Responsible Conduct of Research, Scholarship and Creative Activities (RCRSA)

Plagiarism, Collaborations and Conflicts of Interest

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Learning Objectives

- **Plagiarism** – learn about the different types of this misconduct and best practices for avoidance.

- **Teamwork and Research Collaborations –** learn about the skills needed to be an effective and contributing collaborator.

- **Revisit** – Types of data and importance of proper data management for ethical research and scholarship; proper mentoring; and authorship.

Research Misconduct

- **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.

Types of Data

- **Institutional Data**

Institutional Data are all data and records held by the University, in any form or medium, for the administration, operation, or governance of the University or any unit of the University. (*e.g.*, **Research Data**).

- **Confidential Data**

Institutional Data that could, by itself or in combination with other such data, be used for identity theft or related crimes. (*e.g.*, personal data).

- **Public Data**

Public Data are Institutional Data that have become generally available to members of the public because a person with authority to do so has intentionally released or distributed them without restriction or limitation.

https://tech.msu.edu/about/guidelines-policies/msu-institutional-data-policy/

Research Data Ownership

Ownership of research is a complex issue that involves the PI, the sponsoring institution, the funding agency, and any participating human subjects.

1. The Sponsoring Institution - Most often, the sponsoring institution/organization maintains ownership of a project's data as long as the PI is employed by that institution. The institution often controls all funding or the disbursement of government funding; consequently, it is also responsible for ensuring that funded research is conducted *responsibly* and *ethically*.

Within the sponsoring institution, a PI is granted stewardship over the project data; the PI may control the course, publication, and copyright of any research, subject to institutional review.

Data Ownership, Control and Access

Management of Research Data

- The PI is the custodian of the data, with responsibility for ensuring the accuracy of the scientific record, the confidentiality of the data and the physical condition and security of the data. *In addition, the PI is responsible for retaining the research data for not less than three years after the submission of the final project report or publication (whichever occurs last).*

- Furthermore, the PI is responsible for protecting intellectual property resulting from the research and responding to allegations of misconduct in research or financial conflicts of interest (both situations may warrant retaining research data for long than three years).

Summary of Key Points

- Proper data/information acquisition (reproducibility and validity) are critical for quality science and scholarship.
- Starts with a well-organized research or creative design plan!
- Data ownership is with the university. PI is granted stewardship.
- Data management (record keeping, storage, ownership, protection, retention and sharing) are important to consider at the outset of a project. Must comply with all university and funding organization policies and requirements.

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.

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."[1]

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.

50%

Respondents in **over 50% of ORI's findings of research misconduct** are **postdocs, students, technicians, and research assistants.**[2]

- **Respectful**
- **Supportive**
- **Available**
- **Prepared**
- **Honest**

MSU Authorship Guidelines

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*.

https://vprgs.msu.edu/announcement/msus-authorship-guidelines-updated

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.

[1]This 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

- **Be prepared - agreements**
- **Document contributions**
- **Be consistent on expectations**
- **Communicate often**
- **Approve the manuscript**

NIH ORI

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 (*e.g.*, proposals, reports, etc.), 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://ombud.msu.edu/academic-integrity/plagiarism-policy.html

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

Academic Integrity - Plagiarism

Video case study addresses issues of cherry picking data for use in a proposal – an act of plagiarism. The video also covers some of the pressures encountered by students and postdocs and improper ways of responding to this pressure.

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

https://ori.hhs.gov/videos/case-study-list/3037

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

3. 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

4. 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

5. 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

6. Failure to acknowledge assistance

You must clearly acknowledge all assistance which has contributed to the production of your work, such as advice from other faculty, fellow students, laboratory technicians, collaborators 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

7. Auto-plagiarism (Self-plagiarism)

You must not submit work for assessment that you have already submitted (partially or in full) elsewhere. While 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

Common Examples of Plagiarism

- *ALL 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.

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

Common Examples of Plagiarism

- 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

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

Plagiarism Detection Software
i-Thenticate

[Technology at MSU - iThenticate | Michigan State University]

MSU faculty, staff, and **graduate students** can use ***iThenticate*** to help evaluate and correct their work prior to submission or publication by requesting an account on the **MSU *iThenticate*** account. To request, contact the IT Service Desk at (517) 432-6200 or toll free at (844) 678-6200. Learn more about ***iThenticate* training**.

How *iThenticate* Works

***iThenticate* scans drafts of research articles and grant proposals for missed citations and other mistakes that could be characterized as plagiarism prior to submission or publication.**

iThenticate scans against:

- A database of materials available on the Internet
- More than 26,000,000 published research articles
- 80 global scientific, technical and medical publishers
- More than 1 million abstracts and citations from PubMed
- More than 20,000 scholarly research titles from EBSCOhost and the Gale InfoTrac OneFile.

Check with journals common to your discipline or field to see if iThenticate scans against those specific databases.

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

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 and 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***

Citations – when?

Need to cite when

- Paraphrasing the ideas, opinions or theories of others.
- Copying EXACT words (quotation)
- Copying elements of a work (diagrams, pictures)
- Using ideas from others that were communicated to you.

No need to cite when

- The ideas you put forward are original to you.
- Communicating your own experimental results.
- Sharing your own creations.
- Sharing anecdotes about people who remain anonymous.
- Using common knowledge.

(adapted from Avoiding Plagiarism by Purdue University's Online Writing Lab), http://library.csusm.edu/plagiarism/howtocredit/

Teamwork and Research Collaboration

Scientific research, creative activities and scholarship address complex problems and issues.

Successful activities often require good *teamwork* and productive *collaborations*!

Teamwork is the collaborative effort of a group to achieve a common goal or to complete a task in the most effective and efficient way.

Teamwork is required in almost every discipline, ranging from business services to information technology to science and to the arts.

You need to be able to work well with others! **Individuals** with strong teamwork skills are sought out by employers for many reasons – they demonstrate leadership, collaboration and good communication.

https://www.thebalancecareers.com/list-of-teamwork-skills-2063773

Good Teamwork – Key Behaviors

- Participates willingly and effectively on team assignments and projects.
- Identifies areas of personal expertise and seeks out opportunities to lend expertise to the team and other groups to maximize outcomes.
- Solicits input from other team members.
- Fosters a working atmosphere conducive to collaborative efforts.
- Listens to constructive feedback and incorporates suggestions to achieve collective objectives.

https://hr.nih.gov/competency/teamwork

Personal Keys to Successful Teamwork

Active listening: Focus on the person who is talking. Uncross your arms, don't interject with "yeah" and other utterances, make eye contact, nod and smile if you understand or relate to what he's saying. When people feel heard, it changes relationships for the better.

Communication: Be sure people know you understood what they've said. Try explaining it back to them. If you're unsure, "What do you mean?" is a great way to get them to better explain. In turn, also be clear in what you're saying, and echo it in writing or an email follow up if you want to ensure it's been comprehended.

Personal Keys to Successful Teamwork

Empathy: It's easy to dig in your heels on an issue, but having empathy can mean hearing what others say and learning to understand them. It can help end conflict and spur better relationships.

Honesty: Sitting on how you feel because you think it's irrelevant can be hugely detrimental in team settings. Perhaps you have a critical perspective the team is overlooking. Speaking up is courageous and transformative on a personal level, but transparency makes the team unit stronger too. Being good at honesty also means developing solid feedback skills.

Personal Keys to Successful Teamwork

Awareness: Team dynamics don't work if team members aren't aware when things are off kilter. If one person is driving idea creation and task setting, that's not teamwork. If someone never contributes, it may not be that she has nothing to say — maybe she feels there's no space for her to speak. Encourage contribution from everyone and ensure they have the time and space in which to fully participate.

Teamwork Skills in the Workplace

Problem solving: Solving problems can happen in many ways. It can take the form of *conflict resolution,* which can be critical in a team setting, but it can also be the solving of problems that come up in the workplace or on a project. Whether it's an experimental snafu or an error in execution or colleagues not getting along, problem solving requires *listening*, *understanding* and *improvisation*. Those who find a way through problems/conflicts are the ones who make teams successful.

Teamwork Skills in the Workplace

Problem framing: Sometimes, people can be negative and only see downsides to situations. This is different from problem framing, which is when one can see problems and understand them from all angles. Even better is when they can help others understand them too because this can mean not just resolving problems for other but perhaps even avoiding them before a project, product or service launches, which could be invaluable for the company.

Teamwork Skills in the Workplace

Collaboration: Working together well means understanding each other's strengths and weaknesses. Those diverse skill sets coming together is why a team can be such a powerful force in getting things done, but it only works when team members have humility and respect each other's abilities to contribute.

Research or Creative Activity Collaboration

Collaboration involves a significant contribution to the conceptualization, design, execution or interpretation of the research study or collaborative activity. Simply providing unique biological materials, such as cell lines, antibodies, and probes, does not constitute a collaboration.

Research collaborations facilitate progress and should be encouraged. However, some collaborations may require material transfer agreements, confidentiality agreements or may need to meet animal use/human subjects requirements,

Research Collaboration

The ground rules for collaborations, including authorship issues, should be discussed openly among all participants from the beginning!

Research Collaborations – Best Practices

- **Address mutual expectations**. Every member of a team may have different expectations about how each person will contribute and how they'll be credited. By discussing these expectations openly, it's easier for each team member to contribute to the project effectively.

- **Clearly divide and establish who's responsible for each task**. Along the same lines as addressing expectations, a clear division of labor makes each team member's role in the project clear. This will facilitate conversations about authorship.

https://www.unl.edu/gradstudies/connections/best-practices-collaborating-research

Research Collaborations – Best Practices

- **Determine authorship**. In a collaboration, it may appear that each person has a clear role. This assumption, however, can lead to confusion and disagreement over first authorship. Agree on authorship at the *beginning* of the project. If the project changes or takes a new direction, authorship may change, too.
- **Communicate frequently**. Keep open lines of communication with the team. If you don't have a clear timeline or clear research goals, it becomes easy to fall out of touch.

https://www.unl.edu/gradstudies/connections/best-practices-collaborating-research

Research Collaborations – Best Practices

- **Communicate frequently**.

This especially holds true for working with your advisor. Keep your advisor up-to-date on your research. If you're out of touch for months on end, there's a chance that your advisor has different expectations about how much progress you've made or just what you're working on.

https://www.unl.edu/gradstudies/connections/best-practices-collaborating-research

Research Collaborations – Best Practices

- **Take minutes of meetings** and then distribute to everyone involved in the research. Send an email to everyone after phone conversations and face-to-face meetings. This provides documentation that can be referred to in later conversations.
- **Access to and use of data**. Not all parties may have access to all data (some projects pool all data among those involved; others share everything. A clear conversation at the beginning of the project is necessary to establish who will have access to what information and how the data can be used by others is a must!!!

https://www.unl.edu/gradstudies/connections/best-practices-collaborating-research

Research Collaborations – Best Practices

- **Discuss the expectations for the data** with all researchers before research begins. How will the research be communicated (presentations, publications) and how soon will it be shared after the research is conducted?

Graduate students can run into a similar issue, not just with publications, but also with their dissertations. If you use data from industry in your dissertation or if you collaborate on collecting data with an industrial partner, you may be asked to embargo your dissertation with ProQuest. This means that no one can access your dissertation digitally and you cannot publish the data in another forum.

https://www.unl.edu/gradstudies/connections/best-practices-collaborating-research

Research Collaborations – Best Practices

- Collaboration on research also means a **shared responsibility for integrity in research integrity**. Verification of data across labs may not be feasible, especially when each lab has technical abilities to acquire part of the data that the other labs cannot. **When there's an error in the data or some portion of the data is compromised, it's vital that failure to comply with research regulations be shared with all parties involved—researchers, institutions, and funding agencies.**

https://www.unl.edu/gradstudies/connections/best-practices-collaborating-research

Summary of Key Concepts

- Plagiarism is a form of academic misconduct. Avoid all types of plagiarism by consistently employing good academic practices. Check your documents (*iThenticate*).
- Teamwork ability is critical for success. (Communication, Listening, Conflict Management, Reliability, Respectfulness).
- Collaboration involves a significant contribution to the conceptualization, design, execution or interpretation of research study or creative activity.

Questions??

Swipe in, Swipe out = validation you attended full workshop

Discussion notes : https://grad.msu.edu/rcr

Qualtrics evaluation survey – please complete

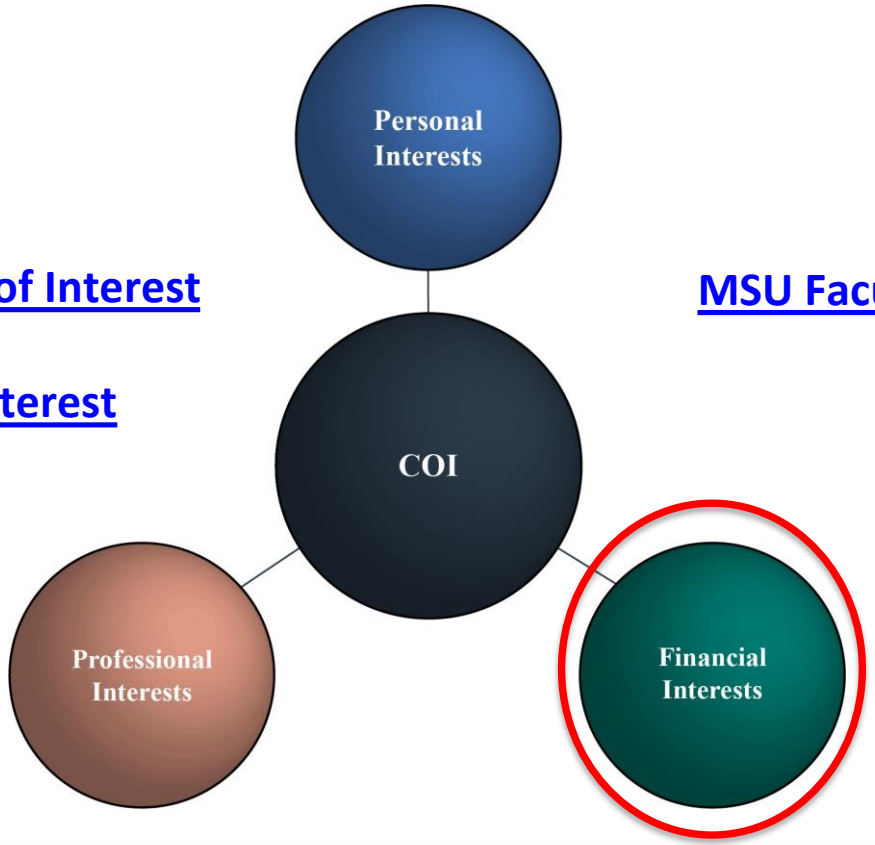
Conflicts of Interest

All researchers and scholars are expected to adhere to high standards of ethical conduct. Each person must endeavor to avoid even the appearance of impropriety.

[NIH Financial Conflict of Interest]

[NSF Conflicts of Interest]

[MSU Faculty Conflict of Interest]



Conflicts of Interest are Important!

Public trust in the integrity of research depends upon the existence of an effective process for identifying COIs and acting to promote and maintain objectivity in the research.

As noted by Dr. Francis Collins, Director of the National Institutes of Health (NIH 2016).

"The public trust in what we do is essential, and we cannot afford to take any chances with the integrity of the research process."

Who is Responsible Reporting COIs?

Responsible parties include ALL investigators: the project director or principal investigator and any other person, regardless of title or position, who is responsible for the design, conduct, or reporting of PHS-funded research or proposals for such funding.

Therefore, the regulations can apply to collaborators, consultants, postdoctoral fellows, graduate students, and others.

Investigator Responsibilities

- Become familiar with the revised regulations and the institution's COI policies
- Complete COI training at the required intervals, at least once every four years
- Disclose SFIs to the institution annually and within thirty days of discovering or acquiring a new SFI
- Comply with any management plan issued by the institution and retain documentation that demonstrates compliance

Conflicts of Interest Can Take Various Forms

- Close personal or working relationships with peers or mentors may have the potential to influence the independence of a researcher's judgment or actions.
- Pressure on faculty or others to publish may also introduce bias at various points in the research process, whether during the stage of study design, data collection and analysis, or the selection of which results to publish.
- Researchers may also have external professional commitments that conflict with their primary teaching, clinical (if relevant), and research obligations at their own institutions (typically referred to as a conflict of commitment).

Example Financial Conflicts of Interest

- Income, stock or a combination of the two that exceeds $5,000.
- Any amount of equity (stock, stock options, or other ownership interest) in a non-publicly traded entity (such as a start-up company).
- Compensation that exceeds $5,000 from a non-publicly traded entity *in the past 12 months*.
- Compensation that exceeds $5,000 from a non-publicly traded entity *in the past 12 months*.

Examples That Require No Reporting

- Salary, royalties, or other remuneration paid to the investigator from the institution that currently employs the investigator. Any ownership interest in the institution held by the investigator, if the institution is a commercial for-profit organization.
- Income from investments in mutual funds or retirement accounts, as long as the investigator does not make the investment decisions.
- Income for services (honoraria, advisory committees, review panels, etc.) and travel expenses paid by a federal, state, or local government agency, a U.S. institution of higher education.

The Management Plan

1. Public disclosure of the conflict of interest in publications and presentations
2. Disclosure to human subjects participating in the research
3. Informing other research team members
4. Appointment of an independent third party to monitor the research
5. Changing personnel or personnel roles in the research