Introduction to good scientific practice (GSP)

Michael Höfler
michael.hoefler@tu-dresden.de
Tel (0351) 463 - 369 21

(responsible to teach GSP in the Faculty of Psychology)
Agreements required

• **Confidentiality**: every case of possible misconduct we talk about is confidential

• **No obligation**: as a teacher I can not give legally binding advice

• **No guarantee of completeness**: the matter is too complex for globally valid solutions (across scientific fields and cases)
What this introductory course offers

• Sensibilize for the topic GSP
• Was is good scientific practice (values, norms of science)? What is misconduct?
• A case example
• Time for questions on topics like publication, plagiarism, data storage ...
Fundamentals of GSP

• If a conflict occurs, all persons involved have to do everything to reach a consensus
• Refusing this is misconduct (violation of the norm of collegiality)
• GSC always concerns alle who are involved
• ... including the whistle blower not to spread the rumor but to contact the responsible authority (see below) in the desired way

How to blow the whistle and make a career afterwards
Relevance of GSP

- Scientific misconduct is as old as science itself (e.g. data manipulation/plagiarism by Mendel, Ptolemäus, Newton)
- GSP = self-control of science
- ... but this must work!
- Because misconduct endangers:

Freedom of science in Artikel 5 (3) Grundgesetz:

*Kunst und Wissenschaft, Forschung und Lehre sind frei. Die Freiheit der Lehre entbindet nicht von der Treue zur Verfassung.*

- Freedom and control affect each other in complex way:
Relevance of GSP

- In Germany, the case of the former minister of defence, zu Guttenberg, has brought about legally binding rules for GSP.
- Namely the **DFG**-“White Paper ‘Safeguarding Good Scientific Practice’“ of 2013.
- For PhD students, “**supervision of young scientists**“: Concretely required: a “supervision concept “ and to “complete their studies within a reasonable time frame“:
  It should set out the fundamental requirements it imposes on the supervisor and the doctoral researcher and not exclude modifications which become necessary due to changes in the framework conditions (such as adaptation to different academic, personal and financial circumstances).
Relevance of GSP

Organizations:
• European Network of Research Integrity Offices ENRIO
  http://www.enrio.eu/
• World Conference on Research Integrity:
  http://www.wcri2017.org/

Documentation of misconduct:
• International list of scientists with misconduct:
  https://ori.hhs.gov/case_summary
• Or: http://retractionwatch.com/
How does GSP practically work?

• Based on general values and norms (see later):
  • Each field, each University/research institute must define own rules of GSP
  • + rules, authorities (see below) and committees who ensure adherence and act in case

• Fundamental and legally binding in Germany*: the rules of „Safeguarding Good Scientific Practice" of DFG

* solange sie nicht Grundgesetz, Bundes- und Landesrecht widersprechen
GSP at TU Dresden

• Guidelines for Safeguarding Good Scientific Practice: https://tu-dresden.de/ga/ressourcen/dateien/downloads/gsp?lang=de

• As authorities one can contact the „Ombuds(=Vertrauens-)personen“ who cooperate with the committee „Prüfstelle für wiss. Fehlverhalten“

• Special authorities for young scientists, „Vertrauenspersonen für den wiss. Nachwuchs“:

  – Prof. Dr. Rolf Kühne, Hochschullehrer im Ruhestand, FR Mathematik
    rolf.kuehne@tu-dresden.de

  – Prof. Dr. Klaus Reinhardt für Angewandte Zoologie, FR Biologie
    klaus.reinhardt@tu-dresden.de
GSP at TU Dresden

Concrete recommendations for PhD students:

• “The application for acceptance as a doctoral candidate shall be made to the Faculty at the beginning of the dissertation project.”

• Teaching: “It must be ensured that in every teaching and research unit, there is a contact person who is able to communicate the principles for safeguarding good scientific practice, and to contribute to avoiding any misconduct by members.”
Provided material

- GWP-Empfehlungen (international/national): GCP recommendations
- Datenmanagement: data management
- Autorschaft/Publikation: authorship/publication
- Plagiat: plagiarism
- Reale Fälle: real cases
- Literatur/Diverses: literature/miscellaneous

See https://tu-dresden.de/mn/psychologie/die-fakultaet/gute-wissenschaftliche-praxis
Where is GSP involved?

The Process of Science

“Old knowledge” → Research idea → Research design → Financing → Experiments etc. → Manuscript → Publication

“New knowledge” ← Testing/checking ← Scientific community

Products, processes, …