

Ethics and integrity in academia and mathematical sciences

Hannah-May D'Ambrosio
Research Associate, University of Glasgow

Madeleine Moore
Lecturer, Loughborough University

Aim: present and discuss three scenarios concerning good practice regarding different areas in academia covering topics of *contribution, acknowledgement, and ownership*

Motivation: rare opportunity to discuss hard topics in an open, welcoming and friendly environment with people from various backgrounds and institutions

What is academic integrity?

“Academic integrity is a commitment, even in the face of adversity, to six fundamental values: honesty, trust, fairness, respect, responsibility, and courage.” – [International Centre for Academic Integrity](#)

Ethics Principles

- Credit should reflect intellectual contribution (not status, seniority, etc.)
- Power imbalance increases ethical responsibility of the more powerful party
- Clear, timely, and honest communication about expectations, credit, and responsibility

Scenario 1: Authorship

During a workshop Researcher A and Researcher B have a productive conversation regarding an area of mutual research interest. Researcher A is inspired by an idea provided by Researcher B and later uses the idea to model and solve the problem discussed. When this research is submitted for publication by Researcher A should:

- (i) Researcher B have authorship on the paper?*
- (ii) Researcher B have an acknowledgement?*
- (iii) No authorship/acknowledgement is required for Researcher B*

Ethics Principles

- Credit – does the conversation and idea provided by Researcher B count as intellectual contribution?
- Power imbalance – would it make a difference if Researcher A is senior and Researcher B is an ECR? If so, why?
- Communication – how could open and transparent communication ensure academic integrity?

Scenario 2: Stewardship of ideas

Group A create and launch a new workshop format with novel structure. The format is successful, running for multiple years making it a key event within the community.

The workshop is funded by Funder B, which provides substantial financial support.

Later, Funder B encourages Group C (in a different area) to run a similar event, explicitly highlighting the successful format used by Group A. Group C does so, adapting it somewhat for area needs. Should:

- (i) *Group C acknowledge the workshop is inspired by Group A (e.g. on website, opening remarks)?*
- (ii) *Group C proceed without acknowledgment, viewing the format as part of the academic community once funded and publicly visible?*

In public materials and reports, Group C do not acknowledge Group A, only Funder B.

Members of Group A feel their intellectual and organisational work has been appropriated. Should:

- (i) *Group A contact Group C privately to express concern/request acknowledgement?*
- (ii) *Group A raise the issue with Funder B regarding expectations when the format is reused?*
- (iii) *Do nothing.*

Ethics Principles

- Credit – does the creation of the workshop format by Group A count as intellectual contribution?
- Power imbalance – would certain characteristics (e.g. seniority, gender) of the groups make a difference? Does the funder hold power if Group A may wish to obtain more funding in the future?
- Communication – how could open and transparent communication ensure academic integrity in this scenario?

Scenario 3: Artificial Intelligence

Researcher A has a new research idea and plans to write a grant application but is stressed about the upcoming deadline. A colleague suggests using AI, insisting it sped up their grant writing process significantly.

(i) *What, if any, benefits are there for Researcher A in using AI tools to write the grant application?*

Researcher A decides to use generative AI to assist in creating their grant proposal.

(i) *What ethics must the Researcher consider when using AI to assist in writing their grant proposal?*

(ii) *Is the Researcher required to disclose the use of AI in writing their grant?*

(iii) *How should Researcher A cite/acknowledge usage of generative AI tools in their work?*

Guidance from University of Glasgow on citation [AI Guidance for Researchers | UoG](#)

*“...AI tools cannot be the author of a work. The tool cannot produce original ideas or take any **responsibility** for the outputs... the current consensus on how to reference any use of AI is to treat it as if it were private correspondence.”*

Risks in using AI tools (taken from [UKRI Generative AI in funding applications](#))

- rigour
- transparency
- originality
- reliability
- data protection
- confidentiality
- intellectual property
- copyright
- bias

**Thank you all for listening
and contributions to
discussions!**

Acknowledgement

- Hannah acknowledges Dr David Pritchard's course (RD903) on Research ethics and governance (ran at Strathclyde while she was a PhD student) which inspired many aspects of this group activity, including Scenario 1
- Scenario 3 was suggested and inspired by Dr Madeleine Moore