

ORBIT RESEARCH

ORBIT Research Guidelines & Code of Ethics

Public-facing standards for responsible, rigorous, transparent, and respectful student research.

Scope note. These are ORBIT organizational standards. They do not replace applicable university policies, institutional review requirements, sponsor rules, professional standards, or law. When another authority imposes a stricter requirement, that requirement controls.

Purpose of these standards

ORBIT Research supports student participation in collaborative research while promoting responsible conduct, methodological rigor, transparency, appropriate mentorship, and respect for the people and institutions connected to the work.

These standards are intended to guide ORBIT-affiliated research activity and public communication. They do not replace the policies or oversight requirements of a university, research institution, sponsor, journal, laboratory, hospital, or regulatory authority.

ORBIT Research Guidelines

1. Project Legitimacy and Scope

- Every ORBIT Research project should have a clearly defined research question, scholarly purpose, project scope, and responsible project leadership.
- Projects should be feasible for the team's training, resources, timeline, and access to data or participants.
- ORBIT should not present an informal idea, class exercise, or exploratory discussion as completed research unless it has actually met the requirements of the method and project being claimed.

2. Institutional and Regulatory Requirements

- ORBIT Research does not replace university, sponsor, laboratory, hospital, journal, or regulatory oversight.
- Projects involving human participants, identifiable private information, clinical data, animals, hazardous materials, controlled data, or other regulated activity must follow applicable institutional and legal requirements before the relevant activity begins.

- If the team is uncertain whether formal review is required, the project should pause the relevant activity and seek guidance from the appropriate institution or oversight authority.
- ORBIT affiliation must never be used to bypass an institution's required approvals.

3. Human Participants and Respect for Persons

- Human-participant research must respect autonomy, privacy, dignity, and applicable informed-consent requirements.
- Participation should be voluntary unless an approved protocol permits otherwise, and students must not use coercion, misleading promises, or inappropriate pressure to obtain participation.
- Only collect information necessary for the approved or legitimate research purpose.
- Extra care is required when working with vulnerable populations or sensitive information.

4. Data Integrity and Recordkeeping

- Record, store, analyze, and report data honestly and accurately.
- Do not fabricate data, alter observations to produce a preferred result, omit data solely because they weaken a hypothesis, or manipulate records in a misleading way.
- Maintain enough documentation for the work to be understood, checked, reproduced, or responsibly handed over when appropriate.
- Preserve source data, analysis files, code, protocols, and decision records according to applicable project, institutional, sponsor, and publication requirements.

5. Privacy, Confidentiality, and Data Security

- Protect confidential, sensitive, restricted, and identifiable information using safeguards appropriate to the data and applicable requirements.
- Do not share research data beyond authorized team members or approved collaborators.
- Use de-identification or anonymization when appropriate and recognize that some datasets remain re-identifiable even after direct identifiers are removed.
- Do not upload restricted or confidential research data to unapproved cloud, AI, or collaboration tools.

6. Methodological Rigor and Reproducibility

- Use methods appropriate to the research question and describe them accurately.
- Distinguish exploratory analysis from confirmatory analysis when relevant.
- Do not change hypotheses, inclusion criteria, outcomes, or analytic plans after seeing results without transparently reporting the change when it affects interpretation.
- Document software, code, transformations, statistical decisions, exclusions, and key assumptions sufficiently for responsible review or reproduction.
- Report limitations honestly rather than overstating certainty.

7. Literature, Citation, and Plagiarism

- Credit ideas, language, methods, figures, datasets, code, and prior scholarship appropriately.
- Do not copy text, images, code, analyses, or concepts without appropriate attribution or permission.

- Paraphrasing does not remove the obligation to cite the underlying source.
- Project teams should maintain organized references and verify citations before submission or publication.

8. Authorship and Contributor Credit

- Authorship should reflect genuine scholarly contribution and accountability, not status, friendship, title, or fundraising role.
- Discuss authorship expectations early and revisit them as contributions change.
- Use contributor acknowledgments or contribution statements for meaningful work that does not meet the team's authorship standard.
- No contributor should be denied appropriate credit, and no person should receive honorary or gift authorship.
- Authors should review and approve the final work and be able to take responsibility for their contributions.

9. Mentorship, Supervision, and Student Development

- Project Leads and mentors should provide expectations that are realistic, transparent, and appropriate to each student's level of training.
- Students should receive enough instruction to perform assigned work responsibly rather than being asked to complete unfamiliar technical tasks without support.
- Mentorship should promote learning, independence, respectful feedback, and appropriate recognition of student contributions.
- Power differences must never be used to pressure students into unethical research conduct or surrender of deserved credit.

10. Conflicts of Interest and Competing Commitments

- Disclose financial, personal, academic, supervisory, or organizational interests that could reasonably affect research judgment, authorship, data interpretation, or resource allocation.
- Conflicts should be managed transparently rather than hidden.
- Where impartiality cannot be maintained, responsibilities should be reassigned or additional oversight should be sought.

11. Responsible Use of AI, Software, and Computational Tools

- AI and computational tools may support research when their use is appropriate, transparent, and consistent with institutional, journal, sponsor, and project rules.
- Researchers remain responsible for verifying AI-generated text, code, citations, analyses, classifications, and interpretations.
- AI must not be used to fabricate data, participants, quotations, citations, results, images presented as observations, or researcher contributions.
- Confidential or restricted research information should not be uploaded to unapproved AI systems.
- Material AI assistance should be disclosed when required by the relevant institution, journal, conference, or sponsor.

12. Publication, Presentation, and Public Communication

- Report methods and results honestly, including limitations, uncertainty, and findings that do not support the original hypothesis.
- Do not exaggerate preliminary findings or present association as causation when the design does not support that conclusion.
- Obtain required approvals before publicly sharing restricted, embargoed, confidential, or participant-identifiable information.
- Posters, abstracts, manuscripts, websites, and social media should accurately represent the status of the work, including whether it is preliminary, submitted, accepted, published, or peer reviewed.

13. Corrections, Retractions, and Responsible Error Handling

- Good-faith errors should be corrected promptly and transparently.
- When an error materially affects an analysis, conclusion, abstract, poster, manuscript, or public claim, the team should determine what correction, notification, withdrawal, or reanalysis is appropriate.
- Attempting to conceal a known material error is inconsistent with ORBIT Research standards.

14. Respectful and Equitable Collaboration

- Maintain a research environment free from harassment, discrimination, intimidation, retaliation, and exploitation.
- Value contributions based on the work performed rather than institutional prestige, seniority, or social relationships.
- Communicate expectations, deadlines, and responsibilities clearly.
- Address disagreements professionally and seek mediation or leadership support when needed.

15. Research Misconduct and Reporting Concerns

- Fabrication, falsification, plagiarism, deliberate misrepresentation, serious privacy violations, and retaliation for good-faith reporting are inconsistent with ORBIT Research standards.
- Concerns should be raised through appropriate ORBIT leadership and, when required, the relevant institutional or regulatory process.
- ORBIT should not attempt to privately resolve matters that must be reported to a university, sponsor, journal, or other authority.
- Good-faith concerns should be taken seriously and handled as confidentially as reasonably possible.

16. External Collaborations and Representation of ORBIT

- Be clear about which institution, laboratory, mentor, sponsor, or organization is responsible for a project and what ORBIT's role is.
- Do not imply that ORBIT has institutional authority, sponsorship, approval, or partnership that has not actually been granted.
- Use institutional names, logos, affiliations, and acknowledgments accurately and with required permission.

17. Project Closure and Handover

- At project completion, organize data, code, protocols, documentation, references, and contribution records so the work can be responsibly understood or continued.
- Complete required data retention, deletion, repository, reporting, or publication obligations.
- Ensure students receive appropriate documentation of their contributions when appropriate.

ORBIT Research Code of Ethics

The ORBIT Research Code of Ethics expresses the core principles that should guide decisions even when a specific situation is not explicitly addressed by a rule.

1. Integrity

We conduct and communicate research honestly. We do not fabricate, falsify, plagiarize, manipulate, or knowingly misrepresent research activity, data, methods, contributions, or findings.

2. Accuracy

We verify information before presenting it as fact, maintain careful records, acknowledge uncertainty, and correct material errors when they are discovered.

3. Respect for People

We respect the dignity, autonomy, privacy, safety, time, and contributions of participants, students, collaborators, mentors, and community members.

4. Responsibility

We accept responsibility for the quality and ethical conduct of the work assigned to us and seek supervision when a task exceeds our training or authority.

5. Transparency

We are open about methods, limitations, conflicts of interest, material use of tools, project status, and the basis for our conclusions when disclosure is appropriate or required.

6. Fair Credit

We give authorship, acknowledgment, attribution, and recognition according to genuine contribution. We reject honorary authorship, appropriation of student work, and deliberate denial of deserved credit.

7. Confidentiality and Data Stewardship

We protect confidential information, use data only for legitimate authorized purposes, and apply appropriate safeguards to sensitive or identifiable information.

8. Methodological Honesty

We select and report methods in ways that answer the research question rather than manufacturing a preferred conclusion. We report limitations, deviations, and uncertainty that materially affect interpretation.

9. Independence of Judgment

We do not allow status, competition, fundraising, personal relationships, or pressure for publication to override research integrity.

10. Accountability

We raise concerns in good faith, cooperate with appropriate review, and do not retaliate against people who responsibly report possible misconduct or safety concerns.

11. Learning and Mentorship

We treat research as both scholarly work and education. We support students in developing competence, independence, ethical judgment, and recognition appropriate to their contributions.

12. Public Trust

We recognize that research claims can influence people, institutions, and communities. We communicate responsibly and do not exaggerate evidence or authority.

When the right action is unclear

Before proceeding, ORBIT Research participants should ask:

- Is this accurate and supported by the evidence or official source?
- Does this action respect participants, students, collaborators, and their privacy?
- Would I be comfortable explaining this decision to a mentor, institution, journal, or participant?
- Am I giving appropriate credit and avoiding misrepresentation?
- Does an institutional, regulatory, sponsor, or journal rule apply?
- Am I qualified and authorized to make this decision, or should I seek guidance?
- Could this choice harm the integrity of the research record or ORBIT's credibility?
- If the situation were publicly reviewed, would the reasoning still be defensible?

PUBLIC COMMITMENT

ORBIT's Commitment to Responsible Research

ORBIT makes research education, mentorship, opportunity, and scholarly participation more accessible. We pair that access with clear standards for integrity, responsible conduct, fair credit, privacy, methodological honesty, transparency, and accountability. ORBIT-affiliated researchers are expected to protect the credibility of the research record and the trust of the students, collaborators, participants, institutions, and communities connected to their work.