

Incentives and Impediments to Research Integrity

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Outline

- why and how we engage in research
- why we must have the highest standards
- factors that support good behavior
- factors that may counteract good behavior
- emerging issues

Purpose of research

- it's fun!
- generate knowledge
- improve our lives
 - socially
 - physically
 - medically
 - environmentally

To accrue these
benefits, we need to
take risks



Wikicommons

My obligations as an investigator

- follow scientific method
 - best approach to answer question
 - appropriate controls
 - adherence to protocol
 - critical evaluation of results
 - ensure congruence between raw data and presentation
- value unexpected results
 - hypotheses can be wrong
 - unexpected results can lead in exciting new directions

Benefits of integrity

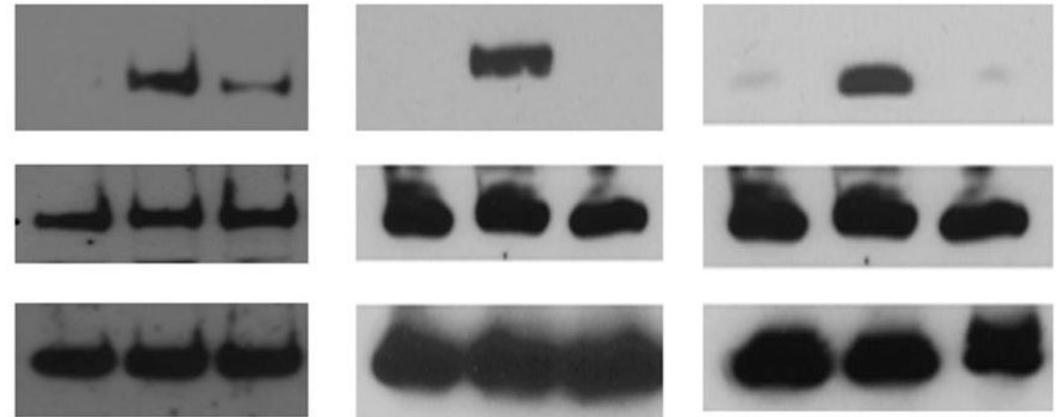
- allows reproducibility
 - strong foundation for future research
- protect and enhance reputations
 - investigators
 - journals
 - institutions
 - scientific enterprise
- improved outcomes

Forces supporting integrity

- norms
 - general ethics
 - discipline-specific
- RCR education
- laboratory practices
 - clear expectations
 - ongoing discussions
- example setting
 - institutional leadership
 - PIs
 - peers

Opposing factors

- less-than-fully effective RCR education
- decentralized institutional structures
- promotion and tenure requirements
- institutional obsession with rankings
- chasing journal impact factors
- suboptimal peer review
- hierarchical social structures
- pressure to obtain the expected result



Issues to consider in the future

- life sciences dual use
- emerging technologies
- the “post-truth” era
- information hazards
 - should all results of fundamental research be freely shared?

Concluding thoughts

- incorporate ethics into *all* university programs
- don't value dollars ahead of behavior
- expect the unexpected
- make integrity an ongoing part of the culture
 - encourage dialog
 - discourage retaliation

Our duty to society



“Acting responsibly is below my pay grade.”