Policy on Use of AI by Rutgers Physics and Astronomy Graduate Students[1,2]

Recent advances in computational technologies generally known as machine learning and artificial intelligence have the promise to dramatically reshape how we do science. The Physics and Astronomy community has long been an early adopter of advanced computational technologies, with these technologies now widespread across the field. However, ethical challenges are posed by, for example, the potential unreliability of the technologies when not carefully used and the ability to solve problems without understanding the solution. These challenges can be addressed by standard ethical considerations in the field, which rely on the foundational principles of being truthful and treating people well.

In this document, we briefly address some of the ethical issues with and provide guidelines for the use of these technologies by graduate students. Students should understand that AI should support their work, but they are responsible for the correctness of their work, and for appropriately maintaining confidentiality. As with other work, students should thoroughly understand their work and be able to verify, explain, and defend their results.

Students should be aware that AI policies of the different institutions with which they will interact, such as Rutgers, laboratories, professional societies, and journals, will differ, affecting their appropriate use of AI. AI policies for the journals of our most common professional societies, the American Astronomical Society and American Physical Society, can be found at https://journals.aas.org/author-llm-guidelines and https://journals.aps.org/authors/appropriate-use-ai-tools.

Policies

Authorship:
Ethical guidelines from multiple institutions typical require that all authors be individuals who make significant contributions to the underlying work being described and have contributed to and approved the writing of the document. AI is not an individual and should not be a coauthor.

Citations:
AI generated citations should be considered neither correct nor sufficiently comprehensive without verification. Citations might need updating as work goes through the publication process. Original literature should be cited, not AI. This policy is akin to the recommendation of the Particle Data Group, which compiles and evaluates results

---

[1] Written by Ron Gilman, 10/22/2026, with review and input from Nakul Aggarwal and Graduate Studies, and brainstorming with ChatGPT and Gemini using the prompt “What are appropriate guidelines for the use of AI by graduate students?” for a list of topics to consider including.
[2] Reviewed and approved by the Graduate Faculty 11/2/2026.

in high-energy physics, and recommends citation of the original literature rather than its compilations.

Coding:
It is acceptable to use AI to rough draft code, recalling that ultimately you are responsible for ensuring results from the code are reliable.

Courses:
Usage of AI in coursework should be consistent with any course policies outlined in the syllabus, including whether or not it is used and how its use is disclosed. Instructors have the academic freedom to adopt more or less restrictive policies than outlined here.

Exams:
Do not use AI for any course exams even if not explicitly forbidden in the syllabus, except for problems explicitly asking for AI solutions, such as in courses teaching AI.

Grading:
Grading done as part of a TA assignment or a grading assignment should be done personally, not by AI, absent other instructions from the course instructor. If you think a problem solution provided to you is incorrect, and needs further investigation, researching the problem with AI is as acceptable as is discussing it with others.

Homework:
It is generally appreciated that seeing a problem solved does not aid in learning nearly as much as working through and solving a problem oneself, so AI should not be used to solve problems. In many courses faculty believe there is value in students collaboratively solving problems; here collaboration with other students provides an obvious benefit that collaboration with AI does not.

Images:
Potential flaws in AI generated images necessitate that the images be carefully reviewed and that the use of AI be disclosed.

Inclusion, Diversity, Equity, and Accessibility (IDEA):
Students should recognize that AI-generated explanations, recommendations, and assessments may contain cultural, linguistic, gender, racial, or other biases. AI outputs should therefore be critically evaluated.

Learning material:
AI can be viewed as a resource similar to textbooks, web searches, etc. While AI trained on factually correct materials might aid in the understanding of concepts similarly to discussions with more senior students or faculty, AI trained on incorrect materials might lead to misunderstanding.

Ph.D. Qualifier and Theses
See the section on *Writing* below.

Privacy and Intellectual property:
You should start from the assumption that any material uploaded to AI systems or any problems investigated with AI will be stored and used as part of the future development of that AI system, and might be disclosed publicly in the future in response to others' AI usage. Approach your uploads and discussions from this viewpoint that everything might become public and sanitize them to the degree possible. Rutgers has agreements with certain AI companies that provide some protections not available in free accounts; you can investigate these at https://it.rutgers.edu/ai/.

Responsibility:
You are responsible for your work, whether it is writing, solving problems, etc. If your work is flawed because of AI mistakes, such as due to your prompting, bad training or hallucinations, it remains your responsibility. You should verify AI outputs, including solutions to any problems and citations. Plagiarism is never acceptable, whether or not generated by AI.

Transparency / Disclosure:
Your use of AI should be disclosed in all documents, as would be the case for the use of any non-trivial software package, at a level of detail consistent with the course, journal, etc. requirements.

Writing:
AI may be used to assist with grammar, spelling, formatting, clarity, organization, and brainstorming. Students may also use AI to improve the readability of scientific text they have independently developed, provided that the scientific arguments, interpretations, and conclusions remain their own.

Students should not present AI-generated scientific reasoning, original arguments, or research conclusions as their own independent intellectual contributions without appropriate verification and disclosure. AI should also not be used for producing initial rough drafts or approving final products.

Advisers and faculty committees may adopt policies on the use of AI that are more restrictive than those presented here. Students and their advisers and committees should confer in advance on appropriate use.