Swipe in, Swipe out = validation you attended full workshop

No swipe? We cannot give you credit

Bring your MSU ID card every time!
Learning Objectives

• **Revisit** - Importance of quality mentoring and proper mentor-mentee relationships for ethical research and scholarship.

• **Authorship** – learn about issues with determining authorship, best practices for determining who should be an author, and what are some of the most common pitfalls are.

• **Plagiarism** – learn about what this is and best practices for avoidance.
Research Misconduct

Research misconduct means fabrication, falsification or plagiarism in proposing, performing, or reviewing research, or in reporting research results.

- **Fabrication**: making up results and recording or reporting them.

- **Falsification**: manipulation of research materials, equipment, or processes, or changing or omitting results such that the research is not accurately represented in the record.

- **Plagiarism**: the appropriation of another’s ideas, processes, results, or words without giving proper credit.
Proper Mentor-Mentee Relationships and Importance for Responsible Conduct
Why is Good Mentorship (Coaching) Important?

- Good mentorship improves the quality and integrity of scientific research. *They show you the ropes!!*

- Good mentorship is essential for one’s professional development – preparation for a career.
What is a Mentor?

- The best mentors are advisors, coaches, counselors and supporters all at the same time.

- They are experienced faculty who guide your research/creative activity, but also challenge you to develop your independence.

- A good mentor will help you define your research goals, and then support you in your quest to achieve them. He or she will share knowledge, provide encouragement, and hopefully inspire you.

https://www.training.nih.gov/mentoring_guidelines
Proper Mentor-Mentee Relationships

- **Successful mentor/mentee relationships**: Both parties are engaged, flexible, authentic and there is reciprocity. *It’s not a dictatorship!*

- Mentoring a less-experienced researcher (scholar) is a professional responsibility of all scientists (faculty) (NAS 1997).

- **Ground rules**: Be respectful of time and always show appreciation!
Mentoring – The Good and The Bad

**Video 2 - The Bad Role Model**

This video introduces the impact of mentorship effects on young researchers and the importance of providing support and advice to guide mentee’s professional development.

Infographics: [5 Qualities of Good Research Mentors](https://ori.hhs.gov/integrity-scientific-research-videos)
5 QUALITIES OF GOOD RESEARCH MENTORS

“A mentor is a person who has achieved career success and counsels and guides another for the purpose of helping him or her achieve like success.”

- **Respectful**
  Demonstrates respect for all laboratory members, which reduces fear and unhealthy competitiveness.

- **Supportive**
  Supports mentees by acknowledging accomplishments and challenging mentees to develop skills that advance their careers.

- **Available**
  Establishes open and responsive communication with mentees, which promotes research integrity and discourages questionable research practices.

- **Prepared**
  Anticipates the needs of mentees and is prepared to provide assistance and guidance.

- **Honest**
  Sets high standards for honest reporting of data, regardless of whether the data supports the desired outcome.

Respondents in over 50% of ORI's findings of research misconduct are postdocs, students, technicians, and research assistants.
The Mentor-Mentee Relationship

MENTOR ROLES, RESPONSIBILITIES AND BENEFITS:

A mentor is someone who takes a special interest in helping another person develop into a successful professional.

The mentor’s role is to teach, guide and help shape the professional growth and learning of the mentee and to serve as a positive role model.

Remember that every situation is different in terms of the roles, circumstances and outcomes.
The Mentor-Mentee Relationship

Benefits of mentoring for the mentee:

- Assistance in defining career goals, strategies and outcomes.
- Develops a meaningful professional relationship with mentor.
- Increases professional connections and network.
- Gains knowledge of workplace expectations.
- Builds self-advocacy skills and confidence to be successful.
- Access to potential internships and job opportunities.
The Mentor-Mentee Relationship

Mentor Responsibilities:

- Shares information about his/her background, skills and interests.
- Serves as the primary role model for how to properly conduct research and creative activities. Standards of conduct!
- Tells mentee how he/she can help.
- Listens actively.
- Serves as a positive role model.
- Helps mentee set educational/career goals.
The Mentor-Mentee Relationship

Mentor Responsibilities (cont’d):

▪ Provides encouragement for building self-confidence and self-esteem.
▪ Offers mentee constructive and meaningful advice and feedback.
▪ Celebrates milestones and achievements with mentee.
▪ Acts as a resource for information about careers.
▪ Educates mentee on workplace expectations.
The Mentor-Mentee Relationship

Mentee Responsibilities:

▪ Takes responsibility for keeping in regular contact with the mentor and actively participates in the relationship.
▪ Assesses academic/professional strengths, learning and developmental needs, values and short and long-term career goals (self evaluation).
▪ Develops a plan with the mentor for achieving these goals.
▪ Follows through on commitments and goals.

It’s a two-way street!!!
The Mentor-Mentee Relationship

Mentee Responsibilities (cont’d):

- Respects the mentor’s time.
- Maintains confidentiality at all times (trust).
- Openly shares successes and failures.
- Is receptive to feedback and coaching.
- Takes advantage of opportunities presented by the mentor.
Selecting a Research Group/Mentor

There are three major factors to consider when selecting a research group:

- The research program *(Does the work excite you?)*

- The personality and mentoring style of the Principal Investigator (PI) *(Is it the right environment for you??)*

- The research environment *(Collaborative spirit, ethical?)*

https://www.training.nih.gov/mentoring_guidelines
HOW TO DEAL WITH FRUSTRATING FACULTY

EXASPERATED BY A PERCEIVED LACK OF INTEREST AND SUPPORT? A STEP-BY-STEP GUIDE:

STEP 1: TAKE A DEEP BREATH.

STEP 2: DISPEL UNHELPFUL THOUGHTS.

STEP 3: THINK OF WAYS TO CONVEY TO YOUR ADVISOR YOUR FRUSTRATIONS AND CONCERNS IN A CALM AND DIRECT MANNER.

STEP 4: NOW SWALLOW THOSE CONCERNS AND ACCEPT THE FACT THERE’S NOTHING YOU CAN DO ABOUT IT.

http://research-ethics.org/topics/mentoring/
Authorship
Authorship – Publishing Your Science or Creative Work

• Publishing the product(s) of your thesis or dissertation work is one of the most important tasks of your graduate studies and professional development.

• For good or bad, we are judged on the number and quality of our published works.
Social media smartphone app and psychopathology - A case report

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²Department of Psychiatry, All India Institute of Medical Sciences, Rishikesh, Uttarakhand, India

All authors bear responsibility as do the institutions!!!
Authorship Considerations

Credit and responsibility
While the list of authors identifies those who deserve credit for the work being published, those authors also bear responsibility for any deficits in the integrity or quality of the work.

Who should be an author?
Because authorship is a matter of public credit and responsibility, those and only those who have met accepted criteria for authorship should be included as authors.
Authorship Considerations

**Transparency**
Research groups and collaborators should be clear about the criteria and plans for authorship; individual scientists should discuss authorship during the planning of any collaboration and continue those discussions as the research project evolves.
A person claiming authorship or being designated as an author of a creative endeavor should meet all of the following criteria:

- Participation in conception and design of the creative work, study, analysis or interpretation of any data.
- Participation in the drafting of the creative work or manuscript or in the editing of the creative work or manuscript.
- Final approval of the version of the creative work or manuscript to be published.
- Ability to explain and defend appropriate portions of the work or study in public or scholarly settings.
Authorship – The Initial Steps

Video 1 - The Left-Out Author

Missing authors and changes to author order, this video sets up a common authorship dilemma, and just how tricky it can be to resolve.

Infographics: Authorship Practices To Avoid conflicts

https://ori.hhs.gov/integrity-scientific-research-videos
AUTHORSHIP PRACTICES TO AVOID CONFLICTS

Every field of study experiences conflicts with determining authorship on published papers

Implementing the following suggestions may help avoid potential authorship disputes:

- **Be Prepared**
  Establish written authorship agreements with all members of the lab and other collaborators before preparing a manuscript or before starting a project.

- **Document Contributions**
  Authors should list their substantial contributions to the design of the study; the acquisition, analysis, or interpretation of data; and the contribution to the writing of the final paper.

- **Be Consistent**
  Have clearly written expectations for authorship on publications and follow them.

- **Communicate Often**
  As the project progresses, the authorship agreement may need to be revisited.

- **Approve the Manuscript**
  All authors should review manuscripts and approve the final version.

- **Acknowledgements**
  Those who assisted with a manuscript but did not provide substantial contributions can be given acknowledgement.

1This may include people who provide support such as: editorial assistance (e.g., proofreading); limited data collection; supervision of research tasks without contribution to the collection, analysis, or interpretation of data, or the writing of the publication, and technical support.
Authorship Considerations

Submission of Original Work

- For the submission of papers, most journals require that the work not be submitted simultaneously elsewhere for consideration.

- Submission of a paper is tantamount to provisionally giving the selected journal copyright to the work, and it initiates considerable expense of time and effort in reviewing the manuscript.

- Only when an article has been rejected by or withdrawn from consideration in one journal may it be submitted elsewhere.
Authorship Considerations

Avoid Fragmentary Publication

- Dividing research findings into the smallest publishable units might increase an investigator's total number of publications, but works against the interests of science.

- Minimally, this is an inefficient use of scarce resources, including space in journals and the time of authors, editors, and reviewers.

- Furthermore, fragmentation of one study into many small publications can give the false impression that a line of research has been more extensively pursued than is actually the case.
Authorship Considerations

Avoid Duplicative Publication

- Publication of data in more than one location gives the findings more visibility, but it may also mislead readers into believing that the publications represent distinct data sets.

- In the case of clinical findings, this could contribute to a false impression of the number of patients actually studied.

- In the case of basic research, readers might mistakenly conclude that the study had been successfully replicated.

- Any data set, either in whole or in part, should not be published twice without making explicitly clear which of the data have been published previously and where and when the work was published.
Authorship Considerations

- Identifying authors holds individuals accountable for the study’s integrity and the publication’s accuracy.

- When authors publish an article, they declare that they have:
  - Participated in the writing or editing of the manuscript
  - Contributed intellectually to the content of the manuscript (e.g., by providing the hypothesis, designing the study, and or analyzing the results)
  - Reviewed and approved the final version of the manuscript

https://ori.hhs.gov/rcr-casebook-authorship-and-publication
Authorship Considerations

• Identifying authors bestows due credit on them for their contributions to the scientific literature.

• The status and prestige of researchers are often directly proportionate to the quality and quantity of their publications, and committees typically evaluate publications when making determinations regarding promotion, tenure, prizes, grants and contracts.

https://ori.hhs.gov/rcr-casebook-authorship-and-publication
Responsible Authorship – Common Mistakes

These mistakes range from major (*e.g.* subject recruitment, measurement instruments, data analysis, etc.) to minor (*e.g.* abstract not in the format required by journal, references, tables/figures, etc.).

- **Justification for Research** (extend understanding, fill in knowledge gaps??)
- **References Cited and their accuracy**
- **Interpreting Statistics**
- **Self-plagiarism**
- **Disclosing Conflicts of Interest**

https://ori.hhs.gov/education/products/niu_authorship/mistakes/index.htm
Authorship

Research Integrity: Case Study

Case Studies: Dr. Thompson's Lab
Follow the story of Dr. Thompson's laboratory. Experience the issues that arise from being in a small lab through the eyes of a new principal investigator (PI), a postdoctoral fellow, and a graduate student. These case study videos address topics such as mentoring relationships, authorship, publication, data integrity, and potential research misconduct.

https://ori.hhs.gov/videos/case-study-list/3041
Case Study

Professors X, Y and Z (and their research groups) applied for and received a multi-investigator research grant. The tasks of all three groups were very clearly indicated. During the project, Professor X, and her students, published a paper with data from the team (some data coming from Professor Y’s group). This paper had as authors Professor X’s students and Professor Z as she had a contribution. Professor Z did not read and approve the manuscript prior to submission.

Professor Y filed a complaint against Professors X and Z for using their data without permission.

Issues?????
WRITE ETHICALLY
FROM START TO FINISH

PREPARE

USE PRIMARY LITERATURE
Secondary sources might have misinterpreted the work

HAVE A THOROUGH UNDERSTANDING OF YOUR SOURCES

Accurately communicate their ideas and terminology

WRITE

AVOID SELECTIVE REPORTING
Present unbiased information by acknowledging conflicting evidence and alternative interpretations

CITE YOUR SOURCES

DO NOT PLAGIARIZE

USE YOUR OWN WORDS AND SENTENCE STRUCTURE

MAINTAIN THE INTENDED MEANING OF THE SOURCE

OR QUOTE VERBATIM TEXT

PUBLISH

GIFT AUTHORSHIP IS UNETHICAL

Only include those who have made substantial contributions to a project

AVOID GHOST AUTHORSHIP

Give proper authorship or acknowledgment to those who have contributed to a paper
Plagiarism
What is Plagiarism?

- **Plagiarism** is presenting someone else’s work or ideas as your own, with or without their consent, by incorporating it into your work without full acknowledgement.

- All published and unpublished material, whether in manuscript, printed or electronic form, is covered under this definition.

- Plagiarism may be intentional or reckless, or unintentional. Typically, intentional or reckless plagiarism is a disciplinary offense.

https://www.ox.ac.uk/students/academic/guidance/skills/plagiarism?wssl=1
How to Avoid Plagiarism?

- The best way of avoiding plagiarism is to learn and employ the principles of good academic practice from the beginning of your university career.

- Avoiding plagiarism is not simply a matter of making sure your references are all correct, or changing enough words so the examiner will not notice your paraphrase; it is about deploying your academic skills to make your work as good as it can be.

https://www.ox.ac.uk/students/academic/guidance/skills/plagiarism?wssl=1
Why Does Plagiarism Matter?

- "Plagiarism is a breach of academic integrity." It is a principle of intellectual honesty that all members of the academic community should acknowledge their debt to the originators of the ideas, words, and data which form the basis for their own work.

- Passing off another’s work as your own is not only poor scholarship, but also means that you have failed to complete the learning process.

- "Plagiarism is unethical and can have serious consequences for your future career;" it also undermines the standards of your institution and of the degrees it issues.

https://www.ox.ac.uk/students/academic/guidance/skills/plagiarism?wssl=1
Plagiarism

- Authors take responsibility for both the ideas and words in a publication. For this reason, co-opting someone else's manuscript is a clear example of research misconduct.

- While taking credit for research findings that are not your own is clearly a greater wrong than copying a methods section written by someone else, both are examples of plagiarism--taking personal credit for someone else's words or ideas.

- To use the words of another author, either state where the original words can be found or reproduce the original text with clear and well-cited attribution to the original author.

- Even with proper citation, repeating the words of other authors is constrained by the fair use provisions of copyright law.

[https://www.ox.ac.uk/students/academic/guidance/skills/plagiarism?wssl=1](https://www.ox.ac.uk/students/academic/guidance/skills/plagiarism?wssl=1)
Forms of Plagiarism

1. Verbatim (word for word) quotation without clear acknowledgement

Quotations must always be identified as such by the use of either quotation marks or indentation, and with full referencing of the sources cited. It must always be apparent to the reader which parts are your own independent work and where you have drawn on someone else’s ideas and language.

https://www.ox.ac.uk/students/academic/guidance/skills/plagiarism?wssl=1
Forms of Plagiarism

2. Cutting and pasting from the Internet without clear acknowledgement

Information derived from the Internet must be adequately referenced and included in the bibliography. It is important to evaluate carefully all material found on the Internet, as it is less likely to have been through the same process of scholarly peer review as published sources.

https://www.ox.ac.uk/students/academic/guidance/skills/plagiarism?wssl=1
Forms of Plagiarism

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https://www.ox.ac.uk/students/academic/guidance/skills/plagiarism?wssl=1
Forms of Plagiarism

4. Paraphrasing

Paraphrasing the work of others by altering a few words and changing their order, or by closely following the structure of their argument, is plagiarism if you do not give due acknowledgement to the author whose work you are using.

It is better to write a brief summary of the author’s overall argument in your own words, indicating that you are doing so, than to paraphrase particular sections of his or her writing. You must also properly attribute all material you derive from lectures.

https://www.ox.ac.uk/students/academic/guidance/skills/plagiarism?wssl=1
Forms of Plagiarism

5. Collusion

This can involve unauthorized collaboration between students, failure to attribute assistance received, or failure to follow precisely regulations on group work projects.

It is your responsibility to ensure that you are entirely clear about the extent of collaboration permitted, and which parts of the work must be your own.

https://www.ox.ac.uk/students/academic/guidance/skills/plagiarism?wssl=1
Forms of Plagiarism

6. Inaccurate citation

It is important to cite correctly, according to the conventions of your discipline. As well as listing your sources (i.e. in a bibliography), you must indicate, using a footnote or an in-text reference, where a quoted passage comes from. Additionally, you should not include anything in your references or bibliography that you have not actually consulted. If you cannot gain access to a primary source you must make it clear in your citation that your knowledge of the work has been derived from a secondary text (for example, Bradshaw, D. Title of Book, discussed in Wilson, E., Title of Book (London, 2004), p. 189).

https://www.ox.ac.uk/students/academic/guidance/skills/plagiarism?wssl=1
Forms of Plagiarism

7. Failure to acknowledge assistance

You must clearly acknowledge all assistance which has contributed to the production of your work, such as advice from fellow students, laboratory technicians, and other external sources. This need not apply to the assistance provided by your tutor or supervisor, or to ordinary proofreading, but it is necessary to acknowledge other guidance which leads to substantive changes of content or approach.

https://www.ox.ac.uk/students/academic/guidance/skills/plagiarism?wssl=1
Forms of Plagiarism

8. Auto-plagiarism (Self-plagiarism)

You must not submit work for assessment that you have already submitted (partially or in full), either for your current course or for another qualification of this, or any other, university, unless this is specifically provided for in the special regulations for your course. Where earlier work by you is citable, *i.e.* it has already been published, you must reference it clearly.

Identical pieces of work submitted concurrently will also be considered to be auto-plagiarism.

https://www.ox.ac.uk/students/academic/guidance/skills/plagiarism?wssl=1
Academic Integrity - Plagiarism

https://www.bing.com/videos/search?q=academic+plagiarism&view=detail&mid=0DB62237E4933EDC20E60DB62237E4933EDC20E6&rvsmid=2CFC901567799BC1D9F02CFC901567799BC1D9F0&FORM=VDQVAP
Actions - Publication Error

**Errata**: If one or more minor errors are found to have been included in a manuscript, then a letter describing the error(s) should be submitted to the journal that published the article.

**Correction**: If unintentional errors are great enough to undermine part of a report, then the authors should submit a letter to the journal explaining the errors as a correction to the publication.

**Retraction**: If unintentional errors are of such a magnitude as to invalidate or seriously undermine the entire report or if misconduct affecting the work on the part of one or more authors is found to have occurred, then the authors should retract the paper by writing to the editor of the publication.

[http://research-ethics.org/topics/publication/#discussion](http://research-ethics.org/topics/publication/#discussion)
Research Misconduct Prevention

Self-Policing with Quality Research Practices

Good science practices minimize the risk of misconduct. For example:

- Strict adherence to the scientific method
- Clear, detailed recordkeeping
- Meaningful and clear delineation of collaboration
- Shared understanding of authorship roles and responsibilities
- Attentive mentoring for newer members of the research environment
- Encouragement and support for asking questions and open discussion

http://research-ethics.org/topics/research-misconduct/
Summary of Key Concepts

• Quality mentoring is essential for the professional development of young scholars.

• Authorship of scholarly material is a major goal of graduate studies. (Be prepared, document contributions, be consistent, communicate often and approve manuscript).

• Plagiarism is a form of academic misconduct. Avoid plagiarism by consistently employing good academic practices.

Questions??
Swipe in, Swipe out = validation you attended full workshop

Discussion notes: [https://grad.msu.edu/rcr](https://grad.msu.edu/rcr)

Qualtrics evaluation survey – please complete