

**The Oceanography Society (TOS)
Policy on Professional Integrity, Ethics, and Conduct,
and Guidelines on Implementation**

Approved Revisions - December 16, 2019

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1. INTRODUCTION

This document, The Oceanography Society (**TOS**) *Policy on Professional Integrity, Ethics, and Conduct, and Guidelines on Implementation*, has five parts: (1) this introduction, which outlines the purpose of this document and its contents; (2) the *Policy of Professional Integrity, Ethics, and Conduct*, which includes a statement of expectations for positive professional and personal behavior and a set of definitions of misconduct; (3) the *Policy on Scientific Publications*, which outlines expectations associated with TOS Publications for authors, editors, and reviewers and defines misconduct related to publication; (4) the *TOS Guidelines for Investigating Scientific Misconduct*, which outlines specific procedures for actions in case TOS standards of integrity, ethics, and/or conduct are not met; and (5) a list of sources as guidance regarding this set of policies and implementation practices and acknowledgments.

This set of policies and guidelines is intended to make explicit issues related to integrity, ethics, and conduct that has always been implicit in TOS. While codifying expectations, the document also establishes procedures for investigation and action in case the Society's expectations are not met. TOS is a nonprofit organization incorporated in the United States of America, and is thus bound by US laws and regulations. Additional local laws may apply, appropriate to the specific location of TOS events. TOS is not bound by any policies or actions of other organizations.

2. POLICY ON INTEGRITY, ETHICS, AND CONDUCT

Here, TOS expectations are documented for integrity, ethics, and conduct. This set of principles for professional behavior governs all TOS members, staff, volunteers, contractors, authors, exhibitors, sponsors, and other participants in TOS activities. These principles are:

- *Integrity and honesty* in all aspects of research
- *Personal accountability* in the conduct of research and the dissemination of the results
- *Professional courtesy, equity, and fairness* in working with others
- *Freedom to responsibly pursue science* without interference, coercion, or discrimination
- *Unselfish cooperation* in research
- *Good stewardship* of research and data on behalf of others
- *Legal compliance* in all aspects of research, including intellectual property
- *Humane approach* in evaluating the implications of research on humans and animals

2.1. CODE OF CONDUCT

TOS expects all members and participants in its activities or programs to adhere to the following standards of behavior:

2.1.1. Integrity: Members and participants in TOS activities or programs will act with honesty in the interest of the advancement of science, will take full responsibility for the trustworthiness of their research and its dissemination (as distinct from honest errors or differences of opinion), and will treat others with courtesy, equity, and fairness.

2.1.2. All TOS members will disclose relevant financial, personal, professional, and other conflicts of interest that could compromise the trustworthiness of their work on TOS

committees, publications, research proposals, meeting presentations, and public communications, as well as in all honors and awards activities.

2.1.3. Adherence to Law and Regulations: Members and participants in TOS activities or programs will be aware of and adhere to laws and regulations related to the professional conduct of research, scientific integrity, professional ethics, and personal behavior. TOS is a nonprofit organization incorporated in the United States of America. General principles and guidelines outlined in this document comply with US Laws and Regulations and will apply in all cases. Additional laws and regulations may pertain to the location (nation, state, or other locality) where TOS activities occur, and will apply as appropriate.

2.1.4. Research Methods: Members and participants in TOS activities or programs will employ research methods to the best of their understanding and ability, base conclusions on critical analysis of the evidence, and report findings and interpretations fully, accurately, and objectively, including characterization of uncertainties.

2.1.5. Research Records and Findings: Members and participants in TOS activities or programs will maintain clear, accurate records of research in ways that will allow verification and replication of their work by others. Members and participants in TOS activities or programs will share data and findings openly and promptly if legally possible, as soon as they have had an opportunity to establish intellectual property rights, if appropriate. Members will respect the intellectual property rights of others following best practices for data management, accessibility, and preservation.

2.1.6. Responsibility and Due Credit: Members and participants in TOS activities or programs will take responsibility for the integrity of their contributions to all publications, funding applications, reports, and other representations of their research. Author credit shall be given only to those who have made meaningful contributions to publications. Authors publishing in *Oceanography* will abide by *Oceanography's* Author Guidelines: <https://tos.org/oceanography/guidelines>.

2.1.7. Acknowledgement: Members and participants in TOS activities or programs will acknowledge the names and roles of people, institutions, and funding sources that have made significant contributions to research findings, programs, or activities.

2.1.8. Peer Review: Members and participants in TOS activities or programs will provide fair, impartial, prompt, and rigorous evaluations and will respect confidentiality when reviewing others' unpublished work. Authors will welcome constructive criticism and will be responsive to peer review.

2.1.9. Conflict of Interest: Members and participants will disclose financial, personal, professional, and other potential conflicts of interest that could compromise their work on TOS committees, publications, research proposals, meeting presentations, and public communications, as well as in all TOS honors and awards activities. Members and participants will recuse themselves from decision making or other activities in which they have significant conflicts of interest.

2.1.10. Public Communication: Members and participants will clearly distinguish professional comments based on areas of their scholarly expertise from their opinions based on personal views.

2.1.11. Environment: TOS members and participants are responsible for creating and upholding a safe, open, and professional environment for learning, conducting, and communicating science with integrity, respect, fairness, trustworthiness, and transparency at all organizational levels and in all scientific endeavors.

2.1.12. Societal Considerations: Members have an ethical obligation to weigh the societal benefits of their research against the costs and risks to human and animal welfare, heritage sites, or other potential impacts on the environment and society.

2.1.13. Stewardship of Students and Early Career Scientists: Advisors or other mentors to students and/or early career scientists have a responsibility to promote an environment that is intellectually stimulating and free of harassment; be supportive, equitable, accessible, encouraging, and respectful; recognize and respect the cultural backgrounds of students; and be sensitive to the power imbalance in the student–advisor relationship.

2.2 Misconduct:

TOS rejects and will sanction professional or personal misconduct (i.e., deviations from the standards noted above) by its members or participants in its activities. This prohibition applies to all professional, research, and learning environments.

2.2.1. *Professional misconduct* includes dishonesty, fraud, misrepresentation, coercive manipulation, censorship, or other actions that maliciously alters the content, veracity, or meaning of research findings or that may affect the planning, conduct, reporting, or application of science.

2.2.2. *Personal misconduct* includes, but is not limited to, discrimination, harassment, or bullying by any means (as defined in Box 1, below).

Box 1: Definitions of forms of personal misconduct.

- *Discrimination* means unequal or unfair treatment based on personal or group characteristics. Discriminatory practices can be explicit or implicit, intentional, or unconscious. Illegal discrimination can occur on the basis of any legally protected category including but not limited to factors such as ethnicity, race, national origin, citizenship, religion, age, marital status, language, political or other opinion, gender or gender identity, sexual orientation, disability, physical appearance, age, or economic class, genetic information, physical or mental disabilities, veteran status, prior conviction of a crime, or membership in other protected classes set forth in US state or federal law.
- *Harassment* is a type of discrimination that consists of a single intense and severe act, or of multiple persistent or pervasive acts that are unwanted, unwelcome, demeaning, abusive, or offensive. Offensive conduct constitutes harassment when (1) it becomes a condition of an opportunity, education, benefit, evaluation, or employment, or (2) the conduct is severe or pervasive enough to create a work or educational environment that most people would

consider intimidating, hostile, or abusive. These acts may include epithets, slurs, or negative stereotyping based on gender, race, sexual identity, or other categories, as protected by US federal law. Also included are threatening, intimidating, or hostile acts; denigrating jokes and displays; or circulation of written or graphic material that denigrates or shows hostility or aversion toward an individual or a group.

- *Sexual harassment* (a form of discrimination and harassment) is composed of three categories of behavior: (1) gender harassment (verbal and nonverbal behaviors that convey hostility, objectification, exclusion, or second-class status about members of one gender, gender identity, or sexuality orientation), (2) unwanted sexual attention (unwelcome verbal or physical sexual advances, which can include assault), and (3) sexual coercion (e.g., when favorable professional or educational treatment is conditioned on sexual activity). Harassing behavior can be either direct (targeted at an individual) or ambient (a general level of sexual harassment in an environment). It is not necessarily motivated by sexual desire nor does it need to involve sexual activity.
- *Bullying* is the use of force, threat, or coercion to abuse, intimidate, or aggressively dominate others in the professional environment that involves a real or perceived power imbalance. These actions can include abusive criticism, humiliation, the spreading of rumors, physical and verbal attacks, isolation, undermining, and professional exclusion of individuals through any means.

2.2.3. *Concealment, reprisals, false allegation, due process.* Misconduct also extends to the following actions: covering up or concealing scientific misconduct, reprisals against those who report scientific misconduct (i.e., whistleblowers), malicious or bad faith false allegations of scientific misconduct, intentional violations of due process protections in handling allegations of scientific misconduct.

2.2.4. *Misrepresentation of TOS.* When representing TOS in an official capacity, members and officers will abide by the highest standards of professional and personal conduct. Therefore, TOS also considers certain behavior related to inappropriate representation (defined in Box 2, below) with respect to TOS activities to be scientific misconduct:

Box 2: Definitions of misconduct through inappropriate representation

- *Misrepresenting oneself as an official of TOS or as having authorities or honors conferred by TOS beyond those one actually possesses.*
- *Misuse of TOS's name, funds, activities, or resources for non-approved purposes.*
- *Unauthorized solicitation of funds or resources under the auspices of TOS.*
- *Using TOS funds and resources without proper authorization and attribution or in a manner not commensurate with TOS corporate and organizational relationship policies.*

2.3. Reporting of Misconduct:

Members and participants will take responsibility to act or intercede where possible to prevent misconduct. Suspected misconduct related to integrity and ethical behavior shall be reported

appropriately by a complainant and evaluated as outlined in Section 4: *Guidelines for Investigating and Acting on Complaints of Misconduct*.

3. POLICY ON PUBLICATION

3.1. Overview

TOS publishes and makes publicly available a variety of products including text, video, and audio, in venues including but not limited to its web page, newsletter, ad hoc reports, and its scientific journal, *Oceanography*. In all of these offerings, TOS upholds ethical standards of respectful professional discourse, honesty, and fairness.

Web and newsletter offerings and reports may or may not be subject to peer review and are published by TOS management (Executive Director and designees) under the oversight of TOS Council.

Oceanography publishes peer-reviewed articles that present significant research, noteworthy achievements, exciting new technology, and hands-on oceanography labs, as well as editor-reviewed commentaries, education columns, book reviews, and career profiles. The overall goal of *Oceanography* is cross-disciplinary communication in the ocean sciences. The content and publication of *Oceanography* and its review process are managed by the editor or an appropriate designated guest editor or editors. Activities of the editor(s) are subject to oversight by TOS Council under accepted practices of editorial independence.

Editors, authors, reviewers, and the TOS Council all have ethical responsibilities to ensure and sustain the trust of the public and the scientific community in the integrity of the science and of the published works in *Oceanography*.

TOS uses peer review to acquire independent evaluations of manuscript submissions to ensure their quality. TOS strives to make the peer-review process objective, fair, and thorough. The basis for peer review in *Oceanography* is trust and honesty among editors, including guest editors, authors, researchers, reviewers, and funding agencies. Decisions about a manuscript are based only on its importance, originality, clarity, and relevance to the journal's scope and content.

Authors, editors, and reviewers are expected to comply with guidance from the Committee on Publication Ethics (<http://publicationethics.org/>) and the Coalition for Publishing Data in the Earth and Space Sciences (<http://www.copdess.org/>).

3.2. Obligations of Editors

Every editor, including guest editors, has the responsibility to adhere to the ethical standards set forth in this document for selecting and accepting papers submitted to *Oceanography*. To uphold integrity in the *Oceanography* publishing process, the editor, associate editors, and guest editors are expected to do the following:

- 3.2.1. Provide unbiased consideration of manuscripts offered for publication, judging each solely on its merits, based upon the criteria of importance, originality, clarity, and relevance.

3.2.2. Process all manuscripts promptly, with fairness, equity, and respect.

3.2.3. Take full responsibility for acceptance or rejection of a manuscript, working in the best interest of science and excellence and utilizing the recommendations of peer reviewers. Manuscripts may be rejected without review if considered inappropriate for the journal, at the discretion of the *Oceanography* editor. The editor may consult with associate editors or reviewers to aid in this decision. The editor makes the final decision to publish a manuscript.

3.2.4. Ensure the peer review process is objective, fair, and thorough, and that reviews do not contain personal attacks or comments that are not constructive.

3.2.5. Ensure confidentiality regarding a manuscript under consideration, i.e., without disclosing information about a manuscript to anyone other than those from whom professional advice is sought. An editor may disclose manuscript titles and names of authors of papers that have been accepted for publication.

3.2.6. In situations of perceived conflict of interest involving the *Oceanography* editor, fully delegate editorial responsibility for a manuscript to another editor, associate editor, or guest editor. Conflicts include manuscripts authored by the editor, manuscripts authored by scientists with whom the editor has a close relationship, or when a manuscript is so closely related to the research of an editor as to create a conflict of interest.

3.2.7. Never use unpublished information or interpretations from a submitted manuscript for their own or a reviewer's own research, except with the consent of the author.

3.2.8. Quickly facilitate publication of errata to correct erroneous information in a published report.

3.3. Obligations of Authors and Contributors

Every submitting author, coauthor, and reviewer has specific responsibilities in these activities, as well as the overall responsibility as members of the profession for respecting codes of conduct. To ensure the highest quality contributions to *Oceanography*, authors are expected to do the following:

3.3.1. Present a precise and accurate account of the research performed and a clear, objective discussion of its significance, or the logical basis of commentaries.

3.3.2. In scientific articles, include sufficient detail and reference to sources of information and/or data in a manuscript to permit the author's peers to repeat the work. Any limitations on use of or access to data must be clearly identified.

3.3.3. Identify sources of all information and cite those publications that have been influential in determining the nature of the reported work and that guide the reader quickly to the primary and other earlier work essential for understanding the present investigation or policy position. If information has been obtained privately, as in conversation or correspondence, explicit permission from the source is required, and must be included as a "personal communication" within the manuscript.

3.3.4. Document methodology, assumptions, and uncertainty.

- 3.3.5. Follow current governing standards for ethics of work done with human or animal subjects.
- 3.3.6. Provide appropriate citation and attribution, without plagiarizing the work of others or your own work.
- 3.3.7. Obtain the necessary authorizations from copyright holders.
- 3.3.8. Avoid unnecessary fragmentation or redundant publication of research reports.
- 3.3.9. Eschew criticism of a personal nature.
- 3.3.10. Report to the editor any changes made to the manuscript after acceptance.
- 3.3.11. Include as coauthors only those persons who have made significant scientific contributions to the work and determine the order of authorship in a manner appropriate to the contribution. Pay careful attention to inclusion and appropriate attribution of student work. All coauthors share responsibility for the quality and integrity of the submitted and published manuscript. Authorship obligations apply to peer-reviewed papers, as well as research abstracts, and in oral and poster presentations at meetings.
- 3.3.12. Reveal to the editor any potential conflict of interest that might be affected by publication of the results contained in a manuscript.
- 3.3.13. In the role of corresponding author, ensure that all coauthors are fully cognizant of the steps and changes in the manuscript during the review and that all authors agree to the final version of the manuscript.

3.4. Obligations of Reviewers of Manuscripts

To ensure the highest quality contributions to *Oceanography*, reviewers are expected to do the following:

- 3.4.1. Judge the paper solely on its merits. Provide clearly written, unbiased feedback in a timely manner on the scholarly merits and scientific value of the work, together with a documented basis for the reviewer's opinion.
- 3.4.2. Thoroughly address all review criteria provided by the journal.
- 3.4.3. Decline to review manuscripts for which the reviewer lacks sufficient time, is not qualified, or has a real or perceived conflict of interest with any of the authors, including personal or competitive relationships.
- 3.4.4. Explain and support judgments adequately so that editors and authors may understand the basis of their comments. Any statement by a reviewer on an observation, derivation, or argument that has been previously published shall be accompanied by the relevant citation.
- 3.4.5. Alert the editor to any significant similarity between the manuscript under consideration and any other published paper or manuscript submitted concurrently to another journal. Report any plagiarism or the appearance of plagiarism.

3.4.6. Never use or disclose unpublished information, arguments, or interpretations contained in a manuscript under consideration, except with the consent of the author.

3.4.7. Never include personal criticism of the author in reviewing a manuscript.

3.5. Obligations of the TOS Council and Staff Toward Its Editors

The TOS Council has responsibility to ensure the editorial independence of *Oceanography* and provide agreed-upon support so that the quality of publications is not compromised. To maintain honesty and trust in the publishing process, TOS councilors, officers and staff are expected to do the following:

3.5.1. Fully inform the *Oceanography* editor, associate editors, and guest editors of their responsibilities, authorities, terms of appointment, and mechanisms for resolving conflict.

3.5.2. Not interfere in the evaluation, selection, or editing of individual articles, and respect that the *Oceanography* editor has authority over the content of the journal, generally referred to as “editorial independence.”

3.5.3. Support editorial decisions made based on the clarity, originality, importance, and relevance to the journal’s audience, including manuscripts that are critical of the current paradigm, policy, or that may be contrary to the published statements of TOS.

3.5.4. Protect the editorial, peer review, and publishing process from influence of commercial interest, personal self-interest, political influence, or other nonscientific influences.

3.5.5. Responsibly use the right to appoint and terminate the editor, associate editors, and guest editors.

3.6 Definitions of Misconduct related to TOS Publications

In the context of scientific publication, misconduct includes the following forms of research misconduct: fabrication, falsification, or plagiarism in proposing, performing, or reviewing research, or in reporting research results, as defined in Box 3.

Box 3 – Definitions of Misconduct in Publication

- *Fabrication* is making up data or results and recording or reporting them.
- *Falsification* is manipulating research materials, equipment, or processes, or changing or omitting data or results such that the research is not accurately represented in the research record.
- *Plagiarism* is the appropriation of another person’s ideas, processes, results, or words without giving appropriate credit. This applies when proposing, performing, or reviewing research, or in reporting research results.
- *Research misconduct* does not include honest error or differences of opinion.

3.7. Reporting of Misconduct related to TOS Publications

Suspected misconduct in publication shall be reported appropriately by a complainant and evaluated as outlined in Section 4: *Guidelines for Investigating and Acting on Complaints of Misconduct*.

4. GUIDELINES FOR INVESTIGATING AND ACTING ON COMPLAINTS OF MISCONDUCT

This section defines procedures under which TOS will investigate and address incidents of alleged scientific misconduct. It is intended to be used in conjunction with other sections of this document: TOS POLICY ON INTEGRITY, ETHICS, AND CONDUCT (Section 2, above), and the TOS POLICY ON PUBLICATION (Section 3, above). The term “scientific misconduct” is defined in those sections (including Boxes 1, 2, and 3).

Individuals subject to these guidelines include TOS members, staff, exhibitors, authors of items published in a TOS publication or presentation or submitted for publication, and participants or attendees at TOS-sponsored events.

The procedures set forth herein are not intended to infringe on the editorial discretion of the editorial staff of any TOS publication. These guidelines should not be used to address poor research or scholarship, unless such research or scholarship amounts to scientific misconduct as defined in this document. This policy is in no way intended to create or alter a contract of any kind, nor is it intended to create or alter any type of employment relationship, contractual or otherwise.

4.1. Procedure

4.1.1. Entities Involved

- 4.1.1.1. Complainant: A complainant is any individual who reports alleged scientific misconduct to TOS as described in Section 4.1.2.
- 4.1.1.2. Respondent: A respondent is any individual subject to the TOS Guidelines and Policy on Professional Integrity and Ethics who is alleged by a complainant to have committed scientific misconduct.
- 4.1.1.3. TOS Ethics Committee: The Ethics Committee is a group responsible for investigating alleged scientific misconduct and making recommendations to the TOS Council as described in Section 4.1.4. The Ethics Committee is a standing committee of volunteers comprised of a Chair and six TOS members, none of whom are current members of the TOS Council. The Chair and all other members of the Ethics Committee serve at the discretion of the TOS Council, i.e., the TOS Council can revoke committee membership or decommission and reform the committee at any time by majority vote. The Chair will be appointed by a majority vote of the TOS Council. The Chair will nominate potential members of the Ethics Committee when vacancies become available; nominees will then be approved or rejected by majority vote of the TOS Council. Members will serve on the Ethics Committee for a fixed term of up to four years as determined by the TOS Council or

until they become incapacitated or resign, whichever comes first. TOS Council may stagger terms at their discretion to maintain appropriate membership of the committee. A member may be re-appointed at the end of his or her term through the normal appointment procedure. If a member of the Ethics Committee becomes incapacitated or resigns, the Chair will promptly nominate an eligible replacement to serve the remainder of that individual's term, with approval of TOS Council. The Chair will also promptly appoint a Vice-Chair from among the members of the Ethics Committee, who will assume the Chair's duties in the event the Chair is incapacitated or otherwise unavailable. The Vice-Chair will serve until they become incapacitated, resign, or a new Chair is appointed. If the Vice-Chair becomes incapacitated or resigns, the Chair will promptly nominate a replacement for approval by TOS Council.

4.1.1.4. TOS Council: The TOS Council is the governing body of TOS as defined by the TOS bylaws, and may commission or decommission committees and/or any components of their membership at their discretion, by majority vote. In the context of alleged scientific misconduct, the TOS Council is responsible for determining what action to take in response to the findings and recommendations of the Ethics Committee as described in Section 4.1.4 or in response to recommendations of the Appellate Committee as described in Section 4.1.6.

4.1.1.5. TOS Appellate Committee: The TOS Appellate Committee is a standing committee of volunteers. It is comprised of the President-Elect of TOS, who will serve as its chair, and two members of the TOS Council. The Chair will nominate potential members of the Appellate Committee promptly upon assuming the position of Chair, who will then be approved by majority vote of the TOS Council. Members will serve on the Appellate Committee for a fixed term of up to four years as determined by the TOS Council or until they become incapacitated or resign, whichever comes first. If a member of the Appellate Committee becomes incapacitated or resigns, the Chair will promptly nominate an eligible replacement for approval by TOS Council. The Chair will also promptly appoint a Vice-Chair from among the members of the Appellate Committee, who will assume the Chair's duties in the event the Chair is incapacitated or otherwise unavailable. The Vice-Chair will serve until they become incapacitated or resign, or their term expires. If the Vice-Chair becomes incapacitated or resigns, the Chair will promptly select a replacement. Members of the Appellate Committee are responsible for considering appeals of the decisions of the TOS Council as described in Section 4.1.6. Members of the Appellate Committee will recuse themselves from any ethics-related deliberations outside of their committee duties, undertaken by the TOS Council pursuant to this policy.

4.1.2. Reporting Alleged Scientific Misconduct

Any individual may formally report potential scientific misconduct to TOS by submitting a written complaint to the Executive Director, President, or President-Elect of TOS. Any such complaint should include the following information:

- The name and institutional affiliation (if any) of the complainant.
- The name and any other necessary identifying information of the respondent.
- A reasonably detailed description of the alleged scientific misconduct, including the date(s), location(s), and other circumstances thereof as appropriate.
- Any pertinent documents, data, or other items, with an explanation of how they are pertinent to the complaint.
- An explanation of why the complainant believes the conduct at issue constitutes scientific misconduct.
- A statement explaining any conflict(s) of interest the complainant has with the respondent. A conflict of interest does not preclude the filing of a complaint.

If the Executive Director, President, or President-Elect of TOS receives a communication that reasonably appears to be intended as a complaint of potential scientific misconduct but does not include the information mentioned above, the Executive Director, President, or President-Elect will respond promptly to that party to explain the needed information and the procedure to report alleged scientific misconduct as described herein.

All complaints will be forwarded to the Chair of the Ethics Committee for preliminary investigation as described in Section 4.1.3.

4.1.3. Preliminary Investigation

The Chair of the Ethics Committee will promptly acknowledge receipt of each complaint in writing to the complainant. The Chair will then promptly review the complaint and determine whether the conduct described therein constitutes potential scientific misconduct as defined by the TOS POLICY ON INTEGRITY, ETHICS, AND CONDUCT (Section 2 above). The Chair will make a recommendation to the TOS Council concerning whether the full Ethics Committee should or should not conduct a secondary investigation as described in Section 4.1.4. The TOS Council will then promptly accept or reject the Chair's recommendation in writing and, if appropriate, the Ethics Committee will begin its secondary investigation. If it is confirmed by the TOS Council that the conduct alleged in the complaint does not constitute potential scientific misconduct, the Council will promptly convey that determination to the complainant in writing and the matter will be closed.

4.1.4. Secondary Investigation

The Ethics Committee will conduct a prompt, thorough, and impartial investigation of each complaint referred to it by the Chair. TOS Council will promptly notify the complainant and respondent in writing that the complaint has been referred to the Ethics Committee for secondary investigation.

Each member of the Ethics Committee has an obligation, upon receipt of a complaint, to determine whether they may have a conflict of interest involving the complainant, the respondent, or the matters alleged in the complaint and, if so, to recuse themselves from the investigation. In the

event of such a recusal, the Chair will nominate (and TOS Council will approve or reject) an eligible replacement who will serve for the duration of the investigation. The Chair will also nominate such a replacement for any member of the Ethics Committee who is unavailable to participate in a pending investigation.

The burden will be on the complainant and respondent to furnish the full Ethics Committee with any testimony and documentary evidence they believe is pertinent to the matters alleged in the complaint. The Committee will first solicit evidence and testimony from the complainant. It will then afford the respondent a reasonable opportunity to examine the evidence and testimony provided by the complainant and provide their own evidence and testimony in rebuttal. The Ethics Committee may also consult with any organization or subject matter expert it deems necessary under the circumstances, but will afford the claimant and respondent a reasonable opportunity to respond to any testimony provided by such sources.

Each member of the Ethics Committee has discretion to consider and weigh any evidence presented to the full Committee through the procedure described above as they see fit under the circumstances. The Ethics Committee will not consider any evidence except that which is available to all members of the Committee through this procedure. Once the Committee has had an adequate opportunity to consider all evidence and testimony presented and to deliberate as it deems appropriate, each member including the Chair will vote by secret ballot whether, based solely on the evidence presented, the respondent more likely than not committed the scientific misconduct alleged in the complaint. If the majority concludes that the respondent more likely than not committed the scientific misconduct alleged, the matter will be referred to the TOS Council for approval and to determine sanctions as described in Section 4.1.5. Otherwise, the matter will be considered closed unless there is an appeal as described in Section 4.1.6. Any matter referred by the Ethics Committee to the TOS Council will be accompanied by a written report, prepared by the Ethics Committee Chair, setting forth (i) a description of the alleged scientific misconduct; (ii) a summary of the deliberations of the Ethics Committee, including any evidence and testimony considered; (iii) an explanation of the Committee's conclusions; and (iv) any necessary supporting documents and information.

The TOS Council will notify the complainant and respondent of their findings promptly and in writing.

Meetings of the Ethics Committee will not be open to the public. The Ethics Committee and each member thereof will take reasonable measures to ensure the security and confidentiality of all data and communications associated with each complaint it considers, consistent with the confidentiality principles described in Sections 2.2.3 and 4.2.6.

4.1.5. Determining Sanctions

The TOS Council will promptly review any matter referred to it by the Ethics Committee to determine an appropriate sanction. The Council may request additional information from the Ethics Committee, if necessary, to facilitate its review.

Once the TOS Council has had an adequate opportunity to consider the matter and deliberate as it deems appropriate, each member including the Chair may propose one or more sanctions they believe are appropriate and proportionate to the offense at issue under the circumstances (including no sanction at all). The members of the Council will then vote by secret ballot on each proposed sanction. If the majority concludes that a particular sanction is appropriate, that sanction will be levied against the respondent. The Council will vote on each proposed sanction separately. Any sanction approved by majority vote will be levied regardless of any other sanction approved or rejected by the Council.

Sanctions may include, but are not limited to, the following:

- Written reprimand or warning
- Removal from TOS volunteer position
- Publication of “errata” notices
- Withdrawal/retraction of a presentation, publication, or poster
- Placement of an author or reviewer on a “watch list” for one or more TOS-affiliated publications
- Temporary or permanent suspension from eligibility for publication in one or more TOS-affiliated publications
- Temporary or permanent suspension from eligibility to make presentations at TOS-sponsored events
- Suspension of or expulsion from membership in TOS
- Denial or revocation of honors and awards

The TOS Council will notify the complainant and respondent of its decision promptly in writing, including their right to appeal.

Any meeting of the TOS Council concerning a complaint of scientific misconduct will be conducted in executive session as defined by the TOS bylaws and will not be open to the public. The TOS Council and each member thereof will take reasonable measures to ensure the security and confidentiality of all data and communications associated with each complaint it considers, consistent with the confidentiality principles described in Sections 2.2.3 and 4.2.6.

4.1.6. Appeals

Within 60 days after the TOS Council notifies the complainant and respondent of its decision, either party may file a single appeal of the decision of the Ethics Committee and/or the Council. Any such appeal must be based on one or more of the following grounds: (i) the discovery of new evidence that was unknown or unavailable to the appealing party despite that party’s reasonable efforts to discovery or obtain it; (ii) evidence of a deviation from these guidelines so significant as to constitute manifest unfairness to the appealing party; or (iii) evidence that the sanction(s) levied are disproportionate to the offense(s) at issue.

Each appeal will be promptly and thoroughly considered by the TOS Appellate Committee, after which the Appellate Committee will vote on the appeal by secret ballot. If the Appellate Committee decides to grant the appeal based on a majority vote, the matter will be returned to either the Ethics Committee or the TOS Council for reconsideration as appropriate. Any matter returned to the Ethics Committee will then be reconsidered by the TOS Council in light of the Ethics Committee's new recommendation.

Meetings of the TOS Appellate Committee will not be open to the public. The TOS Council will notify the complainant and respondent of the Appellate Committee's decision promptly and in writing.

4.2. Generally Applicable Principles

4.2.1. Suspension of Proceedings

At any point during the investigation of a complaint of scientific misconduct, the complainant and respondent may jointly request that the proceedings be suspended or closed. Any such request will be made jointly in writing to the Chair of the Ethics Committee, who will then take the steps necessary to effectuate the request.

4.2.2. Conflicts of Interest

Members of the Ethics Committee, the TOS Council, the Appellate Committee, and any organization or subject matter expert consulted thereby will avoid real or apparent conflicts of interest in any matter concerning the investigation of a complaint of scientific misconduct under this policy. Any such individual who determines that they may have a real or apparent conflict of interest as that term is defined in the TOS POLICY ON INTEGRITY, ETHICS, AND CONDUCT (Section 2 above) will promptly alert the Chair of the appropriate body and recuse themselves from the matter under consideration.

4.2.3. No Limitations Period

Any complaint of scientific misconduct will be considered on its merits, regardless of when the events in question are alleged to have occurred.

4.2.4. Finality of Proceedings

Once TOS has acted on a complaint of scientific misconduct and the period to appeal has expired, the matter is closed and TOS will not reconsider it.

4.2.5. Recordkeeping

The Chairs of the Ethics Committee, the TOS Council, and the Appellate Committee will each make appropriate arrangements to maintain the records of the bodies they chair related to each

complaint of scientific misconduct considered. All such records will be maintained with reasonable security and confidentiality, consistent with the confidentiality principles described in Sections 2.2.3 and 4.2.6, for a period of five years from the date the pertinent proceeding concludes.

4.2.6. Confidentiality

TOS recognizes that an allegation of scientific misconduct is not, in and of itself, proof of scientific misconduct. TOS further recognizes that such allegations have the potential to damage an individual's career and credibility even if not proven. Accordingly, TOS will strive to maintain confidentiality while investigating any complaint of scientific misconduct. The members of each body involved in investigating allegations of scientific misconduct are likewise expected to maintain confidentiality unless otherwise instructed by TOS or an authorized representative thereof. TOS reserves the right to divulge information related to an investigation as required or permitted by applicable law.

5. SOURCES AND ACKNOWLEDGMENTS

5.1. Principles and code of conduct are adapted with permission from the following sources:

- The World Integrity Conference Singapore 2010 Statement on Research Integrity: (<https://wcrif.org/guidance/singapore-statement>)
- Montreal 2013 Statement on Cross-Boundary Research Collaborations (<https://wcrif.org/documents/354-montreal-statement-english/file>)
- The US Department of Interior Scientific and Scholarly Integrity Policy (<http://www.doi.gov/scientificintegrity>).
- International Council for Science Statute 5 – Principle of Universality (<https://council.science/cms/2017/04/CFRS-brochure-2014.pdf>)
- Scientific Integrity policies of the US National Oceanic and Atmospheric Administration effective 2011 (https://www.corporateservices.noaa.gov/ames/administrative_orders/chapter_202/202-735-D.pdf)
- The National Academies of Sciences Engineering and Medicine's 2017 Report, Fostering Integrity in Research (<https://www.nap.edu/catalog/21896/fostering-integrity-in-research>)
- The National Academies of Sciences Engineering and Medicine's 2018 Report , Sexual Harassment of Women (<https://www.nap.edu/catalog/24994/sexual-harassment-of-women-climate-culture-and-consequences-in-academic>).
- Ethics policies of the American Geophysical Union 2017 (<https://ethics.agu.org>)

5.2. Definitions of harassment and discrimination are adapted with permission from:

- the American Sociological Association definition of harassment <http://www.asanet.org/sites/default/files/savvy/images/asa/docs/pdf/CodeofEthics.pdf>
- EEOC definition of harassment: <https://www.eeoc.gov/laws/types/harassment.cfm>.

- The definition of sexual harassment derives from the US National Academies of Science, Engineering, and Medicine (2018) <https://www.nap.edu/read/24994/chapter/4#28>

5.3. Issues related to publication are adapted with permission from:

- Statement by publisher Taylor and Francis UK:
<https://taylorandfrancis.com/about/corporate-responsibility/publishing-ethics/>
<https://authorservices.taylorandfrancis.com/ethics-for-authors/>
<https://editorresources.taylorandfrancisgroup.com/publishing-ethics-2/>
- Publication Ethics for Medical Journals of the World Association of Medical Editors:
<http://www.wame.org/resources/ethics-resources/publication-ethics-policies-for-medical-journals>
- The Council of Scientific Editors White Paper on Promoting Integrity in Scientific Journal Publications by CSE Editorial Policy Committee 2008-9:
<https://www.councilscienceeditors.org/resource-library/editorial-policies/white-paper-on-publication-ethics/>
- The Committee on Publication Ethics at:
<https://publicationethics.org/resources/guidelines>
<http://www.publicationethics.org/resources/flowcharts>
http://www.publicationethics.org/files/Code_of_conduct_for_journal_editors_Mar11.pdf

5.4. Issues related to Misconduct, Enforcement, and Rights are adapted with permission from:

- AGU Policy on Misconduct with additional text from the U. S. Federal Policy on Research Misconduct: (<http://www.aps.org/policy/statements/federalpolicy.cfm>)
- US Department of Interior Scientific and Scholarly Integrity Policy:(<http://www.fws.gov/science/pdf/DOIScientificIntegrityPolicyManual.pdf>).
- Office of Science and Technology Policy. US Federal Register V. 65 no. 235, Dec. 6 2000:
<https://www.gpo.gov/fdsys/pkg/FR-2000-12-06/pdf/00-30852.pdf>
- US Department of Education Office for Civil Rights:
<https://www2.ed.gov/about/offices/list/ocr/docs/title-ix-rights-201104.pdf>

5.5. Acknowledgments: This policy is that of TOS, independent of other organizations' policies, TOS acknowledges the helpful input of numerous organizations and individuals in the development and evaluation of this policy. Special acknowledgments are as follows:

- The American Geophysical Union, which provided both early drafts and an implemented version of their policy, which served as an initial guide for TOS policy.
- The Seattle office of the law firm Fisher Phillips LLP, which provided advice regarding legal aspects of this policy.

- Dr. Jennifer Freyd of the University of Oregon Dept. of Psychology, who provided advice regarding personal and institutional interactions and impacts related to harassment and other forms of misconduct.
- The membership of TOS, which provided editorial comment on a draft version of this policy during an open comment period.