CST 395-2

# Research Methodology & Scientific Writing

## Ethical Issues in Research, Publications and Peer Review Process

*By*
*Subhash Ariyadasa*
*&*
*Chamalie Ellepola*

Lesson 06

# Learning Outcomes

- Upon successfully completing this lesson, you will be able to:
  - Describe the core ethical considerations that guide responsible conduct in research, including honesty, integrity, and respect for intellectual property
  - Explain common ethical challenges in research, such as informed consent, confidentiality, and avoiding bias, and propose strategies to address them effectively
  - Assess the ethical dilemmas that may arise in the publication process, including plagiarism, authorship conflicts, and data reporting, and discuss ways to uphold ethical standards
  - Critically analyze the ethical responsibilities of peer reviewers, including maintaining confidentiality, providing impartial evaluations, and offering constructive feedback
  - Implement established ethical guidelines and best practices in conducting research, writing manuscripts, and participating in the peer review process

# Lesson Outline

- Introduction to Ethical Considerations in Research
- Ethical Issues in Research
- Ethical Issues in Publications
- Ethical Issues in Peer Review

# Quick Questions

- What does ethics mean to you?

- Why is ethical behavior important?

# Introduction to ethical issues in research, publications and peer review process

- What are Ethics?
  - Ethics, also known as moral philosophy, is concerned with questions about **what is morally right or wrong, good or bad, fair or unfair**.

  - It encompasses the analysis of moral concepts, principles, and values.

# Introduction to Ethical Considerations in Research

# Introduction to Ethical Considerations in Research

- Ethical considerations in research are fundamental principles that guide researchers in conducting studies responsibly and morally

- It involves the idea of appropriate and inappropriate behavior throughout the research process

- Ethical considerations aim to safeguard the rights of research participants, improve research accuracy, and uphold scientific or academic honesty

- Researcher conduct, as suggested by Cameron and Price (2009), is guided by a number of different obligations
  - Legal obligations
  - Professional obligations
  - Cultural obligations
  - Personal obligations

  - According to the National Statement on 'ethical conduct in human research', ethical behavior involves demonstrating integrity, driven by a profound respect and consideration for others

# What are research ethics?

- “The standards of behaviour that guide your conduct in relation to the rights of those who become the subject of your work, or are affected by it" (Saunders, Lewis and Thornhill 2015, p239)

- The principles and standards that guide researchers to conduct studies honestly and responsibly.

- Why is ethical behavior critical in research and publication?
  - Ensures trust in scientific findings.
  - Protects participants and subjects.
  - Maintains integrity in scientific literature.

# Key Ethical Research Principles

- **Research merit and integrity**
  - The contribution of a study to the knowledge base of a particular field or discipline depends on its research merit and integrity
  - They are determined by factors such as the originality and significance of the research question, the appropriateness of the methodology, the reliability of data analysis, and the potential impact on knowledge advancement or problem-solving
  - Unacceptable practices include plagiarism, falsification, and distortion of data or consent

# Principles of Research Integrity

- **Honesty:** Reporting data truthfully
- **Accuracy:** Ensuring precision in measurement and reporting
- **Efficiency:** Using resources effectively
- **Objectivity:** Avoiding bias in conducting and reporting research
- **Respecting Intellectual Property:** Honor copyrights, patents, and other intellectual property rights, obtaining consent before using unreleased data, methods, or results, and always providing appropriate credit

# Key Ethical Research Principles Cont'd

- **Respect for others**
  - Respect involves acknowledging and valuing the well-being, beliefs, perspectives, practices, and cultural heritage of research participants
  - All research participants must engage voluntarily, free from coercion or undue influence, with their rights, dignity, and autonomy being fully respected and protected

# Key Ethical Research Principles Cont'd

- **Beneficence**
  - Beneficence is the ethical principle promoting the well-being and interests of others
  - Researchers must assess potential benefits and risks, ensuring projects yield more benefit than harm
  - Responsibilities include structuring studies to minimize participant risks, explaining potential benefits and dangers, and prioritizing participant welfare over research methodology at all costs

# Key Ethical Research Principles Cont'd

- **Non-maleficence**
  - Participation in a study should not harm the research subject
  - Harm can manifest in various forms: physical, mental, social, or financial
  - All research involves some cost to participants, whether in time or other resources, and each study carries potential risks
  - Research merit should outweigh costs and risks to participants.
  - Studies can be categorized based on the potential amount of injury or discomfort they may cause, ranging from no anticipated effects to certainty of permanent damage

# Key Ethical Research Principles Cont'd

- **Justice**
  - Justice involves ensuring fairness and equitable treatment by applying moral principles
  - Researchers must prioritize the needs of participants over the study's objectives
  - Participants should be selected fairly, and inclusion/exclusion criteria must be clearly stated
  - Participation should not impose unjust burdens on specific groups, and recruitment methods should be fair
  - Rewards for research involvement should be distributed fairly, without exploitation, and accessible to all participants equally

# Case Study: Informed Consent Violation

- **Tuskegee Syphilis Study**
  - Conducted between 1932 and 1972 by the U.S. Public Health Service.
  - Studied the natural progression of untreated syphilis in African American men.
- Ethical issues
  - Participants were not informed of their diagnosis or the true nature of the study.
  - Deprived of effective treatment (penicillin).
- Consequences
  - Serious health consequences for participants.
  - Major changes in research ethics regulations (e.g., Belmont Report)

# In class activity 1

- Based on the case study given in the VLE (The Tuskegee Syphilis Experiment) discuss how each of the above key principles have been violated by the researchers

# Types of ethical issues

- **Voluntary Participation:** Participants have the freedom to choose whether to participate in the study or not, and can withdraw at any time.

- **Informed Consent**: Participants receive comprehensive information about the study's purpose, benefits, risks, and funding before deciding to participate or decline.

# Types of ethical issues cont'd

- **Anonymity:**
  - Personally identifiable data is not collected, ensuring that the identities of participants remain unknown.

- **Confidentiality:**
  - While you know the identities of participants, this information is kept confidential and not disclosed to anyone else.

  - Personally identifiable data is anonymized to prevent linking it with other data.

# Types of ethical issues cont'd

- **Minimization of Harm:** All efforts are made to minimize physical, social, psychological, and any other forms of harm to participants.
  - Psychological harm
  - Social harm
  - Physical harm
  - Legal harm
- **Results Communication:** You uphold integrity by ensuring your work is free from plagiarism or research misconduct, and accurately represent your results.

# Research Misconduct

- Fabrication: Making up data or results.
- Falsification: Manipulating research processes or data.
- Plagiarism: Using others' ideas or words without proper attribution.

**Case Study: Wakefield’s MMR Vaccine Study**

# An easy to remember scientific moral code

## Do not

- **Lie** (fabrications)
- **Cheat** (falsifications)
- **Steal** (plagiarism)

# Conflict of Interest

- A situation where personal or financial interests could influence professional judgment.

- Examples:
  - Financial ties to industry.
  - Personal relationships with study subjects

- **Managing Conflicts**
  - Disclosure requirements:
    - Researchers must disclose potential conflicts to institutions and journals.

# Data Management

- **Ethical Data Practices**
  - Proper data collection:
    - Accurate and systematic recording of data.
  - Data storage:
    - Secure storage methods to protect data integrity and confidentiality.
  - Transparency in data sharing:
    - Sharing data with the research community while protecting participant privacy.

- **Issues in Data Management**
  - Data fabrication and falsification:
    - Creating false data or altering existing data.
  - Selective reporting:
    - Reporting only positive results, ignoring negative or inconclusive data

# Responsible Conduct in Animal and Human Research

## Ethical Guidelines for Animal Research

- **3Rs:**
  - Replacement (using alternatives to animal models)
  - Reduction (minimizing the number of animals used)
  - Refinement (enhancing animal welfare)

- **Humane treatment and welfare**
  - Minimizing pain and distress.
  - Ensuring proper housing and care.

# Responsible Conduct in Animal and Human Research

## Ethical Considerations in Human Research

- Balancing risks and benefits:
  - Ensuring that potential benefits justify the risks involved.
- Ethical approval processes:
  - Institutional Review Boards (IRBs) review research protocols to ensure ethical standards.
- Informed consent in clinical trials:
  - Providing comprehensive information about the study and obtaining voluntary consent from participants.

# Ethical Approval Process at UWU


## Research Guidelines for Ethical Clearance of Research and Application Package

**PDF**

- Application Form for Ethical Review Research Ethics Committee
- Declaration Research Ethics Committee
- Guidelines for Ethical Clearance of Research
- Sample Consent Form Ethics Review Committee
- Sample Information Sheet Research Ethics Committee
- Submission Check List Research Ethics Committee

**DOC**

- Application Form for Ethical Review Research Ethics Committee
- Declaration Research Ethics Committee
- Guidelines for Ethical Clearance of Research
- Sample Consent Form Ethics Review Committee
- Sample Information Sheet Research Ethics Committee
- Submission Check List Research Ethics Committee

# Ethical Approval Process at UWU

- Cover Letter Addressed to the Chairman/Research Ethics Committee
- Submit To Academic Research and Publication Unit
- Reviewing Process
- Approval

# Summary on Research Ethics

| Do's |
| --- |
| **Maintain Accurate Records:** Keep comprehensive and precise records of all your research activities. Ensure that your data is reported carefully and objectively, maintaining integrity and transparency in your findings. |
| **Disclose Conflicts of Interest:** Reveal any financial or personal interests that may directly or indirectly influence your research. Transparency in potential conflicts is crucial for maintaining trust and credibility in the research process. |
| **Ethical Treatment of Animals:** When involving animals in your research, treat them with care and respect. Follow all established ethical guidelines to ensure their humane treatment and welfare. |
| **Respect for Intellectual Property and Confidentiality:** Honor intellectual property rights, privacy, and confidentiality. Properly credit the contributions of other researchers, ensuring acknowledgment and respect for their work |
| **Informed Consent:** When conducting research involving human participants, obtain informed consent. Ensure that participants are fully aware of the nature of the study, any potential risks, and their right to withdraw at any time without penalty. |
| **Ethical Review and Approval:** Submit your research proposal for review by an ethics committee or institutional review board (IRB). Obtain the necessary approvals before commencing your study to ensure compliance with ethical standards. |

# Summary on Research Ethics

| Don'ts |
| --- |
| **Data Fabrication and Manipulation:** Avoid fabricating, manipulating, or misrepresenting data. Present your findings truthfully and accurately to maintain the integrity of the research. |
| **Deception:** Do not deceive research sponsors, colleagues, or ethical committees. This includes avoiding bias in data interpretation, peer review, or personnel decisions, which can undermine the trust and credibility of the research process |
| **Unauthorized Use of Data:** Do not use external research data, whether published or unpublished, without proper permission. Respect the intellectual property rights of other researchers and obtain necessary permissions before using their data. |
| **Irresponsible Publication Practices:** Refrain from supporting or engaging in irresponsible publication practices. Your primary goal should be to advance science and share your knowledge within the community in an ethical manner. Avoid practices like duplicate publication, plagiarism, and submitting low-quality or redundant papers merely to increase publication counts. |
| **Plagiarism:** Do not plagiarize the work of others. Always give proper credit to original authors and sources, and avoid representing others' work or ideas as your own. |
| **Compromising Confidentiality:** Do not compromise the confidentiality of sensitive information. Ensure that any private or confidential data obtained during research is protected and not disclosed without proper authorization |

# Ethical Issues in Publications

# Introduction to Ethical Issues in Publications

- Publication is the most prevalent modern method for disseminating research outcomes.
- Research can be published in various formats, including:
  - Articles
  - Books or book chapters
  - Conference proceedings
  - Pre-print archives

# Introduction to Ethical Issues in Publications

- Following members involved in publications:
  - Authors
  - Journal editors
  - Peer reviewers
  - Publishers
- **Why Ethics in Publications Matter?**
  - Maintains scientific integrity.
  - Ensures trust and credibility in scientific literature.
  - Prevents misinformation and misuse of scientific data.

# Points to Remember for Publication

- Authorship and Contributors

- Conflict of interest

- Publication misconduct:
  - Plagiarism
  - Research fraud
    - Fabrication
    - Falsification

- Salami Slicing

# Authorship and Contributors

- Authorship entails responsibility and accountability for the published work.

- Committee on Publication Ethics (COPE) suggests that an author should contribute in one of the following ways:
  - Making significant contributions to the conception and/or design of the work.
  - Acquiring, analyzing, and/or interpreting data generated or collected during the research.
  - Drafting or editing the work, or revising it critically to contribute important intellectual content.

# Unethical Authorship

- **Guest Authorship:** Involves including someone's name as an author to increase the chances of paper acceptance, even if they haven't made substantial contributions to the research.

- **Honorary or Gift Authorship:** Authorship given as a gift or honor, rather than based on actual contributions to the research.

- **Ghost Authorship:** Ghost authorship refers to the practice of omitting the true contributors from the list of authors

# Conflict of Interest and Publication Misconduct

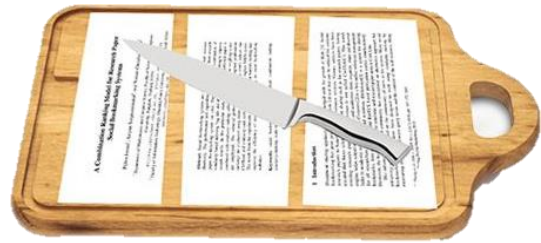
- Transparency and objectivity are fundamental in research.
- When an investigator, author, reviewer, or editor **has personal interests, whether monetary or otherwise**, it can compromise the integrity of the research process.
- Publication Misconduct
  - Plagiarism
  - Research fraud

# Salami Slicing or Salami Publication

- Salami slicing involves dividing one significant paper into several smaller papers from the same study.

- **Prevention Measures:**
  - Avoid Inappropriate Data Fragmentation: Refrain from inappropriately breaking up data from a single study to artificially increase publication count.

  - Transparency in Publication: Be transparent when submitting papers for publication. Clearly disclose the relationship between multiple papers derived from the same study to ensure integrity in the dissemination of research findings.



# Retraction and Correction of Errors

- When and Why Retractions Occur?
  - Fraud, plagiarism, serious errors, unethical research practices.

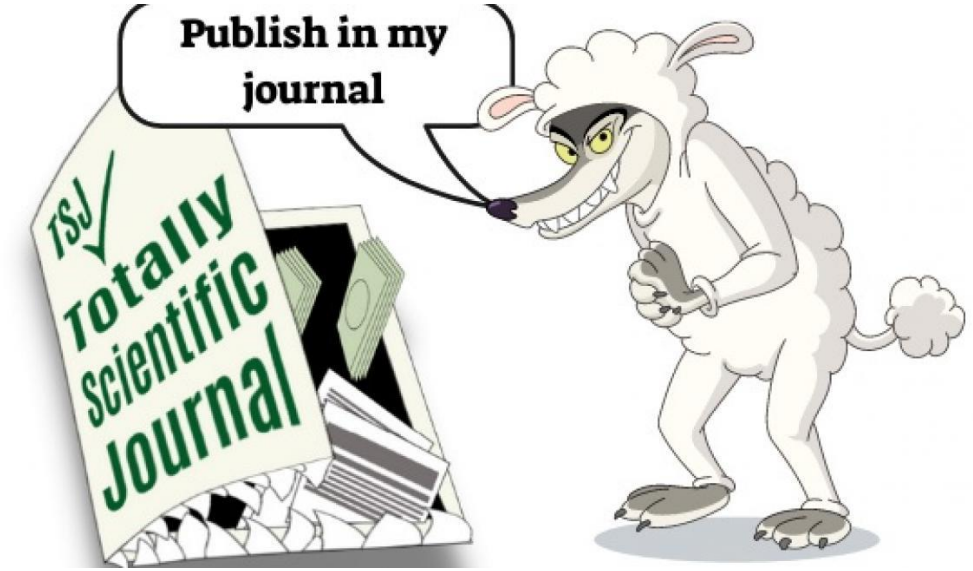
- Process of Retraction
  - Initiation by authors, editors, or institutions.
  - Public notice of retraction and reasons.

- Correction of Errors
  - Issuing errata or corrigenda for minor errors.
  - Maintaining transparency and integrity in the scientific record.

# Predatory Journals

- The term "Predatory Journals" or "Fake Journals" was coined by librarian Jeffrey Beall at the University of Colorado in Denver.

- These journals have various objectives, including:
  - Prioritizing Profit over Quality
  - Lack of Concern for Accepted Standards
  - False Advertising

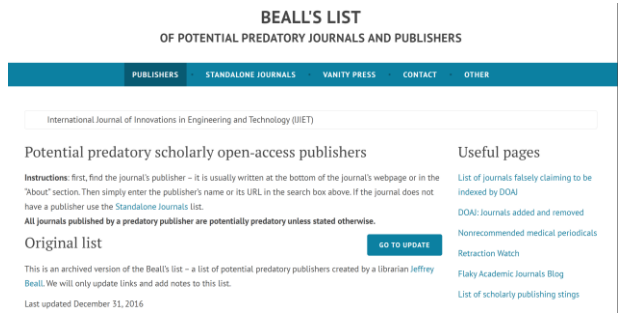


# How To Know About Fake Journals

- Lack of Rigorous Peer Review
- Spammy Solicitations
- Suspicious Impact Metrics
- Unprofessional Website
- Hidden Fees
- False Indexing Claims
- Lack of Transparency

# How To Know About Fake Journals

- Beall's List
  - Created by librarian Jeffrey Beall
  - It is no longer actively maintained or updated by its creator
  - Reliability ???




- Think. Check. Submit
  - Aims to help researchers identify trustworthy journals for their research publications
  - Provides a straightforward and comprehensive checklist to evaluate the credentials of a journal or publisher

# Directories for Finding Right Journals

- PubMed
- Web of Science
- Scopus
- Directory of Open Access Journals (DOAJ)
- Google Scholar





# Summary of Ethical Issues in Publications

- Importance of proper authorship
- Avoiding research misconduct
- Avoiding duplicate and redundant publications
- Handling retractions and corrections ethically
- Identifying predatory journals

# Ethical Issues in Peer Review

# Introduction to Peer Review

- Peer review is the process by which experts evaluate the quality, validity, and relevance of research before it is published.

- Ensures the credibility and accuracy of scientific literature.

# Types of Peer Review

- Single-blind: Reviewers know the authors' identities, but authors do not know the reviewers’.
- Double-blind: Neither reviewers nor authors know each other's identities.
- Open review: Both reviewers and authors know each other's identities.

# Possible outcomes of the manuscript review process

- Acceptance without Revision
  - A rare event where the manuscript is accepted as is, without any need for changes.
- Acceptance with Minor Revisions
  - The manuscript is accepted, provided that minor adjustments and clarifications are made.
- Revise with Major Changes
  - Significant revisions are required, often involving additional experiments.
  - The revised manuscript is typically reviewed again by one or more of the original reviewers.
- Rejection with Resubmission Encouraged:
  - The manuscript is rejected, but the authors are encouraged to resubmit after making extensive revisions and adding new experimental data to address the identified flaws or issues.

# Ethical Responsibilities of Reviewers

- **Confidentiality**
  - Reviewers must keep the content of the manuscript confidential.
  - Unauthorized sharing of the manuscript is prohibited.

- **Impartiality**
  - Reviews should be based on objective evaluation of the research.
  - Personal biases should not influence the review.

- **Constructive Feedback**
  - Provide clear, respectful, and constructive feedback.
  - Aim to improve the manuscript, not to criticize the author personally.

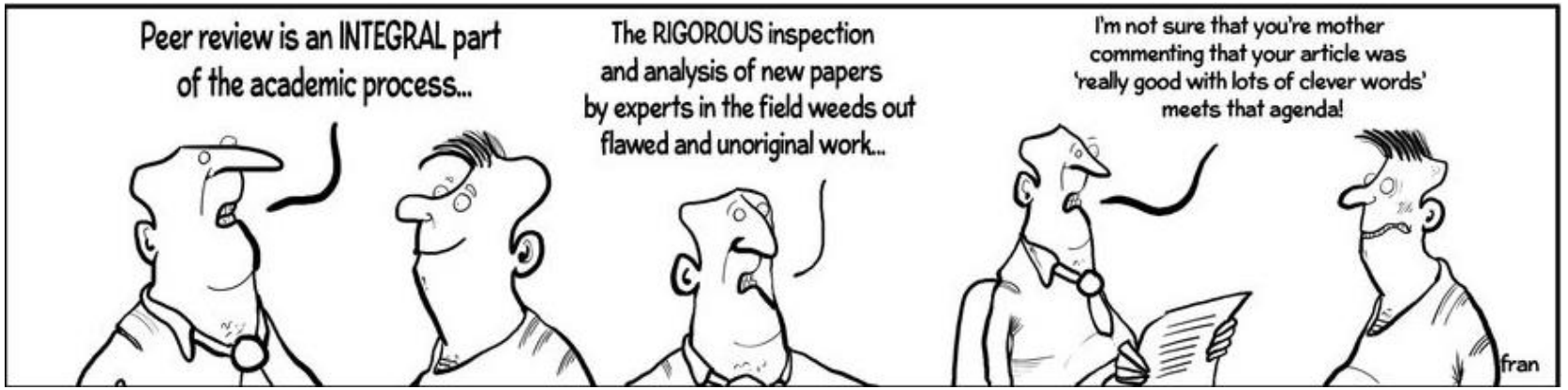
- **Timeliness**
  - Complete reviews within the agreed timeframe to avoid publication delays.

# Common Ethical Issues in Peer Review

- **Conflict of Interest**
  - Reviewers should disclose any potential conflicts of interest
  - Recuse themselves if they cannot provide an unbiased review.

- **Misuse of Confidential Information**
  - Using information from the manuscript for personal gain or research is unethical.

- **Bias and Discrimination**
  - Reviewers should avoid biases based on gender, ethnicity, nationality, or institutional affiliation.
  - Objective assessment of the research quality is essential.



# Ethical Obligations of Authors in Peer Review

- **Responding to Reviewers**
  - Authors should respond respectfully and constructively to reviewers' comments.
  - Address all feedback thoroughly and make necessary revisions.

- **Acknowledging Reviewers' Contributions**
  - Acknowledge the valuable input of reviewers in the revised manuscript.

- **Avoiding Reviewer Manipulation**
  - Do not attempt to influence the selection of reviewers.
  - Avoid suggesting reviewers with conflicts of interest or personal connections.

# Summary of Ethical Issues in Peer Review

- Ethical responsibilities of reviewers:
  - Confidentiality, impartiality, constructive feedback, timeliness.
- Common ethical issues:
  - Bias, conflicts of interest, misuse of confidential information.
- Improving the peer review process:
  - Transparency, training, and innovative models.
- Ethical obligations of authors in responding to peer review.


QUESTIONS?