RESEARCH INTEGRITY AND ETHICS
Active adherence to ethical principles and professional standards essential for the responsible practice of research.
CATEGORIES

- Conflicts of Interest
- Human Subjects
- Animal Welfare
- Data Acquisition & Management
- Responsible Authorship and Publication
- Research Misconduct
- Mentoring
- Collaboration
- Peer Review
- The Scientist as a Responsible Member of Society
CONFLICTS OF INTEREST

- Financial
- Academic
- Conscience
- Commitment
HUMAN SUBJECTS

- History
- Belmont Report
  - Respect for Persons
  - Beneficence
  - Justice
- Common Rule
  - Regulations for research institutions
  - Informed consent
  - IRB requirements
  - Vulnerable populations (prisoners, pregnant women, and children)
- Institutional Review Board (IRB)
Animal Welfare Act (1966)
- Warm-blooded species (except rats, mice, and birds)
- Excludes invertebrates, fish, and farm animals
- Register with USDA
- Enforced by unannounced inspections with USDA

The Guide
- Standards for housing, medical care, facilities

3 Rs
- Replacement
- Reduction
- Refinement

Institutional Animal Care and Use Committee (IACUC)
DATA ACQUISITION & MANAGEMENT

- Recorded factual material to validate findings
  - Includes: protocols, numbers, graphs, field notes, computer files, research notebooks
  - Does not include: peer review notes, trade secrets, personnel info

- Ownership

- Collection
  - Garbage in – garbage out
  - Mistakes vs falsification
  - Authorization – IACUC, IRB, photographs, etc
  - Numbered, bound notebooks and electronic verification

- Storage

- Sharing
**RESPONSIBLE AUTHORSHIP & PUBLICATION / RESEARCH MISCONDUCT**

- **Authorship**
  - Who should be listed as an author?
  - Who shouldn’t?
  - What order?

- **Publication**
  - Full and fair description
  - Accurate report of the results
  - Honest and open assessment of findings

- [http://retractionwatch.com](http://retractionwatch.com)

Significant departure from norms, committed intentionally/knowingly/recklessly, preponderance of evidence
MENTORING

Mentor

Mentee
“Sometimes I think the collaborative process would work better without you.”
“Evaluation by colleagues with similar knowledge and experience”

Effective peer review
- Timely
- Thorough
- Constructive
- Free from personal bias
- Confidential

Most scientists regarded the new streamlined peer-review process as ‘quite an improvement.’