

Responsible Conduct of Research
Microbiology and Molecular Genetics

All students (graduate and undergraduate), postdoctoral fellows, and technicians conducting research in laboratories of Microbiology and Molecular Genetics faculty will receive training in the following areas:

1. Conflict of Interest and Commitment
2. Data Acquisition, Management, Sharing and Ownership
3. Research Misconduct
4. Publication Practices and Responsible Authorship
5. Mentor / Trainee Responsibilities
6. Peer Review
7. Human Subjects (where required)
8. Animal Welfare (where required)

All Graduate students and postdoc training:

Year 1: Initial Training:

- All new graduate and graduate professional students will complete 4 CITI online modules within the first year of enrollment in their program: **Completion of this requirement will be tracked in SABA.**
 - Introduction to the Responsible Conduct of Research
 - Authorship
 - Plagiarism
 - Research Misconduct
- For individuals involved in human or animal subjects research, the MSU training modules for those subjects must be completed before submitting IRB or IACUC approvals.

Year 2: Additional Training

- Within the first 2 years of enrollment in their programs, Master's Plan A and doctoral students will complete three additional MSU online training modules, to be selected from the following list. **Completion of this requirement will be tracked in SABA.**
 - CITI Collaborative Research
 - CITI Conflicts of Interest
 - CITI Data Management
 - CITI Financial Responsibility
 - CITI Mentoring
 - CITI Peer Review
 - IACUC Tutorial for Animal Care Training (in <http://Train.ORA.msu.edu>)
 - Human Research Protection/IRB Certification (in <http://Train.ORA.msu.edu>)
 - Rigor and Reproducibility Course (still in production)

Discussion-Based Training

- In addition to the above initial training, students must complete a minimum of 6 hours of discussion-based training prior to receiving their degrees. These hours can be completed at any point in their graduate program (Required for all Master's (plan A and plan B) and doctoral students). **Completion of this requirement will be recorded by the department in GradInfo as "Annual" training.**

- **Discussion-based training can include:**
 - Discussion of CITI topics at group meetings.
 - Participation in RCR courses/workshops (not on-line).
 - Discussion of assigned readings on RCR topics (<http://grad.msu.edu/researchintegrity/resources/>).

Annual refresher training

- Starting in year 3, all doctoral students must complete 3 hours of annual refresher training; this can include discussion-based training and online courses beyond the 7 required in years 1 and 2. **Completion of this requirement will be recorded by the department in GradInfo as “Annual” training.**
 - This training can include specific readings identified *in consultation with the mentor* and online refresher modules. The graduate school offers a large number of resources: <http://grad.msu.edu/researchintegrity/resources/>
 - Also counted as training are face-to face meetings with the mentor and group meetings that discuss RCR issues.

Undergraduate student and technician training:

- These researchers will complete a series of assigned readings to be identified *in consultation with the research mentor*. Examples may include various materials available at the Graduate School web site: (<http://grad.msu.edu/researchintegrity/resources/>).
- **Documentation:** There is a need to document training activities (including both the specific items that were completed and the amount of time devoted to each item). Each Lab Mentor is responsible for documentation of the training activities.

Questions, comments, and concerns are to be directed to the MMG Responsible Conduct of Research Coordinator (Dr. Edward Walker).