

ITQB ethical guidelines

The ITQB is strongly committed to promote and enforce the highest standards of integrity, ethics, behaviour, and values, in all of its scientific, educational, science outreach, and administrative activities. Personal and scientific conduct should obey to existing policies and regulations, should respect all principles of personal, community, and environmental safety and, when applicable, respect animal rights and the privacy of human subjects.

Our researchers and research students are therefore expected to adhere to those standards, which are part of the scientific practice and enterprise itself, but they must be reaffirmed for the sake of the Institute and the society at large.

The present guidelines, which were first drafted by the PhD student-members of the Institute's Pedagogical Council, cover scientific conduct, publication, reviewing, and science communication. However, they are not intended to be comprehensive since the main goal of this exercise was to promote an institutional culture where ethical guidelines become almost dispensable. In any case, it is important to state that the ITQB closely follows the recommendations of the following professional organizations: The American Society for Microbiology (Biology and Microbiology) and the American Chemical Society (Chemistry).

Ethical obligations of authors

When writing a manuscript for publication in peer-reviewed journals, book chapters, magazines, short communications, notes or other manuscripts (e.g. grant proposals), authors are urged to comply with basic ethical principles. An author is expected to:

- a) Report his/her research with the highest level of accuracy, providing sufficient detail and mentioning necessary sources of information to allow replication of experiments.
- b) Give an unbiased description of his/her observations and produce an objective discussion, never presenting false or misleading statements.
- c) Never manipulate results, for example, by non-critical removal of outliers. Results that are contrary to the authors' line of thought must always be objectively reported and discussed along with the proposed hypothesis or theories. Similarly, literature results should never be omitted, particularly when they do not support author's findings.
- d) Include information on possible hazards related to chemicals or other materials, equipment, and procedures used for investigation and reported in the manuscript.
- e) Be aware of the state of the art related to his/her line of research by carrying out literature searches for original publications describing closely related work.
- f) Cite every publication that in some way contributed to his/her research.
- g) Avoid 'citation stuffing'. While citing, an author should only refer to truly relevant papers for the conducted investigation, avoiding improper inclusion of their own articles.
- h) Avoid fragmentation of work with the sole purpose of attaining a higher number of publications.
- i) Compose a manuscript using your own words, ideas and materials. The use of sentences from someone else's work should be clearly identified and a literature reference provided. The same applies to pictures, schemes, tables and other materials. Also, the use of the author's own published work, without proper ascription, can be considered self-plagiarism.
- j) Be receptive, upon request and if not for commercial purposes, to supply other researchers or entities with samples or unusual materials not commercially available nor obtainable

elsewhere, as is the case of clones, strains, DNAs, cell lines, antibodies, etc., and other materials newly described in the paper. Protection of the author's legitimate interests should always be regarded through the establishment of adequate material transfer agreements, restraining its field of use. If originally supplied by a person external to the publication and investigation, proper authorization should be obtained and citation made.

- k) Assure, prior to a manuscript submission, that all the remaining authors are in agreement with its contents and form. This includes the order by which names are listed in the paper. In no case should an author submit a paper without knowledge and proper consent of the co-authors. Once agreed on the corresponding author, and in spite of the recognized authority to act on behalf of the co-authors in all matters concerning the publication, the former should always put to approval of the co-authors any subsequent versions of the manuscript. The corresponding author should also feel obliged to inform the co-authors about the manuscript status along the entire publication process (submission, review, and publication itself). Co-authors are those who provided a significant scientific contribution to the work reported, sharing responsibility and accountability for the contents of the manuscript. The author submitting the paper must never propose himself as co-author without proper consent for co-authorship. Moreover, in a situation where credit should be given to a deceased person, proper authorship should be attributed. Any other contributions should be indicated by the authors, in footnotes or in the acknowledgements section.
- l) Give proper credit to all sources of information, financial support, assistance, and other relationships that were relevant for the research. It is the authors' responsibility to appropriately cite and acknowledge individuals that provided assistance, through the supply of materials or providing useful discussion; funding sources; institutional or corporate support; and other. However, an author should never make use of information originated in private discussion or conversation with third parties or in the course of private services, as in manuscripts or grant applications reviewing, without explicit permission of the person(s) from whom information generated.
- m) Be sure, whenever citing statements, rationalizations, or conclusions of a published work that in fact he/she has read and analysed the original publication in contrast to merely taking for granted a third party published opinion about that original work.

Ethical obligations of reviewers

As the publication process is a fundamental step in the scientific path of every scientist, one should always be receptive to participate in a reviewing process. Reviewers are selected on the basis of their expertise and good judgement, as well as on the reliability and excellence of their published work. Every scientist is therefore expected to do his fair share of reviewing and, within that responsibility, to act according to a set of ethical standards:

- a) If, for any reason, a scientist feels unable to review a manuscript, he/she should immediately inform the editor.
- b) If a manuscript is closely related to the reviewer's current or past research and this may be the cause of a conflict of interests, the journal's editor should be informed. A reviewer should even consider sending the manuscript back to the editor without any reviewing.
- c) A reviewer should give unbiased consideration to all manuscripts, regardless to seniority and institutional affiliation of the authors, and respecting their intellectual independence. Objective judgement should be provided over the quality of the manuscript and its scientific contents, maintaining high scientific and language clarity standards.
- d) Reviewing a manuscript authored or co-authored by a person with whom the reviewer has a personal or professional relationship should be avoided.

- e) Reviewers should act over a received manuscript at all reasonable speed, submitting a report within the deadlines set by the editor or journal rules. If unable to comply with this, the reviewer should promptly return the unreviewed manuscript to the editor or, alternatively, inform the editor on the delay and ask for possible postponing of the review deadline.
- f) The reviewer's remarks and comments should be justified.
- g) If the appointed reviewer wishes to disclose or discuss the content of the manuscript under consideration with a third party, proper consent has to be obtained from the editor.
- h) A reviewer should never make use of any information (experimental procedures, interpretations, arguments or others) contained in the unpublished manuscript for its own research, without proper acknowledgement and authorization of the manuscript authors. However, based on the manuscript, the reviewer may discontinue his/her own work if a clear indication exists that this will no longer be advantageous. In any case, the reviewer should inform the corresponding author about this decision.
- i) Criticism should only be done for scientific purposes and involve no personal criticism.

Oral and Poster Presentations

When reporting their work in scientific conferences, symposia, meetings, workshops, courses or others, whether in the form of an oral or poster presentation, researchers ought to:

- a) Inform all the contributors and collaborators of the conducted investigation about the presentation.
- b) Clearly report their research, providing an unbiased description of observations and conclusions, never enhancing the hypothesized results nor presenting false or misleading statements, or intentionally omitting that might lead to misconceptions.
- c) Fairly and properly identify and mention all the contributors to the communicated work, acknowledging individual contributions when applicable or considered significant.
- d) Acknowledge funding sources, institutional or corporate support, and others.

Communication in the media

Unlike communication through peer-reviewed scientific literature, where researchers communicate essentially to their peers, scientific communication through the media is aimed at the society at large and therefore is of a very different nature and purpose. This type of communication also takes very different forms, from live interviews and articles of opinion to press releases and short stories. In the first two, the researcher has a stronger control of the outcome, while in press releases the control is lost to the media. In either case, when speaking as a scientific authority, it is expected that a researcher adheres to the same high ethical standards as when communicating through scientific literature. Even though communicating through the media is not more important than any other kind of communication, researchers must be aware that the information conveyed through this source is more probable to influence the society and shapes the way scientists are viewed by the general public.

- a) Researchers have the same obligation to report their observations in an accurate and clear manner, and interpreting them in an unbiased way, as when publishing in scientific literature. The information conveyed to the media should be as accurate as possible since this will minimize the chances that it will be miscommunicated to the general public.
- b) To increase public comprehension of the conveyed information, researchers may find important to replace scientific terminology by words that are more common, or complex and

abstract explanations by analogies with everyday situations. This is acceptable for the sake of the importance of communicating to the general public, but researchers must be aware that they may convey a less correct idea while adapting their speech and therefore should use it with caution.

- c) Researchers should refrain to make such public claims of their work before this is accepted for publication in the scientific literature.
- d) Whenever possible, researchers should ask for advice and support from science communication professionals. ITQB has its own Communication Office which coordinates ITQB's interface with the society at large.

References

1. Ethical Guidelines to Publication of Chemical Research, ACS Publications (2010).
2. Policy on Integrity, American Society for Microbiology (2009).
3. 2010 Instructions to Authors, Journal of Bacteriology (2010), 192(1): 1-20.
4. Miguel Roig, Avoiding plagiarism, self-plagiarism, and other questionable writing practices: A guide to ethical writing, <http://facpub.stjohns.edu/~roigm/plagiarism/Index.html> (revised version 2006).

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