Responsible and Ethical Conduct of Research

• The practice of scientific investigation with integrity

• The awareness and application of established professional norms and ethical principles in the performance of all activities related to scientific research
WHY DOES IT MATTER?

• The responsible and ethical conduct of research (RCR) is critical for excellence, as well as public trust, in science and engineering.

• Public and regulatory demand for accountability

• Perceived breaches of integrity result not only in loss of respect for the institutional researcher, but also loss of respect for and damage to the institution

• Institutions are responsible for verifying that undergraduate students, graduate students, and postdoctoral researchers have received training
RESPONSIBILITIES

Individual Responsibilities:

• Every person associated with research has a responsibility to ensure the integrity of the research environment by reporting misconduct
• Suspected incidences of misconduct should be reported as soon as possible to a supervisor/appropriate administrator

University Responsibilities:

• Promote and encourage integrity
• Discourage and detect misconduct
• Take appropriate disciplinary action
• Act confidentially and professionally
• Limit voluntary disclosure of information
Main Types of Research Misconduct

Fabrication
Making up data or results.

Falsification
Changing data or results.

Plagiarism
Using ideas of words of others without giving the appropriate credit.
ETHICAL TRANSGRESSIONS

Ethical transgressions associated with research can cause serious harm to individuals and institutions. Examples include:

- Cover-ups of misconduct in science
- Sexual harassment
- Malicious allegations of misconduct in science
- Violations of due process in handling complaints of misconduct in science
MENTOR AND TRAINEE RESPONSIBILITIES

Issues include:

• Disrespect toward student efforts
• Misappropriation of student work
• Harassment of students
• Abuse and misuse of student time and efforts
• Suppression of whistleblowing
• Faculty-directed malfeasance
• Neglectful teaching and/or insufficient course structure
• Inadequate advising and mentoring
Responsible Authorship

- Complete, accurate and unbiased reporting of methods and results in order to facilitate replication
- Accurate attribution of contribution, influences, references, etc.
- Avoiding duplicate publications or dividing unnecessarily into multiple publications

Peer Review

- Should ensure accuracy and significance and protect the reputation of authors
- Applies to publications of research results, research plans, and instructional plans
- Consider serving as a reviewer for professional funding agencies
Institutional Review Board (IRB)

Ensures that human subjects are adequately protected
Required in any research involving human subjects
IRB approval must be obtained prior to collecting any data

Class-Related Projects Requiring IRB Approval

All master’s thesis and research projects involving human subjects
All projects for which findings may be published or otherwise disseminated
All class-related projects for which collected data will be archived for any purposes other than administrative evaluations

For more information regarding human subjects and IRB information, visit http://www.utm.edu/departments/rgc/irb.php
Federal regulations govern the care and use of animals used in teaching and research - USDA, OLAW, PHS

Animal research is even more scrutinized than human subject research with additional precautions/ethical considerations because animals cannot give consent or speak.

Investigators are required to adhere to the policies and procedures of their institution’s IACUC, to have appropriate training, to minimize the pain and suffering of animals, and avoid the unnecessary use of animals.

Protocols for animals must be reviewed and approved by the UTM IACUC. Guidelines governing the use of animal subjects in research at UTM are available online at http://www.utm.edu/departments/rgc/_pdfs/IACUC_bylaws.pdf
Federal regulations require that all IRB and IACUC members and all persons involved with the care of animals on campus have documentation of training on file.

Failure to have and follow appropriate procedures for IRB and IACUC review and approval can result in federal investigations, sanctions, and fines for the university.
# COLLABORATIVE INSTITUTIONAL TRAINING INITIATIVE (CITI)

<table>
<thead>
<tr>
<th>REQUIREMENTS</th>
<th>WHY IS IT IMPORTANT?</th>
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<tbody>
<tr>
<td>UT Martin requires all undergraduate students, graduate students, and postdoctoral researchers to complete the online CITI training prior to engaging in any research endeavors.</td>
<td>UT Martin is bound by Federal-wide Assurances to uphold these guidelines.</td>
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<td>Training for faculty is recommended, but not required.</td>
<td>We are regularly visited by the USDA for the review of IACUC proceedings and animal care facilities.</td>
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<td>OHRP often conducts unscheduled and unannounced inspections.</td>
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# DATA

## DATA ACQUISITION, MANAGEMENT, & SHARING

<table>
<thead>
<tr>
<th>Collection methods</th>
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<tbody>
<tr>
<td>Safety</td>
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<tr>
<td>Data integrity</td>
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<tr>
<td>Records retention, storage, and protection</td>
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<tr>
<td>Sharing data collected for research and scholarly inquiry activities</td>
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<tr>
<td>Intellectual property</td>
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## DATA OWNERSHIP

Generally speaking, the University owns any data collected as a function of your employment or through sponsored funding administered by the University.

There may be some exceptions. If in doubt, ask the ORSP.
## DATA

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<tr>
<th>DATA MANAGEMENT</th>
<th>DATA SHARING</th>
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<tr>
<td>How will the data be stored once it is collected?</td>
<td>Research data should be stored in such a manner that it can be made accessible to fellow researchers interested in replicating your results.</td>
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<tr>
<td>Some data must be retained for three years or longer.</td>
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<tr>
<td>Some data must be store in a secured location with controlled access.</td>
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<td>Know the requirements for your data.</td>
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INTELLECTUAL PROPERTY

The University is committed to protecting the intellectual property rights of the University and its faculty, staff, and students. Disclosures must be filed with the ORSP through Intervention Disclosure Disclosure Enterprise Application (I.D.E.A) at https://idea.tennessee.edu/
CONFLICTS OF INTEREST AND COMMITMENT

Ensure the objectivity of research
Eliminate any conflicting bias
- Financial
- Personal
- Professional
- Commitment

CITI Program training for Financial Conflicts of Interest is required for PHS-funded programs
COLLABORATIVE RESEARCH

The term "collaboration" in academic research is usually thought to mean an equal partnership between two academic faculty members who are pursuing mutually interesting and beneficial research.

Roles, responsibilities, and expectations need to be clearly defined.

Written agreements should be secured to avoid disputes.

Failure to have and follow written agreements among collaborators can lead to trouble and damage friendships.
ADDITIONAL INFORMATION

UT MARTIN POLICIES

Compliance issues:
http://www.utm.edu/departments/rgc/compliance.php

Handbooks:
http://www.utm.edu/departments/rgc/handbooks.php

Forms:
http://www.utm.edu/departments/rgc/forms.php

Responsible Conduct of Research (RCR) policy:
http://www.utm.edu/departments/acadaff/_docs/Responsible%20Conduct%20of%20Research.pdf

ACCESS TO ONLINE TRAINING

The training website is www.citiprogram.org

Training is available to anyone affiliated with UT Martin at no cost to the individual

Facilitates training at your convenience

CITI provides certification of completion

For more specific instructions, contact the ORSP
CONTACT THE ORSP FOR MORE INFORMATION

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