An Introduction to Research Ethics
(Integrity and Responsible Conduct in Research)

RCR Training
Spring 2012
What is RCR, the Responsible Conduct of Research?

The practice of scientific investigation with integrity. It involves the awareness and application of established professional norms and ethical principles in the performance of all activities related to scientific research. (NIH definition)

RCR is important at all stages of research including planning, conducting, reporting, and review.
Why RCR?

• Integrity in research is an essential component of the research enterprise.
• Ethical research is the responsibility of the entire research team.
• It is a requirement:
  – National Institutes of Health (NIH)
  – National Science Foundation (NSF)
• It is a core component of the new UNLV Research Certificate.
RCR Training at UNLV

- Guidelines on the UNLV Office of Research Integrity website
- CITI RCR Course (available on-line)
- UNLV Research Office RCR Training – including presentations, case studies, and on-line materials
- Other research methods and ethics courses (need all NIH/NSF components)
- Mentoring in the research environment (informal)
RCR Special Topics

• Animal Welfare
• Human Subjects Protections
  – Required training for anyone working with vertebrate animals or human subjects.
  – Covered through on-line training (LATA and CITI).
  – Contact the Office of Research Integrity for further details.
RCR Topics in this seminar series

• General Ethical Responsibilities in Research
• Research Misconduct
• Acquisition, Management, Sharing, and Ownership of Data
• Conflicts of Interest and Commitment
• Publication Practices and Responsible Authorship
• Mentor/Trainee Responsibilities
• Peer Review
• Collaborative Research
What are the shared ethical values of the research community?

**Honesty** — conveying information truthfully and honoring commitments

**Accuracy** — reporting findings precisely and taking care to avoid errors

**Efficiency** — using resources wisely and avoiding waste

**Objectivity** — letting research results speak for themselves and avoiding improper bias

From: Steneck, *ORI Introduction to RCR*
What are the shared ethical values of the research community?

- **OPENNESS** – Sharing data, results, ideas, tools, resources; being open to criticism and new ideas
- **CONFIDENTIALITY** – Protecting confidential documents such as proposals, papers submitted for publication, and research participants
- **RESPECT** – For colleagues, intellectual property, and new ideas
- **FREEDOM** – freedom of thought and inquiry
- **EQUALITY of OPPORTUNITY** – opportunities based on merit

From: Shamoo and Resnik, *Responsible Conduct of Research*
Research Ethics are Codes or Guidelines That Help Reconcile Value Conflicts

Individual Rights versus Immediate Gain

versus versus

Openness Future Welfare
Some Important Questions

What is science?

What is scientific research?

What is research integrity?

Why is integrity essential?

What groups are concerned about integrity?

What are the principal forms of misconduct?

How do we manifest integrity in our work?

Where do we go for help?
What is Science?

Paradigm

Observations (supporting)

Theory (organizing)

Hypothesis (creative – generating)

testing
Scientific Process
Scientific Process

Cultural Context

Scientific Process
Cultural Context

Scientific Process

Transitional Aspects

Societal Moral Structures and Norms (e.g., Bioethics)
Scientific Process

Cultural Context

Scientific Process

Ethical Applications
(e.g., Informed Consent)

Societal Moral Structures and Ethics
(e.g., Bioethics)

Transitional Aspects
Scientific Process
Cultural Context
Transitional Aspects
Societal Moral Structures and Ethics (e.g., Bioethics)

Ethical Applications (e.g., Informed Consent)

Scientific Process

Ethical Behavior in Scientific Practice (e.g., Research Integrity - RCR)
The logical necessity of scientific integrity...

It is in the rational self-interest of scientists to make ethical decisions* at each step in the process of research – to reflect the moral structure of the scientific enterprise.

*Two metaphors:

The Tragedy of the Commons (loosely from Hardin)

Scientific Community Kin Selection (loosely from Hamilton)
The Individual and his/her Ethical Community

**Personal Community**
- family and friends
- neighborhood
- religious affiliation
- university or college

**Researcher**
**Intersecting Ethical Communities**

**Personal Community**
- family and friends
- neighborhood
- religious affiliation
- university or college

**Scientific Community**
- mentors
- peers
- associations
- funding agencies

*Researcer*
Researcher Responsibilities:

Research participants
Research sponsor(s)
Colleagues and the Profession
Public at Large (society)
Knowledge development
Progress in science?
Rather fail with honor than succeed by fraud - Sophocles
The Real Path of Research?
The Unholy Trinity of Research Misconduct

Fabrication

Falsification

Plagiarism

...all are forms of deception
Scientific Research is an enterprise which seeks “truth”…

…while simultaneously trying to avoid falsehood.
Quality by which a person claims to know something intuitively, instinctively, or "from the gut" without regard to evidence, logic, intellectual examination, or actual facts.
Minimizing Research Risk:

Risk-benefit assessment

Informed consent of participants

Pilot studies

Proposal peer review
OPPORTUNITIES FOR APPLYING ETHICAL PRINCIPLES IN SCIENTIFIC RESEARCH
Shared responsibilities of Researcher and Institutions

Internalization of Norms

Establishment and Maintenance of an Ethical Climate
Special Conditions for:

- CHEMICAL SAFETY
- BIOLOGICAL SAFETY
- PERMIT REQUIREMENTS
- VERTEBRATE ANIMALS
- HUMAN SUBJECTS
- TRAVEL/SHIPMENT (EXPORT CONTROLS)

*e.g.*, 

Health and Safety Office – Rad Safety
ORI/Institutional Review Boards (IRB’s)
IACUC (animal care & use)
Public Lands (permits)
EXPORT CONTROLS

Export Control Laws are laws which prohibit the unlicensed “export” of certain technologies to foreign persons for reasons of international security and trade protections.

Restrictions apply to:
• Foreign Travel
• Foreign Shipments
• Deemed Exports in the US

UNLV has a website
http://research.unlv.edu/export/index.html
and has purchased CITI training available at:
https://www.citiprogram.org/
WHERE DO I GO FOR HELP?

PI/Mentor

Colleagues

Chair or Director

Research Office
Resources:

Links on UNLV ORI website


