First: Give Credit where Credit is Due!

The material in this briefing was originally compiled by Dr. Kempel, and much of it comes from...

The Graduate School
Michigan State University
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Why Responsible Conduct of Research Training
Q & A
Background Material on Select Topic Areas
  Plagiarism
  Authorship
  Intellectual Property
  Data Management
  Collaborative Research
  Human Subjects

Why RCR? And... Why Now?

Conducting research with integrity is essential to your career, MSU, and the world as a whole. It is the right thing to do!!!

Why now?
  NSF requires RCR training on all funded projects resulting from proposals due on or after 04 Jan 2010
  NIH requires RCR training...
  Provost Youatt and Vice President Hsu require RCR training for all research at MSU (eventually)
What is RCR?

Honesty
Accuracy
Objectivity
Fairness


RCR is Important to You

Establish credibility as a researcher
Establish a clear “path” of data
Enable further research
Contribute to the field of research
Meet the expectation of public trust
Membership in the community of scholars-- traditions, values, ethics
Traditions and Values of the Academy

“The scientific research enterprise, like other human activities, is built on a foundation of trust.”


You are the latest contributor to a saga that has transformed humanity for centuries...

Let’s take a look at some basic fundamentals...

- Interpersonal Relationships
- Desirable Work Habits
- What can make you wince?
Interpersonal Relationships

Research teams are likely to be diverse
  Interdisciplinary
  Multi-cultural, multi-ethnic, multi-national
  Differing levels of research experience
  Differing levels of education

Best practices
  Get to know your colleagues and learn to appreciate their diverse attributes
  Respect their contributions, interests, and needs
  Educate each other

Desirable Work Habits

Some of the adages from *All I Really Need to Know I Learned In Kindergarten* (Robert Fulghum, 2003, Random House) hold true when applied to the research environment:

  Share everything
  Play fair
  Don't hit (hurt) people
  Put things back where you found them
  Clean up your own mess
  Don't take things that aren't yours
  Say you're sorry when you hurt somebody
It boils down to…”The Man in the Glass”*
*Popular Version of a Wise Poem by Dale Wimbrow © 1934:

When you get what you want in your struggle for self
And the world makes you king for a day,
Just go to a mirror and look at yourself,
And see what that man has to say.

For it isn’t your father or mother or wife,
Who judgment upon you must pass;
The fellow whose verdict counts most in your life
Is the one starring back from the glass.

He’s the fellow to please, never mind all the rest.
For he’s with you clear up to the end,
And you’ve passed the most dangerous, difficult test
If the man in the glass is your friend.

You may be like Jack Horner and "chisel" a plum,
And think you’re a wonderful guy,
But the man in the glass says you’re only a bum
If you can’t look him straight in the eye.

You may fool the whole world down the pathway of years.
And get pats on the back as you pass,
But your final reward will be the heartaches and tears
If you’ve cheated the man in the glass.

What can make you wince?
Cheating
Stealing
Lying
Rudeness
Etc.

If you would not want it
done to you…
If you can’t look at the
person in the mirror
Don’t do it!!

Research Misconduct Comes in Different Forms!

Allegations of Scientific Misconduct,
Received at MSU, 2002/03 – 2006/07

- Falsification: 27%
- Fabrication: 38%
- Plagiarism: 10%
- Serious Deviation: 5%
- Retaliation: 20%

Data from MSU Research Integrity Officer, 10/8/07
Any Questions or Comments?

Take a closer look at some key issues...

- Plagiarism
- Authorship
- Intellectual Property
- Data Management
- Collaborative Research
- Human Subjects
What is Plagiarism?

Plagiarism is the “use or close imitation of the language and thoughts of another author, and the representation of them as one's own original work”


What is Plagiarism? (continued)

If you use someone else’s words or ideas, you must give them credit to honor their thinking and words. Failing to give credit is plagiarism.

Plagiarism is stealing by using another person’s words or ideas
Plagiarism is academically dishonest
Plagiarism is unacceptable
Plagiarism can/will result in penalties
Authorship Issues

Disputes about authorship represent about 25% of all problems reported to the MSU Research Integrity Officer (http://www.rio.msu.edu/)

Why Does Authorship Matter?

Recognizes accomplished work – it is fair and important to receive credit for one’s contributions

Encourages continued research and publication efforts

Establishes scholarly reputation for
  - Acceptance to advanced degree programs, post-doctoral fellowships, and faculty positions
  - Promotion and tenure decisions
  - Determination of merit pay increases
  - Grant applications
  - Awards

Helps establish the scholarly reputation of the department, program, and university
Authorship Guidelines

MSU researchers are expected to comply with the authorship policies of the journals or other venues in which they publish. Use the MSU Authorship Guidelines if the journal publisher does not have a policy or guidelines. If your work is subject to conflicting guidelines, discuss the matter with your coauthors and work toward a consensus solution.

Source: J. Pivarnik, MSU Research Integrity Officer, personal communication (Leo Kempel, 10/29/09)

Intellectual Property (IP)

What is it?
Confidential data, patents, copyrighted material, trade secrets, etc.

IP has value…

Focus of this conversation?
IP owned by someone else!!!

Why protect it?
It is not yours, not your major professor’s, not MSU’s…
When will you run into IP owned by others?

Printed material (see discussion on plagiarism as to why you need to not steal someone else’s IP)
Data as part of a Confidential Data Agreement (CDA)
  Do not sign a CDA yourself; there are potential implications that are complex
  For example: A signed CDA on research that may be export-controlled will possibly negate the “Fundamental Research Exemption” enjoyed by US academic institutions: serious criminal and civil penalties can follow
  CDA’s are signed on behalf of MSU by MSU Technologies and binds all MSU employees including graduate student research assistants
Data that you know is protected and somehow you acquired it…
  Not saying you did anything wrong; sometimes someone else’s IP is “laying around” -- physically or electronically.

Basic Means to Protect IP

Only release the IP to someone authorized to have it
  MSU employee for example
Ensure that your material meant for unrestricted release does not contain someone else’s IP
  Papers, presentations, unlimited reports, etc.
  Have someone authorized to have IP review your material, you will miss a mistake 100+ times in a row
Lock up data when not in use
  Paper in file cabinets/desks, locked electronic folders
When in doubt, ask!!!
  Don’t ASSUME, get information from experts
What Are Research Data?

“Recorded information, regardless of the form of the media on which it may be recorded, necessary to support or validate research findings”

MSU’s guidelines on Research Data: Management, Control and Access, http://rio.msu.edu/research_data.htm

Management of Research Data

Control – physical management of research data and records
Access – conditions under which various people may inspect or use research data
Ownership – in a legal sense, who owns the data
Who Owns “Your” Research Data

MSU is the owner of scientific data and records for projects conducted at the university

Exception:

Funded research with contracts that include specific provisions regarding ownership, retention, and access to technical data

Source: Research Data, Management, Control, and Access, http://rio.msu.edu/research_data.htm

Sharing Credit

Authorship – discuss plans at the outset of the collaboration and review periodically

Patents

Discuss likely ownership of potential discoveries and shared work

Determine who will manage patent applications and maintain patents that are received

Source: Making the Right Moves: A Practical Guide to Scientific Management for Postdocs and New Faculty (2nd ed., p 206), (2006), Burroughs Wellcome Fund & Howard Hughes Medical Institute
Human Subjects

Increasingly, Engineering faculty and students are participating in research involving Human Subjects. Surveys, measurements of biological responses, biometrics, etc.

Human subject means "a living individual about whom an investigator … conducting research obtains (1) data through intervention or interaction with the individual, or (2) identifiable private information".

The Institutional Review Board (IRB) is responsible for monitoring and approving research plans involving Human Subjects.

See: http://www.humanresearch.msu.edu/

Rule-of-Thumb: When in doubt, ask the IRB… Let them tell you that you do not need IRB approval.

Important Information

Every investigator associated with a project (including students) must be listed on the IRB application.
Every investigator listed on the IRB application must have current training.
The IRB cannot approve a research project after the fact – the application must precede the research.
Failure to observe IRB regulations is an unacceptable research practice that will result in penalties for the investigator.

Such situations may be referred to the MSU Research Integrity Officer for action.
Dissertations and theses might not be accepted by the Graduate School.
Graduate students may be dismissed from their degree programs and the university.
Journals may refuse to publish manuscripts without evidence of IRB approval.
Where to Go From Here?

Read... and Discuss with Others
Talk to your Major Professor!
Graduate School (http://grad.msu.edu)
http://grad.msu.edu/researchintegrity/resources/