.

OP8.3

Processes of Development of a Harmonized Research Compliance and Integrity Document for the University of Ibadan, Nigeria.

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Abstract

Research compliance is the hallmark of research integrity but it needs a well-articulated premise. The premise are the rules and regulations that set what to do and avoid. Efforts towards research management in the University of Ibadan has come of age and some necessary documents have been developed but none exclusively dedicated to research compliance and integrity (RCI). The goal of this paper is to present the processes followed to producing one document for the University of Ibadan that serve as ready toolkit for research compliance and integrity. The specific objectives were: to identify the gaps in knowledge on research compliance and integrity; to examine the need for developing a harmonized document on research compliance and integrity; to organize and execute stakeholders' meetings. The processes utilized were the review of previous relevant documents; needs assessments survey; organization and execution of stakeholders' meetings. This paper discusses the major findings from various methods and identifies some limitation. Findings show that 67.4% of the participant submitted that RCI document does not exist in the University of Ibadan. A significant 79.1% of the respondents showed knowledge about IRB processes. Similarly, the needs assessments report showed that 58.1% and 67.4% of the participants respectively submitted that delays in accessing funds from grantors and the University financial regulatory apparatus could compromise RCI.

Keywords: Processes, Research Compliance and Integrity, Needs Assessments, stakeholders' meeting.

OP8.4

Establishing a new national committee on research integrity - aims and early reflections

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The United Kingdom (UK) has been developing an ecosystem to improve research integrity over the last two decades, with interventions such as a sector-devised and agreed 'Concordat to Support Research Integrity' published in 2012 (and revised in 2019) and an independent charitable advisory body (UK Research Integrity Office) providing support to organisations and individuals since 2006.

However a parliamentary report in 2018 noted that the UK's record of research excellence and public trust "should not be taken for granted" and looked to international exemplars for other ways to formally promote research integrity. As a result, and following wide stakeholder engagement, the UK has established a new national committee to create opportunities for discussion, build and communicate the evidence base, identify systemic pressures and harness opportunities for changing research culture in support of research integrity.

The UK Committee on Research Integrity (UK CORI) was established in early 2022. Various models were considered when defining its remit within the particular context of the UK research system. These included models adopted for national committees in other countries. There was consensus that UK CORI should be an independent committee of experts, and that membership should include not just academics but individuals drawn from a range of backgrounds across the research and innovation sector, such as those from publishing, research management, policy or business. UK CORI is hosted by one of the UK's main research funders for an initial period of three years and part of its responsibilities will be to discuss and determine what the longer-term landscape for supporting research integrity in the UK should look like, including how to strengthen self-regulation for handling research misconduct.

Whilst only in its first few months of existence, this talk is an opportunity for UK CORI to describe how it intends to work collaboratively with existing national and international bodies, and add value in ways that increase the transparency of research and its integrity in order to further build trust in UK research.

OP8.5

Addressing ethical and operational challenges in international research funded by the US Department of Defense

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Objective: to describe and analyze unique challenges pertaining to US Department of Defense (DoD)-supported international research in Southeast Asia and sub-Saharan Africa.

Method: We examined the history and present day activities of our institution's international portfolio and conducted case study analysis of specific challenges to research ethics and integrity. We analyzed how each threat potentially affected the conduct of research and how the threats were managed or mitigated.

Results: In the past two decades, international collaborative health research has been the focus of ethical scrutiny. Concerns have been raised about power imbalances between funders from the global North and host countries in the global South; about the need for research to be responsive to host countries' needs and priorities, and numerous other ethical issues. For our research institution, the mission and priorities of the DoD, as well as various bureaucratic features of the funding, regulatory, and staffing structures, pose unique challenges for collaborative research projects. Challenges include managing equitable arrangements for work assignments with constantly rotating military personnel and a scientific workforce largely composed of contractor staff; multiple layers of DoD regulatory review and oversight; difficulties with building capacity for research at international sites given restrictions on use of DoD funds; and limitations on use of DoD supported laboratories for public health or clinical testing due to laboratory accreditation rules. Despite these challenges, DoD-supported research and DoD-supported research sites have made important contributions to global health and local capacity for research in a number of countries. DoD-supported research in Kenya and Thailand in particular have made significant contributions to science and to host-country research progress, in large part due to the long term commitment of both DoD funders and host-country government partners and stakeholders.

Conclusion: Financial, bureaucratic, and regulatory challenges complicate the conduct of DoD-supported international health research, posing threats to ethics and scientific integrity that must be mitigated and managed. In spite of these challenges, DoD-supported research is making significant contributions to global health and local capacity for host-country research.

OP8.6

Perception of research integrity climate at Croatian university / University of Rijeka

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Objective

Through the scientific project "Research integrity climate at Croatian university," we aim to assess scientists' perceptions of the organizational climate for responsible research practices at the University of Rijeka (UniRi) and compare the differences in perception between different scientific disciplines, and academic ranks.

Method

Scientists (n=1300) and Ph.D. students (n=1000) from different disciplines and academic ranks at the University of Rijeka will be asked to answer the translated and validated Survey of Organizational Research (SOuRCe). The SOuRCe consists of 32 items that assess organizational research climate for responsible research practices at institutional and departmental levels. Additionally, we will ask two questions considering respondents' scientific discipline and academic rank.

Results

The data collection is expected to end in March 2022 which will provide enough time to prepare results for the presentation at 7th WCRI in June 2022. We expect a response rate of 20%. Our results will reveal the overall level of the perceived research integrity climate within UniRi. We will present the level of the perceived research integrity climate among specific areas such as communication process, ethical leadership, documents on responsible conduct of research, and risk factors of research integrity. Furthermore, we expect to determine the possible differences in perception of research integrity climate between academic ranks and scientific discipline.

Conclusion

Our project results will provide comparable quantitative results for the assessment of organizational research climate in Croatian academic institutions, with identified areas that need improvement. Potential limitations are the relatively low response rate and socially desirable responses of the respondents.

Oral Presentations 9: Publication Ethics; Peer Review; Allegations, sanctions, disclosure of cases

OP9.1

On the growing number of duplicate paper submissions: a cross-publisher survey

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Objective

Duplicate submission (also known as dual, concurrent, or simultaneous submission) is a form of research misconduct where a research paper is submitted to two or more journals concurrently. This practice is considered to be a mild form of misconduct compared with, e.g., plagiarism or fabrication of results. However, given that a paper should only be published in one journal, it does cause a considerable waste of reviewers' time for one or more journals to review a paper needlessly.

An STM Association working group comprising representatives from several academic publishers and submission system vendors has measured the extent of duplicate submission. This was a complex task given that, for data protection reasons, submission data could not be shared among working-group members.

Methods

Duplicates were identified, simply, as papers with identical or near-similar titles that were under consideration at the same time.

The internal duplicate submission rate, defined as the number of concurrent duplicate submissions that a publisher receives, itself was measured.

The external duplicate submission rate was measured where possible by comparing a publisher's submission data with published metadata in Crossref. This comparison reveals where a paper was under consideration by 2 different publishers at once, but is limited to cases where the data was available in Crossref.

Results

We find that duplicate submissions make up a small, but significant and growing percentage of journal submissions varying from 1% to 4% of all submissions depending on the publisher. Doing so allowed us to develop effective methods to detect duplicate submissions - thereby allowing us to educate authors about the practice and prevent unnecessary work for reviewers.

Conclusion

This project has given insight into the extent of a significant research-integrity problem associated with duplicate submissions and helped to develop the tools to measure the size of the problem so that publishers can allocate the necessary resources to deal with it.

Furthermore, we believe that detecting duplicate submissions may be a good way to flag fraudulent papers given that, often, papers rejected due to suspected fraud are shown to have been under consideration in the Crossref data.

OP9.2

Beyond Metrics – Reasons and Ideas to widen the Scope of Research Assessment

Dr Andreas Görlich¹, Dr. Tobias Grimm¹

¹*German Research Foundation - DFG, Bonn, Germany*

Research assessment practices strongly influence the way research is done and how it is published. Using quantitative indicators as assessment criteria creates strong incentives for behaviour aiming at optimizing those output parameters given. As a consequence, we observe an uncoupling of mere intrinsic scientific goals like the acquisition and distribution of knowledge from extrinsic goals like achieving a maximum number of publications and citations. Given the strong competition for funding of positions and research projects, metrics based research assessment is shaping the scientific landscape into profitable research areas, institutions, career paths and individual backgrounds as compared to those, which are less profitable. In addition, incentives are set even for questionable research practices. The mission of the German Research Foundation (DFG) is to foster curiosity driven bottom up research and to guarantee an open and equal access to research funding while insisting on the principles of good scientific practice. We advocate a research assessment, which is based on content not metrics. This aspect is laid down in our code of conduct, to which all institutions receiving DFG funding are legally bound. There it states: "Performance is assessed primarily on the basis of qualitative measures, while quantitative indicators may be incorporated into the overall assessment only with appropriate differentiation and reflection." However, an internal survey showed that especially research fields where journal articles are the dominant form of publication put a strong emphasis on metrics in the evaluation of researchers. To steer away from this metrics focused assessment, the DFG has implemented a number of adjustments to its funding schemes. All those adjustments are meant to widen the scope of research assessment acknowledging a broad variety of scientific output and publication formats, scientific careers and backgrounds as well as recognition and evaluation systems. The presentation will introduce some of these modifications, explain their background, and address difficulties in the adaptation process. Among other things, we will cover a new CV template and adjustments to our application forms. With these changes, we hope to initiate a cultural change that will lead to a fairer, more comparable evaluation basis rooted in more qualitative principles.

OP9.3

Building research integrity across borders

Ms Sandra Bendiscioli¹

¹*Embo, Heidelberg, Germany*

This talk will present the findings of an analysis for a more consistent approach to research integrity internationally. It will focus on options for the establishment of an international body to support institutions in fostering research integrity and responding to research misconduct: the role that such a body could have, its legal status, funding sources and what actors could lead its implementation.

The analysis was carried out by EMBO with input from 22 international experts representing a variety of stakeholders. Information was solicited in structured discussions at a closed workshop organized in partnership with the OECD Global Science Forum, and in structured phone interviews. The findings were published in July 2020 in the report 'Governance of research integrity – Options for a coordinated approach in Europe'. The analysis was focused on Europe, but it can be used as a model for the implementation of international structures for research integrity in other parts of the world.

The analysis concluded that an advisory role would be the most feasible for an international body. This body could advise institutions in all issues related to research integrity: how to set up structures and policies to foster responsible research, prevent misconduct and respond to allegations; how to carry out investigations, etc. It could keep a list of international experts to involve in institutional investigations; and it could facilitate communication between stakeholders. The analysis suggested that an international NGO could be an appropriate legal status for such a body, either a new NGO, or by affiliation to an existing one.

Universities and research centres are primarily responsible for addressing allegations and investigating misconduct by their researchers. But institutes vary in their capacity and willingness to follow up allegations. Our analysis suggests that all institutions would benefit from receiving advice from an international body dedicated to fostering research integrity, and independent from local interests. Our analysis could not encompass in detail all options for how an international advisory body could be established, particularly regarding how it could be funded, its membership, or its operating procedures. We are addressing these in further discussions with the international community.

OP9.4

The relationship between PubPeer comments and speed of retraction

Alison Abris^{1,4}, Brandon Stell^{5,6}, Boris Barbour^{5,6}, **Ivan Oransky^{1,2,3}**

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Objective: Retraction studies commonly evaluate time from publication to the retraction of an article, but few look at how publicized concerns might affect the speed of retraction. Using the Retraction Watch Database (RWDB) we compare the speed of retractions of articles with PubPeer (PP) comments to the retractions of articles that do not have PP comments.

Method: Selecting retracted articles (restricted to research articles, clinical studies, case reports and review articles but excluding book reviews) published from January 2015 to January 2021 and indexed in the RWDB (<http://retractiondatabase.org/>) on October 11, 2021, we compared the retraction dates for those with comments on PP (<https://pubpeer.com>) with those that did not have comments on PP.

Results: 8,823 articles were included in the study. Preliminary data shows the average number of days to retraction is 650.28 (std = 569.00) for those articles without PP comments, and 765.32 (std = 562.30) for those articles with PP comments. We are now in the process of manually cross-checking PP entries for approximately 2000 papers that lacked DOIs and PMIDs, and confirm the timing of the PP comments relative to the retractions.

Conclusion: Retraction times appear to differ between articles with PP comments and those without. Although the publication of a retraction is determined by numerous variables, these findings can shed light on whether public commenting is associated with time to retraction.

A large-scale metadata analysis of tactics and author demographics of predatory publishers

Dr. Kyle Siler¹, Dr. Philippe Vincent-Lamarre, Dr. Cassidy R. Sugimoto, Dr. Vincent Larivière

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OBJECTIVE:

Using a unique database of over 900,000 articles published by ten prominent predatory and quasi-predatory publishers, we compare demographic and peer review characteristics of predatory journals with 'legitimate' journals indexed in the Web of Science.

METHOD:

We scraped metadata from the websites of ten predatory and quasi-predatory publishers, as determined by the Cabells blacklist and/or prominent public controversy. Then, we cleaned and organized data to enable systematic analysis of the authors and business practices of predatory journals.

RESULTS:

Demographics of authors who publish in predatory journals differ from those in the Web of Science. Although authors from developing nations are overrepresented in predatory journals, there is also substantial representation from 'elite' universities in the Global North. Predatory publishers are homogenous institutions, with different business models and scholarly niches. We situate peer review – or lack thereof – as the most important index of a journal's quality. All of the predatory and quasi-predatory publishers in our database exhibit relatively rapid peer review, suggestive of how predatory journals appeal to some of their authors. Average time from submission to publication in the journals in our dataset range from 30-125 days. This raises normative questions about the desirability and trustworthiness of such rapid peer review in science.

Our database also revealed numerous metadata anomalies in predatory journals that reveal new tactics predatory publishers employ. For example, from 2015-2020, OMICS International engaged in extensive rebranding of journals under new imprints. We also identified various "tortured phrases" in the text and metadata of articles published in predatory journals. This revealed that OMICS was stealing published articles from legitimate sources, then re-publishing them after crudely altering the text using some sort of automated synonym generator.

CONCLUSION

Predatory and quasi-predatory publishers exhibit a variety of business models, tactics, and questionable publishing practices. Textual and metadata analysis of academic publishers can reveal both healthy and suspicious anomalies among publishers and journals. Scrutiny of such data can identify bad actors and malfeasance in the publishing ecosystem.

OP9.6

Acknowledgements in Publications and Research Integrity: Who gets acknowledged, what for, and do they know?

Professor Timothy Carey¹

¹University Of Global Health Equity, Kigali, Rwanda

Objective

To highlight the failure to obtain permission from those who are acknowledged in journal publications as a serious problem of research integrity. This unrestricted form of acknowledged allows the views of others to be misrepresented and to imply endorsement for ideas which does not actually exist.

Method

The presentation will describe a situation in which a researcher was named in an Acknowledgement Section of a journal article without their knowledge or consent as well as the process followed to have the researcher's name removed and evidence that was discovered about the extent of this problem.

Results

While guidelines regarding authorship, including not being appropriately acknowledged, are readily available (e.g., COPE), there is a striking absence of information regarding inappropriate acknowledgement. Acknowledging others without their permission has been described as a form of authorship abuse. This is not a trivial matter. The Acknowledgements Section is part of the complete scholarly work and should be treated as such. People named in the Acknowledgements Section should have made some contribution to the work but not enough to justify being named as an author. A requirement of the Acknowledgements Section should be to specify the contribution made by the person being acknowledged. Consideration of the Acknowledgements Section indicates that not only should approvals be mandated as a standard, but greater clarity regarding the nature of the acknowledgement is also required. Unambiguous standards would help to promote appropriate attribution and greater transparency in scholarly publications. Standards of this nature would also guard against unacceptable practices such as ghost writing or the inclusion of senior scholars who may have secured funding or other resources but provided no substantive contribution to the drafting of the publication.

Conclusion

Rigorous, high-quality research that has a tangible, positive impact is perhaps one of humanity's greatest achievements. For this to continue, all aspects of research require constant and careful scrutiny to ensure that the principles of reliability, respect, honesty, and accountability underpin all that is produced and reported.

Oral Presentations 10: Research on research integrity

OP10.1

A comparative analysis of research integrity capacity: Research integrity policies of Japanese and Swedish universities

Prof Takehito Kamata¹

¹Sophia University, Chiyoda City, Japan

Objective:

The primary objective of this study is to explain how the institutional capabilities and policies were defined as institutional resources for individual researchers in promoting and supporting research in the

international collaborative research projects held at the 19 universities (the 11 Swedish universities and the 8 Japanese universities).

Method:

This study utilizes a qualitative research with the frameworks of research integrity responsibilities (National Academies of Sciences, Engineering, and Medicine, 2017). I examine institutional policies based on the four frameworks: (a) research integrity and institutional management, (b) climate assessment, (c) performing research misconduct investigations, and (d) RCR training and education.

Results:

As the descriptions of research ethics, most universities provide the research integrity policies and guidelines to individual researchers. A few universities primarily focus on social science education and business education tend to state only brief explanations of research ethics. Also, a few universities emphasize the significance of research ethics through the academics-industrial cooperation development.

Universities with medical research education and nursing education provide the specific guidelines and policies regarding research ethics, ethical competence, and clinical practices. Research integrity policies in each nation have developed differently; however, institutional research integrity policies have been updated and refined based on the research quality expectations defined by specific academic or professional disciplines.

By the time of the conference, regarding oversight influences of the government funding agencies at the national level, I will also add a comparative policy analysis of the Japan Society for the Promotion of Science (JSPS) and the Swedish Foundation for International Cooperation in Research and Higher Education (STINT). These organizations provide financial support to universities in promoting international research collaborations and refine educational programs of research ethics and integrity at the national level in each nation.

Conclusion:

The study results indicate that institutional characteristics (public or private) would influence research interests of researchers and their collaborators. There are similarities among the research integrity policies at the institutional level, however, there are distinct differences in “performing research misconduct investigations” and “RCR training and education” between Japan and Sweden.

OP10.2

Merton revisited: The historical and social roots of the ethos of science

Dr Vidar Enebakk

¹NESH, Oslo, Norge

The ethos of science, as formulated by the American sociologist Robert K. Merton in 1942, is often taken for granted within the research integrity community as a common point of departure. But what was Merton’s own point of departure? And how can a contextual approach of the ethos of science provide a broader perspective on research integrity today, in terms of international collaboration and global equity?

By revisiting Merton in a historical, institutional and international context, I will emphasize that the ethos of science was closely related to a broader debate concerning science and society. This debate was

continued within UNESCO in collaboration with the International Council of Scientific Unions (ICSU), organized in a Committee for Science and its Social Relations (CSSR). Interestingly, it also led to the establishing of a separate Commission of the Social History of Science (CHSRS) under the aegis of the International Union for the History of Science (IUHS). Thus, the turn towards broader debates on the social responsibility of science also implied a reflexive turn towards the social and historical roots of science.

I will suggest a similar turn today, emphasising the role of historical research on research integrity. With the emergence of research integrity as global community, institutionalized in the world conferences since 2007, it is important to engage critically with the institutional context in which our work is situated. The aim is to strengthen the integrity of research integrity as a field of both research and practice.

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OP10.3

Sample sizes in psychological research over time

Dr Marjan Bakker¹

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Objective: The study by Marszalek, Barber, Kohlhart, and Holmes (2011) found that sample sizes in psychology had not increased as a result of the recommendations by Wilkinson and the Task Force on Statistical Inference (Wilkinson, 1999). In this study, we update the study by Marszalek et al. to investigate whether psychological studies' sample sizes have increased, specifically in response to the replicability crisis and the resulting focus on open science.

Method: In this preregistered study, we will examine the reported sample sizes of studies published in 6 different psychology journals in the following years: 1995, 2006, and 2019. Hierarchical Generalized Linear Modelling was used to evaluate whether sample sizes have increased over time. Furthermore, negative binomial regression was used to assess whether sample sizes have increased as a reaction to the reproducibility crisis and whether this increase was dependent on the promotion of open science practices at the journal level. Lastly, we used a Mann-Whitney U test to compare sample sizes in papers with and without open science badges.

Preliminary results: The reported results in this abstract are preliminary because not all data are in, and not all preregistered checks are performed. However, the majority of the data is collected, and the analyzes are preregistered. Thus the final results can be presented at the conference. Our preliminary results show that sample sizes have indeed increased over time, with larger sample sizes in the year 2019 (after the replication crisis). However, the increase in sample size was not stronger for journals that actively promote open science practices. Furthermore, overall, no difference was found in sample size between studies in papers with and without open science badges, although we found a significant difference for one of the two journals.

Preliminary conclusion: We observed an increase in sample sizes over time in six psychology journals, which coincides with the increased attention to open science and responsible research practices as a reaction to the reproducibility crisis. However, we can not rule out other explanations of the increased sample sizes in psychology (e.g., increased use of online participant recruitment with Prolific or MTurk).

OP10.4

Citation Ethics: An Exploratory Study of Norms and Behaviors

Professor Samuel Bruton², Ms. Alicia Macchione², Dr. Mohammad Hosseini¹

¹*Northwestern University, Chicago, United States*, ²*University of Southern Mississippi, Hattiesburg, United States*

Objective: The purpose of this presentation is to report and discuss findings from a two-phased survey on citation ethics (i.e., normative attitudes and practices related to citations) as reported by researchers and journal editors.

Method: The pre-registered pilot research instrument (<https://osf.io/b64px/>) consisted of 43 questions developed through literature review and a feedback and revision process that involved several prominent research integrity experts.

Pilot testing of the instrument for researchers has concluded (N=31) and resulted in minor revisions. Between now and February 2022, invitations to participate in the study will be sent to US-based researchers in receipt of federal funding (NIH, NSF and NEH, target sample size: >200, evenly drawn from the three funding sources). Next, arrangements are in place to distribute a modified version of the instrument to journal editors via COPE.

Results: The results of our pilot show that 86% of respondents believe that actual citation practices in their discipline are ethically sub-optimal. This claim is corroborated by respondents (75%) who self-report engaging in unethical citation practices such as often/sometimes citing items that they have not read completely. Furthermore, 70% of respondents believed that their own citation practices are more ethical than prevailing citation practices in their discipline. Citation practices with the largest reported difference between what respondents do and what they believe others engage in include intentionally avoiding citing competitor's work as to not draw attention to it, citing based on an article's abstract alone if the article is behind a paywall, and citing articles written by the journal's editor despite having little relevance to the manuscript. This raises concerns about future researchers' citation practices, since 39% of respondents report to have learned about citation norms through reading the scholarly literature and observing how others cite.

Conclusion: Ethical citations are one of the vital (albeit often neglected) structural components of science. We suggest developing and promoting specific citation norms for different disciplines and recommend organizing citation trainings for junior/senior researchers to improve current practices.

OP10.5

Reviewing what is known about the citation, reuse, and spread of retracted science using the Empirical Retraction Lit database

Dr. Jodi Schneider¹, Susmita Das¹, Mr. Will White¹, Ms. Vivien Yip¹, Ms. Randi Proescholdt^{1,2}, The RISRS Team¹

¹UIUC, Champaign, United States, ²Menlo College, Atherton, United States

Objective

The goal of this project is to identify and synthesize empirical research about how retracted science is cited, reused, and spread.

Method

This project analyzes sources from within an existing bibliography, Empirical Retraction Lit (10.31222/osf.io/ms579 Appendix C), which was created by systematically searching databases, supplemented by a citation-based search and hand search up through July 2021. We iteratively analyzed full-text articles in order to develop 17 topic areas (e.g., "Authorship of retracted papers", "Processes and policies related to retraction") subdivided into 118 fine-grained subtopics (e.g., "Analysis of repeat offenses", "Retraction rates over time"). We identified three topics as primarily related to the spread of retracted science: citation of retracted papers; perceptions and discussions of retracted papers; and impacts of retraction. We scrutinized subcategories with any overlap between topics and recorded a rationale for including or excluding these subtopics. After tentative inclusion decisions were complete, two reviewers rescreened all titles, flagging articles to revisit for inclusion or exclusion. Analysis of the papers is ongoing.

Results

Of the 385 items in the bibliography, 134 are included in this review. Categorizations for all 385 items are recorded in Version 2.20 (10.5281/zenodo.5498500) and searchable via an online bibliography (<https://infoqualitylab.org/projects/risrs2020/bibliography/>). Empirical research about retraction is published in a diffuse set of journals, including journals on ethics; information science; meta-science and scientometrics; and domain sciences, especially medical specialties. Most studies related to the spread of retracted science analyze citations; news; social media impact; and the impact on review literature, especially systematic reviews. The spread of retracted science has received limited attention outside of medicine. The earliest two studies we located were both published in 1990 and focused on citations to retracted literature and on citations to a misconduct-associated author's work.

Conclusion

Limitations: Relevant work published after July 2021 has not been included, and items published earlier may have been missed by search processes. To our knowledge, this is the first literature review discussing citation, reuse or spread of retracted science. Very little information was found regarding retracted humanities and social sciences research. This work-in-progress will have additional conclusions when our analysis is complete.

OP10.6

Transformative Potentials of AI in Research Integrity Investigations

Mr Han Zhuang¹, Dr Daniel Acuna¹

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Objective: Most research integrity investigations are conducted manually. However, publications are growing exponentially. This increase causes a longer investigation time and a bigger scope of searching. However, with AI, research integrity investigations could be faster and more scalable. Thus, we present our AI techniques, which facilitate research integrity investigations and show the transformative potentials of AI.

Method: We propose a set of deep learning-based tools for research integrity investigations on images. We developed image classification models based on a pre-trained convolutional neural network as a feature extractor. We further developed a text localization model, which is finetuned on a pre-trained convolutional neural network and extracts texts from images.

Results: After we trained our deep learning on large datasets, our tools can automatically split compound figures into subfigures, classify images, extract texts from images. Our experiment shows our tools are similarly effective on openly available datasets of these tasks, comparing the available benchmarks. One previous study has adopted these three tools for their biomedical image analysis and has shown good compatibility with images from Pubmed open access publications. This one study is an example of how AI can transform traditional research integrity investigations into semi-automated processes. This promising result is because some research integrity investigations still need some annotations to train deep learning models. However, when the annotation process is complete, research integrity investigation will be more efficient. There are many other possible ways to incorporate our tools or other AI techniques to facilitate research integrity investigations. More importantly, other researchers can reproduce these tools because they are based on an open-sourced framework. However, AI might not be as accurate as human experts, so we need to keep this risk when we plan to adopt AI to research integrity investigations.

Conclusion: AI, including deep learning, has shown great value in automating daily work. Given the significant labor demand of research integrity investigation, we use deep learning techniques to automate some tasks in research integrity investigations. Based on our experiments, we have seen the great potential of AI in research integrity investigation soon.

Oral Presentations 11 Authorship and collaborations; Cheating and academic misconduct

OP11.1

Authors Without Borders: Results from a global survey investigating international authorship norms among scientists & engineers

Prof Dena Plemmons¹, Dr. Stephanie J. Bird

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Objective: Authorship conflicts may arise in any collaboration, domestic or international, but international collaborations pose unique challenges. It is unclear how international variation in authorship norms may add confusion that is not encountered in domestic collaboration; it is equally unclear whether authorship conflicts in international collaborations arise due to normative differences, or due to individual transgressions that collaborators mistakenly interpret as cultural differences. We will present results of a project which will help illuminate some of these differences.

Method: Building on material from 24 peer-discussion groups with postdocs and senior researchers in the US, China, Brazil and Germany, in two disciplines, neuroscience/psychology and engineering, we developed a multinational, multidisciplinary survey. The survey was disseminated in more than 50 countries, and was translated into 6 additional languages. The survey explored: 1) authorship norms; 2) perceived sources of conflict in international collaborations; and 3) the extent to which the larger societies influence accepted authorship practices.

Results: The resulting data [1300+ responses] are currently undergoing data analysis, and we will have final analyses by the time of the conference. We are analyzing the results of the open-ended questions via qualitative techniques, including coding responses into categories to identify themes. Responses will then be analyzed as to whether identified themes differ across countries, disciplines, or an interaction of the two. For the quantitative data, we plan to use factor analysis to establish basic validity for the survey and determine whether compositing variables would be appropriate. We will then use MANOVAs and ANOVAs as appropriate to identify and interpret main effects of country and discipline as well as an interaction between the two (with appropriate post-hoc analyses as needed to aid in interpretation).

Conclusion: The purpose of the peer discussion groups and global survey dissemination is to get a more complete understanding of issues that arise when authorship reflects an international/multinational perspective. The intended outcome of this work is the development of educational materials that will help researchers understand and resolve potential authorship conflicts in research collaborations, and will also serve as a guide or foundation for discussions of co-authorship among collaborators.

OP11.2

Imposters and Impersonators: Enhancing Authorship Trust in Open Science

Dr Leslie McIntosh¹

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Internationally, there is a push towards the broad sharing of research results (data, code, etc.) to drive innovation and propel science advancements. The results of this sharing have been without a doubt significant and impactful, especially during the current COVID-19 pandemic.

Yet, the push towards public access has been followed by the growth of author integrity issues, a proliferation of misinformation, and an increase of distrust within science. A recent paper by Merkle & Loewen (2021, <https://doi.org/10.1038/s41562-021-01112-w>) drew parallels between the publicity given to author integrity issues and the growth of anti-intellectualism among the general public. They found as misinformation or misperceptions spread, the less likely individuals are to trust expert advice and scientific results.

This is compounded by the fact that some misinformation and shoddy science has been cited in legitimate research or been picked up by the news. A recent article by McIntosh (2021, <https://scholarlykitchen.sspnet.org/2021/03/17/imposters-and-impersonators-in-preprints-how-do-we-trust-authors-in-open-science/>) highlighted the issue of trust in authorship specifically, by identifying and calling out a fake researcher who had published a number of falsified articles about COVID. This work was especially troubling given that the fake author's work had been cited in peer-reviewed articles.

This presentation will highlight a few examples of ways in which authorship issues are manifesting in open science. Additionally, we will discuss the various ways scientific communications have been manipulated by issues of authorship, and finally presenting a number of strategies and tools to evaluate authorship.

OP11.3

Trajectories of integrity: Viewing students' understanding of academic integrity across educational levels

Mikkel Willum Johansen¹, Mr Mads Goddixsen¹, Anna Catharina Vieira Armond², Christine Clavien⁴, Eugenijus Gefenas⁵, Linda Hogan⁶, Anna Olsson³, Margarita Poškutė⁵, Una Quinn⁶, Orsolya Varga², Peter Sandøe¹, Thomas Bøker Lund¹

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Objective

Our understanding of student integrity has increased rapidly during the last decade due to the publication of a number of varied studies (e.g. Goddixsen et al 2020, Curtis & Tremaine 2019, Childers & Bruton 2016, Glendinning 2014, Gallant 2014). Yet, most of these studies focus on student populations at only one educational level, and we lack knowledge of the students' progression throughout their educational trajectory. The objective of this talk is to address this gap in our knowledge by analyzing and comparing the understanding of academic integrity students at different educational levels have.

Method

We will take departure in large-scale survey, performed as part of the project INTEGRITY. The survey includes answers from more than 5000 European upper secondary, bachelor and PhD students from nine European countries. The survey was designed in basis of a qualitative interview study performed on 72 students from the same three groups. In the survey students from all three levels were asked questions with similar content but phrased to target students at the relevant level. Furthermore, for bachelor and PhD students the questionnaire was targeted to the relevant area of study to ensure that the questions were phrased as recognizable as possible. The questions primarily probed the students' self-perceived knowledge and doubts in relation to academic integrity, their understanding of central aspects of academic integrity, and their propensity to engage in certain questionable practices.

Results

The results show clear trends across levels. Students at higher levels generally have a better understanding of central concepts and are more competent in navigating concrete scenarios than students at lower levels. However, the quantitative differences are not as substantial as one might expect (let alone hope), and the starting point is, in some cases, surprisingly low, even for students who participate in academic integrity training.

Based on our data, we will point to the topics where students on the various levels lack knowledge, and we will provide some suggestions about how academic integrity training could be organized to meet the needs of the students and provide a natural progression in understanding as students move through the educational system.

OP11.4

Barriers and facilitators to research data sharing among human movement researchers and clinicians in Africa: a qualitative study.

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Objectives: To describe the barriers and facilitators to research data sharing among human movement researchers and clinicians in Africa, in order to provide evidence of the concerns and challenges to data sharing, encountered by these researchers and clinicians. Also, to additionally identify factors that facilitate data sharing between these populations.

Method: A qualitative descriptive design, with a purposive sampling method was used. In-depth interviews with the human movement researchers and clinicians across Africa were conducted online via Microsoft Teams. Interviews were recorded following written consent of the participants. Qualitative content analysis was used for data analysis. Trustworthiness and rigour were ensured.

Results: Sixteen (n=16) human movement researchers and clinicians from across Africa participated in the study. More participants (62%) were physiotherapists with an interest in sports science. Most participants (94%) had postgraduate degrees. Thirty-one percent were both clinicians and researchers. Five themes emerged: the researcher-clinician "gap"; technological pros and cons in Africa; cost matters; bureaucracy and ethical factors; the unique African perspective. Barriers to data sharing included: the existing divide between clinicians and researchers; clinicians' lack of motivation for data sharing because, unlike researchers, this did not advance their careers nor provide monetary benefit for them; the prohibitive monetary and time cost implications of uploading data especially for clinicians remunerated based on the number of patients they treated per day; lack of standardisation of biomechanical data; technological challenges resulting from poor infrastructure in low-income African regions; institutional bureaucracies that delay ethical approvals for research; research funding being limited and hard to source. Facilitators included: researchers finding practical ways of communicating their findings to clinicians; awarding continuous professional development (CPD) points to clinicians for participating in data sharing activities; young researchers being more prone to data sharing; developing the concept of having a secure, user-friendly African database for human movement studies.

Conclusion: More barriers than facilitators to data sharing exist among human movement researchers and clinicians in Africa. Besides addressing technological, bureaucratic and cost barriers, there needs to be a societal and psychological shift through reorientation to motivate and encourage data sharing among human movement researchers and clinicians in Africa.

OP11.5

An ethical exploration of ever-expanding authorship bylines

Dr. Mohammad Hosseini¹, Dr. Jonathan Lewis², Professor Hub Zwart³, Professor Bert Gordijn⁴

¹*Northwestern University, Chicago, United States*, ²*University of Manchester, Manchester, United Kingdom*, ³*Erasmus University, Rotterdam, The Netherlands*, ⁴*Dublin City University, Dublin, Ireland*

Objective: In this talk we discuss the impact of an Increase in the average Number of Authors per Publication (INAP) on known ethical issues of authorship.

Method: The ten most common ethical issues associated with scholarly authorship will be used to set up a taxonomy of existing issues and raise awareness among the community to take precautionary measures and adopt best practices to minimize the negative impact of INAP.

Results: We confirm that intense international, interdisciplinary and complex collaborations are necessary for research, and INAP is an expression of this trend. However, perverse incentives aimed to increase institutional and personal publication counts and egregious instances of guest or honorary authorship are problematic. We argue that whether INAP is due to increased complexity and scale of science, perverse incentives or undeserved authorship, it negatively affects all known ethical issues of authorship at some level.

Conclusion: In the long run, INAP depreciates the value of authorship status and may disproportionately impact junior researchers and those who contribute to technical and routine tasks. We provide two suggestions that could reduce the long-term impact of INAP on the reward system of science. First, we suggest further refinement of the CRediT taxonomy including better integration into current systems of attribution and acknowledgement, and better harmony with major authorship guidelines such as those suggested by the ICMJE. Second, we propose adjustments to the academic recognition and promotion systems at an institutional level as well as the introduction of best practices.

OP11.6

The Development and Features of an Institutional Authorship Policy

Professor Lisa Rasmussen¹, Professor George Banks¹, Dr. Katherine Hall-Hertel¹, Dr. Elise Demeter¹, Dean Tom Reynolds¹

¹*University of North Carolina, Charlotte, Charlotte, United States*

BACKGROUND:

Authorship conflict is an area of frustration, dispute and even retraction. Because authorship practices vary and discussions occur in private, it is difficult to establish effective ways for institutions to support good authorship practices. However, recent recommendations from the US National Academies and other scholars suggest that institutions can contribute to strong authorship practices by developing and disseminating authorship standards and policies.

OBJECTIVE:

Based on this, we set out to develop, approve, and disseminate an institutional authorship policy.

METHOD:

We gathered authorship policies from all US research institutions in the top two research tiers to collect potential policy points. Scholarly literature also highlighted typical areas of and reasons for conflict in authorship, as well as suggested solutions, which informed the policy. A draft was circulated to campus stakeholders for input, including administration and the Office of Legal Affairs. The policy was presented to groups of stakeholders for questions and comments prior to official decision making.

RESULTS:

On the basis of review of other policies and scholarly literature, as well as stakeholder input, the following points were included in the policy:

* Justification: many policies offered reasons for the policy need, which empowers users with knowledge about authorship standards and the effect of authorship practices on institutional culture.

* Authorship criteria: although standards vary by discipline, most policies acknowledge well-recognized standards of and requirements for authorship. However, most were also careful to acknowledge the existence of legitimate differences in standards.

* Prohibitions: many policies explicitly noted prohibited authorship practices, such as guest and ghost authorship.

* Constructive authorship practices: our policy includes recommendations for healthy authorship practices like completing an authorship agreement and revisiting authorship arrangements throughout a project.

* Dispute resolution: An important feature of the policy is that it sets out specific processes for authorship dispute resolution, including both informal and formal steps, and provides for the establishment of a new University Authorship Dispute Committee.

CONCLUSION:

The policy passed at every step without objection, due to both conspicuous administrative support and because we had solicited and sought to address any questions and objections well in advance of decision making.

Oral Presentations 12: Guidelines and Policies

OP12.1

Regulating Research Integrity

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This presentation is about how and why the regulation of research integrity emerged in the United States (US). This presentation is a component of broader research that examines the regulation of research integrity in Australia through a critical analysis of regulatory theories and science and technology studies, including principles and regulatory approaches from the US.

Through an historical analysis of research integrity regulation in the US, the tipping points for regulatory change will be critically analysed through the theoretical lens of regulatory theories and science and technology studies. Specifically, science and technology studies that address the norms of scientific practice, such as Robert K. Merton.

From the 1800s to the time of World War 1 in the US, the practice of science was considered the sole province of scientists, a self-directed institution governed by the norms and values enshrined by what Merton describes as the 'scientific ethos.' Early codes of scientific experimentation existed within the context of medicine and the ethical treatment of patients. One of the earliest developments of more formalised regulation in research was the development of research ethics regulation in response to egregious cases of unethical experimentation involving humans, for example, the Nuremberg Code and Declaration of Helsinki. High profile cases of research fraud in the early 1980s in the US marked a period of mounting public distrust in science. These scandals sparked several US Congressional activities about research misconduct and integrity in science and resulted in legislative and regulatory efforts to regulate scientific conduct. The US regulation of research integrity progressed from conduct that was largely self-regulated to a self-regulatory state more characteristic of 'meta-regulation,' where regulation is imposed by government agencies with more invasive oversight under Federal policies and regulations.

The history of how research integrity regulation emerged within the US demonstrates how a growing public distrust in science created an environment of scrutiny and pressure for more external regulation in scientific conduct. Understanding the drivers for regulatory change in the US provides a useful platform to inform principles for future regulatory reform of research integrity in Australia and other jurisdictions.

OP12.2

Rethinking the local context – how to successfully implement research integrity policies?

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It is a common notion that the path to a successful implementation of research integrity (RI) policies, and any other policies, goes through an alignment with the context in which the guidelines are to be embedded, the so-called local context. However, it remains unclear what exactly characterizes the local context of contemporary researchers. Is it their research group, the institution in which they work, or the country in which the research is carried out?

We set out to examine what constitutes the relevant local context for implementing RI policies. We argue that although we have to consider institutional and national characteristics when implementing RI policies, disciplinary or epistemic communities are equally important. These communities are not bound to organisational models, geographical localities, or physical places. Instead, they cut across time and space – and are formed by historical and transnational research practices.

In our paper, we propose a conceptual model for understanding researchers' local context relating to RI policies. We study the formation of 'local communities' in science and aim to carve out the relevant dimensions that characterize such communities, building on Beck's work on cosmopolitanism, and Durkheim's theory of solidarity. Combining these two frames, we want to argue that researchers' imagined communities (Benedict Anderson) are the most relevant way to understand locality when it comes to RI policies.

Subsequently, we examine this model with data from the SOPs4RI-survey among 67,000 researchers. In this survey, participants were among other issues asked about their perception of local context and researcher identity. The results indicate an entanglement of belonging to both geographical or institutional locality as well as epistemic and infrastructural locality, with an emphasis on the latter, but with substantial disciplinary and national variations.

Our model and study of researchers' identity formation will be able to inform the implementation of new research integrity regulations through a deeper understanding of the context for such regulations. Additionally, the study has broader implications for our understanding of science as a communal enterprise and its social institutions.

OP12.3

Developing a Framework to Enhance Research Integrity in Research Collaborations

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¹*Irish National Research Integrity Forum, , Ireland*, ²*Technological Higher Education Association, , Ireland*,
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Collaboration is central to research and innovation. Increasingly, researchers work together and with a wide range of external stakeholders to deliver outcomes that expand the boundaries of human knowledge and have the potential to deliver real benefits for today's rapidly developing society. Collaborative research can occur within and between national higher education or research performing institutions (inter-institutional collaboration), between and across different research disciplines (inter- or multi-disciplinary collaboration), across national borders (international collaboration), and with a range of different partners including other higher education institutions, state research bodies, public sector organisations, private enterprises and civic/civil society organisations (CSOs) such as charities and voluntary organisations (inter-sectoral collaboration).

Considering the importance of research collaboration, the Irish National Research Integrity Forum published a guidance document in October 2021 – titled the 'Framework to Enhance Research Integrity in Research Collaborations' - to help researchers to reinforce a culture of responsible conduct of research (research integrity) in their collaborations so they can, as far as possible, avoid incidences of serious research misconduct and unacceptable research practices occurring during the collaborative work. This presentation describes how the Framework was developed and provides an overview of the topics considered to be most important for preserving research integrity within a collaboration, including authorship, governance, customary practices and assumptions, and responding to research misconduct.

OP12.4

Doctorate by publication, authorship and doctorateness

Prof Renier Steyn¹

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Background: Obtaining a doctorate through the publication of a coherent set of articles is gaining popularity in South African universities. However, this format of obtaining a degree presents a dilemma should the requirement for publishing articles differ from that of attaining a doctoral degree.

Objective: The aim of the paper is to contrast the authorship qualifying requirements embedded in journal publication guidelines with statutory university-wide directions on the criteria for completing a doctoral degree. At a practical level the aim is to alert doctoral candidates, as well as those supervising candidates, regarding the possible tension which may exist between guidelines and criteria, and the possible dilemmas associated therewith.

Method: Desktop research was performed. Firstly, data on authorship qualifying requirements stipulated by established South African journals were collected. These were contracted with the ten categories of "level descriptors", which describe the competencies required for completing a doctoral degree, as stipulated by the South African Qualifications Authority. The aim was to identify if the author of several (coherent) articles necessarily qualifies for a doctoral degree.

Results: It was found that publishing articles, and meeting the guidelines for qualifying as an author of several articles, were sufficient in meeting some doctoral criteria. However, a few of the criteria set by the South African Qualifications Authority, for example "Accessing, processing and managing information" and "Management of learning", are only met in part through article publication.

Conclusion: Though meeting authorship requirements as prescribed by South African journals and publishing several articles in these journals towards obtaining a doctoral degree is commendable, it does not suffice in meeting the South African Qualifications Authority's "level descriptors" threshold. Candidates and supervisors are therefore urged to take note of these shortcomings, and it is recommended that both parties use the opening and closing chapters of the thesis to demonstrate the doctorateness of the candidate. Candidates are furthermore discouraged from using large research projects with multiple researchers as the basis of their doctorate by publication studies, as these projects may be an avenue to authorship in numerous articles, but provide less distinct proof of doctorateness.

OP12.5

Responsible Conduct of Research Prospects: Three Case-related challenges from the Lens of a Research Funder

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From the launch of the Québec Research Funds Policy for the Responsible conduct of research (RCR) in 2014; we encounter several challenges related to investigation of RCR misconducts.

First, we found that while about one-third of all RCR cases reported to our institution were related to intellectual property (i.e., plagiarism, self-plagiarism, invalid authorship and inadequate acknowledgement of contributions) – the investigation of these allegations leads mostly to the conclusion that there is no misconduct. Such cases were most related to arguments based on conflictual interpersonal situations. This invites us to question the extent to which these cases are efficiently dealt with through an RCR investigation process - whose primary objective is better science for the common good rather than settling disputes by designating the primary authors (or inventor). This also invites to consider what alternative methods (e.g., mediation) might help avoid the burden of an unnecessary misconduct management process in this specific context.

Second, the digitalization of our society raises new challenges as: RCR complaints initiated or fed through social media or blogs interferes with traditional investigations. How to provide fair and confidential process, objective management of the case and adequate protection to respondents in such a context? This is especially problematic in situations where no RCR misconduct have genuinely occurred, or when a respondent has already been sanctioned in the past, for such misconduct (is there a right to a 'fresh start'?).

Third, in Quebec, investigation processes are led by institutions (and not through a central body). We face several 'mobility issues' that hinder the management of RCR investigation (i.e., situations where the person who is the subject of the allegation moves in a different institution or country). This phenomenon tends to increase from year to year, and concerns both regional and international mobility. Confidentiality and presumption that researchers are acting with integrity until proven otherwise, limits the sharing of information between institutions and thus the possibilities of investigation.

As a funding agency, we are seeking solution to better serve the RCR process in the interest of science and would like to initiate an international discussion on these challenges.

OP12.6

Conflicts of Interest in Public Health: A Content Analysis of a Ghanaian Newspaper and Policy Documents

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Background: Conflicts of interest in research is important to understand because researchers are required to be objective and honest and COI can make researchers act otherwise. This study sought to identify elements of COI in a top Ghanaian public newspaper and two policy documents: the National Nutrition Policy (NNP) document and the Ghana Public Health Act (GPHA).

Methods: The study employed a content analysis research approach to review health articles from the newspaper over a one-year period from January to December 2019. This review was guided by the data driven policy analysis framework and key words used in the search included: conflict of interest, disclosure. The study also identified elements of COI reported in the NNP and GPHA policy documents. Additionally, we analysed public health and nutrition research articles and documents referenced in the NNP and GPHA. The study employed the constructed week sampling method for selecting articles. Data for the newspaper review was extracted with the aid of a coding sheet

Results: Out of the close to 1,600 news items, 105 were health related (6.5%). There were 3 disclosed elements of COI in the policy documents and 18 undisclosed in both the newspapers (6) and policy documents (12).

Conclusion: COIs are scarcely reported and most remained undisclosed in the selected newspaper and policy document.

Oral Presentations 13: Research on research integrity

OP13.1

East Asian graduate students' experiences of scholarly authorship in biological and biomedical sciences research: Preliminary results

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Studies regarding East Asian graduate students' experiences of scholarly authorship are limited. One study revealed that East Asian cultural moral values are likely to be guiding mentoring philosophy according to social hierarchy and harmony. It was also suggested that such moral values might lead to the occurrence of questionable authorship practices. Accordingly, the current study investigates East Asian (Taiwanese) graduate students' actual experiences of authorship. Specifically, the present study explores how the byline and order of authorship in research papers are actually defined and designated, particularly in biological and biomedical sciences (BBS) research in Taiwan.

First, it should be noted that the study is not yet completed; therefore, no concrete results have been formulated at this time. The target population of the study is graduate students in BBS-related programs in Taiwan. The projected number of participants to be enrolled in the study is 200. Data collection is conducted using an online survey method, with a survey comprising three parts. The first part asks for participants' demographic information, including gender, degree program, past research experience, and format of their degree thesis. The second part gathers participants' experiences of being an author

in BBS research, including when and how authorship is defined and designated. Questions relating to transparency and fairness of the decision-making process and the potential influence of power status are also included in this part. The level of consistency between participants' expectations regarding deserved authorship credits and final authorship decisions is also explored. In the third part, participants are required to share institutional guidance and training of authorship, including whether they are informed of any institutional policies, whether any authorship training is received, and how the training or guidance is helpful for dealing with the practices related to negotiating authorship.

The results of the study will reveal the common decision-making process of authorship in BBS research in Taiwan. The findings are expected to inform what additional efforts (developing new authorship training, making new authorship policies and guidance, etc.) are needed in the future.

OP13.2

P-Hacking in Experimental Accounting Studies

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Objective: We study the extent and determinants of p-hacking in experimental accounting studies based on p-values in experimental studies published in top accounting journals.

Method: We use a text-mining approach to collect p-values in experimental studies published in top accounting journals, and detect p-hacking using a pooled distribution of p-values. We predict that p-hacking will lead to discontinuity in the p-value distribution around the significance threshold (i.e., $p = 0.05$).

Results: we find an unusual abundance of p-values that are just significant: the observed frequency of p-values equal to 0.05 is 22% to 30% higher than what would be expected based on the frequency of other p-values. Further analyses reveal that p-hacking is more evident in articles by junior researchers, authors from highly ranked schools, male authors, or sole authors.

Conclusion: Our analyses suggest that some researchers may have p-hacked to obtain "just significant" results. We provide the first evidence that journals' mandatory disclosure policy mitigates p-hacking.

OP13.3

Perception of the Climate of Research Integrity in the National Health Sciences University, University of the Philippines Manila (Qualitative Phase)

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Objective: To describe the climate of research integrity (RI) in the University according to the participants' awareness and perception and to inform the adoption of Thrush' Survey of Organizational Research Climate (SOURCE) instrument

Method: Key informant interviews with 6 of the top research officials were conducted for queries on research integrity awareness and perception and to review if the SOURCE accomplishes face and content validity. The same was done with seven focus group discussions conducted among researchers including faculty members, postgraduate and undergraduate students, physician trainees, nurses and paramedicals, research executive council, and research services members. Common themes were identified. Triangulation of findings were done.

Result: It was unanimous that RI is important at both the personal and institutional levels. The level of awareness in the University is still low. Violations of RI is not often heard of in the University.

The SOURCE was deemed a valid tool for assessing the climate of RI. Modifications were in order though to tailor more to the Filipinos' values, to restate some items for clarity, and to make the choices reflect the presence or absence of the items and to what degree, aside from their relevance in keeping RI.

The SOURCE was modified but still carried the original domains now reflecting descriptions suited to the setting:

- 1) Research Resources and Opportunities Available in UP Manila, 6 items (Input in SOURCE with 7 items);
- 2) UP Manila Research Infrastructure, 18 items (Structure, 20);
- 3) Processes and Expectations for Research in UP Manila, 21 items (Process, 25) and;
- 4) State of Research Integrity in UP Manila, 13 items (Outcome, 13).

The revised instrument is undergoing construct validity prior to rollout in the quantitative phase of the study.

Conclusion: Research integrity is important in academic institutions. Awareness in the University remains low. The modified SOURCE instrument passed the content and face validation.

The efforts of the University's Committee on Research Integrity aim for greater awareness, practice, and upgrade of the climate. The modified instrument will be administered periodically to reflect changes in the RI climate with efforts permeating to the rest of the university researchers.

OP13.4

Do They Mind What We Say? Research Integrity Through the Lens of Public Trust

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A critical gap is noted between what has been researched and what has been practices in the developing countries' context. All the scientific investigations are sought to offer theoretical implications and as well as practical implications. However, rarely these practical implications are either put into action or recognized in the development agendas. Research and policy formulation and implementation still remain apart, leaving Research and Development (R &D) a prodigal choice of the scientific community. This study, adopting the qualitative research strategy, investigated how the general public view the integrity of the research work and the findings of the scientific community. Twenty-five participants falling into five community groups (top public administrators _ 05, politicians _ 05, professionals _ 05,

civil servants _ 05, and general public _ 05) were asked to unearth their trust towards the integrity of researching. Data from interviews were transcribed, coded, and analyzed thematically to arrive at key themes that describe the public trust in research integrity. Surprisingly, many "no ideas" were noted while impracticability, complexity, inaccuracy, and shallow were often found as the main leads of gap between researches and practices. Yet, objectivity and transparency of researches were deemed to be important by some of the participants while many held that the researches have to be of more practical nature for them to win the public trust.

Keywords: Integrity, Objectivity, Public Trust, Qualitative, Transparency.

OP13.5

What Traits of Character do Scientists Value?: Results from the National Scientific Virtues Study

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Virtue ethics is a branch of moral philosophy that emphasizes the role of character in ethical behavior. Pennock's vocational virtue theory developed this idea as it applies to scientific practice, focusing on the scientific virtues and articulating the relationship between science's epistemic and ethical values. But what do scientists themselves think about virtue? The goal of this empirical study was to investigate the degree to which scientists agree upon such virtues and how they are transmitted within the scientific community. Using in-depth phone interviews and questionnaires, we gathered data from over 1100 scientists working in the US, with about 600 randomly drawn from the population of peer-identified exemplary researchers and the balance from a matched set of early-career researchers, asking them a series of quantitative and open-ended questions to elicit their views about these and related matters. Quantitative data revealed broad agreement about the central, guiding purpose of science and the character virtues that are most important for excellence and integrity in basic research. Confirmatory factor analysis showed eight traits—honesty, curiosity, perseverance, humility to evidence, skepticism, and others—that are judged to be most important. Qualitative data from over 500 hours of interviews provided reasons, examples, and ethical reflection about these scientific virtues, how they ought to be expressed in practice, and how they are transmitted in the scientific community. This large-scale in-depth study of the scientific ethos showed that there is very strong consensus in the scientific community, at least in the United States, about the importance of these character traits for scientific research. It also revealed broad agreement that such traits can be learned and developed. These findings are significant for anyone interested in the scientific mindset and in improving RCR training and science education generally.

OP13.6

RE-PLACE PAPER LABBOOK – Innovative Character of Digital Research Documentation (A-4)

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OBJECTIVES: Electronic laboratory notebooks (ELN) transparently document research processes and support information exchange by facilitating co-working in ELN-based research projects. As transparency and cooperation are supposed to strengthen knowledge transfer, academic research institutions recently support the use of ELN. One example is the Berlin Institute of Health (BIH) as the

translational research area at Charité – Universitätsmedizin Berlin that has been running a large-scale ELN implementation programme since Nov. 2017.

The work's objective was to evaluate the extent to which scientists at BIH/Charité have already adopted ELN in accordance with the intended programme goals.

METHOD: Employing a mixed-methods approach, quantitative and qualitative research strategies were combined to obtain a depth understanding of the evaluation subject (Teddlie and Tashakkori, 2003, Sage). Empirical findings derive from qualitative interviews (n=9) and two online surveys, conducted in Feb. 2020 (n=518 institutional research staff members) and May 2021 (n=172 ELN users).

RESULTS: Taking a closer look at the institutional ELN implementation process, evaluation results show a considerable diffusion of the ELN programme. However, researchers' digital documentation practices in ELN do not always comply with the intended programme outcomes. Thus, findings reveal a discrepancy between individual ELN use and institutional vision of ELN use, suggesting that different stakeholders of the ELN programme might perceive the purpose of digital research documentation differently. Based on the necessity that researchers at BIH/Charité need to adopt novel laboratory routines, such as integrating ELN in FAIR data management concepts, to use ELN in line with institutional goals, the work highlights ELN stakeholders' interrelation at various organisational levels. It emphasises the importance of creating an institutional awareness for social innovations through empowering team science and co-production of knowledge in ELN based research projects as a social practice.

CONCLUSION: Research institutions need to pay attention to the creation of acceptance for the technical innovation ELN, above all to the creation of acceptance for intended 'novel' social practices, such as digital research documentation, to strengthen Open Science and Responsible Research. This includes carefully analysing researchers' motivations for action, also those that underlay previous social practices, such as analogous research documentation in paper lab books.

Oral Presentations 14: Research on research integrity; RCR Training, education and mentorship

OP14.1

Implementation Culture – cultural and gender aspects in fostering responsible research.

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Within the SOPs4RI project, we are committed to foster GSP through development of evidence-based tools and guidelines that will enable and support organisations in strengthening responsible research. The final stage of refinement of knowledge gathered throughout the project is the pilot testing in selected RPOs and RFOs. We will present the preliminary findings from the pilot testing phase (Nov 2021 – March/April 2022) from a cultural and gender-sensitive perspectives - as crucial factors for a successful uptake of an evidence-based implementation. Taking into account the overall goals of the SOPs4RI project and translating them into specific tasks for the pilot testing, a participatory-based implementation-science approach will be introduced, to facilitate the identification of existing gender gap and to assess cultural aspects of the implementation process. The study will employ simultaneous mixed methods – data collection and analyses for the quantitative and qualitative data will occur concurrently. We will test the effectiveness, efficiency and acceptability of the tools and guidelines developed within the project. Our preliminary study will draw attention to an important aspect of a more responsible research culture, that is not being well articulated in the literature and practice so far – cultural and gender perspectives. Disciplinary differences are being long present in the ongoing work

and discussions on fostering RI on both national and international level. We, in turn, will argue that a special attention should be given to cultural and gender aspects in the development of tools, policies and strategies for strengthening GSP. Such considerations will further enrich the ongoing work and debates and will allow for a more global vision on responsible research. In our preliminary study we will discuss how cultural and gender aspects affect the successful uptake of an evidence-based implementation. The co-creational form of all planned activities within the testing phase in the SOPs4RI project will allow us to engage with a range of stakeholders and to adopt a community-based, non-linear and cyclical approach, that fits with the 'real-world' setting. Addressing a global audience will allow us to enrich our perspectives and foster a discussion on cultural and gender aspects of RI worldwide.

OP14.2

Reflections on the quantitative evaluation of the Research Integrity training programme Path2Integrity

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Research integrity (RI) can be trained and evaluated in various ways. We will present the first reflections (including the development, implementation and analysis) on the P2I questionnaire, which is the main quantitative instrument of the Horizon2020 project Path2Integrity.

The data set of the P2I questionnaire has been collected online between 2020 and 2021 and contains 2021 data records. The participants came from different disciplines from around the world. They were between 16 and 64 years old from secondary school students up to researchers. The participation was voluntary, and there was no randomisation.

Until 2022, the data set described above and will be analysed. All results written here about the analysis are preliminary.

Reflection on the development shows that codes of conduct contain much content that needs to be simplified for a multiple choice questionnaire. Also, for international use, scenarios needed to be translated without changing the content.

Reflections on the implementations shows that it is difficult to implement a pre-post-test design into a training to gain data. Also, the participants were unsure if they conducted the questionnaire for the first or the second time and they had difficulties to remember a group code they were assigned to, even though they could see it directly in front of them.

Reflections on the analysis shows that the data set is very heterogeneous, since the participants are not randomised and therefore, some disciplines are only represented by a few countries. In the same way, the distribution by country is counteracted, as there are some countries overrepresented. At the same time, the P2I questionnaire displays the status quo of a group before starting a training and helps to identify gaps in the knowledge as well as in the way students justify.

The reflection on the P2I questionnaire shows that there are some limitations and benefits in how it quantifies RI. Some of the results are limited to the test design of the P2I questionnaire as well as to the non-randomised data. This results should be kept in mind for future quantitative research on RI.

OP14.3

Responsible Research Barometer: study in Lithuania

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Objective. Responsible Research Barometer (Ozolinčiūtė et al 2020), a study carried out by the Office of the Ombudsperson for Academic Ethics and Procedures in Lithuania, demonstrate perceptions and experiences of Lithuanian academia about research and publication ethics (RPE). The study aims to find out the current practice of the research conduct and publication of research results through the lenses of RPE. In this study, doctoral students, and researchers (lecturers, scientists and other researchers working in the institutions) filled in the survey (N=384). The questionnaire consisted of five parts covering 23 questions, 4 of which were open questions and 19 – closed questions. The survey covered such parts, as: how much attention Lithuanian academia dedicates to education about RPE, how ethical sensitivity manifests in the academia, what RPE malpractices are most emerging in the academic environment, and how they are solved.

Method. The typology of Forsyth (2019) suggests four inclinations to act in accordance with moral norms and values – situationists, absolutists, subjectivists, and receptionists. Our results show that the absolutist behaviour of ethical position that is assigned relatively to the values of modern society is predominant in the surveyed academia. Therefore, the respondents are oriented more not to individual moral norms, but to the ones accepted in the society.

Results and Conclusion. The results also show that every second respondent does not know the RPE regulations, and more than a half of the respondents assume that their institutions are not implementing these regulations in their activities. Another concern relates to the fact that more than every third respondent has never deepened the knowledge in RPE in the last three years while more than two thirds of the respondents were searching for information on RPE topic independently. This alerts us about the need to urge the academia to pay more attention to the need for a consistent training. Then, only every fifth respondent has referred to responsible persons from Ethics Committees of their institutions or units because of encountered problems, which reflects the need to foster institutional initiatives and trust.

OP14.4

Impact of RCR trainings that aim to empower young researchers

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Objective: In a small four-week private online course, developed for PhD students, with the title 'RCR how to do it right?', we measure if empowerment (as defined in a competence model that we created) is indeed stimulated among participants of the course.

Method: To answer the RQ, we used various qualitative measures and one quantitative measure to collect and analyse data: a combination of in-course data (an assignment, self-reflection and evaluation of learning aims section), semi-structured interviews with participants to answer the RQ and a pre-post survey (using the validated PDR test). Participants were PhD candidates throughout Europe. The interview data were analysed with NVIVO software, using a grounded theory method. The assignment was coded with help of a rubric and for the reflections distributions were computed.

Results: Preliminary results (analysis will be completed in Dec 2021) show which competences students display in analysing a case independently. The interviews show their understanding of empowerment in RCR, how the course has contributed to RCR empowerment and in what sense.

Conclusion: the results of this study though not conclusive yet, seem promising. Participants perceived all aspects of RCR empowerment to have increased to a moderate or great extent during the course.

The conclusion is primarily based on self-reporting (with the exception of the analysis of a course assignment).

OP14.5

Results from Path2Integrity's international mixed method evaluation: successes and failures in teaching research integrity

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Most Codes of Conduct for Research Integrity require researchers at all career levels to attend research ethics and research integrity training regularly. But until now, there is little evidence on what training approaches can be labelled successes in Higher Education. By showing the results from Path2Integrity's international mixed-method evaluation, we present short- and long-term effects of different learning groups, and challenges in conducting such training.

From 2019 until June 2021, over 1000 international participants from different disciplines learned how to conduct responsible conduct of research with the Path2Integrity Learning Card Programme. Within the accompanying mixed-methods evaluation, we collected:

- 191 open feedbacks from different educational stakeholders in 77 different workshops,
- 536 standardised feedback sheets,
- 1868 multiple-choice four-tier tests (questionnaire: Zollitsch et al. 2021), and
- seven qualitative group discussions to get insights into long-term behavioural changes.

This data is currently being analysed and this will continue until Spring 2022. However, based on analysis completed to date, significant first results are already emerging. These include:

- The difficulty to connect research integrity to students' regular university or senior high school life
- No expected predictor variables influenced the response behaviour of the participants. Only the variable "age" influenced the test results: the older the participants, the better the test result. This result reverses when we look specifically at the learning successes for the field data practices.
- Between the teaching methods of role play, storytelling and reaching agreement, the latter approach - reaching agreement - had the highest success rate in learning research integrity.

Although codes of conduct oblige research integrity training, they face the challenge to argue explicitly for their own relevance on both the higher education and instructional levels. At the instructional level, trainers face students across disciplines who have low motivation to study research integrity because of their low self-awareness of becoming a researcher. At the higher education level, decision-makers face a low overall impact of existing RI training. To improve future training, we can add to existing knowledge that "reaching agreement" seems an auspicious method to teach research integrity.

OP14.6

Data stewardship and privacy: Responsible conduct, collaborations and training between global North-South partners

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Over the last three decades, research collaboration challenges in global North-South (N-S) partnerships have been highlighted (Gaillard, 1994; Edejer, 1999; Bradley, 2007). In more recent times, the emergence of, and accessibility to, data as a research commodity has increased, and with it, critical questions about how data is accessed and used (Mathies, 2018). In addition to ethical considerations, there is an everchanging body of legislation, both regionally and globally, that must be addressed to ensure best practice surrounding data, access and its use, and compliance.

Aside from legislative parameters affecting data integrity in research, there are obvious considerations to effectively educate and train towards ensuring responsible conduct, and these are more pertinent in collaborations between global North-South partners with their different contextual factors. "Research Data and Research Information Management" has been identified as one of nine key professional competencies by the Southern African Research and Innovation Managers Association (SARIMA).

The Toolkit for early-career Research Managers Online Resources (TReMOR) Project is a recent, international North-South partnership towards improving Research Management (RM) capacity across the participating countries in Southern African Development Community (SADC) and the United Kingdom (UK). Funded by the African Academy of Sciences (AAS) and the Association of Research Managers and Administrators (ARMA) in the UK, this project aimed to create a series of online resources for early-career Research Managers and Administrators (ecRMAs) to use to springboard their learning and on-the-job training during the early stages of their careers.

To initiate ecRMAs, and more experienced, University academic and administrative staff into data privacy, encouraging responsible conduct of research (RCR) and compliant data stewardship within the new legislative frameworks, such as POPI and GDPR, the global N-S TReMOR Project team held a training day in April 2021. The project, and its training event, titled "Data Privacy Matters!" generated several text and video online resources relating to data privacy, data ethics, and data management. This presentation showcases the capacity development toolkit and initiatives of the TReMOR Project and suggest how these resources may impact research and innovation capacity development on the African continent and further afield.

Oral Presentations 15: Authorship and collaborations; Whistleblowing & Plagiarism; Cheating and academic misconduct

OP15.2

Raw data from paper mills: A closer look

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In recent years, a large quantity of biomedical papers has been identified to present systematically fabricated data, pointing to the existence of paper mills, unofficial organisations selling fake manuscripts. Many of these manuscripts display recognisable telltale signs of likely paper mill involvement and can be identified pre-publication. Careful attention to the figures is imperative in this process. Raw data, and especially those underpinning Western blot images should be requested and closely inspected. In the absence of real data, paper mills have been found to fabricate the 'original images'.

This talk demonstrates that given the necessity to streamline production of fake manuscripts, paper mills create fake raw image data using templates and synthetically generated Western blots.

In order to enable journal editors to handle cases consistently, there is a need for common guidelines and enforceable standards framing what journals should expect in terms of raw data.

OP15.3

Academic Dishonesty in Higher Education Institutions: Forms, Causes and Mindset in Pakistan

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Growing interest in the observance of academic integrity has appeared on account of massification and expansion of Higher Education Institutions (HEIs) because the goals of originality and methodological rigor cannot be achieved without adhering to it. However, the situation of academic integrity in the institutions of developing countries like Pakistan is unenviable and has emerged as an almost unmanageable issue. The objective of the study is to investigate the prevailing situation, causes and mind-set of university students and faculty towards trustworthiness and incorruptibility. The investigation has been carried out through a mixed method of research so that empirical and rational evidence could be produced. A questionnaire is used for gleaning information regarding the university students' perceptions and practices of academic dishonesty and how the culture of academic integrity may be promoted among the prime stakeholders of academia. The qualitative feedback of faculty was taken through in-depth interviews and the students' views through focused group discussions. It has been found that students practice academic dishonesty in their exams, written assignments, theses and research reports, etc. They indulge in it on account of certain instructional lacks, social and institutional pressures and future career stakes. Four major causes, i.e., less value to fair mindset, divergent fears, favoring someone and sometimes, taking it as fun, have been identified. These findings will help the research supervisors as well as administrators to comprehend and address the issues hindering the observance of integrity on the academic landscape.

OP15.4

Observations from NSF Plagiarism Investigations and Strategies to Prevent Plagiarism

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Objective: To provide insight into plagiarism as it relates to National Science Foundation (NSF)-funded research and offer plagiarism prevention strategies to institutions based on our experience investigating plagiarism allegations.

Method: We reviewed 134 plagiarism cases involving 137 researchers against whom NSF made findings of research misconduct that closed during fiscal years 2007-2017. The data were collected from Office of Inspector General (OIG) reports of investigations and supplemented with data found in NSF or OIG databases and Internet open sources. We recorded data related to subjects, the plagiarism, subjects' excuses for plagiarizing, institutions, institutional inquiries/investigations, OIG investigations, and actions NSF and institutions took against subjects.

Results: Subjects were often employed in junior academic positions; were often recent degree recipients; were often educated in non-U.S. institutions; and often committed plagiarism in multiple NSF proposals. Subjects submitted numerous NSF proposals but were infrequent grant recipients. The most common reasons subjects provided for their plagiarism suggested that subjects:

- did not know what constitutes appropriate citation;
- thought they used appropriate citation when they do not;
- did not understand when citations are required;
- considered appropriate citation less important in certain sections;
- recklessly incorporated sources into drafts; and/or
- rushed through document preparation.

Based on our analysis and investigative experience, we suggest institutions consider implementing the following strategies in the areas of institutional culture, training, support, and document submission:

- foster cultures of research integrity;
- publicize institutional research misconduct policies;
- establish targeted faculty and student training;
- emphasize the consequences of plagiarism;
- better support proposal writers, especially those who are inexperienced or have been previously unsuccessful;
- make plagiarism detection software freely available; and
- consider more substantive pre-submission review for proposals.

Conclusion:

Though our data is limited to NSF subjects, our review provides observations about those who plagiarize and proposes institutional strategies for plagiarism prevention. Implementing these strategies would likely require institutions to spend time and resources. Doing so, however, may result in less time and resources spent on investigations and remedying reputational harm that plagiarism cases can cause their researchers, their institution, and the greater scientific enterprise.

OP15.5

Fabricated studies in women's health: disconcerting experience from a whistleblower.

Prof Ben Willem Mol¹

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About a decade ago a study by Shokeir (Mansoura, Egypt) was retracted "at request of the editors of Fertility and Sterility as it duplicates parts of a paper already appeared in Human Reproduction". In fact, Shokeir had copied tables from the other study and changed the disease, thus pretending he had done his own study (1). In subsequent years, in my role as journal editor, and I noticed data fabrication in submitted studies from Assiut and Mansoura. With a copy of the original submission, I was able to prove fabrication after the papers were published elsewhere, albeit after years of raising concerns (2 3).

Next, a PhD-student doing meta-analysis noticed copying of tables between 35 RCTs by Badawy/Abu-Hashim from Mansoura University (4). She also found that Shokeir, mentioned above, had published multiple RCTs by copying the data from a paper on the same topic by another author. Up until today, only a handful of the 45 fabricated RTCs from Mansoura have been retracted. UniversityUtrecht and the VrijeUniversiteit-Brussel have not taken any visible action against the fabricated PhD-theses from Badaw/Abu-Hashim.

Since then, I have identified data-fabrication in >10 universities in Egypt, multiple universities in Iran and incidental cases in India, Pakistan and China, adding up to at least 500 but maybe close to 1.000 fabricated studies in the field of women's health. COPE-procedures are a complete failure, and the majority of the academic community is looking away. I have had seven accusations of racism against me at my University and one at the medical authorities in Australia. All are cleared. The fact that Egypt and Iran pop-up can be explained as these countries produce more than twice the amount of RCTs per GDP as compared to the European Union average, a metrics reached by no other country.

In conclusion, the system is broke. From Individual-Participant-Data Meta-analysis I estimate that at least 20% (maybe 40%) of the RCTs in Obstetrics/Gynaecology is fabricated. Science has been hijacked. The majority of actors in medical research are not interested in their main customers: patients and their doctors.

OP15.6

Joining the dots between research misconduct and bullying and harassment at King's College London

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In recent years, matters of research misconduct have become (and are equally recognised as) complex. Often, an allegation of research misconduct will be multi-layered, demanding individuals with responsibility for receiving these to unpick intricately woven narratives. Recognising that research does not operate in a vacuum and that researchers are part of a wider ecosystem is important to understand how problems that occur in relation to the integrity of the research can often be linked to other aspects. Most significantly, there is often a direct relationship to bullying and harassment, with hierarchies and dependency that create an imbalance of power often the root cause.

In investigating allegations of research misconduct, the Research Integrity Office (RIO) at King's College London reviews each case diligently to assess the nature of the content. Where matters fall within the scope of bullying or harassment, we refer these to the relevant HR contact within the university. Likewise, we adopt a coordinated approach when HR handle allegations of bullying and harassment concerning

researchers. If issues concerning the integrity of the research are called into question as part of an HR investigation, these are referred to RIO for review. This is crucial for our ability to effectively manage complex allegations, support staff members involved, and resolve conflicts and conduct issues. Increasingly, also, funding bodies are requiring notification for upheld allegations of bullying and harassment involving those whom they fund. And while there might be contractual obligations to join the dots between the processes of investigating research misconduct and bullying and harassment, these should not be the only motivation. For King's, such harmonisation between two once disparate processes is seen as necessary for our credibility as a world-leading research institution.

RIO has worked successfully to maintain strong ties with the various HR teams at King's, most recently publishing a Memorandum of Understanding between us and HR to manage any allegations of research misconduct or bullying and harassment effectively. This paper talks through how we have navigated through the complexity of HR-related concerns arising in the course of research misconduct investigations through our collaborative and cross-institutional way of working.

OP15.7

The rising threat of paper mills: a case from Russia

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It is a challenge to detect and retract papers coming from paper mills. According to Nature, since 2020 journals have retracted 665 papers suspected of originating from paper mills. All authors were affiliated with Chinese hospitals. But discovered cases are the tip of the iceberg. There is evidence of paper mills in other developing and emerging economies, for example in Russia. This specific black market for academic papers appeared as a response to publication pressure in Russia due to new nationwide criteria of evaluation of research output.

"International publisher" LLC is one of the most prominent companies in Russia that offer co-authorship for sale. "International publisher" LLC claims that approximately 20,000 scholars published 4,000 papers in journals indexed in Scopus or WoS with the intermediation of the company. The offers to purchase co-authorship are openly listed on 123mi.ru website. The titles of the journals are not disclosed but a client can choose a topic, his/her position in the list of co-authors and the quartile of the journal. Since 2019 approximately 2,000 fraudulent papers were offered for sale, and nearly 900 papers were published.

The main goal of the research is to identify the papers originating from this paper mill. The topic (title) of the article can provide sufficient information to detect the paper. The result can be cross-checked by the year of publication, indexation in international databases, and the number of co-authors. The investigation allowed to identify at least 277 papers that are potentially linked to the paper mill. Most papers were published in predatory journals or even hijacked journals. At least 32 papers were submitted to reputable journals. Co-authors originate mostly from post-Soviet countries but also from China, Iran, UAE, India, Poland, etc.

Such identification and proofs of paper-mill production can be not sufficient for the retraction of fraudulent papers. In many cases, articles linked to paper mills are retracted due to academic misconduct (falsification and fabrication, fraudulent peer-review). This creates an additional challenge for academic integrity. The results will be finalized before the conference. I would like to acknowledge A.Zayakin for providing data and S.Ragozina for collecting data.

Oral Presentations 16: RCR training, education and mentorship

OP16.1

Enhancing responsible conduct of research in lower middle income countries - A single centre experience from Pakistan

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Objective: Shaukat Khanum Memorial Cancer Hospital and Research Centre is a non-profit organization that is committed to conduct research of highest scientific and ethical standards. The hospital developed a centralised research oversight and repository system focusing on minimum set of knowledge and key principles that would enable those without previous experience in research to undertake responsible research. We present a triennial overview of this system since its inception in 2018 and share the lessons learnt.

Method : Following a gap analysis of existing research conduct , a centralised system provided research conduct guidance to all investigators of research studies being conducted at the hospital. This involved a two persons team doing F2F sessions with researchers (done virtually during COVID-19) , use of structured templates for essential research documentation , regular review of research records leading to timely identification of issues, root cause analysis (RCA) as well as corrective and preventive actions (CAPA). The core focus was on providing support for applicable ethics and regulatory approvals , having designated qualified research teams , appropriate consent process and its documentation, training for Good clinical practice (GCP) and good record keeping . For GCP training a free online resource from the global health network (TGHN) was adopted for use in October 2020. All completed studies were archived centrally. An annual review of this system ensured that identified issues were addressed systemically through changes in organizational policy and culture

Results: A total of 91 studies were managed via the oversight system during March 2018- Sep 2021. 36 of these have been completed and 54 are currently active. With onset of COVID-19 most non COVID research faced delay . Challenges include ensuring appropriate consent documentation, streamlining the process for study team changes, and ensuring all protocol amendments are implemented with ethics approvals . The initiation of the mandatory GCP training requirement and frequent F2F sessions with researchers led to identification of fewer issues during records review and greater investigator interest in using the oversight process.

Conclusion: Though limited in its scope, this programme offers a low cost mechanism for research oversight in low resource settings.

OP16.2

Implementing a shared learning environment to underpin responsible conduct of research in a higher education institute

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In 2017, Munster Technological University adopted the National Research Integrity Forum's recommendation to formalise policies, procedures and training around research integrity and ethics. From this action, promotion of responsible conduct of research as part of the research culture has been

progressing within the university through the Epigeum Research Integrity Training. In 2021, a number of researchers became certified VIRT2UE trainers through the Embassy of Good Science, along with the embedding of an ECTS accredited module into the university's structured PhD programmes. The main objectives of these initiatives are the promotion of good research practice within the university and to normalise expectation of this practice within the research culture.

Due to the impact of COVID-19, the VIRT2UE training and the accredited module were facilitated remotely using Zoom or MS Teams. Training entailed the use of short presentations providing initial topic guidance, with follow-up engaging exercises including, but not limited to, the Dilemma Game, virtues in real life dilemmas, and questionable research practices versus research misconduct. The break-out room functionality of the online platforms was used as a mechanism to promote a shared learning environment, along with the polling function within the online platforms utilised to gauge researchers' broad understanding pre and post training sessions.

There is clear evidence from the polling results of an improvement of researcher knowledge and understanding of issues relating to research integrity. Furthermore, it was noticeable from the reflection and discussion on dilemmas relating to research, that the shared learning environment provided an effective opportunity for researchers to contribute and learn from different subject disciplines, career stages, experiences and perspectives. The overall effectiveness of the training was evident in how researchers' discussions of values and virtues migrated from a place of near inaction to one where researchers realised that they had choices when it came to their conduct of research.

The results demonstrate the effectiveness of implementing a shared learning environment to underpin responsible conduct of research. Thus, further embedding good research practice within the university's research culture.

OP16.3

Money talks - a funders role in promoting research integrity training

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In Ireland the National Research Integrity Forum (NRIF) brings together research funders, research performing organisations and other relevant organisations to facilitate and coordinate the national agenda on research integrity. In 2018 the NRIF drove the roll-out of a three-year pilot of an on-line training platform to provide research integrity training to staff and students at all higher education institutions and publicly funded research organisations in Ireland.

As one of the funding organisations on the NRIF, the Health Research Board (HRB) recognises its important role in motivating researchers to undertake research integrity training (RIT), as highlighted in the SOPs4RI project key topics. The HRB introduced mandatory RIT for its funded researchers in January 2020 and has been monitoring the uptake of RIT over a three-year period.

Prior to mandating for RIT, in 2019 we gathered baseline data on level of awareness and level of uptake of research integrity training amongst our funded researchers. 82% reported being aware of the training with just 42% having undertaken training at that point. Throughout 2019 there was an increased emphasis on awareness raising at a national and funder level, together with a move to mandated training by HRB from early 2020. Data gathered in 2020 on level of awareness and level of uptake of research

integrity training showed an increase to over 90% and 70% respectively in respect of awareness levels and those reporting to have undertaken training.

In this presentation we will add further data gathered in subsequent years and consider feedback from funded researchers on how they feel research integrity training has impacted on their research.

Recognising that mandating of RIT is just one element of a much larger integrated picture, we will discuss the benefits of a co-ordinated approach to implementation of a national training curriculum from the perspective of a research funder. We will also consider what impact broader mandated interventions by a funding agency can have on the culture of research and how these can contribute to enhancing the willingness of researchers and RPOs to change how they conduct research.

OP16.4

VIRT2UE: A European Train-the-Trainer Programme for teaching research integrity

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Universities and other research institutions are increasingly providing additional training in research integrity (RI) in an attempt to improve the quality and trustworthiness of research. Various training courses have been developed, with diverse learning goals and content. Despite researchers' desire for training that focuses on moral character and professional virtues, there remains a lack of trainings taking a virtue ethics approach to teaching research integrity. To address this, we, a European Commission funded consortium, have designed a train-the-trainer (TtT) programme for research integrity. In this presentation we will provide a description of the programme. The VIRT2UE TtT programme is guided by the theoretical and conceptual frameworks of 1) virtue ethics, 2) learning by doing, and 3) learner-centred teaching. The programme follows a blended learning approach, combining online modules with structured participatory exercises. Trainers are taught how to guide researchers through a series of dialogical exercises for fostering reflection on scientific virtues, and how to promote understanding of the European Code of Conduct for Research Integrity. Trainers experience the programme as participants and learn how to deliver the content themselves. Trainers are provided with adaptable tools and resources that can be used and combined in different ways in their own teaching. The programme implementation began in Spring 2020 and over 400 trainers have participated in the programme to date. The programme has been positively evaluated, for example trainers graded - between 0 (very bad) and 10 (excellent) – the online modules a median of 8 (IQR=2) and the participatory exercises a median of 9 (IQR=1). Furthermore, a majority felt that the training helped them, as a trainer, to learn about ways to organize and teach a research integrity course (n = 95 [82%]) and would recommend the training to others (n = 107 [92%]). At the moment, trainers have educated over 2500 researchers in Europe using core elements of our virtue-based approach. The VIRT2UE TtT programme fosters research integrity by developing good trainers and subsequently good researchers across Europe.

OP16.5

"I" in research integrity: A case study of art session in a research integrity course

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Objective: We introduced an art session in the Summer School on Responsible Research, where participants and teachers used tempera on canvas to illustrate how they see themselves in research integrity. We present the art that came out of the session, as well as textual descriptions of participants on what their picture presents.

Method: All authors painted a picture and then answered a demographic data survey, gave a title and described their painting. No ethics approval was required, as all participants are authors.

Results: Most of the authors came from biomedical sciences and were academic researchers, with predominance of women (13 out of 19). The titles of the painting ranged from ambiguous (e.g. "Circles" or "Equilibrium") to more concrete (e.g. "The temptation of image manipulation"). Some created monochromatic images and others added newspaper pieces or used flour to create volume in their paintings. In the description of the figures, some of us aligned the paintings with classical research integrity themes as morality, transparency, or data manipulation. Naturalistic images like sunflowers, beaches, and trees were linked to research integrity. Motives of fighting various forces and attempts to draw balance were also used.

Conclusion: The research integrity area is very complex, and individuals understand and see it differently. Using art in teaching research integrity may be a good way to stimulate introspection and discussion about research integrity, as well as to better understand how researchers perceive the concept of research integrity.

OP16.6

A Novel Virtue Ethics Approach to Research Integrity Training (VIRT2UE) in Nigeria: First Experiences

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Background:

The traditional curriculum of Research Integrity (RI) training focuses on compliance with rules and avoiding and/ or being punished for research misconduct. The VIRT2UE approach – developed by a

European Consortium – is, in contrast, aimed at building moral character (virtues). This training was developed for the European context, but some trainers outside of Europe have been trained and are implementing it in their own contexts.

Objective:

To report the experiences of the VIRT2UE programme in Nigeria. The training consisted of eLearning modules and five participatory exercises, delivered via Zoom.

Methods: 18 participants from 3 hospitals; 10 males and 8 females (Physician Fellow = 1; Resident Doctor = 15; Medical Officer = 1 and an Environmental Health Professional = 1) were trained. Participants shared their experiences of the training orally in the final session.

Results:

Regarding the eLearning modules, all participants could access the modules but did not have adequate time to complete them before each participatory session. Although the European Code of Conduct for Research Integrity was used in training, it was easily adaptable to the Nigerian local context.

Regarding the participatory exercises, all participants engaged well with and enjoyed, the exercises which introduced the programme's core concepts (dilemma game, debate and dialogue, self-declaration approach). The participants initially found some exercises (virtues and norms and the middle position), which require the discussion of a real-life dilemma, more challenging. There was some difficulty separating the concept of the middle position (the ideal way to embody and act upon a virtue in a specific situation) from being diplomatic or playing politics/ lying.

Conclusion: The first experiences of the VIRT2UE training in Nigeria were positive, and we plan to conduct focus groups to explore experiences in a more structured way. The approach has the potential to change the usual narrative of traditional RI training and engage participants in dialogue about what it means to be a good researcher in their own setting. For better future delivery in Nigeria, trainers should include further descriptions and examples of finding the middle position in the participants' local context.

KEYWORDS: VIRT2UE, Research Integrity, Virtue Ethics. Training, Nigeria

Oral Presentations 17: Guidelines and Policies

OP17.1

CHARACTERISTICS AND DEVELOPING METHODS OF REPORTING GUIDELINES FOR HEALTH RESEARCH: AN INTERNAL AUDIT OF THE EQUATOR DATABASE

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OBJECTIVES: Reporting guidelines (RGs) are tools developed to help researchers include all essential information about their studies in scientific papers. The EQUATOR Network maintains a comprehensive library of RGs for health research and has historically not screened included records on their development methods. To explore the hypothesis that many RGs are based on weak or unspecified methods, we internally audited the EQUATOR library.

METHODS: In October 2018, we performed our regular systematic literature search to update the EQUATOR library, locked the database, and retrieved the full texts for all included records. Documents referring to records that clearly did not describe an RG were excluded from further investigation. Twelve researchers extracted data on bibliometrics, scope, development methods, presentation, and dissemination in duplicate from the remaining publications. Descriptive statistics were used to characterise the included RGs and describe their development methods. We defined an RG as a checklist, flow-diagram, or structured text to guide authors in reporting specific types or aspects of research.

RESULTS: Only 226 of the 405 database records described RGs. Numbers of published RGs increased markedly over the last three decades (5 in the 1990s, 63 in the 2000s, and 157 in the 2010s). RGs' development groups included 2 to 151 individuals. Most RGs (65%) provide guidance on reporting research results. Development methods included systematically reviewing and appraising the literature in 56% of RGs, using Delphi surveys to gather expert opinion in 33% of RGs, and piloting or seeking external feedback on the final guidance in 42% of RGs. Only 30% of RGs gave examples of proper reporting for all guidance items. Spin was identified in descriptions of the development methods' robustness (3%), RGs' potential effects (14%), and RGs' usefulness (10%). Only 28% of RGs were published under a Creative Commons open-access licence.

CONCLUSIONS: Nearly half of the guidance in the EQUATOR library is not an RG. RGs' development methods used were heterogeneous, with most RGs being mainly based on experts' opinions rather than strategies to ensure evidence-based guidance. We will use this systematic appraisal of RGs' development methods to update recommendations for designing methodologically robust and usable RGs.

OP17.2

STM Recommendations for handling image integrity issues

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The STM Association of publishers and publishing affiliates works with its members to develop publishing industry standards to advance trusted research worldwide. It established a Working Group on Image Alterations and Duplications to create guidelines and training for editors, and collaborate on automated solutions for image alteration and/or duplication detection. This working group brings together experts from various scholarly publishing organizations that believe editors, as well as researchers, science and society, can hugely benefit from recommendations being aligned across journals.

In 2021 the working group published recommendations for handling image integrity issues. These best-practice recommendations outline a structured approach to support editors and others applying image integrity screening as part of pre-publication quality control checks or post-publication investigation of image and data integrity issues at scholarly journals, books, preprint servers, or data repositories. It provides principles and a three-tier classification for different types of image and data aberrations commonly detected in image integrity screens of figures in research papers and for a consideration of impact on the scholarly study; it also recommends actions journal editors may take to protect the

scholarly record. The guidance covers data as rendered in figures in research papers or preprints including source data underlying these figures, where available.

The recommended actions are based on the collective experience of members of an STM working group of publishing and image integrity experts, apply to a broad range of image anomalies and are consistent with and complement recommendations made by COPE.

OP17.3

A new legal framework for Research Integrity in France

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In 2020, for the first time in France, research integrity has been introduced by law in the French research code, which provides a framework for the operation of higher education and research. Issues of scientific integrity have been directly taken up by the French National Assembly, thereby providing clear political support. This law reinforces the responsibility and accountability put on research institutions and on the scientific integrity officers appointed by these institutions. For example, every two years, each research institution will have to report to the minister in charge of research and to the OFIS (French Office for Research Integrity) on the actions undertaken to prevent and sanction scientific misconducts. Researchers themselves will be also directly impacted by this new legal framework : in order to obtain her Ph.D for instance, each student will now have to take an oath.

Our aim in this talk is to present this new French framework, analyzing its strengths, opportunities and pending issues. We will discuss in particular some of its specificities, such as the absence of an appeal body or any other external body which would complement the current system mainly based on autoregulation by research institutions. We will put into international perspective the pros and cons of this French political choice of autoregulation.

OP17.4

An enhanced editorial toolkit for corrections and retractions

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Correcting the scientific record is a fundamental tenet of the scientific process, yet it is often side-stepped or delayed. Authors, readers and indeed research institutions tend to have negative associations with corrigenda and in particular retractions. Editorial offices are often engaged in lengthy exchanges with authors and research institutions, sometimes based on partial information with a lack of transparency that result in decisions that could be at odds with the authors or their research institutions. We believe this is due to the typically binary choice between correction and retraction, which does not reflect the nuance often found in the reality of data aberrations. Delays in the process are often exacerbated by the lack of a more fluid, versioned corrections mechanism.

The one-size-fits-all approach to corrections employed by many publishers needs to be reformed. EMBO Press journals have implemented a system that allows us to tailor each correction within the expanded framework based on its specific circumstances. The journal may allow authors to replace figures with data generated at the time of the original experimentation, to correct, retract, or retract and replace individual figure panels, and to link to the source/replicate data from the correction note. Correction

notes utilise separate journal and author statements to describe and provide details of the issues and, where appropriate, explanations of causes. The journals further differentiate between who initiated the correction, using a withdraw category to distinguish authors who proactively correct their work. These enhancements afford the journal and authors an expanded toolkit to constructively and accurately correct the scientific literature without undue delay. Importantly, we hope that a diverse toolkit encourages authors to self-correct.

Oral Presentations 18: Research Integrity

OP18.1

Bridging research integrity and research fairness in epidemiology: BRIDGE guidelines

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Objective: Research integrity and research fairness principles should be equally nurtured to produce high-quality impactful research—but bridging the two can lead to practical and ethical dilemmas. In order to provide practical guidance to researchers and epidemiologist, we set out to develop good practice guidelines specifically for global health epidemiology

Method: We developed preliminary guidelines based on targeted online searches on existing best practices for epidemiological studies and sought to align these with key elements of global health research and research fairness. We validated these guidelines through a Delphi consultation study, to reach a consensus among a wide representation of stakeholders.

Results: A total of 45 experts provided input on the first round of e-Delphi consultation and 40 in the second. Respondents covered a range of organisations (including for example academia, ministries, NGOs, research funders, technical agencies) involved in epidemiological studies from countries around the world (Europe: 19; Africa: 10; North America: 7; Asia: 5; South-America: 3 Australia: 1). A selection of eight experts were invited for a face-to-face meeting. The final guidelines consist of a set of 6 standards and 42 accompanying criteria including study preparation, protocol development, data collection, data management, data analysis, dissemination and communication.

Conclusion: While guidelines will not by themselves guard global health from questionable and unfair research practices, they are certainly part of a concerted effort to ensure not only mutual accountability between individual researchers, their institutions and their funders but most importantly their joint accountability towards the communities they study and society at large.

OP18.2

Research Integrity in a Preprint-First World

Dr. Michele Avissar-Whiting

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The reliability and integrity of preprints is a critical issue in the scholarly communication landscape. While most platforms perform basic checks prior to posting preprints, issues concerning scientific integrity, research conduct, and rigor may not be caught by this screen, which has led to concerns about preprints contributing to the spread of misinformation. Yet, the significant benefits of early dissemination to researchers means the use of this medium is likely to expand, along with the adoption of novel tools for assessment and models of post-publication peer review. This session explores the practices and technologies that platforms can adopt to improve screening; maximize opportunities for scrutiny; and ensure that correction - when necessary - is swift, unambiguous, and transparent.

OP18.3

Research Data Forensics within research misconduct investigations: a practical perspective.

Dr. Corinna Raimondo¹, Dr. Mary Walsh¹

¹*Maidstone Consulting Group, Evanston, United States*

When questions of integrity specific to research data are brought to the attention of academic research organizations, there are a constellation of issues that these organizations need to consider in answering the question: "What do we do now?" One of the answers to this question is: "Acquire and analyze data."

To establish and retain confidence in a research misconduct investigation and its outcomes, the research record needs to be acquired effectively and analyzed in depth.

Practically, many variables are involved in both data acquisition and data analysis including:

- What data are relevant, and why are these data relevant?
- Who do I need to acquire and analyze relevant data?
- Once I have relevant data: how might forensic analyses progress?
- Once I complete forensic analyses: how, and whom with, are outcomes communicated?

During this discussion at the WCRI2022, we will explore these "forensic foundations" of research misconduct investigations including data sequestration, forensic research data analysis and case management techniques, and helpful tools and technology to assist you and your teams throughout these cases. We will provide a general overview of these concepts using examples to diagram concepts in practice.

OP18.4

Designing and Building Tools to Empower High School Students for Research Integrity: Lessons from the INTEGRITY H2020 Project

Dr PJ Wall¹, Una Quinn¹, Roman Globokar², Roisín McGannon³, Igor Moreira Lopes⁴, Anna S Olsson⁴, Brendan Owens³, Matej Purger², Júlio Borlido Santos⁴, Rita Figueiras Alves dos Santos⁴, **Professor Linda Hogan**¹

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Research integrity lies at the heart of excellent science and scholarship (Hiney, 2015), and although it is clear that researchers should practice research responsibly, unfortunately some do not (Steneck, 2006). In addition, it is claimed that current approaches to teaching research integrity are insufficient to deal with the complex and rapidly evolving world of research. Within this context, the INTEGRITY H2020 project has developed a variety of innovative tools for teaching research integrity and responsible research conduct to various student cohorts. This presentation will detail how the tools for the high school student cohort were conceived, designed and developed, and we present lessons learned from the various approaches and methodologies adopted.

The process of designing and developing tools for high school commenced by consulting widely with teachers and students from across Europe. This was accompanied by a detailed examination of national and EU policy documents and frameworks for education, pedagogy, and research integrity. Building on this foundation, development of the tools proceeded in an inclusive and iterative manner, with frequent testing carried out and co-creation design philosophies used throughout. This approach gave both students and teachers the opportunity to provide feedback at various stages of tool development, and to co-create both material and pedagogical approaches which they believed to be relevant and effective for teaching research integrity.

Data from extensive testing both in the classroom and at events such as the INTEGRITY European Student Convention 2021 indicates that the tools are highly effective for teaching research integrity to this student cohort. We posit this is a result of the iterative and inclusive development processes adopted combined with frequent testing and the co-design philosophies used. This approach ensured that material of interest to the student was included in the tools and that teachers had the pedagogical flexibility to use the material in ways most effective for their specific classes.

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Oral Presentations 19: Research Integrity

OP19.1

Equity in International Health Research Collaborations: A Scoping Review and Empirical Study

Mr Marlyn Faure¹, Dr Nchangwi Munung¹, Professor Ntobeko Ntusi¹, Dr Bridget Pratt², Ass. Professor Jantina de Vries¹

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Objective: Whilst international health research collaborations have many benefits, concerns about whether, when and to what extent they promote equity are increasingly foregrounded in ethics and research integrity discussions. We conducted a scoping review and interview study to better understand equity in global health research collaborations.

Methods: To address how empirical studies conceptualise equity, we conducted a scoping review mapping dimensions of equity in international collaborations. Additionally, to address the scarcity of empirical studies focussing on equity, we conducted in-depth interviews with 15 participants involved in international research collaborations about their experiences of equity.

Results: For the scoping review, the initial search retrieved a total of 7611 papers after removing duplicates. A total of 11 papers were included in this review. We identified 10 key domains which are important for promoting equity in international collaborations, namely: funding, capacity building; authorship; sample ownership and export; trust; research agreement; acknowledging inequality; recognition and communication.

From the interview study we derived three major themes. First, our results identified the characteristics of equitable, collaborative research relationships. These included both relational features such as trust and belonging, and structural features including clear contractual agreements, capacity building, inclusive division of labour, and the involvement of local communities. Second, we identified obstacles to developing equitable collaborations. These include exclusionary labour practices, donor-driven research agendas, overall research culture, lack of accountability and finally, the inadequate financing of indirect costs for LMIC institutions. Third, we described responsibilities for promoting science equity of funders, LMIC researchers, LMIC institutions, and LMIC governments.

Conclusion: Developing equity in international research collaborations is complex and must be considered at both relational and structural levels, with all actors having different responsibilities for ensuring equity. The findings from this study contribute to the identification of key enablers for ensuring science equity in international research collaborations.

OP19.3

Research Integrity: Lessons from Elsewhere

Dr Cath Cotton¹

¹Tu Delft, , Netherlands

A Nature news item (1) just this week, reveals that 15% of researchers surveyed have received death threats after talking about Covid in the public domain. Almost 60% received attacks on their credibility and a handful were subject to actual physical attacks.

Such examples reveal the very tight line that modern researchers play in carrying out their research and communicating with the public, while both researchers and the growing body of Research Integrity professionals consider how best to balance the sometimes opposing forces of transparency, academic freedom and researcher safety against threats from social media, fake news and the erosion of public trust in “elites”.

The ramifications of certain approaches to self- and governmental regulation are inevitably clearer among those professions that have been concerned with establishing, implementing and auditing codes of practice for a longer period of time. For while concerns around Research Integrity date back to some around the early 1980s, concerns about Medical Ethics go back as far as the 5th Century BCE. As comparative newcomers legal codes of ethics date back to the late 19th and early 20th Century, and codes of ethics for research on human subjects to the mid-1940s. One potent example of the ramifications of regulation include, for example the recent call by British medical doctors for the independent regulator, the General Medical Council (GMC), to be held accountable for suicides among doctors under investigation (2).

This presentation explores some of the broader lessons that can be learned from those professions with a longer history of implementing codes of conduct, practice or ethics, and flags some pre-emptive questions for this rapidly developing sector to consider.

(1) I hope you die’: how the COVID pandemic unleashed attacks on scientists. Nature NEWS FEATURE 13 October 2021

(2) GMC examines regular reporting on suicides among doctors under investigation By Luke Haynes on the 2 March 2020 <https://www.gponline.com/gmc-examines-regular-reporting-suicides-among-doctors-investigation/article/1675358>

OP19.4

Probing scientific consensus and viewpoint diversity in real time - the experience of www.covidConsensus.org

Dr Daniele Fanelli¹

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Object: Solving urgent and complex societal problems requires a constructive dialogue between diverse sources of experience, expertise and knowledge. However, the ability to foster and support such dialogue online is impeded by, on the one hand, the toxic effect of online misinformation and, on the other hand, by initiatives that, to control misinformation, unwittingly suppress viewpoint diversity. This talk will describe the experience gained in a pilot study that tried to circumvent these problems.

Methods: We formulated a set of questions surrounding Covid-related public debates, and identified a set of keywords that were used to retrieve relevant recent literature and extract names and various characteristics of corresponding authors. These authors were then invited to contribute their vote and written opinion on a single question anonymously, by sending them a personalised code. Unlike in ordinary expert surveys, participants could change their vote and their opinion at any time. The platform publicly displayed data broken down by various characteristics and over time, as well as all comments and explanations made by the experts.

Results: Data has not yet been fully analysed at the time of writing. However, a preliminary analysis on one of the questions suggested significant differences in the opinion expressed by participants, depending on gender, field and per-capita GDP of the affiliation of the respondent.

Conclusion: More diversity seems to characterize the opinions of experts than is often assumed. However, how to best describe, value and combine different viewpoints remains an important challenge, which is critically relevant to the future of scientific integrity and societal progress.

Oral Presentations 20: Research on research integrity; RCR training, education and mentorship

OP20.1

Mind the GAP: Relaunching Research Integrity training in Belgium with an online training tool on Good Academic Practices

Mrs Stefanie van der Burght¹, John Pearson¹

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Training in research integrity is an essential part of researchers' skill set, and providing training is part of universities' responsibility to develop a proper integrity culture.

Was it too much to ask to develop a solid online tool, adaptable to the Belgian context and multi-applicable to all its universities, research fields and for all research positions (junior, senior, technical), with content that clearly brings together all aspects of research integrity? The five Flemish universities were convinced it wasn't.

In this presentation we will guide you through the development and early implementation of Mind the GAP, a new online tool on good academic practices, made in collaboration between five Flemish universities (Belgium). Looking at both the successes and obstacles, we will walk through the tool with a focus on the (software) tools used, the content, the exercises, the animations, the structure, We focus on a full hands-on/how-to overview in order to encourage other institutions who aspire to build their own tool.

Although the tool was only recently completed, we were able to collect extensive feedback during the design of the course (2020-2021) and after its launch (fall 2021).

The existence of the tool demonstrates that it is possible for universities to collaborate to produce a comprehensive, widely applicable, online training programme. The main limitation is that the tool has only recently been launched. We will be able to describe the challenges of the rollout, as well as initial impressions from the users. Time to reflect and look ahead!

OP20.2

Learning from the ancient history of research integrity

Dr Mark Hooper¹

¹*Queensland University of Technology, Kelvin Grove, Australia*

Today's researchers face many challenges. We are concerned, for example, with reproducibility, transparency, publication pressures, commercialisation, and impact. These challenges are always evolving, but they are not new. Some of them are ancient.

I will argue that situating research challenges within a rich historical tradition will help us design more effective research integrity training.

Do you wait in fear of peer review? So did Cicero. Do you think research should be written for the layman? So did Aristotle. Are you spending hours in academic service for your colleagues? You would have been a valuable member of the Republic of Letters. Are you interested in different forms of plagiarism? So was 13th Century Persian literary scientist, Shams-e-Qays. Are you worried scientists sometimes fit their data to serve their hypothesis? So was Boyle. Do you struggle to juggle research and teaching? So did Descartes. Do you argue about authorship? You're in the company of Kepler and the descendants of Brahe. Do you care about research transparency? So did a society of 15th Century Dutch Botanists.

This presentation will provide a whirlwind tour of those examples. The goal is to show, by example, how they help highlight the importance of issues in research integrity.

Many contemporary online courses about responsible research practices are ineffective, except perhaps in meeting certain compliance obligations. I will argue that responsible research training should be delivered in the argot of research, and not in the argot of administration and compliance.

I will suggest ways to improve our research integrity training, by situating good research practices within a rich historical tradition of which we are all a part.

OP20.3

Effects of the replication crisis on citing authors

Ms Marion Schmidt¹

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Objective:

Attention to the so-called replication crisis within the fields as well as in broader public accelerated through several smaller reproducibility projects, such as the Reproducibility Project: Psychology (OSF, 2015, 10.17605/OSF.IO/EZCUJ), which resulted in only moderate replication success. A number of questionable research practices, the tendency towards small sample and effect sizes, but also e.g. weaknesses in theory development were cited as the causes of this methodological-epistemic crisis. In this explorative project, a science sociological perspective is adopted which aims for insights on how the crisis affects the reception of controversial or non-replicated knowledge claims: Are these dropped, repeatedly reviewed and replicated, or simply continued to be cited?

Method:

In a first step, differences in citation counts and citation dynamics are examined in a comparison of successfully and not successfully replicated source publications from the Reproducibility Project Psychology. Citation contexts from the data resource scite.ai are used to algorithmically search for indications of confirmation as well as specifically for uncertainty, replicability or replication problems, also in relation to reference corpora – based on journal issues – for possible field effects. In a last step, the analysis is to be extended to other reproducibility projects.

Results:

The initial results show no substantial differences in citation counts between publications with different replication status; there are also hardly any effects observable in temporal dynamics. However, possibly broader or field effects in terms of decline of confirmation and increase of uncertainty, as result of the textual analysis of citation contexts, can be observed. These preliminary observations will be analysed in more depth by extending the hitherto analysis to other projects in other fields as well as to their reference corpora, respectively.

Conclusions:

If the preliminary observations are confirmed, this would indicate that reproducibility projects have little local impact on the publications studied, but that the crisis discourse has (slight) effects at a more general level of science communication and reception.

OP20.4

Mandatory cell line authentication at the International Journal of Cancer reveals cell line-related problems in at least 20% of manuscripts

Dr. Nicole Souren¹, Prof. Norbert Fusenig¹, **Dr. Stefanie Heck**¹, Dr. Wilhelm Dirks², Dr. Amanda Capes-Davis³, Dr. Franca Bianchini¹, Prof. Christoph Plass^{1,4}

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Objective: Continuous cell lines are invaluable tools in biomedical research, but the widespread use of false cell lines is a serious threat to scientific reproducibility. Therefore, the International Journal of Cancer (IJC) requests proper authentication of all human cell lines used in a manuscript before starting the peer review process. Here we present an overview of the cell line-related problems observed in these manuscripts.

Method: Detailed cell line-related information was recorded for 747 manuscripts submitted to the IJC between July 2018 and June 2021, which were considered for peer review and included original human cell line data. False cell lines were identified by verifying, when available, the submitted cell line authentication documentation and by cross-checking the Cellosaurus knowledge resource, containing detailed information on numerous problematic cell lines.

Results: The 747 manuscripts contained in total 4134 human cell lines, and valid authentication documents were obtained of 3070 (74%) cell lines. Based on the available information, 214 (5.2%) false cell lines were identified; the highest percentage of false cell lines was observed among gastric (25.4%) and liver (16%) cancer cell lines. Although in 77.2% of the manuscripts no cell line-related problems were observed, mild (5.5%), moderate (9.8%), or severe (7.5%) authenticity problems occurred in the remaining 22.8%. Finally, 4.7% of the manuscripts were rejected for severe cell line-related problems. Surprisingly, most (~70%) of these problematic manuscripts selected for follow up (submitted before January 2021) were subsequently published in other journals, including the false cell line data.

Conclusion: Our data show that strict editorial quality control procedures are essential to prevent publishing data based on false cell lines. Hence, journals and publishers should play a more active role in order to avoid publishing studies that include false cell line data, and to correct the contaminated published records.

Oral Presentations 21: Guidelines and policies; Research infrastructures and environments; QRP and misconduct

OP21.1

Promoting the honest communication of scientific results

Dr. Aurélien Allard¹, Pr. Christine Clavien¹

¹University Of Geneva, ,

The recent replicability crisis in social and bio-medical sciences has highlighted the need for improvement in the honest transmission of scientific content. We present the results of two studies investigating whether soft incentives enhance participants' readiness to transmit high-quality scientific news. In two online randomized control studies (Total N = 2200), participants had to imagine that they were scientific journalists who had to select scientific studies to report in their next article. They were asked to choose between studies reporting opposite results (for instance, confirming versus not confirming the effect of a treatment) and varying in traditional signs of research credibility (large versus small sample size, randomized versus non-randomized design). In order to steer participants' choices, we tried to manipulate their objectives as journalists, asking them to report either the most accurate or the most interesting research. Overall, we find that participants show a strong preference for studies using high-sample sizes and randomized design, which are good signs of baseline epistemic integrity. However, we also found a preference for positive results, indicating the power of persuasion of flashy results. However, our interventions failed to impact participants' behavior. We conclude that soft incentives might not be enough for promoting the honest transmission of scientific results, and that changes in structural incentives are necessary.

OP21.2

The FAIR principles as a framework to identify, analyse and categorise misconduct and questionable research practices in open data sharing?

Professor Søren Holm¹

¹University Of Oslo, Oslo, Norway, ²University of Manchester, Manchester, UK

Open data sharing is an important part of the move towards a completely open and transparent research system. The FAIR principles have been proposed as a set of overarching principles to govern open data sharing. They state that data sharing should adhere to principles of 'Findability, Accessibility, Interoperability, and Reuse of digital assets' (<https://www.go-fair.org/fair-principles/>). Each principle has a number of sub-principles.

Fully adhering to the FAIR principles ensures that researchers, citizens and other stakeholders can access the data, replicate the original analysis, and use the data for further analysis and research. Researchers may have an interest in making this reuse of data difficult or impossible, or may have an interest in misleading others in relation to various aspects of reuse.

This presentation will analyse the strengths and limitations in using the FAIR principles directly as a framework or scaffold to identify, analyse, and categorise misconduct and questionable research practices (QRPs) in open data sharing.

An analysis will be provided of possible types of misconduct and QRPs in relation to some of the FAIR sub-principles, as well as some instances of misconduct and QRP in open data sharing that are not easily attributable as a breach of a particular FAIR principle.

It will therefore be argued that the FAIR principles can form an important part of a framework for the identification, analysis and categorisation of misconduct and QRPs in open data sharing, but that the framework need to contain other principles or considerations as well.

OP21.3

Driving the uptake of responsible research practices (RRPs) at an institutional level: a case study at German University Medical Centers

Dr Tamarinde Haven¹, Dr Delwen Franzen¹, Dr Benjamin Gregory Carlisle¹, Mrs Maia Salholz-Hillel¹, Mr Martin Holst¹, Prof Daniel Strech¹

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Objective: To provide an overview of our integrated approach to raise awareness and stimulate the uptake of responsible research practices (RRPs) at an institutional level: a case study at German University Medical Centers (UMCs).

Methods: We conducted a policy review to investigate whether relevant policies of German UMCs support RRP (e.g., Open Access, sharing of data, registration of studies), and a status quo analysis of RRP at German UMCs. We then developed an online dashboard to display these baseline assessments of RRP and solicited international stakeholder feedback on our dashboard approach and metrics related to RRP.

Results: Except for Open Access (mentioned in 16% of PhD regulations), fewer than 10% of policies mentioned RRP such as sharing of data and code. While the uptake of certain RRP has shown recent increases across UMCs (e.g., Open Access, prospective registration of clinical trials), there is much room for improvement. For example, only 41% of clinical trials conducted at German UMCs and completed between 2009 – 2017 reported results in a timely manner in line with established guidelines. Stakeholders considered the dashboard approach helpful but missed a narrative explaining the choice of RRP and were concerned that making the dashboard public would harm UMCs' reputation. Based on this stakeholder input, we refined the dashboard to focus on current trial registration and reporting practices, implemented suggestions to facilitate the interpretation of the data, and contextualized included RRP to relevant regulations and ethical guidelines.

Conclusion: Current institutional policies include little concrete focus on incentivizing RRP. Stakeholders point to the need for an overall framework to govern responsible assessment of research institutions. Our dashboard for clinical research transparency communicates baseline assessments with UMC leadership and supports their efforts to improve performance. Beyond helping institutions assess how they are performing in relation to mandates or their institutional policy, the dashboard may inform interventions to increase the uptake of responsible research practices as well as evaluate their impact over time.

OP21.4

Barriers and challenges in introducing FAIR principles and Open Access to businesses: lessons learned while designing workshops for company employees.

Dr Apostolos Gerontas¹, Prof. Dr. Julia Prieß-Buchheit¹

¹*Coburg University Of Applied Sciences, Coburg, Germany*

While in academia, there is a general trend of FAIRification and a sustained movement toward “as-open-as possible” access, that is not the case in commercial companies and enterprises. Companies that would choose to adopt FAIR standards and Open Access policies would increase their efficiency, achieve compatibility with the academic structures and achieve a level of transparency that would enable cooperation with one another and boost their public image. Since pooling of resources is essential for smaller companies, and for such companies, the only significant R&D structures available are those of academia, such a move would be necessary for their competitive expansion in their respective markets. Changes in this direction, however, demand a change of the current corporate culture; a change that can be achieved on two levels: contact and persuasion with the management that would demonstrate the benefits of FAIR and Open Access, and training of the employees. At Coburg University, a project started in August 2021 to foster knowledge transfer between smaller and middle-sized companies and the academic sector and to boost regional innovation, by networking the companies with one another and the university, and by offering workshops to employees of the participating companies. Contacts to small and middle-sized companies have been established, followed by interviews of the management. We are attempting to discover the most important points of resistance on the side of the companies, document and group them. Based on this data, we shall build our workshops on FAIR and Open Data and run the first phase with the employees. By March 2022 we shall have significant data on two fronts: On one hand, we’ll have documented the major reasons for resistance on the side of the companies and the incentives that have worked on our side. On the other hand, we’ll have documented the responses of the employees on our workshops’ materials and have significant conclusions concerning the didactics of FAIR and Open Access in the business sector. The hope is that this paper will offer education practitioners some basic dos and don'ts while attempting to introduce FAIR principles and Open Access to commercial enterprises.

Poster Abstracts

Poster Walk Session 1

PW1.1

Research integrity guidelines and safeguards in Brazil

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Introduction: The lack of clear institutional policies on scientific integrity is one of the main motivations that may lead to research misbehaviors. Many countries have recognized the importance of raising awareness of research integrity and developing appropriate procedures for handling scientific misconduct. However, the institutionalization of research integrity has not yet happened in most countries, including Brazil. Therefore, this study aims to collect and analyze guidance documents on research integrity from Brazilian research performing organizations (RPO).

Methods: Research integrity guidance documents, regulations, and policies were retrieved from 60 randomly selected universities in Brazil. The search was conducted via the universities' websites and confirmed by e-mail. We included documents that contained guidelines for best research practices, definitions and practices of misconduct, codes of conduct, and procedures and investigations of misconduct cases. The documents were analyzed based on inductive content analysis.

Results: Only 28% of the included institutions have developed their own guidelines or adopted guidance documents on research integrity. Among the adopted guidelines, two were developed by Brazilian research funding organizations (RFO) and one from The Brazilian Academy of Sciences (ABC). Of the 60 RPOs, 15% have established a research integrity office or committee assigned to deal with research integrity issues. In the content analyses, our results show that best practices, misconduct and misbehaviors, principles, and institutional policies regarding sanctions differ between RPOs. The RPOs where research integrity guidance documents could be identified are concentrated mainly in the southeastern and southern areas. RFO's initiatives appear to play an essential role in institutionalizing research integrity. Most RPOs with available guidelines are concentrated in the state where a funding agency requires institutions that benefit from its support to create bodies that promote a culture of RI and investigate scientific misconduct.

Conclusion: The number and distribution heterogeneity highlights the need to increase awareness and create regulatory documents on research integrity in Brazilian universities. Further Research Performing and Funding Organizations' initiatives are needed to foster research integrity in Brazil and harmonize it with international standards.

PW1.2

Impact of gender and research integrity course attendance on knowledge and perceptions among PhD students in Europe

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Objective: Evidence of knowledge on research integrity is essential for identifying gaps and developing tailored interventions in education. Our study aims to assess the knowledge and perceptions of research integrity of Ph.D. students from Europe by gender and responsible conduct of research (RCR) course attendance.

Methods: A cross-sectional survey was conducted with Ph.D. students from nine European countries (Denmark, Germany, Lithuania, Hungary, Ireland, Netherlands, Portugal, Slovenia, and Switzerland) between February and December 2020 as part of the INTEGRITY project (<https://h2020integrity.eu/>). The survey included demographic questions and questions on research integrity knowledge, experiences, and education and its gaps. The survey addressed three topics including clear and grey zones of citation, collaboration, and data practices. Descriptive statistics, univariate and multivariate analyses were performed using STATA.

Results: Data from a total of 1501 Ph.D. students were analyzed. 40.6% were male, and 59.4% were female. 66.4% have attended one more course on RCR, while 33.6% have never attended an RCR course. 22.6% were pursuing a Ph.D. in Natural Sciences, 25.4% in Social Sciences, 6.7% in Engineering, 19.2% in Medical Sciences, 3.9% in Law, 17.5% in Arts, Humanities, and Theology, and 4.7% in other fields. When asked about self-reported understanding, Ph.D. students who attended some RCR courses reported knowing about the official standards of good practice (citation, collaboration, and data practices) significantly more than those who did not, even when adjusted for confounders. However, when asked about their perceptions of rules and good practices with examples, the differences were inconsistent with the self-reported understanding. There were no differences between the two groups when asked about the standards on authorship assignment of those who do not qualify as a coauthor. Regarding plagiarism, there were differences only in clear-cut violations. Regarding data practices, Ph.D. students who attended some RCR courses were more able to perceive questionable practices as violations than those who did not. In the gender analysis, male students perceive questionable practices on authorship as violations more often than female students.

Conclusions: The study draws attention to the need to assess the efficacy of different methods in research integrity education as our results are not conclusive.

PW1.3

Integration of Research Integrity in Indian Academics

Dr Udaya Pratap Singh¹

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Since older days, effective communication of scientific results is considered as highly significant and regard into the academic setting. In our previous study, we have found that how the pressure of publications have encouraged many researchers particularly young researcher to fall in prey with the predatory journals. The situation of publish or perish has provided a solid impetus for the researchers to falsify or fabricate the data for getting permanent position or promotions in Universities/institutions. Recently, we have seen a significant upsurge in the number of these predatory journals charging hefty amount in the name of processing charges and they have published anything with/without peer review in a very short turn-around time. Particularly, in India, the academic regulatory bodies are now become vigilant for encouraging research integrity and discourage misconduct in academic settings by number of means. The present paper enumerates the various recent steps taken by the Indian authorities to curb the menace of research misconduct to bring more credibility to the research being conducted. In addition, I will briefly discuss the steps taken by our University for promoting ethical research.

PW1.4 RES ETHICS FOR AFRICA

Dr Ike Iyioke¹

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Topic: CULTURALLY RELEVANT RESEARCH ETHICS FOR AFRICA

Objective: This study makes a case for bio-eco-communalism, BEC – an African philosophical construct that describes the immersion of the individual within his/her community and surrounding environment – as one way of bridging the tensions in debates “with defining the scope and limitations of individual freedom within the rubric of autonomy.”

Method: Research ethics principles in the Belmont Report, have Euro-American orientation deriving from Kantian deontology, etc. But, in Africa, incongruities with these principles usually emerge when their West-centric origins fail to fit with established community-oriented traditions. ‘Ethical imperialism/neo-colonialism’ has been a choice term to describe the continued approach to resolving specific research ethics issues using western ideas even when they do not respond to cultural and national circumstances across Africa. This is the culmination of scholarly discussions on the topic of cultural diversity in international research ethics.

Results: BEC aims to correct such deficits and urge for an appropriate rubric for practice in Africa. It calls for careful adoption and adaptation of Euro-American bioethics principles, indigenizing them into the African context via the matrix of BEC. Bioethics principles need to reflect the local character of the African cultural clime and bolster the push to formulate an appropriate blueprint. While it is important to adhere to moral and ethical principles (integrity), research ethics must as well be undiminished and sound to operate in a perfect condition – as in maintaining the integrity of a ship's hull.

Conclusion: I propose, Growing Research Ethics Environments in Nigeria (GREEN) here as a test-case project that integrates standard research ethics principles with multicultural principles. This initiative breaks new ground by formulating principles that authentically reflect African values and sustained by blending it with gold standard research ethics principles.

PW1.5 Implementing Research Integrity Country Report Cards: Case Study from Europe

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Objective: Developing and implementing research integrity (RI) guidance documents, practices, and structures is essential for enabling researchers to produce reliable and trustworthy research and avoid research misconduct and other detrimental research practices. We conducted a case study analysis to create an overview of existing RI frameworks in Europe.

Method: We developed country report cards for 15 European countries that participated in the Mutual Learning Exercise on Research Integrity in 2018/2019 (Austria, Bulgaria, Croatia, Denmark, Estonia, Finland, France, Greece, Ireland, Lithuania, Luxembourg, Moldova, Norway, Spain, and Sweden). The data were collected using the frameworks developed at the World Conferences on Research Integrity.

Results: The findings are summarized based on the country report cards items related to three main areas – RI guidance documents (national codes of conduct and laws), RI practices (measures to promote RI and different RI processes), and structures (RI bodies) available in different countries. All information will be available at The Embassy of Good Science, and open to the research community to develop it further.

Conclusion: Although a certain level of consistency and harmonization regarding the RI framework could be expected in Europe and under the European Code of Conduct for RI, there are differences in how RI is promoted and implemented. These differences are reflected in a variety of RI guidance documents

and RI principles and practices promoted and mandated in guidance documents, as well as in how RI issues are handled across Europe.

PW1.6

Data management and data privacy challenges in research performing organizations: insights from a multi-national focus group study

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Objective: We conducted focus group studies to explore researchers' knowledge on currently existing data management and data privacy policies and procedures, as well as challenges related to the implementation of good data management practices.

Method: As a part of the SOPs4RI project, we conducted focus groups studies to explore researchers' knowledge on different research integrity topics, including research data management. We explored researchers' opinions on research organizations' efforts in promoting good data management practices, and we gathered researchers' recommendations on what changes regarding data management practices are needed.

Results: The data management topic was discussed in 14 focus groups comprised of researchers from different disciplinary fields - humanities, social sciences, natural sciences (including engineering), and medical sciences (including biomedicine), different countries (Belgium, Croatia, Denmark, Germany, Greece, Italy, Spain, and the Netherlands), and level of seniority (junior and senior researchers). We will use a thematic analysis approach to identify relevant themes and develop a thematic map of findings. The analysis will be finalized and results ready for presentation at WCRI.

Conclusion: Employing good data management practices is vital for enhancing the transparency, verifiability, and reproducibility of research. The results from the focus group study will enable us to create an overview of the existing data management policies and practices, as well as to develop new policies and educational interventions.

PW1.7

Joining the Dots: a global ecosystem of Research Integrity

Dr Cath Cotton¹

¹*Tu Delft, Netherlands*

A quick search of Google Scholar reveals a burgeoning interest in Research Integrity in recent decades. Publications on the topic grew from just 15 published between 1970-1971 to 4,360 between 2010-2011. With 2021 not yet over, this figure has further tripled to a hefty 12,700 articles so far published on "Research Integrity" throughout 2020-2021.

Over the same half a century, a global Research Integrity landscape has inevitably emerged, linking Research Integrity with Research Administration, Research Assessment, Research Ethics and Research Methods. A key milestone in this evolution was the establishment of the US Offices of Scientific Integrity (OSI) and Scientific Integrity Review (OSIR) in 1989. Thereafter a complex ecosystem of national authorities, informal networks and formal organisational structures has evolved, a key driver being the urge of professionals and researchers to connect around their topic, and to promote the development, assessment and exchange of good practice.

This brief review will chart the growth, diversification and convergence of today's global Research Integrity ecosystem, and examine some of the functional boundaries with related domains such as data

management, publication and legislative compliance. The goal is to provide a map which will help us to collectively navigate (and perhaps further map) this increasingly complex domain.

PW1.8

Change in Value System: Undermining Academic and Research Integrity

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Research integrity is only an extension of academic integrity, and academic integrity is a product of the societal value system. In this research, the relationship between academic integrity and research integrity will be examined, as it affects society. The value system of society is the key factor in building academic integrity, which will, in the long run, affect research integrity. The question is, to what extent academic integrity affects research integrity? This study will apply the Virtue Theory of Ethics in a qualitative methodology to answer the question. In any society, once the value system changed, certain things are compromised. For example, to imbibe the culture of academic integrity, the societal value must change from just having a certificate to the ability to perform the duties demanded and expected of whosoever claim to have such qualification. If not, everyone wants to get a certificate by all means. This leads to a dearth of ability to perform among the certificate holders. Then, all the values of academic integrity become scarce commodities. Cases of people buying certificates become rampant, and such people using such certificates to get jobs make them round pegs in square holes. Such people finding themselves in an academic environment find it difficult to cope with the required values of honesty, trust, fairness, respect, responsibility, and courage whether as students, teachers, or researchers. To keep the job, they have to continue in the habit that is void of academic integrity. To imbibe the culture of academic integrity in everyone, the societal value must change from just having a certificate to having the ability to perform duties that are demanded whatever work is required.

Keywords: Academic, Attitudinal Change, Research Integrity, Value System

PW1.9

The New Swiss Code of Integrity : addressing the challenges of Integrity 2.0

Prof Dr Edwin Constable¹

¹*University of Basel and Swiss academies of arts and sciences, Basel, Switzerland*

Switzerland has just issued a new Code for Scientific Integrity. The presentation details the considerations that went into this new formulation.

In particular, the influence of new components in the research environment were considered, including social media, unregulated oversight and pressure to publish.

The new document attempts to equate research integrity with best practice in a discipline and encourages researchers to embrace research integrity as part of their research culture.

PW1.10

The challenges of Open Access and Open Science to Research Integrity.

Prof Dr Edwin Constable¹

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In drafting a new code of conduct for Switzerland, we became aware of new challenges and the need to think of broader definitions of research integrity in the coming years.

The enlarging of the research integrity vision beyond traditional FFP is critical if guidelines and codes are to be of relevance to researchers.

There is a debate to be had whether compliance with the requirements of funding agencies (Data Management, Open Access etc.) should fall within the broadest definition of integrity.

Open Access and Open Science create their own challenges. What checks and balances should be in place to monitor and curate the flood of unreviewed scientific results that will be in the public domain?

Poster Walk Session 2

PW2.1

Corrective Measures to Ensure Research Integrity in Research Organizations and Evaluation of Research Integrity

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Objective

It's not uncommon these days to witness the reputations of individual researchers, institutions and the country gained over a long time being brought down and ruined by virtue of intentional or unintentional unethical research activities. Hence, corrective measures must be laid up and the degree of research integrity must be evaluated appropriately prior to publication ensuring research integrity at organizational level itself.

Methods

Various parameters of identified domains for ensuring research integrity and preventing misconducts were identified from many existing resources both nationally and internationally. A survey over fifty research articles proposed for publication were carried out using a questionnaire designed to assess the acceptability against each parameter. A fuzzy-based computer algorithm was developed to evaluate the degree of research integrity defining a trapezoidal fuzzy membership function over the fuzzy set consisting of the standards for each parameter as standardized by the authorities of the respective domains. The degree of research integrity varies from 0 to 100 and the article may be permitted for publication if it scores the degree of 50 as minimum criteria.

Results

A fuzzy-based computer algorithm was developed to evaluate the research articles in term of degree of research integrity which may help the authority to permit the article for publication. The evaluation study on 50 articles reveals that only 20% were qualified for publication, 18% were recommended for improvement and the rest were rejected with full diagnosis report.

Conclusions

The permission for publication based on the present approach provides the scientific publication an insulation from bias, fabrication, falsification, plagiarism, outside interference, censorship, inadequate procedural and information security. The present fuzzy-based computer algorithm is essential for

- Making science more robust,
- Building public trust in science,
- Sharing of research and knowledge,
- Preventing other researchers from being misled and waste valuable time and resources, and
- Protecting the reputation of country, institution and individual on a holistic manner.

Key words: research integrity, research misconducts, degree of research integrity, fuzzy-based computer algorithm, research integrity diagnosis

PW2.2

Critical analysis of the LSHTM Good Research Practice policy and strategy: a lesson for Higher Education Institutions

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Objective:

The objective of this presentation is to inform delegates of the LSHTM experience of undertaking a service evaluation which examined the completeness of the Good Research Practice policy and assessed how research integrity is embedded within LSHTM's strategy of high-quality, relevant research.

Method:

A gap analysis of the LSHTM Good Research Practice policy was conducted comparing the LSHTM policy against equivalent, publicly available policies from other universities, funders and regulatory/oversight bodies. In addition, stakeholder interviews were conducted with twelve members of staff in London, the Gambia and Uganda to better understand staff views on the subject.

Results:

The gap analysis concluded that the LSHTM Good Research Practice policy contains many similar elements of good practice to other universities and fulfils most of the funder and Universities UK requirements with some key areas for improvement, notably: methodology and design, equality, diversity and inclusion, community engagement, and safeguarding.

The policy was not as effective as it could be due to staff not utilising it: only one interviewee stated that they actively used the policy in the development of their research. Nevertheless, several stakeholders were reassured that the policy exists as it provides relevant details on how research should be conducted and can be consulted in the event of something going wrong.

Thematic analysis from the stakeholder interviews demonstrated that academic staff have strong personal commitments to their research and believe in key values such as honesty, rigour, and safety which are the cornerstone of the strategic goal of high-quality research. But, the stakeholders also believe that this is not LSHTM's view, rather, that the institution defines high-quality research in terms of outputs and metrics.

Conclusion:

Policies are an important part of informing staff of an institution's expectations in how staff and students conduct research, but they are only effective if staff engage, read, consult and use the policy.

Dissemination activities are an important part of the policy development. The strategy should define 'high-quality research' to ensure clarity.

PW2.3

Student research during COVID-19: A compromise to research integrity? Analysis of postgraduate students' research in selected Zimbabwean Universities in 2020.

Mr Munyayiwashe Shumba¹

¹University Of Warsaw, Warsaw, Poland

Objective

The presentation focuses on how COVID-19 pandemic and the lockdown restrictions it came with affected student research either by promoting research fraud or restricting the production of reliable knowledge; which is a compromise to research integrity.

Method

The research relies on qualitative research methodology. Non-numerical data will be collected and analyzed to reach a conclusion. Interviews and questionnaires distributed through emails and social media platforms targeting students and lectures from 3 selected universities in Zimbabwe who are selected using purposive sampling will be used to collect data.

Results

Comprehensive findings are yet to be reached and will be available before the time of the conference. However, preliminary findings are that, Universities in Zimbabwe were allowed to operate amidst relaxed lockdown restrictions and graduating classes from the post graduate cohort who had research projects running were allowed to finish their studies. Physical movement was difficult even after the relaxed lockdown restrictions, making it difficult for students to travel for field research. Most organizations in Zimbabwe downsized and operated online, in a country with limited Information and Communicated Technology (ICT) resources and expensive internet. Students in Zimbabwe are greatly affected by expensive internet and very limited ICT resources in Universities and carrying out research in such circumstances would be difficult for many. As such, the research is yet to collate responses from the target population and interpret them to determine how postgraduate students in Zimbabwe carried out research in such circumstances. The research will determine the reliability of the research undertaken under the above described circumstances.

Conclusion

COVID-19 created conditions which made research difficult to do hence compromising research integrity. The pandemic added a burden on students who already were facing a shortage of ICT resources and struggling with expensive internet. The reliability of data is questioned. There could be academic fraud as students cooked up data.

PW2.4

How do researchers' exercise discretion in research practice?

Mr Tom van Drimmelen¹, Ms Nienke Slagboom¹, Prof. Dr. Ria Reis¹, Prof. Dr. Lex Bouter², Dr. Jenny Van der Steen¹

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Individual researchers possess considerable discretion in how research is designed, executed, and reported. Research on how researchers exercise this discretion is critical considering its effect on research quality and integrity. Our ethnographic research aims to provide in-depth empirical insight into when researchers exercise discretion, and how they do so.

Ethnographic fieldwork of 4-6 months in two research groups during which TvD is fully embedded into the groups. Data from participant observation is supplemented with regular interviews and document analysis. Fieldwork at the first group concluded in April 2021. Fieldwork at the second group will be completed in January 2022.

Preliminary findings follow two of our research aims:

First we identify, classify, and map researcher discretion. Early analyses suggest that it is ubiquitous, as research plans and goals need constant operationalising in practice. A decision how to phrase a survey question, whether to include a particular participant, or which reference to cite in a manuscript all require a researcher's discretion. An important preliminary result is that occasionally, substantial research decisions are not identified as decisions at all. A chance to deliberate at these junctures in the research is thus missed, signifying that support in identifying moments where discretion of the researchers is required may improve the quality and integrity of research.

Second, we outline the mechanisms of researcher discretion, and how values and interests play a role in this process. Most intriguing in our early analyses is the relationship between pragmatism and values. Pragmatic considerations shape the perceived latitude of researchers in a particular decision by precluding options based on restraints of time or funding among others. Only within this pragmatic latitude do values concerning quality and integrity come into play. However, this pragmatic latitude may be stretched (working more hours), or negotiated (different estimates of costs) on the basis of these values.

Our ethnographic research offers a unique perspective of research practice as it happens, complementing earlier surveys and individual and group interview studies. We will present mature findings and suggest at which points, and what type of, support for researchers is most likely to increase research quality and integrity.

PW2.5

Using movie clips to assess medical student's attitudes towards scientific ethics: do motivation and attitudes about science influence their judgments?

Miss Sandra F. Gomes¹, **Miss Ana Cristina Veríssimo**¹, Professor Milton Severo^{2,3}, Professor Laura Ribeiro^{1,4}

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Objective: Great emphasis has been placed on the importance of fostering medical students' interest in science and research. At this level, it is crucial to widely discuss and promote scientific ethics and integrity when preparing future physicians, aiming to develop scientifically minded professionals who can contribute with new knowledge to medical advancement and to improve healthcare quality. This study aims to assess first-year medical student's attitudes and perceptions towards scientific integrity, and how their motivation and attitudes about science and research affect them.

Method: During the first semester of 2021/22, all first-year medical students (nearly 300 students) at the Faculty of Medicine of the University of Porto (FMUP) will be invited to watch purposefully selected clips of the film "On being a Scientist" by Leiden University (licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 3.0 Netherlands License), covering moral dilemmas faced by scientists. The clips portray fraudulent and questionable research practices that may not have clear-cut answers. The students will be asked to rate on a Likert scale the extent to which they agree with the characters'

behaviour (“strongly agree” to “strongly disagree”). Then, it will be analysed how student responses are associated with their attitudes towards science and motivation to perform scientific research, assessed using the validated questionnaire ‘Importance of Scientific Skills for Clinical Practice’ (ISS4CP). This study will use a quantitative, cross-sectional approach and will follow the ethical principles approved by the local Ethics Committee.

(Prospective) Results: The results of this study will display how students newly admitted to medical school judge common forms of scientific misbehaviour, and whether this is affected by students’ motivation and views on science and research.

Conclusion: Scientific misconduct compromises the quality of the scientific knowledge produced and society's trust in science and scientists, but also in medicine and its professionals, threatening patient care quality and safety. So, from an early stage, it is paramount to foster scientific integrity values in medical students. This study will provide useful insight on how medical schools can help promoting that.

PW2.6

Scientific integrity and its research in qualitative nursing research: a reflective study

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Objective: the aim of this study is to reflect on scientific integrity in qualitative nursing research.

Method: this is a theoretical-reflective study focusing on qualitative nursing research.

Results: Brazil is a country with emerging science, the great research machine is linked to public universities and stricto sensu graduate programs. There is great pressure on professors and students to increase the number of publications with the aim of maintaining the programs and receiving funding and can contribute to the flexibility of requirements related to scientific integrity and good scientific practices. The first study to be indicated as the result of scientific misconduct was published in the large area of health, in the area of nursing in 2004. Misconduct has direct impacts on science, clinical practice, users who will be assisted by health services, in addition to social and economic impacts. The quality of a study is determined by its methodological rigor. The quality standards for quantitative studies are well defined, however, for qualitative studies, even experienced researchers may have difficulties in defining quality standards. Currently, we have specific checklists for evaluating published qualitative research regarding their methodological rigor, which can work as a good strategy. We can cite the Consolidated criteria for reporting qualitative research (COREQ) as the main tool to support the improvement of scientific integrity. Because it is subjective data, it becomes easier to manipulate the results of qualitative studies, thus, methodological rigor can strengthen and encourage honest practices both in data collection and analysis. Some criteria and strategies make it possible to assess the rigor and scientific quality of qualitative studies, such as: credibility, confirmability, dependability and transferability or applicability. Observing the issues related to scientific integrity, we believe that this should be one of the base criteria to provide greater rigor and credibility to qualitative studies.

Conclusion: it is necessary to recognize the ethical challenges imposed by qualitative research in the field of nursing, making it necessary for the researcher to mature in terms of theoretical consistency in terms of following the appropriate standards to maintain scientific rigor and integrity.

PW2.7

Prevalence and Attitudes regarding Research Misconduct among Post Graduate Students and Faculty of Three Dental Institutions in South India

Dr Eby Aluckal¹

¹Mar Baselios Dental College, Kothamangalam, Ernakulam, India

Objective: The application of ethical principles is crucial in any form of research in order to maintain the scientific integrity. This study aims to assess the prevalence and attitudes regarding research misconduct among the faculty and post graduate students of three dental institutions in south India.

Method: A Cross sectional study was conducted among post graduate students and academic faculties of three dental institutions in south India (n=216). The prevalence and attitude regarding research misconduct among the participants were assessed with a validated structured questionnaire. Statistical analysis was done with SPSS software version 21.

Results: In the present study, a total of 216 students and faculty members (78% females and 22% males) with mean age 41.6 years and SD 6.4, were participated with an overall response of 84.6%. 67% of the participants admitted to doing at least some kind of a listed misconduct behavior. Faculty members showed more authorship disagreement than PG students (p=0.00). Among the respondents (72.1%) who observed some kind of misconduct behavior among one of their colleagues, faculty members observed more than PG students. 20.7% admitted to any past personal misconduct which was more in PG students than faculty (p=0.01). Unfortunately, 16% of respondents were willing to commit or was not sure about possible research misconduct in future. Only 42% of the respondents reported having received some form of training regarding research misconduct. Falsifying data was seen more in the post graduate students for getting a significant p value in their study. 89% of the respondents knew about plagiarism in general but only 12% knew how to quote correctly from articles.

Conclusion: The study suggests that questionable research practices and research misconduct are more frequent and even self reporting can underestimate the actual practice. Training on research misconduct and ethics has to be made mandatory for faculty members and even for postgraduate students by incorporating into their curriculum.

PW2.8

Perceptions of higher education professors on academic integrity in scientific research

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Objective

To analyze the perception higher education professors at public and private universities in Lima have of academic integrity in the field of scientific research.

Method

This is a descriptive comparative study, basic type, cross-sectional design. Data was collected from 126 higher education professors from public and private universities in Lima using the Academic Integrity in Scientific Research Questionnaire, in digital format. The instrument was designed to fit the purposes of this research. The questionnaire consisted of six dimensions: of data confidentiality and privacy, respect for the individual, social value, collaborative work, honesty and courage.

Results

The following are the preliminary descriptive results.

126 university professors answered the questionnaire. Out of those 126, 65% percent perceived that data confidentiality and privacy is preserved at their universities, 63% felt that there is respect for people, 56% feel that social value, interpreted as the common good, is taken into consideration; 54% felt that there is honesty corresponding to the authorship. In the dimension of courage to report misconduct,

while 49% of the respondents perceive that complaints are filed about situations that compromise academic integrity in scientific research, 11% feel that there are occasional complaints and 18% feel that complaints are never or almost never filed.

On the other hand, only 29% perceived that there is collaborative work between their university and others. An issue that needs to be highlighted is that 18% feel that no one ever complains about these instances of compromised academic integrity in scientific research, with 11% who feel that there are occasional complaints.

Part of the background information about the respondents involved their experience as researcher, number of publications made, and whether he/she served as a thesis advisor. These data is still being analyzed.

Conclusions

Two areas of particular concern from this study results are inter-institutional collaborations and courage to report misconduct.

Very low percentages in both areas open up opportunities for further studies to identify their causative factors and to work with the universities to improve these areas. Strong academic integrity is one of the pillars of research integrity.

PW2.9

A social responsible PLACE: Robert Merton, John Ziman and the historical roots of research ethics in science and technology

Mr Thomas Østerhaug¹

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Since Robert Merton formulated his ethos of science, science has changed radically. There have been several attempts to describe this change, as a triple helix, as a transition from mode 1 to mode 2, from normal science to post-normal science, or from academic science to post-academic science. In his writings, John Ziman argued that Mertons CUDOS-norms don't fit today's academic reality – that Mertons ideals are thwarted, and that contemporary science is Proprietary, Local, Authoritarian, Commisioned and Expert (PLACE). Academic science is giving way to post-academic science.

How does this break with the academic tradition affect the ethical norms of science? The tension between the academic scientific ethos, the social responsibility of science and the post-academic PLACE-norms became clear in the current revision of the research ethical guidelines developed by the Norwegian National Committee for Research Ethics in Science and Technology. The Committee has an interdisciplinary composition and comprises members from academia, technological research institutes and industry. What is the normative basis of this diverse field? Is it possible to combine the social responsibility of science with the post-academic norms?

To answer questions like these, I would suggest that we need to study the development of research integrity in its historical context. The historical study of research integrity will broaden our understanding of this field and strengthen the research on research integrity.

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PW2.10

Research with human subjects: Covid 19 induced prospects and challenges.

Dr Willard Nyamubarwa¹

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The aim of this study is to examine the effect of the Covid 19 induced lockdowns on the field of research in Human Resource Management (HRM). This motivation is driven by the realisation that, granted the contact and travel restrictions imposed by state authorities due to the Covid 19 outbreak, many researchers have used data gathering methods that are best described as novel and sometimes as unorthodox. This state of affairs has persuaded the researcher to propose that the non-contact approach to data gathering in line with the demands of the Covid 19 regulations have brought new insights in research integrity that warrants finer ventilation. For example, the non-contact research approach may be creating novel approaches to the issues of privacy and anonymity. As such, the proposed study is significant as it explores uncharted territory in the field of research integrity in Africa.

As such a qualitative approach will be used to gather data from researchers in the field of Human Resource Management in Zimbabwe and South Africa. Respondents will be selected by purposive sampling from researchers based in Human Resource departments in the two countries.

The findings of the study will inform on the research ethics and integrity challenges that have been spawned by the advent of the Covid 19 pandemic.

It is envisaged that these findings will place before academics, practitioners and the whole research community new insights with regards to the effects of remote working on research ethics and integrity.

Poster Walk Session 3

PW3.1

A Diner pensant method to stimulate discussions on RCR

dr Julio Borlido Santos², **Prof Dr Mariëtte Van den Hoven¹**, Paulo Gomes², dr. Miriam van Loon⁴, dr Igor Moreira Lopes², dr. Anna Olsson⁴, dr. PJ Wall³

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Fostering research integrity in organisations is an important aim of research integrity policy. Organising events that are appealing, motivating to have discussions helps to bridge the gap between institutional guidelines and regulations and actual habits and procedures in research groups. As part of the Horizon2020 project INTEGRITY, we therefore organised an online event on Oct 13, 2021, using the diner-pensant method.

Method: A diner-pensant structure is an informal dinner event, combining a nice atmosphere with good talks on a certain topic. In small-table groups, participants share their views, experiences and suggestions on the topic at hand. Due to covid, our dinner event was turned into an online 'food for thought' event, keeping the three-course meal structure (starters, main course, dessert), with a hostess (chef de cuisine) guiding the participants through the program that put the relation of supervisor-supervisee central. The aim of the event was 'to stimulate a more active approach among researchers to be more open on RCR issues with (junior) staff and colleagues, via a) stimulating self-reflection on RCR issues and the role of supervision in RCR and b) deepening insights in how collaboration, personalities and 'common practices' influence research culture in which novices are trained. For the starters and main course, participants were grouped into breakout rooms and a structure with polls and discussions was

used to promote discussion on topics of timely feedback, authorship, conflicts of interests, intellectual property, collaboration and reasonable demands on PhD students. At the end of each round, participants were asked to write down their take home message. For the starters, existing materials from PHD comics were used, while for the main course, scenes with actors were especially made for the INTEGRITY project. In a final plenary dessert, we looked forward to how we foster RCR.

Data analysis (will be ready in June 2022): All participants were asked consent. Data collection includes data of the event and a short survey afterwards. Qualitative analysis (statistics) were used next to qualitative analysis (coding) for open answer questions. The presentation includes the results of the analysis and a DIY-kit, how to organise this event oneself.

PW3.2

Ethics Labs: real-time ethics in biotechnology research

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Introduction

The aim of this presentation is to share experiences of the Ethics Lab which we created as a part of an international, multi-centered and multi-disciplinary European research consortium performing research in biotechnology.

Ethics Lab is a strategy that enables a real-time research ethics. It allows to integrate perspectives of ethicists, researchers, and stakeholders, and to establish a place for discussions, micro-interventions and analysis. The goals are:

- i) to deliver real-time and contextual ethical guidance;
- ii) to support good scientific practice;
- iii) to minimize risk of research in biotechnology;
- iv) to recognize social impact of biotechnologies under development.

Methods

As part of one of the activities of our Ethics Lab, we are performing a series of focus groups (FGs) with ethicists, scientists, and stakeholders. FGs are useful to integrate all participants' experiences and perspectives and to introduce new concepts.

The aims of the series FGs meetings are to: a) explore participants' doubts, b) introduce ethics research concepts, c) analyze researchers' biomedical techniques and ethical questions, d) think together how to approach those ethical questions and e) co-produce ideas to improve research ethics in their own environments.

Outcomes

We plan to finish the FGs meetings and have full outcomes in March 2022. We expect that Ethics Lab strategy will provide tight, cross-disciplinary collaboration during the biotechnology development that will allow us to identify ethical problems early, create specific input for normative evaluation, set up a research integrity environment, and to work on social-readiness of results.

PW3.3

The near non-existence of integrity in the training programs of research students in public universities in Ivory Coast

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Scientific research is a field that makes it possible to produce scientific knowledge in a domain and to provide answers to the concerns of current and future society.

The objective of this exploratory study is to show the quasi-existence of research on the culture of integrity in public universities in Côte d'Ivoire. Our main objective is to make the culture of integrity a training unit for students who are beginning research in their university curriculum.

We can say that this is an exploratory study in the sense that we have initiated investigations through interviews and participant observation and focus groups. All of this was based on documentation on the training curricula of Master's students in public universities in Côte d'Ivoire. However, we started with the students of Master of research of our university, namely the University Félix Houphouët-Boigny of Abidjan-Cocody.

We can say that the results that we had, emanate from the documentation of the curricula of training of the students of Master in the units of training in Humanities and Social sciences. A participant observation and a pre-survey have started to get the opinion of the managers and students on the training modules on research culture and integrity and ethics in research. For us, these are international conditions of competition to advance and enhance scientific research in Côte d'Ivoire.

We will recall that our study is exploratory and will be extended to other public universities in Côte d'Ivoire. We can say via the preliminary results, a reorganization of the training offers and to include for the students in Master of research of the modules of formations on the culture of the research and the integrity and the ethics in the research to make the students competitive and to produce knowledge helping in the advancement of the scientific research in the world. The limit that we can envisage is that it will not be the object of awareness on behalf of the persons in charge of the higher education and also lack of financial means to traverse almost all the public universities in Côte d'Ivoire.

PW3.4

Guidance for implementation of ethics and integrity training

Ms Borana Taraj, Stefanie Van der Burght, Jonas Akerman, Nik Claesen, Eva Casamitjana, Karim Mahmoud

Knowledge and training is a powerful means to empower researchers and equip them with the adequate skills in our sometimes unequal societies. Any research performing organisation should offer research ethics and integrity (REI) training. With this report, we have prepared guidance for such training of researchers in the context of ensuring an awareness of possible issues and of governance frameworks which can be used to assess and manage specific situations on a case by case basis. This is a complex area, and we encourage individuals using the report to think critically about moral, ethical and legal issues and how these converge in the context of both research integrity and ethics within their jurisdiction and institution. As a consequence, the details of the training programme may vary due to a number of factors, including the organisation's size, capacity, resources, applicable laws and regulations, and other external requirements such as those imposed by funders or policymakers and local codes of practice. Report here: <https://bit.ly/3iUEyMg>

The report was issued in 2020 by the EARMA Ethics and Research Integrity Officer Network (ERION) thematic group. EARMA is the European Association of Research Managers and Administrators. In 2018, it established the Ethics and Research Integrity Officer Network (ERION) thematic group. ERION is an open community to discuss the practical and implementation side of Research Ethics and Integrity. It is a community of practitioners, rules and procedure experts, and its main purpose is to provide a forum for knowledge-sharing and collaboration in order to facilitate implementation of relevant policy and establishment of best practices. The community counts more than 250 members from more than 20 countries.

EARMA has over 180 Research Performing Organisations (RPOs) as members in addition to over 190 individual members in 40 countries covering almost all of the European Zone. EARMA has an international network of similar associations with contacts in Asia and Africa, e.g. through the International Network of Research Management Societies (INORMS) network (<https://inorms.net/>). The relevant organisation for South Africa is SARIMA association: <https://www.sarima.co.za/>.

PW3.5

Exploring the use of photovoice as a participatory method in research and education on research integrity.

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Objectives

Photovoice (PV) is a visual participatory method used to stimulate critical dialogue and reflective learning. In this method, participants are asked to take photos which represent their point of view to a key question. As this method has not been used in research integrity before, we aim to assess the type of data it generates and thereby its suitability for research and education on research integrity.

Methods

Between Oct 2021 to Feb 2022, we will conduct four disciplinary field specific work sessions to discuss the results of the Dutch National Survey on Research Integrity (NSRI). A maximum of 20 researchers of mixed academic ranks will be recruited per session from Dutch universities. Before each session, we will ask participants to take a photo each to answer the question: "What is the main challenge you face in conducting your research responsibly?" Participants will be asked to write a short narrative that describes how their photo answers the question posed. For the work sessions, these photos will be used only as an ice breaker for the group. We will use the photos and the narratives thereafter, to assess the suitability of using PV in research and education for research integrity using a set of predefined research and learning objectives pre-determined by the authors' based on their expertise in PV, education and research integrity.

Results

We will analyze the photos and their narratives in duplicate using grounded theory to determine the research integrity themes that arise. The research team will then meet to assess the suitability of PV as a research method and teaching tool using the predefined objectives. This will give us first insights on the kind of data that can be collected through the use of PV in research integrity as well as its suitability for

use in research and education on research integrity. Analysis will be completed by April 2022 enabling us to share results in June 2022.

Conclusion

Through this explorative project we aim to get a solid first indication on the feasibility of using PV in research and as a teaching tool for research integrity.

PW3.6

The Dilemma Game App

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The Dilemma Game supports participants in identifying relevant research integrity principles, virtues and questionable research practices, using hypothetical cases. The existing card game was therefore digitized into the Dilemma Game app, with the following objectives:

To make the game more easily accessible to a much wider audience, who can play it anytime, anywhere, instead having to get a hardcopy game and play the game in a group physically together.

To inspire continuous attention to the topic of academic integrity and create more awareness about the importance of research integrity (the app confronts users with new dilemmas periodically, instead of playing it one time only).

To familiarize more members of the community with the relevant principles and codes of conduct relating to academic integrity (at all levels of seniority of the EUR research staff).

To create an open, safe, and inclusive research culture in which dilemmas are discussed openly.

The dilemmas and review comments in the Dilemma Game app have been created with the objective of reflecting these principles and bringing attention to them. The app itself refers to relevant information sources, such as the research integrity website of the university and the Netherlands Code of Conduct for Research integrity.

After voting, participants can consult an 'integrity expert review' that provides insight in how the dilemma and underlying principles can be interpreted. A new 'Dilemma of the Month' is added monthly, and participants have the option to propose a new dilemma.

The game can be used in a variety of settings, and has three modes:

Solo: In the solo mode, one can individually browse through dilemmas and vote on the preferred response to the dilemma, after which the participants gets to see how others users have voted.

Group: allows individuals to discuss dilemmas in a small group (2 – 7 players; physically or online), while the app guides the players through the different discussion phases.

Lecture: suitable for a plenary discussion of dilemmas with larger groups, such as a big class or a lecture audience. A link is available to show real-time results on a presenting screen.

Instruction video. <https://www.youtube.com/watch?v=SKhT7qHh9T8>

PW3.8

Running RCR Education in a Binary Mode

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As part of the revamp of the curriculum of research postgraduate education at the University, the core course on research ethics was also subject to change. Instead of offering one course on research ethics for all research postgraduates (RPGs), the Graduate School has started a binary mode with two compulsory modules on research conduct of research (RCR). The first module covers the core issues germane to RCR, including FFP (Falsification, Fabrication and Plagiarism), Authorship, Data Integrity and Mentorship. Distinction between research misconduct and questionable research practices is also covered. Students attending this so-called generic module are also required to complete an online programme covering a range of topics on RCR so as to reinforce their understanding of the subject. The other module acknowledges disciplinary differences in the implementation of RCR and comes in five different sub-streams: human research (general and clinical), animal research, research dealing with big data, research on texts, and lab research. After completing this stream-based module, students are required to write up a reflective report on a case related to their research field. It is hoped that the binary mode will not only enhance students' general understanding of RCR but also enable them to see the close relevance of RCR to their disciplines.

The focus of the proposed presentation is on the structure and details of the binary mode, together with some in-class discussion activities to prompt interaction among students.

Poster Walk Session 4

PW4.1

Evaluation of actions related to responsible research practices of Brazilian postgraduate programs in the area of biological sciences

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Introduction: The evaluation of Brazilian graduate programs in biomedicine tends to focus on numbers of publications, impact and novelty, rather than on transparency and integrity.

Objective: To evaluate the descriptions of graduate programs in Physiology in Plataforma Sucupira (Brazil's online platform for information on graduate programs), looking for concepts related to transparency and integrity and for courses related to responsible research practices.

Methods: We developed a core set of terms related to the concepts of Ethics, Open Science, Reproducibility, Productivity and Impact, Peer Review and Basic Scientific Training. After automatically searching for these terms in graduate program descriptions, two evaluators analyzed them to decide whether they referred to the intended concepts. Additionally, we searched for courses related to

Biostatistics/Experimental Design, Reproducibility, Thesis Development, Scientific Methodology, Science Communication, Scientific Writing, Research Ethics, Bioethics and Philosophy or Sociology of Science, as well as their periodicity and status (optional or mandatory). Data were collected using Google Forms and analyzed using R for descriptive analyses and exploratory correlations with graduate program features.

Results: Terms relating to productivity and impact appeared in all 24 program descriptions analyzed (n = 24). Those related to ethics and basic scientific training were also frequent (21 and 22 programs, respectively). Reproducibility and open science terms, on the other hand, appeared only in 3 and 4 descriptions, respectively. Courses were usually not mandatory, despite of that the ones most frequently found were Biostatistics/Experimental Design (18 programs) and Bioethics (13 programs), while only 1 program had a course dedicated to research reproducibility. Interestingly, the program's age had a negative correlation with the availability of courses related to responsible practices.

Conclusions: Graduate program descriptions in Brazilian Physiology programs tend to focus on number of publications, impact and novelty, rather than transparency and integrity. Courses related to reproducibility and related concepts are still scarce. Whether this can be generalized to other fields of biomedical science in Brazil demands further research.

PW4.2

Engagement with the Research Community at King's College London

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The Research Integrity Office (RIO) at King's College London was established in January 2019. Prior to this, research integrity was a role partially built into the Research Ethics Office. Through the creation of a role dedicated to research integrity (now expanded to 3.0FTE), King's signalled its commitment to ensuring that all research conducted in its name is consistently of the highest quality and conforms to the most rigorous standards. This institutional commitment was the first step towards developing a coordinated approach to research integrity. Findings from 'Research Integrity: a landscape study' (VITAE with UKRIO and UKRN, June 2020) revealed that researchers have greater affinity to their local environment and are less likely to respond to institutional forces, which are seen as weaker than those strong bonds fostered at a local level. Considering these findings and that King's is a large institution of 9 faculties spread across 5 campuses in London, RIO recognised that research integrity initiatives from a central administrative team might face resistance. It was therefore paramount to engage the research community, using trusted colleagues to support us in disseminating our core messages of research integrity.

In September 2019, we established our Research Integrity Champions (RIChs). These advocacy roles are ordinarily held by the university's nine Vice Deans for Research, who have responsibility for research within their faculties. RIO meets the RIChs collectively every 2 months at the RICh Forum, providing an opportunity to review policy or procedural developments, as well as setting the strategy for integrity within local areas.

In September 2020, we created a framework of Research Integrity Advisors. These colleagues are selected for their commitment to the principles of research integrity, and support RIO with training and developing discipline-specific guidance. They also act as a visible, local first point of contact for researchers requiring advice or support on research (mis)conduct.

This paper reflects on the process of developing and maintaining this network of Champions and Advisors, and how it has supported King's College London in successfully pushing forward the research integrity agenda.

PW4.3

INTER-AMERICAN NETWORK OF SCIENTIFIC INTEGRITY: A REGIONAL COOPERATION EXPERIENCE

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World Conferences on Research Integrity (WCRI) poses several challenges for participating countries that include among others, to create national structures for promoting integrity and responding to misconduct, common curricula for training students and researchers in best practices, and uniform best practices for editors and publishers. Given that the capabilities of each country are different, it is anticipated that these will be developed through collaborative international networks that recognize the similarities and differences in norms and culture of the different countries, while exploring effective ways for mutual cooperation.

The participation of Latin American researchers in the 6th World Conference on Research Integrity held in 2019 in Hong Kong, gave rise to the Inter-American Network for Scientific Integrity (RIIC). Its members have different capacities and experiences and they belong to countries such as Brazil, Peru, Chile, Colombia, as well as collaborators from the USA. Its main objectives are to optimize the available knowledge stock and expertise of the involved actors through meetings, workshops, relevant documents, and support and strengthening of local projects.

An example of this is Colombia, where the Ministry of Science and Technology (Min.CTel) called for the first time in 2019, funding for research projects in Scientific Integrity. Three institutions submitted a project entitled "Generation of Recommendations in Scientific Integrity" - GREICI - with the aim of generating recommendations for the appropriation of responsible conduct in research. This project is currently being implemented.

RIIC members are included on the proposal as international collaborators and their participation has been key to i) sharing norms for establishing desirable research ethics across borders ii) exchanging experiences of responsible conduct of research and; iii) supporting and training young researchers through updated seminars.

There is still a long way to go. The RIIC continues to seek to enhance dialogue to promote the exchange of information and experiences amongst its members, enhance training and education with regards to research integrity, and explore effective forms of mutual cooperation

PW4.4

Co-creating research integrity education guidelines for research institutions

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Objective: Research integrity (RI) education is a core institutional responsibility. Research institutions need guidance on how to develop RI education policies which incorporate a continuous approach to RI education and address various target groups. In the Standard Operating Procedures for RI (SOPs4RI) consortium funded by the European Commission, we developed RI education guidelines.

Method: The guideline development process consisted of three steps. First, we conducted a number of empirical studies, including two scoping reviews, a focus group project, expert interviews, and a Delphi-consensus study to explore current best practices, lacunas and needs regarding RI education. Secondly, we created the RI education guidelines jointly with 16 potential lead users of the guidelines from countries across Europe in four digital co-creation workshops of half a day. In the first two workshops, participants generated ideas for the guideline content, based on which we drafted a first guideline draft. Participants in the third and fourth workshop scrutinized and refined the guidelines. The refined guidelines were then further developed in a third step, where we formed a working group with experts to make the guidelines operational and workable.

Results: We developed four guidelines on RI education focusing on a) bachelor, master and PhD students; b) post-doctorate and senior researchers; c) support staff and RI personnel; as well as d) continuous RI education. Across guidelines, we recommend mandatory RI training; as well as follow-up refresher training; informal discussions about RI; appropriate rewards and incentives for active participation in RI education; and evaluation of RI educational events.

Conclusion: Our guidelines provide a comprehensive overview of steps institutions can take to provide successful RI education. Each guideline will be offered as a distinct, publicly available tool in the SOPs4RI toolbox (<https://sops4ri.eu/toolbox/>) which institutions can access, adapt and implement to meet their institution-specific RI education needs. In our presentation we will highlight the current tools, give examples how these guidelines can be implemented in a variety of institutions and present results from the pilot testing of these guidelines in several institutions throughout Europe.

PW4.5

Research integrity education and training: insights from a focus group study with research stakeholders in Europe

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Objective: Education in Research Integrity (RI) is important for fostering responsible research practices. Although RI training is increasingly provided, there is little knowledge on how research stakeholders, such as researchers, RI experts, funders and administrators, view institutional RI education and training

policies. Here, we present insights about research stakeholders' views and experiences regarding RI education and training, their effectiveness and implementability.

Methods: We conducted 30 focus group interviews, engaging 147 participants in 8 European countries. Participants included researchers from different ranks, and other research stakeholders such as RI officers, funders, research administrators, journal editors, etc. The resulting data was analyzed using a mixed-deductive inductive thematic analysis.

Results: We identified 5 core themes resulting from the data. These themes consisted of stakeholders' recommendations that: 1) RI education should be available to all; 2) education and training approaches and goals should be tailored; 3) motivating participants is essential; 4) both formal and informal educational formats are necessary; and 5) institutions should take into account various individual, institutional, and system-of-science factors when implementing RI education.

Conclusion: Our results shed light on research stakeholders' views and experiences on RI education, which can serve as a basis for improved institutional RI education and training policies. They highlight the importance of integrating RI education into the research process, in order to make it attractive, tailored, and use it as a tool to improve the research environment. In our presentation, we will delve into the implications of these results regarding the concrete actions institutions across Europe can take to make RI education as valuable and attractive as possible.

PW4.6

The link between disciplinary fields and knowledge and attitude towards RCR across bachelor and PhD students in Hungary

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Introduction: Since the 1990s, there has been a consensus that responsible conduct of research (RCR) education should be an integral part of the curriculum of bachelor and PhD courses. Yet, little is known about how well RCR training works for students from different disciplines. Therefore, this study aims to assess the link between RCR knowledge and attitude and disciplinary fields across bachelor and PhD students in Hungary.

Methods: A cross-sectional survey was conducted including bachelor and PhD students with a major in Science and Technology, Engineering, Medicine and Mathematics (STEMM), Social sciences, or Humanities between February and December 2020 as part of the INTEGRITY project (<https://h2020integrity.eu/>) in Hungary. The survey included demographic questions and questions on research integrity knowledge, attitude, experiences, and education. The survey addressed topics on citation, collaboration, and data practices.

Results: Data from a total of 277 bachelor and 200 PhD students were analyzed. Most of the respondents were from STEMM among bachelor (54.9%) and PhD students (50%), 21.3% and 25% of them from Social sciences, 11.5% and 21.5% from Humanities, and 12.3% and 3.5% from other fields. Bachelor students within Social sciences were generally more likely to report better knowledge about the official standards of good practice and how to behave in ethically correct manner than participants from other fields. They were also more able to perceive questionable practices involving plagiarism as violations. Bachelor students from STEMM were significantly less likely to have higher level of self-reported understanding on citation and plagiarism when compared to other study fields after adjusted for confounders. PhD students from Humanities reported better understanding about standards. However, significant

differences were not identified across disciplinary field in relation to plagiarism. Regarding data practices, PhD students from STEMM were more able to perceive questionable practices as violations, which was not observed among bachelor students.

Conclusion: Our results show no clear trend on knowledge and attitude of RCR across disciplinary fields from bachelor and PhD levels in Hungary. However, we could identify some gaps in knowledge and attitude across fields and study levels. Further tailored initiatives are needed to address these gaps.

PW4.7

PROMOTING RESEARCH ETHICS AND INTEGRITY AMONGST NIGERIAN ACADEMICS: EFFORTS OF THE NIGERIAN YOUNG ACADEMY (NYA)

Dr Mohammed Auwal Ibrahim¹

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With the rapid increase in the number of public and private universities in Nigeria, the issue of research integrity, especially amongst young researchers, has become a major source of concern. In its effort to promote research integrity, the Nigerian Young Academy (NYA) has organized a workshop series to educate young researchers in Nigeria and beyond, against plagiarism and other unethical behaviours. So far, the workshop has held as part of the Academy's Annual Conference in Effurun (2017), Ondo (2018), Ota (2018), Abuja (2018) and Zaria (2019). In addition to the workshop series, the Academy has implemented a media campaign against unethical practices in academics. These have been featured in top outlets including Nature (www.nature.com/articles/d41586-018-07462-2) and Science (<http://www.sciencemag.org/news/2018/06/nigeria-battle-against-academic-plagiarism-heats>).

When COVID-19 disallowed physical gatherings in 2020, the NYA then initiated a series of webinars on the importance of maintaining integrity while carrying out research. The most important topics discussed were copyright breaches and plagiarism as vital unethical conducts that should be mitigated amongst Nigerian academics. Our most recent webinar on the concepts attracted 137 attendees while 257 Nigerian academicians registered. Eventually, robust discussions ensued that will go a long way to promote research integrity in Nigeria. Apart from the webinars, the NYA also conducted surveys on the menace of sexual misconducts among Nigerian academics in order to provide evidence-based solutions to the problems. At the end, some workable solutions were identified including whistle blowing policy, punishment system and discipline. In this article, the experiences of the NYA in promoting research ethics and integrity amongst Nigerian researchers will be discussed as a way to guide, motivate and mentor other similar academies across the globe on strategies that could be adopted to promote research ethics and integrity in their respective countries. Lessons bordering on how the NYA checks unethical behavior among its own members, how it adapted its ethics campaign to the COVID-19 pandemic and how it has combined online and offline approaches will be highlighted.

PW4.8

Promoting research integrity at a university through the establishment of an ambassador training programme

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Moving to an online environment has exposed the challenges to manage research integrity at institutions of higher education. Research Integrity Administrators play a strategic role in responding to these challenges and driving the institutionalisation of research integrity through adequate training. However, the design and implementation of training programmes are resource-intensive in the context of shrinking budgets and inadequate staff capacity. Further to that, access to accredited research integrity training in South Africa is limited. Against this backdrop, the staff of a Research Integrity Office

at a mega distance learning university in South Africa designed and implemented a Research Integrity Ambassadors programme.

The main objective of this programme is to provide ongoing support for the research integrity function of the university. Research Integrity Ambassadors are academic and administrative employees with the necessary capabilities to promote a culture of research integrity. The Ambassadors programme was launched in May 2021. Twenty-five participants enrolled in the programme. The programme consists of two interconnected phases. Phase one entails three workshops informed by virtue ethics and the international VIRT2UE train the trainer programme. Oxford University Press / Epigeum online Research Integrity course was identified during the 2019 World Research Integrity Conference as a certified training programme informing phase two. The modules of this course are structured to align with critical aspects of responsible conduct of research recognised globally. Most of the material developed for this course is embedded in the Australian Code for Responsible Conduct of Research.

In this presentation, we are excited to share a framework for designing and implementing a Research Integrity Ambassadors programme in Higher Education Institutions based on the aforementioned case study. We will report on the facilitator and participant experiences, lessons learned and further programme development.

Poster Walk Session 5

PW5.1

A Strategy for Implementing an Intra-Faculty/College Integrated Research Management System (Session 2)

Prof Minrie Greeff¹

¹North-West University, Noordbrug, South Africa

As mentioned in an earlier presentation, since the promulgation of the National Health Act No 32 of 2003, health and health-related research ethics in South Africa has become highly regulated. This, however, is not the case for research integrity management. Only a few institutions have had the foresight to take up this challenge. However, an increase in cases and a growing awareness of the lack of a system to manage research integrity within the Faculty of Health Sciences, at the North-West University, led to the Faculty taking up the challenge in 2019, and developing a broad, encompassing and integrated system to manage research integrity. This led to the development of an intra-faculty "Integrated Research Integrity Management System" (IRIMS) focusing on both a) the fostering of a climate of responsible conduct of research, as well as b) developing an intra-faculty system for handling the less serious cases of non-compliance and violation of good research practices, in a more restorative fashion, including an individualized mentorship program, while effectively processing the more serious cases of misconduct.

The first presentation focussed on the development of the IRIMS. This presentation focusses on the strategies that were followed to implement the newly developed intra-faculty IRIMS. To achieve this, the deanery ensured that they tasked a respected senior academic, with a sound knowledge base and skillset in research integrity management, and a long history of practicing as a senior researcher, to develop the system. I, as the person targeted for this task, had to strongly depend on the lessons learnt, having had to develop and establish a research ethics system for the same Faculty in 2014. Additionally, the IRIMS had to fit in and link to all existing policies, guidelines, and manuals of the university, making the inclusion of the legal office critical to the process. Developing a systematic and well-planned strategy for rolling out the system, in such a manner that it would be accepted and embraced by the senior

management of the university, the deanery, the faculty management, academics and post-graduate students, was essential to ensuring the successful and effective implementation of the IRIMS.

PW5.2

Research Integrity and Open Data: Can we create funding by unlocking the economic value of Open Data?

Ms Marzia Briel¹

¹*University Of Reading, Reading, United Kingdom*

Objective: Research integrity is negatively influenced by the lack of funding. This causes:

1. Extreme competitiveness and job insecurity for researchers, and
2. Developing nations with low funding streams cannot contribute to knowledge production, thereby reducing the diversity and opportunity in Research.

Mckinsey published a report in 2013 that estimates that open data can unlock between 3.2 trillion to 5.4 trillion dollars in economic value per year across its seven domains. Education is one of these domains. Open data is part of this new scholarly communication market and is seen as a commercialisation opportunity by private industry. This presentation will set out some potential models that can ensure that academic institutions and researchers who produce open data can unlock the economic value and thereby create funding streams for their institutions and researchers. We all know that funding can improve research integrity and I believe that open data can be a source of funding.

Method: My PhD is in Law and my research is inter-disciplinary, relying on Open Science, Ethics, Policy, Law and Risk Management. I have started investigating potential open data models and will produce detailed explanations of how this can be done. I will be interviewing my network in the science and academia to peer review the efficacy of the models.

One of the solutions offered is that if research is reliant upon data acquired in a developing country, then a joint studentship should be created with an institution within the developing country and the data should be deposited in a joint repository. Re-use of the data is free to other institutions and academic researchers but commercial use should be licenced.

Results: I am in the process of seeking ethics approval to speak to my contacts who are stakeholders in this open data market.

Conclusion: I hope to show that stakeholders agree that commercialisation by private industry of open data is unethical, but inevitable. I hope to develop and present some peer reviewed open data models that offer solutions to the funding crisis in research and academia.

PW5.3

Developing responsible Open Science framework in Europe – a cultural-sensitive approach to introducing Research Ethic & Integrity to Open Science

Mr Mathieu Rochambeau¹, Teodora Konach¹, Dr. Nicole Foeger¹

¹*Austrian Agency For Research Integrity - ÖAWI, Vienna, Austria*

Objectives: As part of the EU-funded HORIZON 2020 Responsible Open Science (OS) in Europe, we are, in collaboration with an international consortium, thoroughly mapping the existing OS legislation in Europe in order to pinpoint the existing gaps and identify responsible OS policies and strategies in place on the continent. With the research sector gradually embracing digitalisation, Research Integrity are becoming of growing interest for OS through the questions of authorship, as the COVID-19 vaccination research programs confirmed it.

Method: To reach this aim, we are conducting qualitative analyses of the EU member-states OS involvement through the existence and relevance of national or funder policies, national laws, and EU-funded international projects. This mapping provides a clear understanding of OS good practices and existing gaps, and will eventually be the backbone of recommendations to promote responsible OS and improve the EU OS framework.

The involvement of international partners throughout this project guarantees cultural and discipline sensitivity of our research and results.

Results: We will present preliminary findings as this research is part of an ongoing project that started in 2021.

What has appeared from our early findings is the commitment and active involvement of every EU member-states within the OS framework. National strategies have shown how important and influential the local research cultures are. But the continent remains characterised by a deep asymmetry with countries having various level of more-or-less responsible OS measures in place. These various exemples provide us with a chance to determine good practices and gaps.

Conclusion: There are few lessons to be learned from our early findings. First, the complexity of the diverse OS frameworks in Europe is flagrant and, added to the lack of visibility, represents a source of in-depth confusion. Second, it seems that having OS policies or strategies in place does not mean having responsible OS. Gaps are not only related to the lack of policies but also to cultural and discipline specificities and are therefore challenging to identify. Finally, we hope our research to be valuable in improving the existing EU OS framework by defining and highlighting good practices and responsible OS measures.

PW5.4

Joint reflection in Responsible Conduct of Research courses for research leaders

Dr Lone Bredahl¹

¹*University of Southern Denmark, Odense M, Denmark*

Research leaders are authorities in shaping sound research cultures and in ensuring that responsible conduct is instrumentally supported at institutional level, for instance as regards research infrastructure and policies. As well, research leaders and professors take charge of future generations of researchers in their role as supervisors and mentors.

To qualify research leaders and professors in these roles, University of Southern Denmark has introduced a mandatory course in Responsible Conduct of Research (RCR) for all heads of research groups and professors at Department of Clinical Research and Department of Regional Health Research.

Experience from the first three years of offering the course have shown participants to generally be reluctant in participating and to exhibit primarily passive modes of learning. The mode of learning inhibits the desired higher order learning from joint discussions and shared reflections.

The contribution will present how we have succeeded in establishing a highly motivated, dialogic learning environment, by means of dedicated, but simple didactic efforts. The presentation will show how a 'flipped learning' environment is set up, and which didactic tools that are applied to facilitate active participation and joint reflection, both in the individual preparation ahead of class (online) and during class (f2f), which takes on the form of a ½ day event.

PW5.5

Moving beyond research metrics - Responsible research evaluations at Danish Universities

Dr Lone Bredahl¹, Marianne Gauffriau, Tanja Strøm, Laura Himanen

¹*University of Southern Denmark, Odense M, Denmark*

Objectives

The need for responsible research evaluation is surfacing on international agendas in the form of eg. the Hong Kong principles for assessing researchers. Likewise, the European Commission's 'Towards 2030' universities vision statement cites an ambition to "move beyond existing ranking systems" to avoid "overly-simplistic ways of measuring universities' research performance". By these initiatives, universities are incited to seek to adopt new approaches to research evaluation beyond merely using the research metrics at hand.

The PARE-project (Probing 5 arguments for responsible evaluation on HE leaders) examines knowledge and attitudes toward value-driven research assessment among leaders at Danish universities. The idea is that the starting point should not be the availability of data, but rather what is valued about the entity that is under evaluation.

Method

Through semi-structured personal interviews with ten deans and department heads and subsequent content analysis of transcripts, PARE identifies barriers for conducting value-based evaluations in a way that makes them meaningful, responsible, and effective. The project draws on and probes SCOPE – A five-step framework for conducting value-driven responsible research evaluation, developed by the INORMS Research Evaluation Group.

Results and Conclusions

The presentation will present major findings from the project, which at the time of submission is work-in-progress, and will point to incentives for HE leaders for engaging in value-driven responsible research evaluation. Specifically, the session will provide insight into why conducting value-driven evaluations may be seen as challenging by HE leaders and at the same time give suggestions for how to motivate management in engaging in value-driven evaluations.

PW5.6

Redefining the Version of Record Through Bringing Publications to Life

Dr Scott Edmunds¹

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The coronavirus pandemic has underlined the importance of open, rapid dissemination of research; as well as increasing public trust by making research output easier to access, interact with, and understand. GigaScience Press and River Valley have launched a new publishing workflow that aims to address these issues using custom-built, end-to-end publishing technology. The system enables accepted manuscripts to be converted to online, PDF-ready articles within a day. The new journal, GigaByte, streamlines editorial effort by focusing on short-format data and software-centric articles. The publication process integrates with the GigaScience Database that serves as a broad-spectrum repository, displaying data and code snapshots associated with these publications. Curators are on hand to help host supporting data, curate metadata as well as visualisations of the resultant data. By integrating visualisations and interactive content within the article, this can transform the article from the traditional static, descriptive journal publication. Aiding the sharing of the outputs of data science research, by building upon the open code and integrating a reproducibility toolkit of third party tools can showcase interactive and executable versions of the results. And provide the opportunity to more easily test code and provide

certificates of executable computation. Bringing publications to life in this manner enables a rethink of the concept of “Version of Record” to focus more on archiving the underlying data, software, PID (persistent identifiers) and factual entities, and away from the traditional unchanging proofed document that is mostly superfluous packaging. The resulting living documents helping regain trust in research through making disseminated much easier to access, scrutinize, and interact with; even by the general public.

PW5.7

Monitoring and Evaluation System for Strengthening Reproducible Research and Open Science in Biomedical Research (A-1)

Dr Christiane Wetzel¹

¹BIH QUEST Center at Charité – Universitätsmedizin Berlin, Berlin, Germany

OBJECTIVE: The QUEST Center for Responsible Research at the Berlin Institute of Health (BIH), as the translational research area at Charité – Universitätsmedizin Berlin, develops and implements programmes to ensure trustworthiness, usefulness, and ethics of biomedical research (www.quest.bihealth.org), but also recognizes the importance of continuously evaluating its programmes.

The work’s objective was to develop a conceptual framework to systematically evaluate the worth and merits of QUEST’s main programmes, namely

- (i) Education & Training
- (ii) Implementation of the Electronic Labbook
- (iii) Incentives & Indicators
- (iv) Open Data & Research Data Management
- (v) Patient & Stakeholder Engagement
- (vi) Value of Open Science

METHOD: Employing a mixed-methods approach (Teddli and Tashakkori, 2003, Sage) to obtain a depth understanding of the evaluation subject.

RESULTS: With the Monitoring & Evaluation System COMPASS, this work presents an impact-oriented evaluation concept designed as communicative and participatory (Bryson, Patton, and Bowman, 2011, Eval Program Plann) realist program evaluation (Pawson and Tilley 2004, SAGE Publications 7th Ed). Importantly, conceptual and empirical evaluation elements are examined in iterative evaluation cycles. While ‘conceptual elements’ relate to program theory issues such as program rationale vs alternative measures, ‘empirical elements’ relate to program result issues such as achievement of program objectives and program effects (intended and non-intended). To systematically study, analyse and evaluate QUEST’s programmes, pre-defined indicators and data collection instruments are used to answer the following key evaluation questions (adapted from Davidson, 2013, Real Eval Ltd):

- (1) How well designed are QUEST programmes?
- (2) How valuable are programme goals for scientists at BIH/Charité?
- (3) What works best for whom, under what conditions, and why/how?
- (4) Which parts or aspects of QUEST’s programmes generate the most valuable outcomes/impacts?

Through identifying opportunities and challenges within QUEST’s programmes, COMPASS ensures their alignment with QUEST’s strategic goals to strengthen Open Science and Responsible Research at Charité and BIH.

CONCLUSION: The Monitoring and Evaluation System COMPASS is an appropriate tool to uncover influencing factors that contribute to or counteract the success of QUEST’s programmes. It also provides programme developers and institutional decision-makers with an evidence base for developing strategies to improve programme policy.

PW5.8

Evaluating Training Transfer to Strengthen Responsible Research and Open Science (A-2)

Dr Christiane Wetzel¹, Ina Frenzel¹

¹BIH QUESTCenter at Charité – Universitätsmedizin Berlin, Berlin, Germany

OBJECTIVE: The QUEST Center for Responsible Research at the Berlin Institute of Health (BIH), as the translational research area at Charité – Universitätsmedizin Berlin, develops and implements new approaches to ensure trustworthiness, usefulness, and ethics of biomedical research (www.quest.bihealth.org). In this context, QUEST Center regularly offers education and training on Responsible Research and Open Science in biomedical research.

The work's objective was to develop and test a quantitative evaluation instrument to assess the success of transferring knowledge and skills acquired in QUEST trainings into everyday work.

METHOD: Employing a mixed-methods approach, quantitative and qualitative research strategies were combined (Teddli and Tashakkori, 2003, Sage). Empirical findings derive from qualitative interviews (n=8) and two online surveys conducted from Oct 2021- April 2022)

RESULTS: In the context of the replication crises in biomedical research (<https://www.thelancet.com/series/research>), positive transfer of acquired training knowledge and skills is crucial to strengthen Responsible Research and Open Science. However, for several decades education research observed a 'transfer problem', referring to the finding that no more than 10% of corporate expenditures spent on job-related training result in the intended transfer at the workplace (Georgenson 1982 Train Develop J, Baldwin& Ford 1988, Pers Psych).

Therefore, QUEST Center has recently started systematically evaluating its education and training programme to examine and learn more about factors that contribute to or counteract positive training transfer of QUEST's educational measures. The theoretical frame for evaluating QUEST training transfer is based on Sandmeier's training transfer evaluation instrument (Sandmeier et al. 2021 Zsft f Eval). This quantitative questionnaire compasses three smaller data collection instruments presented to QUEST training participants at three different time points after training completion. While part I of the instrument focuses on the training situation itself, part II examines participants' short-term training transfer effects and work environment conditions. Part III evaluates long-term effects such as the generalisation and maintenance of QUEST training knowledge and skills.

Currently, the instrument is validated evaluating training transfer of two QUEST training programmes, namely (i) Berlin | Oxford Summer School on Open Research and (ii) QUEST's ReproducibiliTeach course, with results to be expected in April 2022. CONCLUSION: (expected April/2022)

PW5.9

Evaluating Value and Benefits of the ELN Implementation at Charité – Universitätsmedizin Berlin (A-3)

Dr Christiane Wetzel¹, Prof. Philipp Pohlenz², Daniela Schirmer²

¹BIH QUEST Center at Charité – Universitätsmedizin Berlin, Berlin, Germany, ²Faculty of Humanities, Otto-von-Guericke-Universität, Magdeburg, Germany

OBJECTIVE: Electronic laboratory notebooks (ELN) digitalize researchers' documentation of experiments. Their use in academia aims at enabling greater transparency and facilitating research collaboration to strengthen the translational value of academic research projects.

The work's objective was to develop a conceptual framework and a detailed work plan to systematically evaluate the worth and merits of a large-scale institutional ELN implementation, such as currently conducted at Berlin Institute of Health (BIH) as the translational research area at Charité – Universitätsmedizin Berlin.

RESULTS: This work presents the development of an impact-oriented evaluation concept designed as communicative, participatory (Bryson, Patton, and Bowman, 2011, Eval Program Plann) realist program evaluation (Pawson and Tilley 2004, SAGE Publications 7th Ed.) Importantly, conceptual and empirical evaluation elements are examined in iterative evaluation cycles. While 'conceptual elements' relate to program theory issues such as program rationale vs alternative measures, 'empirical elements' relate to program result issues such as achievement of program objectives and program effects (intended and non-intended). Pre-defined indicators and data collection instruments are used to answer the following key evaluation questions:

(1) To what extent does ELN improve transparent research documentation?

(2) To what extent does ELN contribute to more transparency and collaboration in research teams and beyond?

(3) To what extent does ELN support FAIR data management?

Evaluation is conducted in two phases. A) Iterative process evaluation: Focussing on scientists' assessment of the implementation process quality and ELN use practices, results of this formative evaluation are discussed in reflection workshops with ELN users, programme developers, and other stakeholders. Thus, evaluation here will inform further development and improvement of ELN implementation. B) Conclusive evaluation: Here, stakeholders of ELN implementation and experts in the field are invited to participate in interviews and online surveys for assessing the overall value and benefits of adopting ELN at Charité/BIH.

CONCLUSION: The systematic program evaluation of ELN implementation at Charité/BIH is an appropriate tool to uncover influencing factors that contribute to or counteract the success of this large-scale institutional intervention. It also provides programme developers and institutional decision-makers with an evidence base for developing strategies to improve programme policy.

PW5.10

Factors Influencing Electronic Lab Notebook User Acceptance (A-5)

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OBJECTIVE: Taking a closer look at the institutional implementation of the electronic laboratory notebook (ELN) at Berlin Institute of Health (BIH), as the translational research area at Charité – Universitätsmedizin Berlin, through employing a rigorous, systematic program evaluation, first results suggest that less than 1/3-rd of registered ELN users have sustainably integrated the use of ELN in their everyday laboratory practice.

The work's objective was to study this phenomenon in more detail, revealing influencing factors that drive ELN user acceptance in this large-scale organisational intervention.

METHOD: The theoretical frame for modelling ELN user acceptance was based on the Technology Acceptance Model (TAM) (Venkatesh et al. 2008, Decision Science), one of the most influential extensions of Ajzen's theory of planned behaviour (TPB) (Ajzen 1985 Action Control). The model was adapted as follows: (i) integration of 'Risk factors' addressing Open Science practices in the competitive field of biomedical research, (ii) Expansion of the variable 'Experience' to the concept of 'ELN training experience'. An experimental design was applied, in which 3 study groups (n=105/119/101 participants) received different levels of ELN training (no training/ training/ training + tutorials). Based on a panel survey, TAM constructs were measured before and after ELN training. Regression analysis (Aiken et al. 1991 Sage L) was applied for data analysis.

RESULTS: The study examined the role of ELN training in aiding decision-making via its moderator function on the TAM/TPB variables 'Perceived usefulness' (which refers to the degree to which an ELN user has the impression that using ELN enhances his/her job performance,) and 'Behavioural intention'

testing the hypothesis that group-specific ELN training enhances researchers' user acceptance. In addition, the study examined the extent to which other influential TAM variables such as 'Subjective norm', 'Image' or 'Perceived risks' (,which all refer to the degree to which an individual's behaviour relies on his/ her work environment,) drive researchers' intention to use ELN and adopt digital research documentation practices in a way that strengthens Responsible Research and Open Science at Charité/BIH and beyond. CONCLUSION: (expected for Jan 2022)

Poster Walk Session 6

PW6.1

Human remains – research ethics and questions of repatriation

Dr Lene Os Johannessen¹, Dr. Sean D. Denham

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Human remains represent individuals. At the same time, they are a source of knowledge about past societies and their peoples. Throughout history, museums and collectors worldwide have collected human remains. Some of the remains are of individuals representing groups or communities that have experienced oppression, humiliation or other abusive treatment. Claims to have human remains repatriated (returned to its place of origin) have been put forward by different communities, and in the last decade an increasing number of museums have started repatriation processes.

To repatriate human remains can be considered a human right – the right to decide the fate of one's ancestors. Repatriating human remains often means reburial, which impacts the ability of future researchers to obtain new knowledge. Repatriation processes are often challenging, complex and contextually specific and raise a number of research ethical questions at a time when indigenous groups and descendants seek greater control over not only historical places and items, but also human remains. The question of repatriation, be it artefacts or human remains, creates a need for fresh dialogue to overcome colonial histories, reconcile long-standing disputes and as a process of democratization.

The National Committee for Research Ethics on Human Remains in Norway deals specifically with ethical dilemmas connected to research on human remains. The committee works out guidelines (2013, under revision) intended to serve as tools and support for researchers in their ethical reflections and self-assessments. The committee also gives ethical advice to researchers, institutions and authorities on research on human remains, such as cases concerning repatriation of human remains. The committee's aim is to contribute to promote ethically good and responsible research within the field.

The presentation will discuss an advisory research ethics committee's role in fostering research ethics and integrity within the field of research on human remains and present two examples of repatriation cases the committee has handled.

References: The National Committee for Research Ethics on Human Remains (2013). Guidelines for research ethics on human remains.

PW6.2

Knowledge and Attitudes about Research Ethics Committees and Informed consent among Dental Interns and Post Graduate Students.

Dr Anoop Paulose¹

¹*Mar Baselios Dental College, Kothamangalam, Ernakulam, India*

Objective: In research, adhering to ethical guidelines is of great importance. This study aims to assess the knowledge and attitudes regarding research ethics committees and informed consent among the interns and post graduate students of two dental institutions in south India.

Method: A Cross sectional study was conducted among interns and post graduate students of two dental institutions in south India (n=172). The study parameters of the participants were assessed with a validated 15 item self administered questionnaire. Statistical tests to analyze the data were done with SPSS software version 21.

Results: In the present study, a total of 172 interns and postgraduate students (86% females and 14% males) participated with an overall response of 92.3%. The mean scores for knowledge and attitude were 20.46 ± 29.7 and 8.90 ± 1.54 , respectively. 78% of the participants, mainly postgraduates had some form of training in research ethics. Majority of the respondents (92%) were positive about ethical committee with statistically significant difference in mean knowledge and attitude among postgraduate students than interns ($p=0.01$). 72% of the respondents, mainly postgraduate students were aware of the informed consent requirements in research. There was no significant correlation between knowledge and attitude as a whole in both groups ($p=1.04$). However, 28% of them gave an opinion that the ethics committee procedures would delay research. 19% of those who have done research, mainly the postgraduates, were of opinion that they might manipulate data or conduct any other research misconduct in future, if deemed necessary. Significant statistical association was found between prior training in ethics and knowledge levels ($p=0.00$).

Conclusion: Even though there was a broad acceptance of ethical committee and informed consent, there still are gaps in awareness. Therefore, customized training should be conducted in institutions for addressing these issues to improve the research standards.

PW6.3

Comparison of the SAN-Code-of-Ethics with the CIOMS and the Declaration of Helsinki: Implications for biomedical research among indigenous African populations

Mr Francis Akpa-Inyang¹, Professor Sylvester Chima¹

¹*University Of Kwazulu-Natal, Durban, South Africa*

Objective: This study was designed to compare the new San Code of Ethics with the Council for International Organization of Medical Sciences (CIOMS) guidelines and the Declaration of Helsinki, to identify implications of the San code for ethical conduct of biomedical research among indigenous populations.

Method: In-depth interviews lasting 45 to 55 minutes were conducted among a cohort of 12 biomedical researchers at the University of KwaZulu-Natal, South Africa. Recorded interviews were transcribed and analyzed using thematic content analysis.

Results: The study revealed some similarities between the San code of ethics and the Declaration of Helsinki/CIOMS guidelines especially regarding respect for autonomy, justice, ethics-of-care, and honesty. However, some differences in what constitutes appropriate application of individual and community rights exist. The San peoples viewpoint is that community involvement reduces exploitation of indigenous populations during biomedical research, therefore, communitarian rights and shared decision-making should take precedence over individual rights. Nevertheless, respondents were of the opinion that the San code of ethics is appropriate for that community. Furthermore, such indigenously

derived ethical codes will engender more ethical biomedical research in African communities since it advocates for communal consent processes which will allow Africans to identify with and internalize biomedical research in Africa.

Conclusion: While there are some similarities between the San code of ethics, CIOMS guidelines, and Declaration of Helsinki. Nevertheless, the San peoples of Southern Africa believe that community involvement in biomedical research reduces exploitation and enhances human dignity, respect, honesty, justice, fairness, and care, among indigenous African populations.

PW6.4

Involving research communities in the drafting of ethics guidelines: The case of the new Norwegian SSH ethics guidelines

Dr Vidar Enebakk, Professor Heidi Haugen¹

¹*The National Committee for Research Ethics in the Social Sciences and Humanities (NESH), Norway, Oslo, Norway,* ²*University of Oslo, Oslo, Norway*

The National Committee for Research Ethics in the Social Sciences and the Humanities (NESH) will publish new ethics guidelines by the end of 2021. This presentation addresses how the committee engaged research communities and the society at large in the process of drafting these guidelines. Identifying and disseminating recognized norms of research ethics is one of the main responsibilities of NESH, as established by the Act on Ethics and Integrity in Research. A public hearing on the draft ethics guidelines generated response from a wide range of actors inside and outside academia. We present how NESH worked to incorporate this response in completing the guidelines and prepared a final version that we expect will have a high degree of legitimacy among researchers, research institution, and research funders. The presenter is a member of NESH.

PW6.5

A guide to Medical and Health Research in Low and Middle-Income Countries

Ms Camilla B Iversen¹, MS Brittelise Bakstad¹

¹*The Norwegian Committee for Medical and Health Ethics Research, OSLO, Norge*

International Health is a growing discipline in Norway. The National Committee for Medical and Health Research Ethics (NEM) provides guidance to researchers, and wants to help ensure that ethics dumping is avoided when conducting research in low and middle-income countries. The committee has therefore issued new guidelines for medical and health research in low and middle-income countries. The guidelines are intended to aid the Regional Committees for Medical and Health Research Ethics in their ethical assessment of research applications, and to ensure that ethical best practice is followed. It will also institutionalise responsible conduct of research in education and training.

The guidelines state that various ethical principles must be considered when planning and conducting research in low and middle-income countries. This includes eg. that the research must have local relevance and benefit, must be based on respect for the individual and the community, and the research must benefit and not harm the research participants and the community they are a part of.

The guidelines will be an important step to ensure responsible research, and research integrity as driver of research excellence and public trust. We would like to share our guidelines with the participants at the WCRI, to make them available for, and get feedback from, a broader public.

PW6.7

Ethics and Good Conduct Committee for Master students in Eastern Morocco

Prof Abdellatif Maamri¹

¹*Université Mohamed 1er, Oujda, Morocco*

Scientific fraud generally refers to the fabrication, falsification or plagiarism of content when proposing, conducting or evaluating research, or reporting research results.

Objective : To stop the phenomenon of plagiarism in Master's research, our laboratory has set up an ethics committee for the evaluation and verification of work and ideas originating from others without reference to the original source, and thus violating the rights of the original author(s) to their intellectual output.

Method : This committee uses anti-plagiarism software to check the various texts and writings of students before validating their content.

Results: This action has improved more than 95% of Master's theses and encouraged students to make more effort in terms of production and respect for the rules of conduct of research.

A watchdog committee from the ethics committee also prohibits the publication of articles in predatory journals that undermine the quality control of research.

In their most serious forms, unacceptable practices are punishable by repetition and/or permanent withdrawal from further research in the laboratory.

Conclusion : Such a committee also provides research integrity sessions to prevent, discourage and curb student fraud through training, supervision and mentoring, as well as the provision of a positive and supportive research environment.

PW6.8

Patient fully consent - a step ahead in building trust in biomedical data sharing.

Dr Laura Bandura-Morgan¹, Katarzyna Klas¹, dr hb. Marcin Waligóra¹

¹*Jagiellonian University, Collegium Medicum, Krakow, Poland*

Objective: Patients put a lot of trust into healthcare providers and scientists by participating voluntarily in research. Data sharing is built on this trust and reinforces this trust when participants are fully informed about it. In many countries patients consent to publication and data sharing has been evaluated. The policy to open data and access to publication was implemented by the national funder in Poland in March 2019. This study was aimed to analyze informed consent forms (ICFs) submitted by researchers to the Research Ethics Committee (REC) in regards to what participants were told about sharing their de-identified data and publication of results in order to extent the medical knowledge.

Methods: We obtained 92 ICFs of publicly funded biomedical research with human subjects from the REC at the Jagiellonian University, Medical College in Cracow, Poland. Two researchers independently reviewed all ICFs. Disagreements were resolved by discussion, and when necessary a third person, an arbiter, was involved. We extracted the information on: 1) intention to publication or 2) data presentation on conference, 3) data ownership, 4) confidentiality of de-identified data and 5) whether any knowledge for society benefit will be produced. Willingness to 6) data retention and archiving for future reuse and sharing with third party researchers were also extracted. ICFs from 2019 (32), 2020 (38) and 2021 (22) were randomly selected for this study.

Results: In no cases the explicit statement of data ownership was included. Confidentiality was guaranteed in more than 60% of cases over these years. Only one study from 2020 indicated a commitment to share de-identified data. There was an increasing tendency to publish the results of the studies from 30% in 2019 and 2020 to 72% in 2021.

Conclusions: Our results suggest that even though data sharing policy is in force for more than two years the informed consent forms do not disclose intention to share de-identified data. It is promising to see

increasing number of projects were data is planned to be publish and extent the medical knowledge in society.

PW6.9

New Perspectives on the Conceptual and Practical Relationship between Research Integrity and Research Ethics

Dr Jake Earl¹, Ms. Cortni Romaine, Dr. Liza Dawson¹

¹*Walter Reed Army Institute of Research, Silver Spring, United States*

Objective

Despite widespread agreement about the importance of “research integrity” and “research ethics,” there is pervasive disagreement and lack of clarity about what these terms mean. We describe a new conceptualization of these terms and their interrelationship as part of an innovative program to promote responsible conduct of research (RCR).

Method

We identified descriptions of “research integrity” and “research ethics” from various scholarly, legal, regulatory, educational, and organizational sources. Using conceptual analysis and reflective equilibrium, we formulated novel definitions of these terms and developed arguments that they are more consistent, coherent, and practically relevant than existing definitions.

Results

“Research integrity” and “research ethics” refer to two distinct sets of norms. “Research integrity” refers to norms internal to the practice of scientific investigation that are essential to the realization of its constitutive aim: the production of scientific knowledge. “Research ethics” refers to norms external to the practice of scientific investigation that are essential to protecting the rights and interests of individuals affected by research. These sets of norms often favor the same course of action for researchers, but not always. (For example, some medical research conducted with unwilling subjects has produced highly useful scientific data.) Despite their differences, research integrity and ethics share several important features: they are more authoritative and universal than cultural or even professional norms; they are sensitive to (but not defined by) laws, regulations, or policies; they apply to all participants in the research enterprise, not just investigators; and they often require careful judgment, open discussion, and balancing of diverse considerations to determine what they require of researchers. These shared features of research integrity and ethics imply (i) that RCR programs must involve diverse perspectives and multidisciplinary expertise, and (ii) that research institutions should consider integrating resources for these domains, which are usually siloed.

Conclusion

Our novel conceptualization of research integrity and research ethics can help resolve ongoing debates about how to promote RCR through policy, education, and other interventions. One limitation is that research professionals may struggle to understand and apply these concepts, especially since research integrity and ethics norms already get confused with regulatory requirements.

PW6.10

HYBRIDA project: Embedding a comprehensive ethical dimension to organoid-based research and resulting technologies

Dr. Panagiotis Kavouras¹, **Dr. Eleni Spyra¹**kou¹, Prof. Costas A. Charitidis¹, Prof. Jan Helge Solbakk², (On behalf of the HYBRIDA consortium)

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Organoids are miniaturised and simplified versions of organs produced in vitro, derived from cells. They are utilized to study a breadth of research fields, like developmental biology, diseases, drug delivery mechanisms, and treatments in the laboratory. Since it is not clear whether organoids should be categorised as subjects or objects, they have caused disruption to the dualistic normative framework related to health and life science research. In order to clarify the nature of organoids three types of uncertainties must be overcome: the conceptual/ontological, the epistemological/methodological, and the regulatory. The EU-funded HYBRIDA project will study these uncertainties with the overall objective being the creation of a comprehensive regulatory framework for organoid research and organoid-related technologies. Specifically, HYBRIDA will: (a) identify different forms of conceptual uncertainty by exploring the ontological, moral and legal status of organoids present in different cultures and knowledge traditions, (b) reduce epistemological uncertainty in organoid research, implying also producing improvements in impact assessment of organoid-related technologies, (c) explore regulatory uncertainty prevalent in existing normative and ethical frameworks pertaining to similar to organoid-related technologies, (d) understand the worries, fears and expectations of the general public, vulnerable groups, patients, donors and civil society organisations with respect to organoid research, (e) produce a set of operational guidelines for the field of organoid research, (f) produce a code of responsible conduct for organoid researchers and, if needed, suggest a supplement to the European code of conduct for research integrity, and (g) enhance existing ethics and normative frameworks with a focus on organoid research and organoid-related technologies

Poster Walk Session 7

PW7.1

Results dissemination of registered clinical trials across Polish academic institutions: a cross-sectional analysis

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Objectives: To establish the rates of publication and reporting of results for interventional clinical trials across Polish academic medical centres (AMCs) completed between 2009 and 2013. We aim also to compare the publication and reporting success between adult and paediatric trials.

Methods: Cross-sectional study. **Setting:** AMCs in Poland. **Participants:** AMCs with interventional trials registered on ClinicalTrials.gov. **Main outcome measure:** Results reporting on ClinicalTrials.gov and publishing via journal publication.

Results: We identified 305 interventional clinical trials registered on ClinicalTrials.gov, completed between 2009 and 2013 and affiliated with at least one AMC. Overall, 243 of the 305 trials (79.7%) had been published as articles or posted their summary results on ClinicalTrials.gov. Results were posted within a year of study completion and/or published within 2 years of study completion for 131 trials

(43.0%). Dissemination by both posting and publishing results in a timely manner was achieved by four trials (1.3%).

Conclusions: Our cross-sectional analysis revealed that Polish AMCs fail to meet the expectation for timely disseminating the findings of all interventional clinical trials. Delayed dissemination and non-dissemination of trial results negatively affects decisions in healthcare.

PW7.2

Challenges of Publication in Impact Factors Journals among University Lecturers in South Western Nigeria

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Challenges of Publication in Impact Factors Journals among University Lecturers in South Western Nigeria.

Background: Publishing in journal with high impact factor is highly imperative for lecturers. In most universities in Nigeria one of the criteria for promotion depends on the number of publications in such journal. "Publish or perish" has remained the mantra of choice among academics worldwide.

Objectives: The focus of the study is to determine the challenges facing academics especially the non-professorial cadres from publishing in high impact factor journals. The challenges facing lecturers from publishing in the high impact factor journals were not well documented in Nigeria.

Methods: A descriptive cross-sectional survey study design is adopted in this study. The Leslie Fischer's formula: $n = Z^2pq/d^2$ was used to calculate the sample size. A total of 300 lecturers were assessed in this study. Data was analyzed with SPSS version 20.

Result: Among the challenges identified were lack of mentorship for young lecturers, lack of research training opportunities, lack of access to quality databases for a thorough literature reviews, raining, lack of research funds, high cost of publications in high impact journals, high cost of data to do a thorough literature reviews and heavy workload leading to inability to devote quality time for a good quality research.

Conclusion: There should be establishment of mentorship programmes, increasing motivation for research, and more frequent training opportunities, improved funding for institutional and research network.

Key words: Publication, Impact Factor, University Lecturers

PW7.3

h-Index: No more an indicator of ethical research these days?

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h-Index is one of the markers of an individual's research sway based on reference measurement. h-index is an acknowledged standard to rank researchers and makes them qualified for different expert advantages. A ton of conversations and discussion encompasses the h-index, since the time it was proposed; in spite of the fact that it is a set up standard for the assessment of researcher's greatness and other related advantages. The indicator was proposed by a physicist, Jorge Hirsch and opened up another exploration front in bibliometric. The h-index is conspicuously included in citations data sets like Google Scholar, Scopus, and Web of Science. Notwithstanding, thinking about the related imperfections

of the h-index, an enhanced arrangement of boundaries have been proposed by mainstream researchers to rank creators in a superior manner. We track down that a fragmentary simple of the h-index beats different measures as connect and indicator of scientific honours. We track down that the connection of the h-index with grants that show acknowledgment by mainstream researchers has generously declined. These patterns are related with changing creation designs. This article reports an investigation of scientometric measures, analysing various articles and citations across different research fields and different data sets and inferred that the utilization of the h-index in positioning researchers ought to be re-examined and it's not any more an indicator of ethical research nowadays.

PW7.4

Publish or Perish Maxim: How healthy is it?

Dr Udem Samuel Jacob¹, Prof Jace Pillay¹

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The "Publish or Perish" dilemma affects most higher education institutions in developing countries, including Nigerian universities. Researchers often lose promotions opportunity due to failure to publish in so-called prestigious journals. The term "perish" therefore refers to losing their job positions. A maxim such as this may undermine the effectiveness of the University system and Faculty members in Nigeria. Researchers may be displaced from their goals, while unethical practices may result since they self-sponsor such publications to avoid losing their promotion opportunity. Publication bias, citation obsession, and compromise of research integrity are some of the effects of this maxim. We intend to discuss the impact of the pressure to publish as an academic in Nigeria, especially in international journals, even when funding is not available to support the publication of articles. "Publish or perish" is a culture pervading the world today and appears here to stay. There is no doubt that instant distribution and transparency of authorship and peer review can address research quality issues. However, as long as researchers cannot publish their research in an entirely free venue, the system will remain fundamentally broken.

PW7.5

Threaded clinical trial evidence to enhance science discoverability: How a simple link between registration and reporting can improve research integrity

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Discoverable, complete evidence is central to research integrity and to maximizing the societal value of costly research. Informed clinical guidance and health policy relies on clinicians, policymakers, and guideline developers finding comprehensive clinical evidence. Linking registrations and publications of the same clinical trial improves discoverability and is required by the World Health Organization (WHO), the International Committee of Medical Journal Editors (ICMJE), and the Consolidated Standards of Reporting Trials (CONSORT). This responsible research practice costs researchers minimal effort: seconds for pasting a trial registration number (TRN) into the publication abstract and full-text, and minutes for adding the publication link and DOI to the registry entry.

We investigated links across a cohort (n=1895) of registered, published trials conducted by German university medical centers and completed between 2009 and 2017. We developed an automated pipeline to download and extract data from trial registries, PubMed, and results publications and implemented regular expressions to detect and classify publication identifiers (DOI and PMID) in registrations, and TRNs in publication metadata, abstracts, and full-texts.

We found 75% of trials failed to reference trial registration numbers in both the abstract and full-text of their results publications, and 50% of trial registrations did not contain links to their results publications. Seventeen percent of trials had no links, so associating registration and publication required manual searching and screening. Overall, ClinicalTrials.gov trials were better linked than DRKS trials; PubMed and registry infrastructures appear to drive this difference.

German UMCs have not comprehensively linked trial registrations and publications, despite established recommendations. This shortcoming threatens research integrity and the quality of evidence synthesis and medical practice, and burdens researchers with manually searching and linking trial data. Researchers could easily improve this by copy-and-pasting references between their trial registrations and publications, and other stakeholders could build on this practice. The automated pipeline developed for this project could be applied to other cohorts to further evaluate links between trial registrations and publications

PW7.6

Assessing the magnitude of reporting bias in systematic reviews

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Objective: To explore differences in published systematic reviews and their respective protocols in terms of the PICOS (Population-Intervention-Comparison-Outcomes-Study design) framework and to which extent they were reported.

Methods: We searched Medline (via PubMed) to identify non-Cochrane systematic reviews published in 2018. Afterward, we searched for their corresponding PROSPERO protocol. We extracted data on general characteristics and PICO elements from the systematic reviews and their protocols. The methodology quality assessment of systematic review was performed using the AMSTAR-2 (A Measurement Tool to Assess systematic Reviews). The primary outcome was the change from protocols to systematic reviews in terms of PICOS elements.

Results: A total of 97 systematic reviews met eligibility criteria. By using the AMSTAR-2 tool, 50.5% of the selected systematic reviews were rated as low quality and 21.6% even critically low quality. More than the half of systematic review (67%) presented changes in PICOS elements. Third of total changes corresponded to changes related to primary outcomes. Only 4.2% of changes in PICOS items were declared.

Conclusion: There is room for improvement of methodology quality and reporting changes in systematic reviews. Thus, greater efforts are required to improve the quality and using systematic reviews in the decision-making process.

PW7.7

Publication houses in India taking undue advantage of scientific publication requirements

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Publication houses in India taking undue advantage of scientific publication requirements.

Introduction

There are a lot of publication houses which publish articles just for monetary benefit without checking into the content, concept, or scientific value. Their primary motive is monetary benefit.

Case Description

In India many universities require indexed peer reviewed publications for enhancement in career for university teachers. They need to demonstrate a minimum of 15 points for each career promotion from lecturer to assistant professor then associate professor and finally professor. The maximum point the professor need to procure stays at 40. The publication needs to be original research and the authorship should be first or second author to accumulate the points. Without the points the promotion shall be withheld.

Hence the teachers tend to publish articles which could be their thesis which can be up to 10 years old, their student's study or any research which may not be of any scientific validity. This will be important for their promotion and salary enhancement. The publication house takes undue advantages of this situation and publish articles based on money sends to them from the authors and not based on the scientific wealth of the content. Thus, creating publication junk.

Conclusion

The regulatory authorities in India should take note of the publication junk and accept only articles in reputed journal houses which have a good track record. Else this vicious cycle will be carried forward by the students who will follow suit of teachers and the publication junk will heap.

PW7.8

Checklist to assess data integrity in randomised controlled trials

Professor Ben Willem Mol¹, Dr. Esme Bordewijk², Dr. Shimona Lai¹, Dr. Ayesha Rahim¹

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OBJECTIVE: To develop a method to screen for and assess the integrity of randomised controlled trials (RCTs).

DESIGN: Delphi panel and pilot study.

MAIN OUTCOME MEASURE: We developed a screening checklist to assess data integrity issues in randomised clinical trials.

RESULTS: The screening checklist aims to screen articles and triage them as low-risk or high-risk for data integrity issues with easy and efficient measures.

The checklist includes eight domains which are applicable to every RCT;

GOVERNANCE (REGISTRATION/ ETHICS)

Absent or retrospective registration of RCTs

Discrepancy in sample size in the RCT and trial registration

Absent or vague description of research ethics

AUTHOR GROUP

≤3 authors/ low author to study size ratio

Other studies of authors have been retracted

Large number of RCTs published in a small time frame by

one author/ in one institute
Large number of RCTs published in a small time frame by
one author/ in one institute

PLAUSIBILITY

Implausible use of placebo or intervention (e.g. two interventions but only one placebo)
Use of sealed envelopes in a placebo-controlled trial

TIME FRAME

Fast recruitment of participants within the study time (especially single-centre studies)
Short or impossible time frame between ending recruitment/ follow up and submission of the paper take into account time to outcome e.g. live birth, pregnancy outcome etc.

DROP OUT RATES

Zero participants lost to follow up or no reasons mentioned for loss of follow up
Ideal number of losses to follow up resulting in perfectly rounded number in each group e.g. groups of 50 or 100

BASELINE CHARACTERISTICS

No or few baseline characteristics presented
Implausible patient characteristics judging from common sense, the literature and local data e.g. similar standard deviations for completely different characteristics with different means and distributions
Perfect balance for multiple baseline characteristics or significant/large differences between baseline characteristics

OUTCOMES

Effect size that is much larger than in other RCTs regarding the same topic
Conflicting information between outcomes e.g. more ongoing pregnancies than clinical pregnancies

We have piloted the screening checklist .

CONCLUSIONS: This checklist can be used to assess the integrity of RCTs at journal submission and during meta-analyses.

PW7.9

Is the process to retract fabricated randomised clinical trials in reproductive medicine working sufficiently?

Professor Ben Willem Mol¹, Professor Jim Thornton²

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The validity of data in randomized controlled trials (RCTs) matters to the accountability of medical practice and the wellbeing of patients. Detection of integrity problems and subsequent action is therefore of imminent importance.

The process of investigation however is slow and bureaucratic.

We asked ourselves how journal editors and publishers respond on RCTs in women's health that are identified as fabricated?

METHODS: We studied 52 articles of 4 authors who have published clearly fabricated studies in obstetrics/gynaecology (1-3). Data fabrication was clear from duplicate baseline and outcome tables in studies on different interventions done in different patients in different periods.

After detection of the fabrication, we approached the authors and their institutes for an explanation. As a satisfying explanation was not given, we notified the editors of the involved 14 journals in February 2020. Here we compare the journals' response to Committee Publication Ethics (COPE)-guidelines.

RESULTS: Twelve months after we notified the editors, 4/50 (8%) (1 journal) of the articles had been retracted, 3 (6%) (2 journals) were formally investigating with notification on their website, 6/50 (8%) (3 journals) were informally investigating (without visible notification), 3/50 (6%) (1 journal) had made an expression concern without formal retraction, and one (2%) had investigated original data and cleared it (although numerous data were identical to a study published 10 years earlier). For the other 33 articles (11 journals) no visible action had been taken. None of the journals provided feedback to the whistleblower.

Among the reactions of editors were the statements "I have been in the business long enough; It exists in all specialties and in every country", "we receive 80 submissions a week, I am too busy to respond on this" and "we did still not get an answer about the result of the investigation by the Egyptian court".

CONCLUSION: Retraction of fabricated studies is seldom happening, and a majority of journals is not following COPE. This not only puts patients at risk, but it also lets whistleblowers down and it jeopardizes the trustworthiness of research. COPE-regulations consider the interests of authors and publishers, but not the interest of patients.

Poster Walk Session 8

PW8.1

Study of Brazilian retractions in the Retraction Watch Database RWDB

Dr Edilson Damasio¹

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Objective: Retraction Watch Database RWDB is a platform to almost retractions information published in scientific journals, with bibliographic data, the reasons to retraction, DOIs and possibilities of search filters. The search for Brazil was realized, which results of Brazilian authors and a quantitative analysis.

Methods: In search at October 2021 in RWDB in the filters 'Country' Brazil, 'Nature of Notice' Retraction, 'Original Paper Date' year 2016 to 2021. The database return with 116 of Brazilian authors and co-authors of articles.

Results: 86 retractions of articles were identified by Brazilians only and 30 were co-authored. The year with the highest number was '2016' 37, followed by '2018' 24, '2017' 15, '2019' 16, '2020' 17 and '2021' 7, and the international journals and a few of Brazilian journals. The main publications area is 'Medicine' 25, 'Biochemistry' 18, 'Biology' 11, 'Medicine-Diabetes' 9, 'Dentistry' 7, 'Microbiology' and 'Psychology' 4, 'Religion', 'Sociology', 'History', 'Business' 1, and others. A number of 276 reasons distributed in 53 types: 'Duplication of Image' 25, 'Investigation by Journal/Publisher' 17, 'Concerns/Issues About Data' 16, 'Duplication of Article', 'Duplicate Publication through Error by Journal/Publisher', 'Investigation by Company/Institution' 11, 'Withdrawal', 'Upgrade/Update of Prior Notice', 'Error in Methods' 9, 'Error by Journal/Publisher', 'Error in Analyses', 'Unreliable Results' 8, 'Retract and Replace' 7, 'Plagiarism of Article', 'Manipulation of Images', 'Notice-Limited or No Information', 'Error in Results and/or Conclusions', 'Error in Data', 'Error in Image', 'Date of Retraction/Other Unknown', 'Withdrawn (out of

date)' 6, 'Falsification/Fabrication of Image', 'Legal Reasons/Legal Threats', 'Objections by Author(s)', 'Original Data not Provided', 'Unreliable Data' 5.

Conclusion: It was identified that the approximate annual average of 21 retractions between '2016-2020' and 2021 tends to decrease. The highest retractions is related areas of Medicine and Biology, and in Humanities and Social áreas a reduced number. There is a high number of retractions in Medicine-Diabetes, related to retractions in 2016 by a group of Brazilian researchers. The reasons to retraction in Duplication is (images, articles, and journal error), from Investigation by (journal/publisher, company/institution). Error in (methods, analyses, data, images, results). Fabrication, Falsification and Plagiarism (FFP) and questions to Data were low.

PW8.2

Editors of SciELO journals: what their procedure after misconducts?

Dr Edilson Damasio¹

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Objective: SciELO journals are a platform to almost thousand edited by countries in the world. The increasing number of misconduct in science has elaborated a survey with the objective to the process of management after the identified data Fabrication, Falsification and Plagiarism (FFP), from editors of Brazil, Argentina, Chile, Colombia, Cuba, Mexico.

Methods: A survey was answered by 209 editors at 2015, who have answered their twice procedures after to misconducts identification, a period of 2 years, on the identification of misconducts on (FFP), at the editorial flow and post-publication. The results on numbers of 6 procedures were identified in the Research Integrity literature.

Results: In Brazil 82 editors answer the question, it was identified at the editorial flow, and 'reject the article' is the highest-scoring conduct para o FFP. From data Fabrication 'reject the article' 14 (77,8%), 'report to Funder' 2 (11,1%), 'reject and send a new article' and 'withdrawal' 1 (5,6%). Data Falsification 'reject the article' 13 (81,3%), 'report to Funder', 'reject and send a new article' and 'withdrawal' 1 (6,3%). From Plagiarism 'reject the article' 46 (56,8%), 'reject and send a new article' 13 (16%), 'retractions' and 'blocked new submissions' 7 (8,6%), 'report to Funder' e 'withdrawal' 4 (4,9%). To others 89 Latin Americans editors the procedures/management are similar to Brazilians. From data Fabrication 'reject the article' 21 (75%), 'blocked new submissions' 3 (10,7%) and 'reject and send a new article' and 'withdrawal' 2 (7,1%). Data Falsification 'reject the article' 19 (63,3%), 'blocked new submissions' 4 (13,3%), 'report to Funder', 'reject and send a new article' and 'withdrawal' 2 (6,7%). From Plagiarism 'reject the article' 57 (55,9%), 'report to Funder' 12 (11,8%), 'blocked new submissions', 'withdrawal' and 'reject and send a new article' 10 (9,8%) and 'retraction' 3 (2,9%).

Conclusion: Editors directly reject the article, to 'request a new article' and 'retractions' are low frequency. Others countries the plagiarism 'report to Funders', frequently utilized practice. Results show after to misconducts are procedures, and there are differences between 'report to Funders' and 'blocked new submission' with low utilized in Brazil.

PW8.3

Do hijacked journals attract dishonest authors?

Dr Anna Abalkina¹

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Hijacked journals represent fraudulent publishers who imitate authentic journals by copying their titles and other metadata. Hijacked journals create clone websites of original journals or register their expired domains and dupe potential authors. There is a common belief in the literature that naïve authors who

are not able to distinguish between authentic and fraudulent journals are attracted by hijacked publishers. But is it so? Are naïve authors the only type of authors who submit their papers in hijacked journals? I argue that there is another group of dishonest authors who exploit hijacked journals and submit their papers in order to increase their publication records. To test this hypothesis, I detected plagiarism in papers published in hijacked journals. Plagiarism is considered to be one of the most serious types of academic misconduct and the authors of papers that contain plagiarism can be considered dishonest.

I selected from various sources 88 hijacked journals whose websites were available as of May 2021. 62 clone websites provided full texts of the papers. I selected articles from three recent issues and extracted each tenth paper to check for plagiarism. I randomly selected the first paper (from one to ten) and then downloaded each tenth paper. If the total number of papers in the issue was less than ten, I downloaded each fifth paper. In the case of several journals with a high number of papers in the issue, I downloaded each 20th, 30th, or 50th paper.

961 papers were manually checked for plagiarism with Urkund (Original). The analysis showed that in 34% of papers no traces of plagiarism were detected. Most papers contain cases of academic misconduct (plagiarism, self-plagiarism, data fabrication, and manipulations with authorship). In 140 papers the level of text similarities exceeds 50%. 2,293 authors that contributed to papers of the sample were predominantly from developing or emerging countries (India, Indonesia, China, Russia, Uzbekistan, Kazakhstan, etc.). These results suggest that hijacked journals that offer fast publication with no peer-review attract not only naïve authors but also dishonest ones who violate academic ethics.

PW8.4

Scientific Disciplines and Self-Reported Questionable Research Practices. An Exploratory Analysis.

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Objective

This presentation discusses the prevalence of QRPs in three disciplines – the Social Sciences, the Natural Sciences and in Medicine – defined by the respondents' formal educations.

Three sets of questions are addressed:

- How many subgroups of researchers can we find in the set of self-reported QRPs? Does this vary between the disciplines?
- How are these subgroups to be interpreted? Do they vary in size and profiles between and across the disciplines?
- If differences are found, how can they be explained?

Data and Method

Data stem from the RINO-survey, distributed to all researchers at Norwegian universities and research institutions (N=7291). Data are analyzed by way of latent class analysis, which identifies subgroups based on response profiles across a set of categorical variables. The subgroups are interpreted based on conditional probabilities for across a subset of binary coded variables on QRPs (having or having not committed a QRP the last three years).

Results:

- The number of subgroups vary between the disciplines. While there are two subgroups in the Social Sciences and in Medicine, there are three subgroups in Natural Science.
- The subgroups can be labelled "The Pure and Clean", "The Murky" and the "Generous".

- The "Pure and Clean" is the largest group in all three disciplines (respectively 88%, 71% and 84%).
- Among those with a degree from the Social Sciences or the Natural Sciences, a small group of 12% and 5% stand out with relatively high probabilities for having committed several of the analyzed QRPs.
- The "Generous" are mainly found among those with a degree from the Natural Sciences and in Medicine (24% and 16%)
- The main explanations for the observed differences are probably institutional. Scientists work under different conditions and in different organizational frameworks.

Conclusion

The occurrence of QRPs might be relatively frequent, and therefore alarming. But it is also a phenomenon that varies in size and profile across the scientists educational origins. In our view, this yet again highlights the necessity of focusing on QRPs, and also on how the exposure to such practices varies between disciplines.

PW8.5

Research misconduct in health and life sciences in Brazil: a closer look at institutions with most retracted publications

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Objective: A review to gather in a book chapter the available knowledge about research misconduct in health and life sciences in Brazil considering funding institutions and universities: the presence of research integrity offices and available documents and guidelines for best practices in research at universities and research funding institutions.

Method: We selected universities with most authors involved in retracted publications according to our previous systematic review of retracted articles in health and life science of authors affiliated to Brazilian universities. We searched their websites for research integrity guidelines and offices, the same was done to the main Brazilian funding institutions.

Results: Ten Universities were analysed and 5 funding agencies. Of the Universities only 4 had official committees for research integrity, 3 had guidelines for good practices in science and research integrity, 1 had scientific journals with columns for research integrity, 7 universities had no documents at all. The majority was concentrated at the southeast region (n=6), followed by northeast (n=2), south (n=1), centre east (n=1). The southeast is responsible for most of the scientific production in the country, had more universities involved in misconduct and have a shortage for research integrity committees and guidelines.

Among the funding agencies, we selected the most active institutions with national visibility and participation. Five institutions were selected, three with national activity. Only three had an official institutional office to act in favor of research integrity and good practices integrity and all had some guidelines for responsible practices (n=1), for research integrity (n=3), for aspects of research integrity (n=1) such as declaration anti plagiarism or order forms of misconduct.

For this study we only considered available information at the institution's website, considering transparency and accessibility to information would pave the way for awareness of guidelines, official research integrity committees and ongoing investigations.

Conclusion: Brazilian Universities and funding institutions have pieces of what should be a more complex, accessible system to promote and sustain research integrity practices. Still, the country is

developing more strategies to achieve a better system to foster and monitor integrity by having scientists engaged on the theme.

PW8.6

Ethics and integrity in peer review: training the editorial board

MD, PhD Edna Montero^{1,2,3}, Professor Eli Silva^{4,5}, PhD Elisabete Werlang^{4,6}, Full Professor Sigmar Rode^{3,7}

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The Brazilian Association of Scientific Editors - ABEC Brazil, guided by the ethical principles that govern the entity, focuses on training Brazilian scientific editors. For this reason, in 2020, created ABEC Education Program, with certification for scientific editors. Considering that one of the pillars of quality in scientific publishing is peer review, the first course trains scientific articles reviewers.

The purpose of this summary is to present the course of Scientific Article Reviewer and how integrity and ethics issues are intrinsically linked to the peer review function, in order to contribute with editors and authors, understanding the role of the reviewer as one of those responsible for the quality of scientific publication.

The course consists of five subjects and a peer review laboratory as a final assignment. One of the subjects is Ethics in publishing, in which the reviewer understands aspects of ethics and integrity, both in scientific research and academic publishing.

Ethics and integrity appear as the foundation in all five subjects that comprise the course: Context of Peer Review, Peer Review Process, Quality in Review, Peer Review in Management Systems. Finally, the subject Ethics in publishing covers the preliminary concepts about ethics and morality; conflicting and competing interests; identification of compliance with journal and declaration of lack of knowledge for evaluation; collaboration in identifying plagiarism and other copyright frauds; aspects of courteous evaluation; aspects of confidentiality; biases and transparency in peer review.

Another innovative aspect of the course is the practical experience of open peer review in the conclusion work, in three steps: in the first step, the student evaluates a scientific paper; in the second step, he/she evaluates peer reviews (meta-evaluation) and, finally, performs self-evaluation based on the feedback of peers.

With the implementation of the ABEC Education Program and the completion of this course, ABEC Brazil fulfills part of its role in training actors in the editorial flow to perform their activities with ethics and integrity.

PW8.7

BRAZILIAN SCIENTIFIC JOURNALS: DETECTING MISCONDUCT

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The relevance of integrity in the scientific publication has been established. Researchers are academically evaluated based on publication and a progressive augmentation on misconduct has been observed. Ethical conduct and reliable publication must be guaranteed by scientific editors. Thus, the purpose was to draw the panorama of Brazilian scientific journals in the health area, indexed in SciELO, related to misconduct.

This is an observational and cross-sectional study, carried out through a questionnaire sent to editors of 95 Brazilian journals, health area, indexed in SciELO during 2020. The privacy of editors and journals was respected. The survey addressed: scientific misconduct - detection; types, rules, and sanctions; authorship; similarity detection software; similarity score; editor's experience in managing misconduct. Data is reported through descriptive statistical analysis, establishing frequency and types of correlation. The survey was sent to the editors of the 95 Brazilian health journals, of which 30 responded, corresponding to 31.6% of the invited scientific journals. It was observed that only two journals do not use any kind of similarity detection software. When identifying similarity, the majority asks the authors to make adjustments(70%) or manuscripts can be denied. Some editors reject the manuscript without requesting adjustments(30%). Most editors do not establish a limit in the number of authors(70%), but they use some authorship attribution system(74%). As for undue authorship, almost all editors ask the authors for adequacy(96%). Regarding the authorship attribution system, 74% use some systems, mainly ICMJE and CRediT. There is an important educational role of the editor towards reviewers and authors, becoming essential in the process of developing scientific integrity awareness.

The consequences of misconduct imply a financial and social loss for science and society. Scientific publications have been increasing, stimulated by academic prestige and survival, as the main indicator of academic productivity. Thus, scientific journals and editors are part of a team that must work to avoid research misconduct. This study reinforces that scientific education, since the generation of knowledge to its publication, is the central core of good practices in science, both as a researcher and as a reviewer, as well as an editor.

PW8.8

A measure of relative statistical fit that penalizes separately for P-hacking and forking-paths

Dr Daniele Fanelli¹

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Objective: To assess and correct for the effect that arbitrary ante-hoc and post-hoc methodological choices have on the validity of statistical results is a long-standing and unresolved problem.

Methods: K theory is a novel approach to thinking about knowledge problems through the lenses of information theory. Applied to the problem of statistical model selection, K yields a measure of relative fit that, unlike any other metric, allows researchers to incorporate in their analyses the costs of both post-hoc arbitrary choices (e.g. P-hacking and other data related QRPs) and, separately from that, the costs of ante-hoc choices - i.e. the "garden of forking paths".

Results: This talk will briefly introduce the problem of model selection, K theory, and then illustrate, with simulations and real world examples, how research methodologies could use K to evaluate the relative merits of results they obtained.

Conclusion: especially if combined with pre-registration, K can be used to evaluate the relative knowledge value of any claim, helping to guide exploratory studies and signal the eventual need of confirmatory studies.

Poster Walk Session 9

PW9.1

The role of an informal pre-investigation in investigations of alleged scientific misconduct

Dr Helmut Schiff¹

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In 2020 the four research institutes (4RI) in the ETH Domain in Switzerland (PSI, Empa, Eawag and WSL) have revised their joint Guidelines and Rules of Procedure for the investigation into cases of suspected breach of research integrity. In comparison to the procedure from 2010, the Director of the institute may arrange for a preliminary investigation to be conducted by an internal or external expert on the basis of the documents and information submitted. This was found necessary because a formal investigation requires the appointment of an investigation commission, since the 4RI with their 200 up to 2000 collaborators do not have, as it is the case in the two Federal Institutes of Technology of the ETH Domain (ETHZ and EPFL), a standing commission. This preliminary examination is not part of the procedure and serves only to clarify whether the suspicion raised justifies an investigation procedure. In my contribution I want to clarify the role of the informal pre-investigation and balance it between the task of the confidential advisor (Ombudsperson) and the role of the investigation commission. I will also look at the balance between the autonomy of the individual institute, where most of the decisions are taken by the directorate, and the need for independency in case of possible conflict of interest. This is particularly important because most of the few cases in the 4RI, are often a complex interplay of personnel conflict and scientific misconduct. A comparison of the different settings will be done and suggestion elaborated, how future cases of suspected breach of research integrity could be handled. Here, the recommendations of the new Code of Conduct for Scientific Integrity of the Swiss Academies of Arts and Sciences and a closer collaboration between the 4RI may be instrumental.

PW9.2

Unethical Authorship: Dilemmas and Best Practices

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In the face of heightened demand for academic performance measured against the publication-related KPIs, the rise of academic misconduct is evidenced in terms of unethical authorship. For young researchers, still some authorship-related issues are not clear, and they are unaware of the potential unethical authorship practices. Again, many encounter dilemmas of claiming authorship that may be perceived as unethical. Yet, best practices for each of the dilemmatic issues related to a claiming authorship are not well-known due to the complexity of the claim of the authorship. This study, in addressing this gap in practice, provides insights on the possible dilemmas at which unethical authorship issues may arise. Additionally, it talks about possible best practices to avoid them. The insights were

based on the review of the scholarly sources on unethical authorship mainly staged in terms of unjust naming of a person to be an author, unjust removal of a person's name from the authorship despite his/her contribution, replace the name of an author with the name of a person with little or no contribution, unjust order of naming the authors/coauthors, and authorship claims of supervisor/student. The best practices are suggested for each of these dilemmatic conditions with the aim of making the young researchers aware of the optimal solution to avoid the unethical authorship issues. Implications are suggested establishing a professional code of conduct for researchers defining the ethical and unethical authorship claims and the possible escape routes to avoid them.

Keywords: Best practices, Dilemmas, Unethical authorship, Unjust.

PW9.3

On ghosts and guests: European graduate students' perspective on good and questionable authorship practices

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¹University of Copenhagen, Copenhagen, Denmark, ²University of Debrecen, Debrecen, Hungary,

³University of Geneva, Geneva, Switzerland

Background: Early career researchers are not only potential future leaders of research groups, they are also among the most likely victims of questionable authorship practices. Their experiences and understanding of authorship therefore give an interesting view into current practice and point to the future.

Objective: The study presented aims to investigate three related questions:

- 1) How, if at all, do European graduate students' perception of deserved authorship depend on their faculty and the type of data they primarily work with?
- 2) What fraction of European graduate students within the different faculties have awarded guest authorships to senior researchers?
- 3) What motivates European graduate students to award guest authorships to senior researchers?

Methods: The study was conducted under the INTEGRITY project, and reports on a survey on experiences and attitudes to authorship attribution among N=1395 graduate students from five European countries (DK, IR, POR, HU, SWI) representing all major faculties. Descriptive statistics and multivariate analyses are applied.

Results: Preliminary results show that there are significant differences across faculties in how graduate students view ethical assignment of authorship, with students within the medical and STEM sciences being generally more lenient in awarding co-authorship. However, there are also substantial differences within the faculties depending on the type of data that the student is most commonly working with. Students working primarily with quantitative data are generally more lenient in awarding co-authorship than colleagues within the same faculty working primarily with qualitative data, who are again more lenient than colleagues working with historical sources or similar.

Preliminary results on the frequency of awarding guest authorship indicate that around 30% of the participants have awarded guest-authorship to senior colleagues with some differences across countries (ranging from 21% in HU to 38% in POR). The detailed analysis of the stated reasons for awarding guest-authorships is pending.

Conclusions: The high fraction of graduate students that have awarded guest authorship to seniors indicate that authorship issues remain an important topic to discuss e.g. in research integrity training. However, the differences in perception across faculties and datatypes indicate that it is not always the same discussions that needs to be had.

PW9.5

Reaffirmation of integrity in Nursing Science research

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Globally, research integrity is acknowledged as a crucial concept in health science research, including in nursing science research. Such acknowledgment has given rise to enormous attention to issues surrounding academic dishonesty by researchers, falsification in research, and plagiarism. Oftentimes nursing researchers are under pressure to meet up with publications for promotion, funding purposes, or increasing their throughputs with less time to carefully conduct their studies while maintaining professional responsibilities, which are crucial in facilitating integrity, thereby resulting to various frauds such as falsification of results and plagiarism in their research. Given the increasing need for professionalism in the conduct of nursing research, harnessing the values and benefits of nursing research, and researcher's development of a strong sense of ethical and professional responsibility, research integrity requires more attention. This paper briefly reaffirmed the crucial significance of integrity in nursing science research. The paper maintains that integrity should be judiciously and professionally upheld and practiced while conducting nursing research owing to the dire need for accurate conduct and reporting of nursing research findings and upholding the best professional responsibilities and ethical and moral standard. This paper encourages emerging and established nurse researchers to develop personal integrity awareness when conducting research, follow a standard research methods, maintaining honesty, accountability, and professional fairness. The paper concludes that nursing researchers' maintenance of research integrity should be a "priority" rather than an "act" for the protection of human subjects, upholding professional values and to uphold the best research conduct.

PW9.6

Plagiarism among students: a call for serious concern

Prof Joshua E. Chukwuere, **Dr Precious Chibuike Chukwuere¹**, Mrs Lilian Nwosu, Mrs Mary M. Ojong-Alasia

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Abstract

The call to control plagiarism in the academic writing of students cannot be over emphasizes. Academic dishonesty at universities is a common phenomenon among students of all ages and specialties. It is no doubt that the Internet generally enhances the proliferation of academic materials, which have heightened the significant negative impacts on the students as the majority of the students end up sourcing information without doing the basic things in order to avoid plagiarism such as proper paraphrasing and citation. The growing concern on the proliferation of academic plagiarism and its negative impacts on learning in general, has led to the emergence of plagiarism system with diverse success rate. Students usually found themselves in tight schedules coupled with the quest to complete a study within a given period. This tends to propel them in taking short cuts not minding the possibility of the work being checked for plagiarism at the end. Many academics' believed that some of the plagiarism system such as fingerprint-based technique is too weak in detecting common slight modification in text. This paper argued that, plagiarism detection techniques are vital to academic but the techniques have limited capacity in detecting all academic frauds. The machines are generally poor for example, detecting an extract from web, which was uploaded recently "articles from breaking news". Most of materials within the database is usually what they detect which is little factions to the entire global publication. Thus, this paper encourages academics to stand against plagiarism and also

endeavour in preparing students with the necessary writing skills to mitigate plagiarism. The paper further challenged academics to be more pragmatic in mitigating plagiarism among students. The mitigation of plagiarism will help students develop research competence, foster adequate acknowledgement of people for their intellectual contribution to body of knowledge and promote sound scientific studies.

PW9.7

Authorship Tussle - a review

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Background

There are various scientific journals published in various academic medical and dental institutions in India. It is always dubious as to who should be the first author and the chronology there after There are standardized protocols as to who should be crowned the first author by a criterion developed by the International Committee of Medical Journal Editors (ICMJE). They have staged various responsibilities and accountabilities for authors. This review is here to highlight whether the authorship follows the scientific journal requirements or otherwise

METHODS:

A systematic review and meta-synthesis was performed from electronic data bases like MEDLINE, EMBASE, CINAHL, Pubmed PsycINFO and the Cochrane Library. The Indian authors with Indian institutes were sorted and analysed.

Results

Most of the journals in the list which were assessed had the institutional head as first or second author even though they have no idea as to the what the study was, and the methodology followed. It is an age-old tradition and not questioned as the post graduates just need to finish their basic requirements and are reluctant to take a decision otherwise.

Conclusion

The contributors involved in any scientific journals needs to be acknowledged rather than the position in academic institution. However such drastic changes cannot be done overnight.

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PW9.8

Patriarchal honour violence for publication prosperity: A reflective analysis

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Publication output is the currency in the academic world. Because of its value, publication records, authorship order and research metrics are a contested terrain. This breeds competition and becomes a source of temptation in the academic playfield, at times leading to plagiarism. Plagiarism is avoidable and when unintentional, can be rectified with ease. However, mismanaged notions of power driven by patriarchy and institutional positions of control create a barrier for reconciliation and ethical procedures.

The academic space is still a male-controlled environment which make identity politics such as male scholars' need for their assertion of power over womxn scholars, and sometime between womxn scholars. Womxn scholars are still confronted with intersecting oppressions in the workplace as they do in broader society, compounded by race, gender, class, age, disability, and the level of qualification they have. In a space where publications are a sign of authority, and in an environment where men are still domineering, unethical practice in authorship and publication meted by men against womxn is a violent experience that must be tackled. Editors sometimes are accomplices to theses injustice because of patriarchal honour. Academic institutions are part of society and are therefore not exempt from patriarchy informed unethical practice. This paper hopes to begin a conversation that is aimed at addressing men's complacency in unethical scholarly conduct stemming from male scholar need for domination over their female counterparts.

PW9.9

Plagiarism and text recycling - what is and is not allowed

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The most common form of plagiarism is the complete copy of texts or illustrations, without proper credit and the easiest to be identified. Plagiarism also refers to the reproduction of thought. In this sense, an author can plagiarize another without reproducing even a word from the source used, without giving him credit. The latter is difficult to identify, even with similarity identifier programs.

Another form of plagiarism is a zero-degree paraphrase, that is, an indirect quotation in which the writer appropriates most of the source's words. And, even if the original is quoted, it is a form of plagiarism because there is a betrayal of the reader when he thinks he has read something paraphrased, which is practically a copy of the text that produced it.

A controversial expression that is related to plagiarism is self-plagiarism. If, on the one hand, the editor should not present work in its entirety as original, such as a scientific article based on texts that he has previously published, on the other hand, it is questioned to what extent he needs to be cited.

For Moskovitz [1] there are two reasons why the term self-plagiarism is not used: 1) The term is contradictory because if plagiarism means misappropriation of the ideas of others, one cannot misappropriate their own. 2) The word self-plagiarism is used paradoxically to represent both the judgment of something inappropriate and, therefore, negative; how much to refer to recycling text.

Thus, the expression self-plagiarism should be replaced by Text Recycling. The TEXT RECYCLING RESEARCH PROJECT (<https://textrecycling.org/>), for example, is a project that discusses and create policies on text recycling in scientific research and publication.

In some areas of knowledge, it is common to recycle text, as in STEAM – an acronym for Science, Technology, Engineering, and Mathematics.

We understand that text recycling can be not only permissible but encouraged.

[1] MOSKOVITZ, Cary. [2019]. Text recycling in Scientific Writing. *Sci Eng Ethics*, v. 25, pp. 813-851.

Virtual Posters

VP1

Responsible Research and Innovation by Collaboration between Academia and Academia-oriented startups in Japan: Conflict of Interest Management Landscape

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Objective: The aim of this presentation is to overview the governmental policy, regulation and practices on Conflicts of Interest (COI) management in existing collaborative clinical trials between universities and university-oriented startups.

Background: In Japan, relationships between academic institutions and their affiliated startup companies have been shown to have favorable effects on developing startup companies (Kneller 2007). Government and local government provide support for university-oriented startups. However, the close financial relationships between academic institutions, their faculties, students, and university-affiliated startups raises possible COI. As exemplified by the case of Jesse Gelsinger, the financial interest of faculty members and/or universities in a university-affiliated startups causes serious potential COI and makes it important to carefully identify and manage faculty's COI. The Clinical Trials Act enacted in 2018 is the first law for establishment of COI disclosure procedure for funds and labors provided by industries. And, Basic Act for Science, Technology and Innovation was also enacted in 2021. and it includes the importance of fostering research integrity. However, the Basic Act is not enough to prepare effective COI management plan.

Leading U.S. universities like Harvard University and Massachusetts Institute of Technology do enter licensing agreement with the startups of their faculty and students. However, generally, they avoid entering into research contracts with such startups. In rare circumstances, these institutions may provide exemptions for basic research studies under strict conflict of interest management plans. Majority of the institutions in the U.S. impose significantly stricter restrictions on entering research agreements with their faculty start-up or the university owned IP.

In Japan, the situation is quite different as described above. Simple and versatile procedures for the identification of COIs are required for the management of the COIs. Disclosure of the personal financial interests or holdings of institutional leader is the typical measure to identify real or potential COI, and it is effective for reviewing specific research studies. However, additional steps beyond disclosure of potential COIs are also necessary before concluding IP license agreements and entering into research cooperation between university and affiliated startups. Issues to be clarified in due order will be shown in the presentation.

VP2

Publication bias: dealing with the challenges of negative results

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Although The European Code of Conduct for Research Integrity states that “[a]uthors and publishers consider negative results to be as valid as positive findings for publication and dissemination”, it seems that publication bias, where positive results are significantly more often published, is a widespread phenomenon and is becoming even more prominent every year (Fanelli D. 2012; Echevarria L. 2021).

There is a considerable amount of literature and studies dealing with the phenomenon of publication bias. Still, rather few publications focus on ethical aspects of this phenomenon, such as reasons for and motivation behind authors' reluctance to publish negative results. The problem is that the authors

themselves are very often responsible for not publishing of the negative results. On the other hand, some editors claim that publications with negative results should be thoroughly assessed following special conditions (Kittelman A. 2018).

This presentation starts with the analysis of the term "negative results". The predominant trend in the literature is to merge the scenarios of null hypothesis validation and statistically insignificant data into a single category of "negative results". Although both of these scenarios are treated as inferior to positive results, their practical implications are rather different. The first scenario deprives scientific community of the "negative" publications that do not support the hypothesis raised. As a result, the access to significant evidence of treatment methods that proved to be ineffective, is lost. The second scenario limits the access to the data that are still statistically insignificant, however, could potentially lead to important practical results, such as innovative treatment modalities, in case further research is carried out or data from different studies is being combined (Meisner R., J., 2020; Ekmekci P., 2017).

Finally, the presentation explores different reasoning behind the non-publishing of negative results expressed by pharmaceutical industry and academia. It also provides an assessment of different guidelines and recommendations, such as Open Science initiatives and recent regulatory changes introduced by pharmaceutical industry that could be helpful in reducing publication bias.

VP3

Awareness of Researchers regarding India's New Drug and Clinical Trial Regulations

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Objective:

To describe the awareness of Indian Researchers on the New Drug and Clinical Trial Regulations.

Method: A cross sectional, online survey was conducted among researchers working at various Tertiary care hospitals. The data was collected based on Convenience sampling for a period of two months from 160 researchers. A questionnaire was developed by consulting experts in the field of Research Ethics. The questionnaire had 15 items and was checked for validity and reliability. A link was generated, which was sent to the participants either through mail or message after obtaining institutional ethics clearance. Participation in the survey was voluntary and anonymous to boost the response rate. Descriptive statistics was used to analyze the data.

Result: The results showed that 50% and 33.3% of them had research experience of 1-5 years and 5-10 years respectively. A total of 90% of them were aware that Central Drugs Standard Control Organization was the regulatory body. Only 37.5% of them knew that oral assent should be taken from children between 7-12 years of age. 50% of them responded that the right of the biological material rests with the researcher instead of the donor. 60% of them supported that for the storage of biological materials informed consent need not be taken from the Witness. 62.5% of them were not aware of the number of Principles under Good Clinical Practice.

Conclusion:

There is lack of clarity on the awareness among the research professionals. Hence regular training programs in order to keep them abreast regarding the latest rules published in the Gazette of India by Central Government on March 19, 2019 is essential for conducting clinical studies. However the results cannot be generalized to the whole population of India, as it was conducted in a specific sample.

VP4

Perception and Attitude about Research among Pharmacy students of Sindh, Pakistan, a multicenter study

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Objective: The most neglect area in research is research integrity. Many professional students have no any idea to deal with research. The current study was designed to assess the perception and attitude of research related concerns i.e. misconduct, plagiarism, ways among pharmacy students in different universities of Sindh, Pakistan.

Methodology: A descriptive non-interventional study was designed among 329 pharmacy students from 5 different universities. The sample size was calculated based on Rao-Soft method. Two different types of questionnaires were used i.e. research behaviors assessment questionnaire and Scientific Misconduct Questionnaire (SMQ-R). The data were analyzed using SPSS.

Results:

Results showed very interesting results i.e. more than 70% of the students denied to know about the research integrity. 74.6 % of the students had no any idea about misconduct or plagiarism. How to conduct the research was only known by 30% of the students. Who is responsible if misconduct were asked and only 12% of the respondents replied correctly. Research publication in journals only know about 26% of the respondents.

Conclusion: The finding revealed that maximum number of respondents had no any idea about research integrity. The data may also help to educate the students about research and its ethics.

VP5

Academic dishonesty in Nepal: The obligatory need of curriculum and training on research integrity for students, researchers and faculty members

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Academic dishonesty impacts extensively in education and research institutions. The ultimate growth of the university can be determined through the quality research work that its students, researchers and faculty perform. In Nepal, students, researchers and faculty members do not follow and practice moral and ethical standards greatly while undertaking research. There are limited numbers of articles that addresses why students, researchers and faculty members engage in academically dishonest behaviors. In order to foster and promote research integrity in Nepal, there requires a policies, mechanisms and procedures to tackle academic dishonesty and misconduct. Although over the past several years, various organizations and government agencies had issued materials to carry healthy research practices but still there are considerable threats and dozens of misconduct reported in Nepalese institutions and research centers. With this aim, the study was conducted to know whether the students, researchers and faculty are aware about issues regarding research integrity. Normally, the practices of training and education in research integrity limits for the topics related to plagiarism, citation and article writing in Nepalese universities. These contents are not enough for complete practice in research integrity. In addition, there is a course on research methodology in undergraduate course and this should be modified by adding more topics of research integrity. Furthermore, there should be extensive training regarding research misconduct, authorship, treatment, academic fraud and use of false data while conducting research work for researchers and faculty members. Therefore the finding suggests that developing countries like Nepal should focus on developing the entire curriculum of research integrity programs and course through the collaboration of university grants commission (UGC) Nepal, research institutes and universities to institutionalize research integrity as a core value. Besides, the developed curriculum and courses should

be made obligatory for fulfillment of the degree in all colleges and universities offering undergraduate and graduates education. Apart from this, the researchers and faculty members should take a full comprehensive training course on research integrity through its research centers and other institutions. In this way, the practice of research misconduct in Nepal can be significantly discouraged.

VP6

How to introduce the culture of Scientific Integrity among researchers in Brazil?

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The discussion about how to integrate concepts of Scientific Integrity has been intensifying among researchers on a global scale. There is also an increasing questioning about the way research has been conducted during the period of the pandemic. Knowing that the values of good practices are not naturally transmitted during the research learning process, one way to introduce the culture of Scientific Integrity is by offering training in scientific integrity.

The scientific reality about how bad practices harms science and reliability in low-income countries is little known and should be investigated. To improve the reliability of the results, and the prospecting of what and how scientific knowledge is produced in these countries, training in scientific integrity is proposed.

The objective of this work is to prepare, validate and offer a training course in scientific integrity for young scientists, researchers, and society in general. The aim is to foster reflection on personal attitudes and behaviors in the research environment based on the values contained in the principles and the latest statements promoted by WCRI.

The "Scientific Integrity Training" course will be free, offered through an open-access virtual platform. Published through emails and social networks targeted by algorithms to the target audience. It will be conducted in a module system using the Moodle platform. This will allow interaction between participants, researchers, and trainers throughout the training process. It will be divided into the following topics: 1) Conceptual - What is Scientific Integrity 2) Problem-Based Learning, PBL - What is the difference between misconduct, questionable practices, and honest mistakes? 3) Mind Map - Consequences 4) Flipped Classroom - What leads to misconduct? 5) Production Workshop - How to avoid it? Each topic will be in an online class format, lasting 20 minutes for each module. A practical manual guide will be available. Before starting the course and after completion, a diagnostic questionnaire will be made available to map how the online training collaborates with the dissemination of scientific integrity concepts.

This is a proposal presented as a postdoctoral project at the University of Brasília.

VP7

Navigating A*STAR's Journey on Developing the Good Research Practice Guide

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A*STAR is committed to the highest standards of research integrity and fostering a culture of good research behaviour. In 2021, A*STAR decided to develop a Good Research Practice Guide ("Guide") to supplement an A*STAR Code of Practice for its researchers.

The objective of the Guide was to provide A*STAR researchers with a common resource which details good research practices to be adopted by all researchers in A*STAR. This Guide would contain practical considerations from the various disciplines and examples of good research practices, benchmarked

against international standards of research integrity practices, as well as local guidelines set out by the A*STAR, funding agencies, publishers, contractual requirements and professional bodies.

The A*STAR Research Integrity, Compliance and Ethics (RICE) Office spearheaded this organisation-wide initiative, with the support of A*STAR Senior Management and in consultation with Chief Scientists as advisors.

Four thematic focus groups were identified - Research Ethics, Research Management, Research Collaborations and Management of Research Data. Co-Chairs and subject matter experts for the various themes were appointed and A*STAR researchers were invited to participate in this endeavour. 42 researchers from different disciplines including 15 corporate staff responded and were assigned to the thematic focus groups.

RICE undertook the planning, strategising and coordinating role including providing terms of reference and guiding the co-Chairs on the framework and objective of this Guide. The co-Chairs and writers of the respective groups provided direction and led the discussions and worked with their group members to refine the outline and content of the various sub-topics within each theme. Several drafts of the focus groups were amended through an iterative process among the co-Chairs and writers together with RICE, before the final draft of the various sections of the Guide was compiled and holistically reviewed to assess the flow and consistency of content. Feedback was also sought from A*STAR Chief Scientists on the final draft before A*STAR senior management endorsed and approved the final Guide for dissemination to the A*STAR research community.

VP8

How to Foster Good Research Practices at A*STAR in a Pandemic World

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Apart from developing policies and procedures pertaining to responsible conduct of research, effective promotion of such responsible research practices is necessary to inculcate a culture of good research practices amongst academics. In the pandemic world where remote working may be a norm even in a research institute, the research administration department would need to develop innovative ways to continually reach out and engage their researchers. A*STAR has implemented various education and outreach activities, interfacing with research personnel either through digital communication media, or through Research Integrity Advisors (RIAs) homed in the research institutes. Common communication platforms used to disseminate research integrity-related information include Electronic Direct Mail (EDM) and intranet web portal. We also reach out actively to our researchers through a series of research integrity webinars and thematic research workshops. In addition, A*STAR engages ambassadors known as Research Integrity Advisors (RIAs), who are senior researchers in the research institutes, to promote good research practices through grassroots activities. These activities would include organising internal workshops or consultation sessions to clarify any research integrity issues. We hope to share our experience in fostering research integrity through this session.

VP9

Research Integrity Education for Junior Researchers: The Development of RCR Curriculum for Taiwan High School Students

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Objective

According to the new Taiwan Curriculum Guidelines of 12-Year Basic Education, high school students are encouraged to prepare research essays to be included in their e-portfolios for university application. Most of the students would also submit their essays to the National Teen Research Essay Contest for online presentation. Therefore, we believe it is time to develop a primary RCR curriculum for Taiwan high school students.

Method

This study used a design-based research (DBR) method by which the RCR curriculum was developed and evaluated. We first performed needs analysis by a survey method to gather hundreds of high school teachers' expectations of the curriculum. Then, upon completion of the draft curriculum, a formative evaluation was conducted on an 11th-grade class. The summative evaluation of the curriculum is undertaken at the moment. We expect that the evaluation results including on-site observations of several high school teachers will be completed in early 2022, then the curriculum will be finalized and ready for use in all Taiwan high schools.

Results

Based on the Taiwan Code of Conduct for Research Integrity published in 2020, a simplified edition, The Taiwan Code Junior, has been developed in mid 2021. To present the research integrity principles in an easy-to-read style, we provided vivid graphic examples and developed a 7-minute video (Piles of Information) addressing how to start a research project, present research, and credit resources. The results of the formative evaluation indicate that students' motivations could be raised by the multimedia presentation, and they were able to understand the importance of RCR. Upon the summative evaluation, we expect the students to be able to explain the importance of research integrity to humankind and themselves, and to realize the correct way of doing paraphrasing and making citations to prevent possible plagiarism.

Conclusion

Once engaging in research work, researchers should be well trained on research methods and research integrity. Taiwanese high school students are no exception. We need to consider these young researchers' needs and learning preferences to develop suitable instruction. The RCR curriculum presented in this study is our first step to address these considerations.

VP10

The Use of Gamification in RCR Education: Design, Development, and Evaluation

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Objective

This study considers the use of gamification in RCR education in a classroom setting. The authors designed and developed an online/offline board game "Who Can Graduate First?" to align educators' intention with learners' motivation and conducted a formative evaluation of the prototype to verify its effectiveness.

Method

This study used a Design-based research (DBR) method by which a board game with game components was developed based on gamification theories. We have developed a prototype and conducted a formative evaluation. We would be using the feedback to revise the game design and presentation. Teaching experts' and game researchers' comments were collected by interviews, and players' reactions will be continually surveyed. We will conduct a field trial soon and present the results at the conference.

Results

The game instruction is as follows. To begin, each group (of 2-4 graduate students) starts from the starting square with a token and some bargaining chips representing health, hard work, etc. All groups take turns rolling dies, moving their tokens on the board. A group that lands on "Luck" or "Chance" would draw a card from the virtual game deck and follow its instructions. If a group encounters difficulty (e.g., bad luck happens or cannot answer pop quizzes), group members may use bargaining chips, ability cards, or call out for help (for a limited number of times). The group whose token moves to the goal (successful graduation) first is the winner. Based on the results of the formative evaluation, we have enriched the "fun" component by adding more descriptions about various scenarios of the life-cycle of a research study (shown in the "Luck" card), enhanced the "learning" component by providing more pop quizzes about research integrity (the "Chance" card), and presented the "challenge" component with special cards like "Token Ability" and "Call Out for Help."

Conclusion

The use of gamification provides potential for the improvement of learning motivation in RCR education. The development of this board game is not intended to replace the entire course but helps engage the learners before the course or as a concluding reminder to wrap up the whole class.

VP11

Throwing the baby out with the bathwater? Determining whether to allow use of data conducted under conditions of non-compliance

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Sometimes data are collected under conditions of non-compliance with human research protection standards, raising the question of whether the data can subsequently be used or published. These compliance concerns may pose little threat to the scientific integrity of the project, and may range dramatically from grossly unethical violations to minor recordkeeping errors. Research ethics committees (RECs) often determine the disposition of data in these cases. Because there is no standard ethical guidance on this topic, RECs may struggle with the question of whether the original investigators, or others, may publish or otherwise use the data.

We use a case study approach to elucidate relevant factors for decision-making about disposition of data, and develop a typology of cases involving non-compliance of different levels of severity, ranging from errors in documentation, to protocol deviations of different levels of significance, to non-compliance resulting in harm to human participants. We enumerate reasons, pro and con, for research use of data. Reasons for barring use of data include a) concerns about rewarding bad behavior; b) concerns about signaling lack of concern about harm or disrespect to research participants; c) need for deterrence to prevent future noncompliance; d) concerns about legal issues entailed by use of the data; and e) potential damage to public trust. Countervailing reasons to use the data include a) concerns about wasted time, effort, and resources, including the contributions of the research participants; b) concerns about time, cost, or logistical impracticality of collecting similar data again; c) potential damage

to research objectives; d) concerns about collateral damage to other researchers or trainees; e) alternative methods of sanctioning non-compliant researchers; f) desire to honor the original intent of research volunteers. We consider these arguments, pro and con, in relation to the severity of the non-compliance, and outline a range of possible decisions based on these factors. Our framework provides an ethical rationale for allowing use of data in most cases, while attending to the need to uphold compliance standards and protect the rights and welfare of research participants. This framework can support institutional policies or guidance on handling cases of non-compliance.

VP12

Sharing requested data for a systematic review and bibliometric factors from the publications: a cross-sectional study

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Objective: To assess the association between receiving requested data for a systematic review and bibliometric factors from the publications.

Method: Studies with data needed for a systematic review about childhood obesity in Brazil had its authors emailed to request the data. Based on the main publication of the studies, we collected the total number of citations on Google scholar (up to September 2021), Journal Citation Reports 2021 Impact Factor (JIF), and language of the report. The outcome was success in receiving the requested data, and the association with studies' bibliometric factors was then investigated. Student's t-test was employed to test the association of the outcome with mean and standard deviation of citations and JIF, and Pearson's chi-square or Fishers' exact tests, for language. We used Stata (version 14.2) for all calculations. Results: 51 out of 163 unique studies contacted shared the requested data. The number of citations was higher in success ($n=51$; mean 50.5 ± 63.0) than in failure in receiving data ($n=112$; mean 31.8 ± 37.0), but this difference was not statistically different ($p=0.051$). For 97 studies published in journals with JIF, no difference was observed in JIF according to success ($n=31$; mean 2.3 ± 1.1) and failure ($n=66$; mean 2.2 ± 1.3 ; $p=0.685$). Success in sharing data was significantly lower in studies published in Portuguese (25.7%) than in other languages (42.6 %; $p=0.028$) and no difference in success was observed for studies published in English (35.1% vs. 26.1%; $p=0.220$) and Spanish (14.3% vs. 32.1%; $p=0.436$) in comparison to other languages.

Conclusion: Despite representing quality metrics of scientific reports, bibliometric factors such as number of citations and journal impact factor had little influence on the success of obtaining data through contacting the author. Studies published in Portuguese were less likely to share the requested data, possibly reflecting less involvement in research dissemination.

VP13

The Global Research Council and Responsible Research Assessment

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Responsible Research Assessment (RRA) catalyses high-quality research and innovation (R&I) and a positive research culture. The current misapplication of narrow criteria of research quality in assessments of research and researchers, including the excessive focus on bibliometrics, can exacerbate problems with research integrity and reproducibility.

Research funders have the potential to catalyse positive culture change through careful design and implementation of research assessments. They can enable and direct systemic change and support bottom-up initiatives across the R&I ecosystem. However, systemic culture change is a key factor in achieving RRA and all stakeholders must accept responsibility.

In November 2020 the Global Research Council hosted an international virtual conference on RRA in collaboration with UK Research and Innovation (UKRI), the UK Forum for Responsible Research Metrics, and the National Research Foundation (NRF) in South Africa. The main conclusion of the conference was the need for greater collective effort to enable research culture change at a global scale through the adoption of RRA. In May 2021, a Call to Action was endorsed by the GRC.

Many of the barriers that stakeholders need to overcome to work towards RRA require global action. Barriers include: the absence of clear definitions of research excellence and research quality, league tables, lack of diversity, perverse incentives, narrow criteria, favouring ground-breaking research, and biased processes. It was clear from discussions that to fulfil RRA ambitions the R&I community must bring in perspectives from those who have had limited global engagement on RRA to align the goals of RRA with regional considerations and context.

A global initiative across GRC participant organisations will foster debates on these issues which are not limited in geographical scope. In September 2021, the GRC established a working group on RRA. The group designs and delivers actions that help and support GRC participant organisations to implement RRA principles. This session will be an opportunity to present the group's objectives, priorities and progress.

VP14

Teaching Research Integrity for Graduate Students Using Active Methodologies

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Background:

True knowledge is gained through scientific research so, research integrity has been widely discussed due to its social, economic, and scientific impact, especially in times of open science, and health emergencies. Morality in the scientific context requires the consolidation of complex skills to strengthening good ethical and scientific practices. The use of active methodologies in the teaching-learning process represents an important tool for the early approximation of themes in the context of academic training.

Objective:

To present a proposal developed for an academic training program related to scientific integrity and prevention of scientific misconduct using active methodologies.

Method:

The proposal is addressed for graduate students from different areas of knowledge, including health, humanities, and technologies. The active methodologies used by authors were problematization, flipped classroom, discussion of true current cases, literature, and movies. Teams and Moodle platform allowed students to share ideas and discuss the topics.

Results: The proposal was developed, evaluated, and validated over a 4-year piloting period at University of Brasília, Brazil university, including more de two hundred students. Good ethical and scientific practices are addressed throughout the process of doing science: conception and design of the study, ethical and scientific review, conducting the study, preparation of analyses and reports, and

dissemination of the results. In addition to the most prominent themes - plagiarism, falsification, and fabrication -, the questionable research practices (QRPs) are addressed using different teaching strategies, including documentaries and movies, cases studies, media articles, scientific articles, online courses, interviews between others. Teachers act as facilitators and contribute to the synthesis of the topics discussed. To finalize the reflections on the topics discussed, prominent researchers from Brazil and other countries are invited to present their research and the possibility to adopt ethical and honest conduct.

Conclusion: Based on its value and effectivity, the proposal could be used to address sensitive issues related to research integrity and scientific misconduct, contributing to strengthen good scientific practices adopted by young scientists, seeking to respect and safeguard the rights of different actors involved in the context of scientific practice.

VP15

Provenance of results: Publishing research modules

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In this presentation I demonstrate an alternative publishing model where researchers publish all steps of the process (i.e., research modules), instead of only a narrative retrospective. At the end of this talk, researchers will know what a research module is, what the benefits are for their own work, and how to publish their own research modules.

The publishing platform integrates findings from the most recent publishing ethics and meta-research to provide more complete documentation of research outputs. Practices such as researcher degrees of freedom and publication bias are long known, but progress remains insufficient. Potentially, these issues are artefacts of a text-based, and narrative retrospective.

In an attempt to remove these artefacts and allow the underlying research processes to be documented, this new publishing platform focuses on publishing research outputs and documenting the order of events. A results module links back to one or multiple data modules, which links back to the materials module, which links back to the predictions and so on. This is an attempt reduce publication bias and research waste, and an opportunity for a manifold increase in research efficiency by undoing the need for restating methods and theories.

The publishing platform is independently built by researchers for researchers. The platform evolves together with researchers from various fields to adapt its use and application to the continuously evolving nature of research.

During this short presentation I mainly aim to leave you with a new way to publish output, no matter the shape it has, and with the opportunity to help evolve this platform for your daily use.

VP16

Clinical trials in a developing country - Lessons learnt during COVID 19 and looking ahead

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Lower middle income countries (LMICs), including Pakistan, have poor scores for the health research profile indicators. The context within which research operates, such as culture, law and economy, is also not favorable thus perpetuating the 10/90 gap in research and poor health equity.

Covid-19 has led to massive expansion in the global collaboration for research unlike any in history. However, most of the COVID-19 research activity planning has been centered in high income countries. However, with no effective treatment options for Covid-19, there was an urgent need to perform largescale collaborative trials that look at treatment options during Covid-19. This became the rationale for World Health Organization to consider the SOLIDARITY mega trial.

As national coordinating site for this study from Pakistan, we share our experience of setting up and running this trial in Pakistan in the midst of a pandemic. In Pakistan, the public health crisis led to collaboration between clinical sites in an effort to participate in this trial. The trial set-up involved identifying trial sites, securing ethics and regulatory approvals, development of site-specific protocols and SOPs, study personnel training & arranging local finances at sites as well as ensuring effective liaison between sites to ensure high quality trial conduct.

During the trial, a challenge was to constantly receive the adaptive design updates, revise protocols and to secure their approvals from the multiple bodies involved, within the institutions and at national level. Despite the seemingly simple design for the SOLIDARITY study, conducting research during an outbreak is indeed inherently problematic. Firstly, even simple RCTs are not simple to deploy, and require significant human and financial resources which is specially uphill for already taxed healthcare system in LMICs. Secondly, the first instinct is to treat the sick during a public health emergency, rather than to randomize patients in the face of rapidly changing evidence. Lastly, a fundamental challenge was to avoid therapeutic misconception amongst participants.

The experience provided many lessons including need for regular stakeholder dialogue, strong national research networks, preparedness for public health emergencies and the importance of effective community engagement.

VP17

The quality of reporting of latent trajectory studies across time and research fields: a pragmatic review

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Objective: In this pragmatic review based on the work of our students Kevin Boekhoudt, Nine Droog, Jordy Gaspersz and Rob Rekveld, we give an overview of the quality of reporting of latent trajectory studies using the Guidelines for Reporting on Latent Trajectory Studies (GRoLTS) checklist across time (before and after publication of the checklist in 2016) and across research fields (smoking, pain and depression).

Method: We reviewed 36 articles that reported on smoking trajectories, 37 studies that reported on pain trajectories and 45 articles that reported on depression trajectories. Each article was scored according to the GRoLTS-checklist 1. This checklist consists of 21 items and each item is scored with 0 (item not reported in the article) or 1 (item is reported). Average (SD, min-max) scores were compared before and after publication of the checklist and across the 3 research fields.

Results: GRoLTS-scores of the articles on smoking trajectories ranged from 5-13 points (average scores were 9 (2.1) before publication of the checklist and 8.5 (2.2) after publication. For the pain trajectory field, scores ranged from 3-13 points and average scores were 8.7 (2.5) before and 8.7 (2.6) after publication. For the depression field, scores ranged from 5-15 (8.8 (0.96) before and 8.7 (1.2) after publication). At the conference, we will show an in-depth comparison and reflection of these comparisons on item-level as well.

Conclusion: Transparency of reporting of results of latent trajectory studies is important because many decisions have to be made throughout the modelling process. We showed that the transparency of reporting was heterogeneous and clearly shows room for improvement: none of the studies reached the maximum possible GRoLTS-score. No clear improvement over time in reporting was observed in any of the fields either, despite the recent increased focus on open and reproducible science. A systematic review of studies reporting on latent trajectories is recommended.

1. van de Schoot R, Sijbrandij M, Winter SD, Depaoli S, Vermunt JK. The GRoLTS-Checklist: Guidelines for Reporting on Latent Trajectory Studies. *Struct Equ Model Multidiscip J.* 2017;24(3):451-467. doi:10.1080/10705511.2016.1247646

VP18

The path of promoting transparent governance of research integrity

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1. How could we define the transparent governance?

Transparency is one of the most important principles in research integrity. It is the essential content discussed in several of the previous world conferences. Many researchers explored it through all kinds of ways. But what is the definition of transparency? How could we achieve and keep transparency? There is few systemic solutions. This presentation discusses one possible path on it, and makes point that the purpose of transparent governance is enhancing the capability of governance on research integrity.

The definition of transparent governance on research integrity is that we could achieve and keep transparency through education/consensus/investigation/openness, making the relevant parties to clearly know the attitude and actions of research community for the misconduct or misbehaviors, then fostering and maintaining a responsible research environment.

There are five characteristics in transparent governance, namely openness, sharing, symmetry, justice and safety.

2.How could we achieve transparent governance?

There are four steps to achieve transparent governance. The first step is Justice of Procedure. The second step is Wide Consensus. The third step is Evidence-based Investigation. The fourth step is Constant reminders.

3.How could we keep transparent governance?

Diversity, and consistency. We should not only emphasize the importance of diversity, but also consistency.

Be prepared for the difficulties. We should deal with research misconduct case by case, never give up even when encountering difficulties. All research integrity officers should keep confidence and work diligently.

No discrimination. Everyone should abide by the consensus in common, no matter the respondent is a professor or student, or whether he/she holds a honorary title.

Standardize the regulations. The research community should standardize all the key regulations and the items in policies. Do not let them vanish into air when circumstances change.

Classified Education and Training. We should classified or customize educational and training programs for researchers with different roles and needs.

VP19

ROSiE project: Responsible Open Science in Europe

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Open science, where research planning, processes, data and results are freely available to all stakeholders is the future of science. Open science will make scientific research more effective and more responsive to societal needs, and it will enable citizens to participate actively in all aspects of science as citizen scientists. Open science does, however also raise new questions about research ethics, integrity and misconduct. It is well known that research misconduct and questionable research practices occur in current scientific processes, and it is likely that similar or new forms of misconduct and questionable practices will emerge in open science. It is therefore important to identify and analyse the potential for misconduct in various areas of open science practice and in different scientific disciplines, and to identify and analyse current ethical, social and legal approaches to responding to questionable practices. It is only based on such an analysis that the European science system can effectively ensure that ethics and research integrity become structural components of open science. ROSiE will provide this analysis and develop practical tools aimed at ensuring ethics and research integrity in open science and citizen science. ROSiE will: (a) provide a systematic inventory of ethics and research integrity, social, and legal implications and challenges of open science and of existing technologies and platforms that safeguard responsible open science. (b) Conduct consultation and stakeholder engagement aimed at creating and sustaining a community of practice, involving all European stakeholders interested in open science and ethics and research integrity, (c) conduct a strategic policy assessment for promoting responsible open science and develop operational guidelines for relevant stakeholders, including a complement to the European Code of Conduct for Research Integrity, and (d) develop an ethics and research integrity "Knowledge Hub" for open science and training materials for ethics and research integrity aspects of open science.

VP20

A Large-Scale Analysis of Methodology Reporting in Randomized Controlled Trials according to CONSORT Guidelines

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Objective: The CONSORT guidelines , first introduced in 1996 and updated in 2010, includes the minimum requirements for complete and transparent randomized controlled trial (RCT) reporting. Many systematic reviews and meta-research studies have assessed reporting quality and CONSORT adherence for various medical disciplines and topics. These studies are generally limited in scope and rely on manual

coding of CONSORT adherence. This study aimed to gain insights into discipline-overarching trends on methodology reporting in RCT publications.

Methods: We applied automated classification models that categorize sentences by CONSORT checklist items to all RCTs across an extended period (1966-2018). The dataset we used consists of 176,620 publications identified as RCTs in PubMed. We parsed the RCT PDFs and extracted the sentences from the Methods sections, as well as year, medical specialty, journal, and impact factor from PubMed. We combined the predictions from two machine learning models reported in prior work to recognize 17 fine-grained CONSORT methodology items (e.g., Trial Design, Outcomes, Allocation Concealment). This combination yields the highest classification F1 score (0.74) among the models that we developed. We analyzed the reporting trends over 5-year periods, grouping together all trials published before 1990. We calculated and plotted the ratio of papers reporting the item to the number of publications in the same period for each CONSORT methodology item.

Results: Our results show that reporting of PICO-related items in CONSORT has remained high over time (e.g., Interventions: 94.7% (<1990) vs. 95.2% (>2010) and Outcomes: 98.1% (<1990) vs. 99.7% (>2010)). There has been a steady increase in reporting of randomization and blinding procedures, although there is much room for further improvement (e.g., Sequence Generation: 5.8% (<1990) vs. 30.1% (>2010)). Several items are rarely reported (e.g., Allocation Concealment: 0.9% (<1990) vs. 5.5% (>2010)).

Conclusion: Our analysis largely confirms the findings of earlier systematic reviews and meta-research studies and shows the generalizability of patterns across medical disciplines and topics. Although PDF processing introduces errors and the models may make incorrect predictions, the automated pipeline can effectively highlight long-term trends at a granular level. We are currently improving our models and extending them to all CONSORT items.

VP21

Research ethics training: Evaluating the benefits to researchers

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The University of the Witwatersrand, Johannesburg, South Africa, has offered certificated training in research ethics since 2019. This training comprises a 4-hour content-based workshop followed by a written assignment. Attendees are mainly staff and postgraduate students of the university. Since this training started in April 2019, 19 separate training sessions have been run, with 7 to 77 attendees in each session. In total 897 people have attended this training. Following the training, all attendees can complete a certificated assignment which comprises four compulsory short-answer essay questions based on topics discussed. If attendees pass all four questions, they receive a Certificate of Competence in Research Ethics. In the training sessions to date, 377 attendees in total have submitted their assignment and received a Certificate of Competence in Research Ethics.

This study presents the results of an anonymous online survey that aims to evaluate the effectiveness of this ethics training. Participants of the survey are the successful attendees who had attained a Certificate of Competence. The survey asked about their experiences and perceptions of the training and its impacts on their research and academic development. Results showed that the majority of respondents were satisfied with the nature, format and depth of content of the training, and reported that it has a positive impact on their development as researchers. Specifically this included thinking through their project design, developing critical thinking and problem solving skills related to their projects, and considering the wider context of their research participants through ideas of vulnerability and social justice. Respondents are less happy about the nature of the written assignment, in part arising because researchers from some backgrounds have little experience in writing an essay-style answer. Overall, these results highlight the importance of research ethics training in researcher development, as well as engendering critical ethical reflection into their research activities.

VP22

Research Ethics Committees in southern Africa: The need for training and development

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Research Ethics Committees (RECs) and appropriate expertise and training for research ethics and integrity administrators, committee members and researchers are still lacking in many developing countries. This is particularly the case in southern Africa where human populations exhibit higher vulnerability and are thus more susceptible to unethical research practices and exploitation. This study aims to provide an overview of RECs and their existing capacity for research ethics training within the 16 countries making up the Southern African Development Community (SADC) of southern Africa. This was undertaken using a desktop approach of analysis of websites of government and academic institutions across SADC, and through analysis of the peer-reviewed literature.

Results show that the number of RECs varies considerably between different SADC nations with by far the majority (>30) found in South Africa. Some SADC nations appear to have no RECs at all. Most RECs, where present, deal with medical rather than non-medical (social science) research or with animal research ethics. There was also a lack of clarity as to where biological and plant genetic research ethics is dealt with, despite bioethics and biopiracy being an important emerging issue in the region.

Key issues affecting the development and effective functioning of RECs in SADC nations are:

- Lack of domestic legislation and statutory guidelines on REC function and scope,
- Confusion over jurisdictions and where RECs are situated (within government ministries or research institutions),
- Lack of coordinated research activities, which may be spread across government ministries, research agencies, universities, NGOs, the private sector,
- Lack of research and administrative capacity,
- Lack of staff training, in both research ethics principles and REC management,
- Lack of adequate student and researcher training in research integrity and responsible conduct of research at institutions.

Recommendations from this study are that there is a need for SADC-wide (1) guidelines for responsible conduct in research, (2) reciprocal research ethics frameworks and guidelines on ethics application, management, monitoring and auditing procedures, and training, that conforms to international standards, and (2) framework for sharing information, resources and training for research ethics, for RECs, researchers, governments and stakeholders.

VP23

Ensuring Integrity in Science: Updated Guiding Principles for Funding Food Science and Nutrition Research

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Government funding for scientific research is becoming increasingly limited. While the food and beverage industry plays a key role in advancing food safety and nutrition science, industry-funded research is subject to intense scrutiny as a result of various perceived and real biases related to funding source. To address this, the Institute for the Advancement of Food and Nutrition Science (IAFNS)¹ Assembly on Scientific Integrity has updated its Guiding Principles for Funding Food Science and Nutrition Research (Rowe et al, 2009) to provide a modernized framework for minimizing bias in industry-supported research. Existing best practices for managing conflicts and maintaining trust in research and case studies related to bias in industry-funded research were reviewed to inform the development of the updated Guiding Principles. The revised Guiding Principles were then reviewed by an external set of stakeholders, including those from nutrition and food safety professional societies. The updated Guiding Principles continue to provide conflict-of-interest guidelines to protect the integrity and credibility of the scientific record. Further, the updates clarify them, strengthen the guardrails that separate the funding from the science and reflect the shift within the scientific community toward increased transparency and open science.

This presentation features the updated Guiding Principles for Funding Food Science and Nutrition Research, highlights what our nonprofit organization has learned in implementing these as a framework for separating the science from the source of funding, and will stimulate cross-sector discussion on how the food and nutrition research community as well as the scientific community at large can continue to improve efforts to foster a culture of integrity in industry-supported research.

¹ Now an independent organization, IAFNS evolved from ILSI North America

VP24

The emergence of Artificial intelligence: fostering research integrity?

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The emergence of Artificial Intelligence ("AI") has played an increasingly important role in research. They have developed tools to help us conduct research from simple application such as searching information through online platform, to more complex calculation such as running regression on quantitative data or conducting coding for qualitative data. However, two important questions might have been ignored: have researchers over-relied on what is presented to them generated by these tools? And does the availability of these tools create inequality between AI-generated results and non-AI generated results? This paper explores preliminary insights for these two questions through an extensive content analysis on relevant sections of research ethics guidelines issued by top-ranked university in 10 randomly selected jurisdictions, namely: Hong Kong, China, US, Canada, UK, EU, South Africa, India, Australia, and Russia. It is observed that the impact of AI in the research process might have been overlooked; the reliability of the AI-generated outcome is not addressed, and the bias in favor of the AI-generated results have been largely ungoverned. This paper calls for a large-scale empirical study to address these three observations to prevent the risk of researchers' conduct being unconsciously directed towards reacting to what is presented to them and instead of what they have found, which is a new form of research integrity issues arising from over-reliance of AI in the research process and generation of research outputs.

VP26

Awareness of predatory journals among young academics in University sector in Sri Lanka

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Abstract

Objective: Young academics face many choices when it comes to journal publication in their early career in academic field. Especially newly recruited young academic staff members may be unaware of "predatory" online journals and how to differentiate between good and bad journals. In this study,

Method: We assessed the awareness of academic in Sri Lankan universities about open access and predatory journals. We aimed to explore the factors which contribute to publications in predatory journal. Using a structured questionnaire, we examined thirty-one randomly selected your academics understanding of these relationships at university level in the Western Province of Sri Lanka.

Results: Finding from this study were as follows. 65% had at least one publication and it was published in the reputed journals. Almost all who had published at least once in reputed journal knew about predatory journals. The question whether predatory journals are harmful to the society was answered in Likert scale (1=Low and 10=High) and value given by most academics is seven. The findings reflected that predatory journals are harmful to society. In terms of the awareness regarding the Bealls and Cabells list, only 15% knew about it, and it shows that we must create more awareness among academics about predatory journals.

Conclusion Finally, Staff Development Centres should make young academics aware about predatory journals and how to select the best journals for their publication work.

VP27

"Science in action" - teaching research integrity to PhD students in biomedicine, a 20 years perspective

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The lack of reliability of the scientific record has in the last years become trending topic within the scientific community. The Covid-19 crisis has added society to this debate about whether or to what extent should science (and scientists) be trusted.

It is imperative that researchers are aware of the importance of good scientific practices to ensure their work is trustworthy. Here I present how we try to achieve this with a blended compulsory course for early career researchers (ERCs) at a public university in Barcelona. I summarise the content and format of this training course on research integrity for first-year biomedicine PhD students, and how it has evolved during the last two decades. I examine some unsolved issues and some learned lessons based on the experience and feedback from the students who have gone through the course so far.

VP28

Six for one, one for 1500– fostering a culture of integrity in the largest biomedical research hub in South Europe

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Fostering a culture of integrity in any community is a complex challenge. The Barcelona Biomedical Research Park (PRBB) is a building housing 6 independent research centres under one roof. All centres are organisationally and financially distinct entities, but share a common goal of pursuit of knowledge within biomedicine.

In spite of the organisational fact of six centres, the human reality of the PRBB is that the 1500 individuals working in the building form a single scientific community. With rising global concern about the robustness of scientific practice together with awareness that local action is necessary to promote a culture of integrity, a cross-centre working group for scientific integrity was created in 2013, the PRBB Good Scientific Practice Working Group.

Formed by members of the six centres and the PRBB Consortium, its aim is to share good practice and learning across the centres - discussing participation in national and international initiatives and relevant internal news and policy developments - to catalyse education for integrity and to act as a resource in cases of serious misconduct.

Some of the achievements of the group have been: updating the code of good practice, which is a reference for all six Centres, in 2014; a survey of awareness of good scientific practice issues in the PRBB community in 2015; which then led to campaigns like a data management campaign in 2016 and a world café on publication integrity in 2017. More recently, the group has discussed topics such as mental health and wellbeing and responsible research assessment, joining the global interest in these topics with the aim of fostering actions at the local level.

VP29

Juxtaposing Ethical Research with Self-serving and human destructive research: A Case of Persistent Poor Mathematics Performance Albeit Research Excellence.

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Research for a better society is the mission for South African National Research Foundation (NRF). One of its values is ethics and integrity. This paper discusses the impact of research during the post-apartheid era which aimed to change the legacy of suppressing the mathematical potential for most learners in the country. Such research has significantly improved and has been cited as being of excellent and international standards. However, statistics shows that the youth who enrol for mathematics for their National Senior Certificate has declined significantly. More importantly, only a very small fraction of these achieves more than 50% in mathematics. The clear conclusion is that the ethical principle of beneficence has been replaced by self-service and promotion of researchers. Therefore, the betterment of society resulting from research has taken a back seat. Better still, the mission for NRF may be viewed as a rhetoric. This situation forces research to void integrity. The paper concludes by arguing for the need to move society to the forefront of benefiting from research. Failure to do so opens research to become a tool for enslaving and oppressing the society.

VP30

Identification of strategies for promoting research integrity in Thailand

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Research integrity is important and currently received attention worldwide. Many developed countries have established policies and principles to foster research integrity. In Thailand, there have been some information and studies about research ethics and misconducts; however, the study on strategies to support and maintain research integrity at an institutional level is still limited. The objective of this study is to identify the current strategies used for encouraging research integrity in Thailand's universities. The study was started by designing a questionnaire that is composed of 21 questions about mechanisms that universities used to regulate and raise awareness on research integrity, challenges they faced in the past, and their future plans for improvement. The survey was conducted among 44 Thailand's universities and institutes. The data were analyzed using descriptive statistics. The results revealed that formation of institutional regulatory research committees (84%) was the most popular strategy for regulating research integrity in Thailand and Institutional Review Board was most often found in the universities when compared to other committees. Additionally, training in research ethics (77%) and policy adoption (68%) were also identified as the second and third strategies, respectively. Although the detailed data of each strategy was limited, it could be inferred that there were some alertness and preparation for promoting research integrity in Thailand by implementing those approaches. However, further actions to enhance on research integrity, including building collaboration in both institutional and national levels are still possible. In summary, this study has contributed the underlying data that was useful for planning to improve research integrity in Thailand.

Note: In addition to the conference abstract, we also plan to publish the full paper of this study in a journal related to research ethics.

VP31

Supervisors' perspectives on their role as RI trainers and role models: a qualitative study

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Objective

Supervisors might be seen as the backbone of academia in terms of transmitting first-hand knowledge, skills and expertise. Besides research-related expertise, supervisors have the important role of fostering research integrity (RI) practices among their junior researchers. Qualitative studies involving supervisors on their role of being responsible for transmitting responsible research practices are largely missing. The study aims to gather further insights into supervisors' perspectives on their role as RI trainers and role models.

Methods + results

We are carrying out a qualitative study made by a set of semi-structured interviews with supervisors. We are recruiting supervisors from different European countries. Our study group consists of a mixture of supervisors balanced in terms of gender, seniority, discipline (social sciences, humanities, life sciences and, physics and engineering). Supervisors are asked to discuss different themes, namely their role as RI trainers, their responsibilities in training PhD candidates, the main activities and practices that supervisors have to undertake to foster RI and which virtues and characteristics are important for being a good supervisor. Moreover, we explore what they think about institutions being responsible for

supporting, training and rewarding supervisors and good supervision practices. The analysis of the interviews and the research outcomes will be ready at the time of the conference.

Conclusion

The outcomes of the interviews will provide important insights into what supervisors think about their role as RI trainers, as role models and in transferring professional values and responsible research practices. Moreover, the research will provide important knowledge concerning discipline, country, seniority and gender differences on how supervisors perceive their role depending on the before-mentioned factors.

VP32

Reporting characteristics of allergic rhinitis trials registered on ClinicalTrials.gov and in publications

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Objective: Data from randomized controlled trials (RCTs) on Allergic rhinitis (AR) should be complete and consistent throughout multiple sources to ensure accurate evidence-based information so our aim was to determine whether there were discrepancies in the reported data from AR trials.

Method: This cross-sectional study retrospectively analyzed completed RCTs on AR for completeness, informativeness, and major changes to World Health Organization Trial Registration Data Set items as well as the completeness of results data in ClinicalTrials.gov and corresponding publications.

Results: Omitted items were present in 79 (97.5%) of the 81 trials at initial registration, 67 (82.7%) at last registration, and in 21 (58.3%) of the 36 publications. All 81 trials between first and last registration and all 36 publications had major changes in registration items. Trials that started during or after first registration had less complete registration and more major changes to registration items, $\chi^2=4.101$, $P=.04$; $\chi^2=13.711$, $P=.008$, respectively. Major changes in outcomes as the most important were predominantly, changed methodological details in both primary and secondary outcomes between first and last registration as well as in publications although primary outcome changes in ClinicalTrials.gov and in publications included the addition of new outcomes and changes to existing ones. Uninformative reporting of analyzed items was present in both ClinicalTrials.gov and publications. We found that industry-sponsored compared to non-industry funded trials had a statistically significant shorter duration ($\chi^2=6.496$, $P=.01$), more major changes to registration items ($\chi^2=10.192$, $P=.04$) and higher publication rate ($\chi^2=13.558$, $P<.001$). Completeness of results in ClinicalTrials.gov and publications was poor, mostly due to omitted All-cause mortality.

Conclusion: Discrepancies in data elements of AR trials are common in both ClinicalTrials.gov and subsequent publications. To ensure transparency of data reporting from AR trials, multiple stakeholders should be involved to ensure the accuracy and completeness of AR trial data to notice discrepancies before publication.

VP33

Late-registered randomized controlled trials in anesthesiology did not completely report results and adverse events data in ClinicalTrials.gov: a cross-sectional study

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Objective: Clinical trials that fail to report results within one year according to mandates endanger data credibility. We aimed to investigate the consistency and timeliness of reporting of results and adverse events in anesthetic drug randomized controlled trials (RCTs) between ClinicalTrials.gov and corresponding publications.

Method: We searched for RCTs on 25 anesthetic drugs in ClinicalTrials.gov between 2009 and 2017 and retrieved corresponding full-text publications. For primary outcomes, discrepant key data elements, results, adverse events and time from trial completion to publication were reported as frequencies. Chi-square test and binomial logistic regression assessed differences in discrepant reporting of trial characteristics.

Results: We selected 39 RCTs. As many as 21 (53.8%) of them demonstrated some discrepancy in results reporting. Serious adverse events were consistently reported in 36 (92.3%) trials, while other adverse events were consistently reported in only 13 (33.3%). Trials in our study that failed to comply with registration regulations provided discrepant results data more frequently than ones that registered on time (85.7% vs 36%, $p < 0.001$). These trials also reported adverse events less consistently (odds ratio (OR), confidence interval (CI) 7.42 1.07-51.32). Regarding the months elapsed from the primary completion date of trials and the date of acceptance of publications, we found significant differences; non-industry trials published sooner than industry trials and phase III trials published later than phase II or IV ones ($p < 0.001$).

Conclusion: Our novel study identified anesthesiology trials that registered after the deadline with significantly higher rates of discrepancies in results and adverse events reporting. These results emphasize the necessary role of peer-reviewers, editors, and journal administrators to check the validity of trial data and overall integrity of its research methodology.

VP34

Experiences with an Online 3-Hour Academic and Research Integrity Seminar for International Graduate Students in Economics in Xiamen University

Dr. Andrew Pua¹

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In this talk, I will be reporting my experience with organizing and designing a more student-centered seminar on academic and research integrity. I designed this seminar in response to a mandated change that some form of research integrity training be part of our international graduate program in economics. Figuring out how to satisfy this requirement while acknowledging the constraints, such as the inability of our international students to return to China due to the pandemic, along with the competing demands of a tightly designed graduate program, is crucial to get across the key lessons from research integrity training. A student-centered approach creates an opportunity to gain unique perspectives because our international students come from different backgrounds with varying understanding of research integrity issues. Given the broad range of options in designing the training from directly using well-designed and freely available resources, such as VIRT2UE, to merely producing a document citing the regulations related to research integrity, I selected a set of readings which includes

articles from the academic literature and for the layperson. In addition, I used economics-related materials to further increase the relevance of the readings. Although no data collection was done, I believe that the experience, along with the materials used and the actual discussion during the seminar, should help guide other colleagues in their own design choice when faced with a similar situation.

VP35

Translation and cultural adaptation of the Survey of Organizational Research Climate (SOuRCe) for the application in Croatia

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Objective

The aim of the first phase of our scientific project "Research integrity climate at Croatian university" is to translate the English version of the Survey of Organizational Research Climate (SOuRCe) and culturally adapt it for use in the Croatian academic institutions.

Method

Four translators (two knowledgeable and two not knowledgeable about research integrity) have independently translated (forward and backward) the Survey of Organizational Research (SOuRCe). All survey items, responses, and instruction are assessed for content validity, first among 15 members of the expert committee (persons knowledgeable on research integrity from Croatia) through an online questionnaire and second, among respondents from the targeted population (Croatian researchers) through focus group interviews or interviews.

Results

The data collection is expected to end in January 2022 which will provide enough time to prepare results for the presentation at 7th WCRI in June 2022. Our results will provide the Croatian version of the SOuRCe survey with established conceptual, semantic, and content equivalence to the English version of the same survey, which is of great value because there are no instruments in the Croatian language for evaluation of climate of research integrity. More precisely, we will identify the level of clarity and relevance for each survey item, and indicate modifications needed to increase the adaptability of the survey in the Croatian academic setting.

Conclusion

Description of the process of translation and adaptation of the SOuRCe instrument could initiate other translations and cross-cultural adaptations of the instrument which, when applied, provide comparable quantitative results for the assessment of organizational research climate in academic institutions. In the future, the SOuRCe survey could be used to gather basic information about research integrity climate at Croatian academic institutions, to determine areas that need improvements and as a tool to measure

VP36

The Role of Research Compliance and Monitoring in Supporting High Standards of Research Integrity and Behaviour

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A*STAR (Agency for Science Technology and Research), the lead public sector research organization in Singapore, is committed to the highest standard of research excellence and integrity and employs an extensive approach to promote a culture of good research conduct and practices among its researchers.

Research monitoring is a key pillar in ensuring that high standards of research compliance and integrity are adopted throughout the organization. To that end, a Research Integrity, Compliance and Ethics (RICE) Office was established within A*STAR to oversee the audit, review and monitoring of research behaviour and practices at A*STAR research institutions by mandating the policies and operationalisation of the Human Biomedical Research Act (HBRA), a legislation governing human biomedical research in Singapore.

RICE oversees research compliance through internal review and monitoring focusing on areas such as HBRA-related Standard Operating Procedures (SOPs), internal monitoring reports, corrective action and preventive action (CAPA) reports, suspected offence or contravention (SOC) and serious adverse event (SAE) at the institutional level. Other areas of oversight include Institutional Review Board (IRB) documentations, informed consent forms, CITI certification, research/material transfer agreements, sample management and project management at a project-specific level.

As part of the internal review and monitoring, paper review is conducted on all submitted documents followed by an on-site audit comprising of interview sessions with the project team members, including the principal investigator. RICE's observations, findings and follow-up actions are then compiled and shared with the study team at the end of the audit with a deadline provided to complete any follow-up actions based on RICE's recommendations. Additionally, all of these internal review and monitoring work is supported by institutional representatives known as Human Biomedical Control Officers (HBR COs) who help to ensure compliance by conducting internal checks and proper documentation.

Such a comprehensive and robust internal review and monitoring of research activities serves as a cornerstone in identifying systemic issues and gaps in research conduct and practices, allowing RICE to provide timely guidance to scientists and research administrators on areas of improvement to maintain the highest standards of research integrity and practices in A*STAR.

VP37

Authorship Agreements: A Tool for Opening the Black Box of Authorship Conversations

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OBJECTIVE

Intellectual credit in the form of authorship is critically important. However, assigning credit can often be difficult, due to disciplinary differences, the evolving nature of projects over time, and ambiguities in how to weigh intellectual contributions. The current work sought to develop an authorship agreement template to help facilitate open and transparent authorship conversations.

METHOD

We reviewed authorship policies at US institutions, guidelines from professional societies, scholarly literature, and existing authorship templates. This allowed for the creation of a 'best practice' template for authorship conversations.

RESULTS

We determined that several features were important in the authorship agreement:

- First, we emphasize that the agreement is not a legal contract, but is meant to facilitate conversations and help to align expectations. It is a "living document," meaning that collaborators might need to revise it throughout a project.
- Second, we structured the agreement as a series of prompts for users to complete after or during team conversations. This allows them to tailor the agreement as appropriate for the project, while also providing structured topics to consider.
- Third, we included several points based on a review of literature and other authorship agreements:
 - * A declaration of whether the project related to the agreement was based on student work, and a noted expectation that usually, student-led work should result in first authorship for the student.
 - * A section for the team to consider their dissemination goals and what authorship standards they agree to use.
 - * A tentative author list, including roles and ordering.
 - * Acknowledgment list.
 - * Agreement on time frames for waiting when one or more authors ceases to respond to communication about the project dissemination plans.
 - * Reference to the our institutional dispute resolution policy.
 - * A signature area where collaborators indicate who has been a part of the conversation.

Based on these points, we created two versions of an authorship agreement template: one in PDF form and one via an R shiny app that produces a PDF.

CONCLUSION

Intellectual credit is of critical importance. Authorship agreement templates can be leveraged as one means to facilitate open and transparent authorship conversations.

VP39

LARI seek to promote a "culture of RI&RE" and is quick to pick-up the best practices ... a perfect example!

Mr Asael Rouby¹

¹*Lari, Esch Sur Alzette, Luxembourg*

Luxembourg Agency on Research Integrity (LARI) focussed its efforts on various national and international expert duties and on building networks for improving the culture of research integrity in Luxembourg.

LARI was born from a serious research integrity case which generated a lot of turmoil in 2015 in Luxembourg. A civil servant from the Ministry of Research seized the opportunity to generate a discussion on research integrity at national level and received political support in the wider context of the Luxembourgish Presidency of the Council of the European Union (July to December 2015). After some delay, LARI was officially set up as an association two years later by its five founding members, the key research organizations of Luxembourg: Fonds National de la Recherche (FNR), University of Luxembourg (UL), Luxembourg Institute of Science and Technology (LIST), Luxembourg Institute of

Health (LIH), and the Luxembourg Institute of Socio-Economic Research (LISER). In a first stance, the international research integrity commission (CRI) has been established, followed by the recruitment of the Secretary General. The design of LARI as an association of different organisations working with an external and international Commission and a Secretariate has been defined by adapting the Austrian Agency for Research Integrity

LARI sees it as its responsibility to raise awareness for research integrity in Luxembourg. It provide a service facility and offer independent investigations of allegations of research misconduct (only for its member institutions). For this purpose, a permanent commission (CRI) of 5 foreign experts had been established to avoid any conflict of interest. Further a key feature of the Luxembourg Agency for Research Integrity (LARI) is LARI Coaches. They receive specified training and continuing education for their role. Coaches are never a replacement for the research supervisor; they are research peers across institutes who guide and instill proactive best practice in the research process.

Countries learn from each other, some improve their own structures and procedures, others successfully move towards the establishment of their own national structures on research integrity. Luxembourg is quick to pick up the best practices and LARI is a perfect example!

VP40

Maintaining research integrity in online interviewing: reflections from research in Ukraine during the COVID-19 pandemic

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COVID-19 pandemic has disrupted research activities worldwide, so scholars had to adjust to virtual data collection. While development of information and communication technology (ICT) made online surveys, document, content and discourse analysis a norm (O'Connor, 2015), individual and group interviews were predominantly done face-to-face before the global pandemic (Trate et al., 2020). Scholars argue that pandemic has pushed researchers to fully capitalize on the opportunities offered by ICT to maintain social distancing (Foley, 2021; Trate et al., 2020), but as discussed by Lo Iacono et al. (2016) research on online interviewing remains scarce. This proposal aims to address the question of ensuring ethical practices in online interviewing during the COVID-19 pandemic. It builds on the author's reflections and comparative analysis of experience conducting virtual and face-to-face interviews with scholars in post-Soviet Ukraine. While social distancing requirements prevented many in-person activities in Ukraine, increased familiarity of scholars with ICT tools for online communication has enabled them to connect worldwide at lower financial and time expenses. However, building trust and rapport with research participants in an online setting represents a challenge in the context of growing Zoom-fatigue. Online interviewing is a challenging balancing act of providing interviewees with opportunities to exercise their agency while ensuring ethical practices throughout the data collection process. These aspects of qualitative data collection are important in the Ukrainian context, which experiences a lack of research integrity infrastructure combined with a growing academic integrity movement.

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VP 41

ETHICAL PERSPECTIVES OF INDIAN RESEARCHERS TOWARDS CARRYING OUT RESEARCH AMONG PEOPLE WITH DISABILITY

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OBJECTIVE:

The objective of this research was to study the Perceptions of researchers in India towards carrying out research among people with disability, in Mangalore, Karnataka, India.

METHODOLOGY:

Qualitative study involving in-depth interviews were conducted. Study participants included researchers working in a tertiary care hospital in Mangalore, India. The interviews were conducted in English and lasted for 45 – 60 minutes. The principles of ethics were used to frame the interview guide with key questions. Data saturation was obtained with tenth participant, after which two more interviews were conducted to confirm saturation. All interviews were transcribed and thematic analysis was done.

RESULTS:

Data was analyzed thematically, using both inductive and deductive coding techniques, to identify the themes related to the perceptions of the researchers.

Study findings reveal that obtaining consent was a major challenge as it is dependent on communication issues, comprehension, decision making capacity, co-operation, extra care and extra time required for the same.

Concerns were raised about the benefits of conducting research, including fear of inducements and exploitation. They are at an increased risk of harm as they may not be able to understand the procedures and unable to express their feelings. Researchers felt that research should not be done if its harmful as it might affect the subjects psychologically and physically. However, harm can be reduced by taking proper consent, by providing compensation and by conducting the study in a controlled environment and following correct methodology.

Few of them also felt that if the same research could be done on normal individuals then it should not be done on people with disability. There was a suggestion for a separate regulatory body to monitor research on people with disability to reduce chances of exploitation, misadventure or mishaps. The importance of training for researchers to conduct research on people living with disability has been highlighted in this study.

CONCLUSION:

The study reveals that as Informed Consent is a major challenge, researchers should take steps to assess the disability and facilitate the Informed Consent process. Effective communication strategies should be adopted to build rapport and subsequent engagement with the participants.

VP42

The current status on research quality management by conducting online survey in Thailand.

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The National Science and Technology Development Agency (NSTDA) has established the division of Research Quality Management (RQM) has since 2016 to promote good practices of research. In evaluating research quality, online survey was conducted. This aims to determine the quality practices of collaborating partners.

The studied population is researchers who collaborated with NSTDA' researchers or received grant from NSTDA in the past five years (2016-2021). The questionnaire consisted of three parts, demographic, current practices in research practices and understanding (including record keeping, authorship, research equipment management, reproducibility and understanding of Technology Readiness Level (TRL)), and perspective of research quality improvement.

22.6% of 1,236 surveyed population answered. The majority (78%) used or intended to use an appropriate laboratory notebook type for their research (experimental, computational, theoretical, software & programming, etc.). However, only 11% followed good record keeping practices to ensure IP protection. Regarding authorship practices, 63% reported the lack of institutional policy. 53% agreed with all four criteria of ICMJE. 36% of respondents always defined output specification in the beginning of project and 59% tried to ensure reproducibility of their research results.

This information is useful for improving research management system. Trainings in research quality (RCR, RI, etc.) are necessary. It is also important to have proper research culture and appropriate mentoring system in the organizations.

VP44

How writing plain language summaries can foster research integrity - a virtue ethics perspective

Dr. Marlene Stoll¹

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Scientific evidence should not be trapped in the ivory tower of academia, but be shared with the general public. However, it may seem challenging to communicate scientific results to non-experts while simultaneously maintaining scientific rigor. One solution is to implement plain language summaries (PLS) - short, lay-friendly summaries of scientific studies. In this talk, I present the idea of how writing PLS can foster (your) research integrity.

First, I will give background information on PLS - what they are, who writes them, and what they are written for. For this purpose, I will refer to a systematic literature review my research group has conducted (Stoll et al., 2021). We found that PLS have mostly been known in the medical sciences, but are now adopted by other disciplines. Opinions vary on how PLS should be written, however there is yet scarce empirical research on how to best formulate PLS. I will present a conceptual framework that interconnects theoretical and empirical views on PLS.

In my talk, I will explore a virtue-related perspective by discussing the opportunities and challenges of communicating scientific evidence in the form of PLS. Virtue ethics focuses on virtues and moral character instead of duties or rules, or of consequences of actions. Thus, we will look at virtues that are involved in the process of communicating scientific evidence to non-scientists - both for the individual researcher and the scientific community. For example: How can we handle situations in which we are faced with a tradeoff between comprehensibility and scientific rigorousness? Solutions can be found in

skills such as self-reflection and the shift of perspective, which are both important parts of the science communication process. By actively taking part and designing this process, we can foster research integrity on the individual level as well as for the scientific community. Together, we will discover how the idea of fostering research integrity by writing PLS can be transformed into action, by taking either small or big steps.

Stoll, M., Kerwer, M., Lieb, K., & Chasiotis, A. (2021). Plain Language Summaries: A Systematic Review of Theory, Guidelines, and Empirical Research. PsychArchives. <https://doi.org/10.23668/psycharchives.5044>

VP45

Academic procrastination and academic plagiarism: differences according to grade and sex in secondary school students in Lima – Perú.

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Plagiarism is one of the most common actions related to academic dishonesty, a situation that is exacerbated by technological progress, easy access to information and procrastination. The research on plagiarism in Latin America is focused on the university level, leaving aside the point of origin, where research practice begins, which is in the regular basic education, and where this bad practice is established and, without guidance and training, becomes heavily widespread. Consequently, it is imperative to promote research integrity in basic education levels in order to achieve ethical practices in data collection, analysis and reporting.

This research addresses the relationship between procrastination and academic plagiarism, according to gender and grade level, in young students in Lima, Peru.

The study is a quantitative, empirical study, enrolling 407 students of both sexes, juniors and seniors of (or 11th and 12th grade) secondary school. The EPA scale (Domínguez, Villegas & Centeno, 2014) and the Academic Plagiarism Questionnaire (Sureda, Comas & Oliver, 2015) were used for data collection, and a psychometric analysis was carried out.

The results show that there is a direct, moderate and significant relationship between procrastination and academic plagiarism, i.e. the higher the level of procrastination, the greater the tendency to commit plagiarism. Males are more likely to engage in these practices. Procrastination may be understood as a predisposing factor to plagiarism. Students in the last year of secondary school are the ones who present the highest level of plagiarism, and the literature shows that they extend these dishonest practices to university life and later to professional development.

In conclusion, plagiarism is consolidated as a recurrent behaviour in early academic life, a practice that extends to research activities. Plagiarism increases with age and therefore impacts future professionals. Hence, educational institutions need to establish training programs, guidelines and accompany processes, not only in the academic field, but also in research to promote scientific integrity and avoid dishonest behaviour. Therefore, research integrity training courses should be included in the curriculum, as well as methodologies in line with the advances in ICT and the requirement for blended literacy, integrating the appropriate handling of information.

VP46

The Role of Academic Journals in the Construction of Research Integrity, Problems and Suggestions for Improvement

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Objective: To find out the main problems of Chinese academic journals in maintaining research integrity and to propose the main methods to solve the problems.

Methods: We conducted a literature search on China Knowledge Network using the keywords "publication ethics", "publication integrity" and "submission factors", and summarized the main ideas of the searched Chinese papers.

Results: Chinese academic journals have an extremely important position in the research integrity construction system, but there are still many problems in maintaining research integrity in domestic academic journals, mainly: ①the lack of systems and practices in most academic journals to deal with research misconduct encourages violations; ②many academic journals have unregulated or formal ethical reviews, which encourage scholars to disregard ethical norms; ③conflict of interest is a common problem in many academic journals, which lead to the growth of transgression awareness among researchers; ④many academic journals basically have no authorship norms or have norms but not enforcing them, which condone honorary authorship and shadow authorship; ⑤most journals have a long review and publication cycle, which induces multiple submissions and duplicate publications; ⑥most journals do not require the submission of research data, which indulge researcher to falsifies and fabricate data; ⑦some journals manipulate the impact factor, which induces authors to falsify citations and references.

Conclusion: Two fundamental recommendations were made to address the "root cause" of the problem: the first is to reform the institutional mechanism, adopt an advanced review platform and reform the review mode; the second is to strengthen education in terms of ideological awareness and transform the current situation that journal staff do not really pay attention to the construction of research integrity.

VP47

The University of the Philippines Manila Committee on Research Integrity — born into the Pandemic

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Attendance at the 6th WCRI in Hong Kong served as catalyst for forming the UPManila Committee on Research Integrity (CRI) in October 2019. This was a timely response to the: (1) increasingly complex Research infrastructure of UPManila; (2) seeming increase in allegations of QRP among staff; (3) absence of an Office to handle RI violations; and (4) international funding agencies' demand for an ORI in the UPManila. The Committee's educational campaign initiative was, however, abruptly interrupted by COVID after only 2 major activities. In this paper, we present the postpartum efforts undertaken by the Committee during 2 years of the pandemic to achieve its goals of education and investigation of allegations of RI violations.

After a temporary lull during lockdown in March 2020, CRI momentum recovered through lectures on RI at hospital GRP workshops and through individual education efforts by CRI members in home Units. A Code for the Responsible Conduct of Research was crafted by the Committee, unique to UP Manila but patterned after codes from Europe, Australia, US and the APEC Principles of RI. After several iterations, the Code was launched for UPManila in November 2020 and adopted for the entire UP System

the following year. Earlier in May 2020, the Committee secured a research grant to undertake a study “Perception of Research Integrity Climate in a University of Higher Education” in order to better comprehend UPM Manila RI needs. At the start of 2021, the Committee initiated a quarterly series of popular educational webinars: Plagiarism, Fabrication & Falsification and Authorship, each of which was guested by international and local experts on research and academic integrity. In order to extend its reach within campus, the Committee is also expanding membership to include representatives from each of UPM Manila’s Colleges.

None of these activities have been conducted face-to-face—activities have been achieved entirely utilizing virtual conference platforms; CRI members have never been together physically. These achievements would have been impossible without a dedicated team of RI champions, guidance from international experts and committed administrative support. In October 2021, 2 years postpartum, the Committee processed its first formal complaint of an RI violation.

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ORI Perspectives: Discussion on Trends, Experiences, and Expressed Needs Related to Research Integrity for Implementation of Future Activities and Initiatives

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Over 5,500 institutions conducting research worldwide constitute the regulatory oversight sphere for the Office of Research Integrity (ORI). The diversity of institutions (e.g., public/private, foreign/domestic, academic/corporate/government, large/small, etc.) necessitates thinking about commonalities and recognizing differences to develop practices, initiatives, and outreach that would be relevant to and support the vast majority of the research community and public health interests.

Key elements of ORI’s mission include handling allegations of research misconduct and supporting research institutions in their efforts to foster an environment that promotes research integrity and the responsible conduct of research. Our collective experiences in these areas, as well as input from stakeholders in response to our recent Request for Information announcements are informing our approach to this mission.

We will discuss recent research and activities conducted at or undertaken by ORI and how they along with the experiences mentioned above are informing future initiatives, community engagement, and research broadly related to ensuring research integrity, as well as thinking pertaining key considerations for policies and procedures related to handling allegations of research misconduct and promoting the responsible conduct of research.

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Perspectives on and Efficacy of Higher Education Using Media Materials for Responsible Conduct of Research

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Objective: Since Responsible Conduct of Research (RCR) is crucial in producing high-quality work. However, with the COVID-19 pandemic affecting people’s lives, the research scenario in Japan in the first half of 2020 saw many trial and error efforts such as remote classes, on conducting research. This study examines the effectiveness of distance education using media materials in achieving RCR.

Method: The subjects were 22 first-year medical students taking the "Science and Society" class. Remote lessons were conducted from all prefectures in Japan using the Japanese version (JST) of THE LAB, a tool developed by HHS and ORI in the US. Students learn the characteristics of research misconduct and its avoidance as depicted in a drama format through role-play. Four-choice response and free description were used to measure changes in learners' awareness before and after the lessons.

Results: With a response rate of 100%, pre- and post-lesson changes are shown as percentages (before→after). (1) Degree of interest in research misconduct and RCR: high 9%→36%, fair 36%→50%, slight 50%→14%, none 5%→0%. (2) Awareness of research misconduct and RCR: high 5%→32%, considerable 27%→41%, slight 55%→23%, none 14%→5%. (3) Explanation of background and reasons for research misconduct: good 0%→18%, fair 32%→73%, average 55%→9%, poor 14%→0%. (4) Proposal to prevent research misconduct: good 0%→14%, fair 41%→77%, average 41%→9%, poor 18%→0%. (5) Ability to explain how scientific papers should be written: good 0%→9%, fair 14%→73%, average 68%→18%, poor 18%→0%. (6) Suitable stage for introducing learning of research misconduct and RCR: elementary school 9%, junior HS 23%, HS 27%, undergraduate first half 45%, undergraduate second half, graduate school first half 0%, graduate school second half 0%. In the free description, some students considered learning RCR very useful for in-depth understanding of research activities. In the presentation at WCRI 2022, we would like to mention the results of the 2021 analysis under investigation.

Conclusion: Distance education using media materials to teach RCR was found to be highly effective. Although the pandemic affected the field of education, it also led to positive perspectives about future education and learning.

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