

Handout on the rules for good scientific practice at TU Dortmund University

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This handout should bring home the essential aspects of good scientific practice, in compact form, for all scientists, scholars and students of TU Dortmund University. This is an advisory, not a legally binding document.²

I. Preamble

Every scientist and scholar is committed to honesty, personally and with respect to others – meaning both the scientific community and the general public – in all aspects of the scientific work.

II. Basic principles

Every scientist and scholar of TU Dortmund University is bound to abide by the principles of good scientific practice within the framework of his or her activities. Upholding these principles includes the following:

- *lege artis*, that is, working in accordance with the scientific standards of the discipline
- providing accurate information and correct data
- consistently challenging findings
- respecting the intellectual property of others, and not interfering with others in their research activities.

In connection with the publication of scientific work, this includes the following rules in particular:

- reproducible description of the methods used
- complete documentation of all data obtained in the research process that are relevant to the publication
- verifiable presentation of the research results
- inclusion of data compiled and arguments considered that do not support the researcher's own conclusions
- recognition of the rights of other persons with respect to copyright-protected works created by them or with respect to essential findings, hypotheses, teachings, or research approaches originating with them
- naming individuals who have made scientific contributions to the work as co-authors.

- Authors of a scientific publication bear responsibility for its content collectively. Only scientists who have contributed to the publication will be named as authors. Only the contributions of persons who give their consent to publish may be used. Each author must have the opportunity to give his or her views before submission of the publication. A so-called honorary authorship is forbidden.

III. Examples of scientific misconduct

The following examples illustrate actions that violate the rules formulated in the preceding section on basic principles and that represent commonly observed types of scientific misconduct.³

Plagiarism

- Copy-and-paste plagiarism: Taking and reassembling pieces of text from one or several external works without indicating the sources.
- Translation plagiarism: A work in a foreign language is translated and then submitted, in its entirety or in parts, as an original contribution.
- Veiled plagiarism: Texts appropriated from external works are in fact cited as sources (for example, in the bibliography or in a footnote), but the citation is not recognizably linked to the appropriated text.
- Paraphrasing: Ideas or parts of a text are appropriated with slight rephrasing. Standard knowledge of the subject (for example, from textbooks) must be identified as a quotation if the formulation is taken over word for word as a longer text.
- Self-plagiarism: Extensive texts of one's own that have already been used in examinations or other publications are appropriated without identification as such.⁴
- Appropriation of data, texts, or illustrations from unpublished works: Quotations and data from academic final theses (bachelor's, master's, diploma) must be identified according to the rules for citations.

1. This guide was prepared by a working group including M. Bayer, J. Kratz, A. Szypulski, M. Paulus, and D. Wegener.

2. See also the rules for safeguarding good scientific practice adopted by the Senate of TU Dortmund University on May 19, 2015. (Amtliche Mitteilungen 11/15, page 9)

3. Sources: among others, Weber-Wulff, "False Feathers"; "Ratgeber zur Verhinderung von Plagiaten der TU Dortmund"; as well as selected examples from the work of the panel on safeguarding good scientific practice at TU Dortmund University or, respectively, problems that members of TU Dortmund University have inquired about.

4. See also the guidelines for the respective examination regulations.

- Idea theft: The idea behind a scientific work is extracted from another, unpublished work or an application for third-party funding with no indication of the source.

Falsification of data

- Fabrication of data: For predetermined research questions, data are fabricated and passed off as the results of empirical studies.
- Falsification of data: Conclusions are buttressed by measurement data that either have no bearing on the underlying question or form a false basis.
- Selection of data: Selecting, out of the entire data collection, results that confirm a hypothesis while destroying data that contradict it – without justification and with the goal of achieving a particular outcome.

Further misrepresentations and other types of misconduct

- Ghostwriter/copy-editor: The work is composed entirely or in part by another person, and this fact is withheld when the work is submitted. When a copy-editor is engaged, the services rendered should be described.
- False statements in connection with job applications and research proposals.
- Concealing the funding source for a study.
- Altering findings, etc., under pressure from the organization that funded the study.
- Public relations: The principle of the individual researcher's responsibility for scientific honesty and self-criticism applies also with respect to communicating with the public. Thus, among other things, the exaggeration of research results beyond what is covered by the data or evidence counts as a violation of the rules for good scientific practice.
- Providing unauthorized access: As long as a finding, a hypothesis, or a research approach has not yet been published, it may not be made accessible without the consent of the third parties participating in the research project.

Misconduct with respect to co-workers

- Impeding scientific work: such as through sabotage or arbitrary denial of the use of equipment and laboratories.
- Commissioning staff members to write expert reports and concealing this fact from the client.
- Forbidding the publication of a result that could diminish the value of an earlier result of the work group.

IV. Processes for safeguarding good scientific practice

- Ten-year retention requirement for data and associated analytical software as well as the submitted originals of examination work (bachelor's, master's, diploma, dissertation, habilitation), the latter being the responsibility of the faculty.
- Collective responsibility of all authors for the results disclosed in a publication and the manner in which they are presented.
- Students, postgraduates, and doctoral candidates must be adequately instructed within the framework of their employment in scientific work groups. The rules for good scientific practice must be communicated at the start of a job and repeated at regular intervals. As is customary, for example, with safety instructions, these briefings should be documented in writing.
- It is necessary to ensure that members of the technical staff also work in conformance with the rules.

V. Codes of practice

The members of TU Dortmund University are obligated, when there is well-founded suspicion of a case of scientific misconduct, to inform the responsible ombudsperson. The names of the responsible ombudspersons can be found on the website of TU Dortmund University under the heading "Organization".