

Responsible Conduct of Research: Ethics and Policy

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Today's talk

- The EMBO Science Policy Programme
- Responsible conduct of research/
research integrity
- At and beyond the bench (or computer!)
- What would you find useful in addition?

EMBO Science Policy Programme

- Newest EMBO Programme (April 2011)
- Motivated by the work of Members and the broader EMBO community
- Two areas of work
 - Service
 - Research

EMBO Science Policy Programme

- Service
 - Interactions with policymakers
 - Horizon 2020
 - Open access
 - Mobility
 - Represent EMBO in other professional bodies
 - In development: RCR materials and training

EMBO Science Policy Programme

- Policy research
 - Biotechnology
 - Scientific publishing
 - Responsible conduct of research

Responsible Conduct of Research

- Ethics
 - Moral principles
 - Human subjects and animal research (though not exclusively)

- Policy
 - Everything else

Responsible Conduct of Research

- History
 - Human subjects
 - Public funding
- Theory
 - Freedoms, rights, responsibilities
 - Responsible research is better research

Responsible Conduct of Research

- This is about processes
 - Proposing, performing, evaluating
 - Reporting
 - Codes and norms
- Checklists
- Responsible parties
 - Seek out your institutional responsible officials
 - Positive obligation

Basics

- Training
 - Requirements
 - Beyond the requirements
- EMBO resources
 - Epigeum online training course available soon
 - Staff

Research misconduct

- Fabrication
- Falsification
- Plagiarism
 - Self plagiarism

Research misconduct

- Fabrication
- Falsification
- Plagiarism
 - Self plagiarism

In short: don't lie, cheat, or steal

Research misconduct definitions

- *Fabrication* is making up data or results and recording or reporting them
- *Falsification* is manipulating research materials, equipment, or processes, or changing or omitting data or results such that the research is not accurately represented in the research record

Research misconduct definitions

- *Plagiarism* is the appropriation of another person's ideas, processes, results, or words without giving appropriate credit.
- These concepts apply in virtually all aspects of research from conception to publication

Human subjects research

- Belmont report (1979)
 - Respect for persons (autonomy)
 - Beneficence
 - Harms
 - Justice
 - Taking advantage of classes of people, or exclusion from research

Human subjects research

- Informed consent
- Data
- Code of Federal Regulations, Title 45 Public Welfare, Department of Health and Human Services, Part 46, Protection of Human Subjects (45 CFR Part 46, aka Common Rule)

Research with animals

- Institutional Animal Care and Use Committee (IACUC)
- Invertebrates
- Vertebrates

Life science research

- Institutional biosafety committees (IBCs)
- Established in the mid-1970s

Asilomar 1975

ROLLING STONE, JUNE 19, 1975

THE PANDORA'S BOX CONGRESS

By Michael Rogers

140 Scientists Ask: Now that We Can Rewrite the Genetic Code, What Are We Going To Say?

Life sciences research

- Institutional biosafety committees (IBCs)
- Established in the mid-1970s
- Effectively all work at all research institutions requires IBC approval or exemption
 - Exceptions
- Coordinated Framework for Biotechnology

Publishing

- Authors
- Reviewers
- Editors
- Publishers
- Readers
 - Scientists
 - Others

Biosecurity

- Not a uniquely American problem, but more emphasis here than anywhere else
- Dual use research
- Fink report 2004 *Biotechnology Research in an Age of Bioterrorism*
 - Dual use research of concern should be reviewed

Experiments of concern

- Render a vaccine ineffective
- Confer resistance to antibiotics or antivirals
- Enhance pathogen virulence or render a non-pathogen virulent
- Increase pathogen transmissibility
- Alter pathogen host range
- Evade detection by diagnostics
- Weaponization

When things go wrong

- Responsible officials
 - Listening post
 - Whistleblowing
-
- Tort law

More expansively

- Resources are limited, needs seem limitless
- What is responsible research?
- Who decides?

Final thoughts

- Irresponsible conduct hurts science
- Responsibility is ultimately about good citizenship, within science and for your larger community

Your thoughts