

Scientific Guidelines

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706.015 - Introduction to Scientific Working

General Guidelines

Please follow these general rules

- “Lege artis” - conduct work in accordance with current law, ethics and state-of-the-art
- Reproducibility - document how results have been achieved
- Scepticism - be critical, if results are correct and valid
- Honesty - especially in regard to the work of other “competing” research team, e.g., do not delay reviews or reject papers
- Confidentiality - do not distribute confidential or private data
- Openness - be open for critique by others and colleagues
- Public domain - results achieved via funding by the public should be made public, e.g., via publications

Reproducibility

Reproducibility in publications

- Keep the data for your research for at least 10 years
 - ... if possible and with reasonable effort
- Also includes source code, lab protocols, ...

Publications

Novelty in publications

- Publish novel results
 - Make clear what are own results and contribution by others
- Results that are not novel
 - Cannot be published by themselves
 - Can be used, if relevant
 - e.g., confirm or contradict own findings

Responsibility

Responsibility and authorship of publications

- All mentioned authors of a publication are responsible
 - i.e., not only the first author
- Co-authorship only possible
 - ... if contributed to the publication
 - ... if agreed to be mentioned as co-author
 - Ideally make clear what the individual contributions were
- Use the acknowledgements to list additional people

Plagiarism

Plagiarism and ghostwriting of publications

- Plagiarism is to present other peoples work as own
 - ... or lack to make this clear
- Plagiarism is not limited to using text verbatim
 - Includes hypothesis, thoughts, data, insights
- Ghostwriting is also considered as plagiarism
 - e.g., a third party is paid to write a publication/thesis/...

Plagiarism

Types of plagiarism

- Plagiarism can be split into two forms
 - Single sentence or phrases without proper citation
 - Lifting of larger pieces of text or ideas
- There is a continuum between these two types

Ethics

Ethics at the TU Graz

- Commission for Scientific Integrity and Ethics
 - 12 members
- In case of suspected scientific misbehaviour
 - The commission needs to be informed in written form

Shortlist

Scientific misbehaviour

- Inventing of data or results
- Suppression or lack of reporting of negative (unwanted) results
- Manipulation of illustrations/charts/tables
- Incorrect statements
 - e.g., wrong status of publications in proposals

Shortlist

Intellectual property & cooperation

- Plagiarism, theft of ideas (e.g., via reviews)
- Publication of protected images, result (copyright)
- Sabotage of other people experiments
- Removal/destruction of data

Shortlist

Passive misbehaviour

- Lack of reporting of bad scientific practice
- Knowledge and silent agreement of misbehaviour

Citations

Guideline for quotations

- Use quotation marks for “quotations”
- “Within quotations ’use quotation marks’ ”
- Use [...] to indicate gaps in the the quotation
- The original meaning must not be distorted by selective quotations
- Use formatting (indentation) to indicate long quotations
- Proper references for quotations
 - Try to be specific, e.g., use page numbers
 - Online sources, if used for reference
 - Should be avoided, if possible
 - Treated like traditional references (optimally with access date)

Thank You

For your attention!