Guidelines for Safeguarding Good Scientific Practice

Preface

In July of 2001, the University of Trier Senate declared this text to be the university's authoritative expression of the basic principles of good scientific practice, as well as the procedural guideline for handling violations of good scientific practice. These guidelines were then amended in June of 2002.
They were developed by a taskforce from the Rhineland-Palatinate Conference for Presidents of Institutions of Higher Learning (LHPK) and were either taken directly from or modelled closely on the suggestions of various German academic institutions. The guidelines were published with the explicit recommendation for internal implementation in all institutions of higher learning in the Rhineland-Palatinate. In doing so, the institutions fulfil the Deutsche Forschungsgemeinschaft's (DFG) funding requirement that good scientific practice be actively safeguarded.

Following revisions to the guidelines made by the DFG and German Rectors' Conference (HRK) in 2013, the University of Trier updated its guidelines, which were then ratified by the Senate on the 18th of February 2016. The publication of these guidelines should serve as a reminder to all members of the University of Trier that they are obliged to accept the assurance of good scientific practice as an ethical maxim in all areas of their work. This is the only way to foster a culture of good scientific practice, thereby making sanctions unnecessary.

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Table of Contents

Safeguarding Good Scientific Practice through Prevention

The following requirements apply to scientific practice and training:

1. Scientists are required to follow the rules of good scientific practice. The procedures shall be laid out either by the institutions internally or by law.

The President and the administration of the research institutes of the University of Trier bear the responsibility for an organization that, dependent on the size of the individual scientific working groups, ensures the clear delegation and fulfilment of the following duties: management, oversight, conflict resolution and quality control.

Every member of the teaching faculty is required to educate junior scientists in the principles of the scientific method and good scientific practice.

Supervisors shall, in fulfilment of their responsibility, instruct their scientific and non-scientific staff to comply with the principles of good scientific practice in a form appropriate to their specific discipline.

At the beginning of any employment or supervisory relationship, the reception of instruction concerning the principles of the scientific method and good scientific practice shall be confirmed with a signature.

The instruction should be conducted with reference to the particular rules relevant to the assurance of good scientific practice, i.e. with reference to requirements such as:

- Methods and results shall be documented completely and in such a way as to assure their long-term availability,
- Progress reports shall be made on a regular basis,
- All quotes and half-quotes from printed and unprinted sources, every type of publication or any other method of result dissemination shall be individually and unambiguously identified.

2. Junior scientists have the right to regular scientific supervision, counselling and support from the leader of the working group or the responsible specialized mentor. Beyond discipline specific topics, counselling should also be given concerning problems associated with workload and time management. Continual and diligent supervision, as well as assessment, constitute parts of scientific good practice.

3. The disciplines and departments are required, beginning with introductory events, to convey to the students the principles of good scientific practice in an appropriate manner. Scientific misconduct should be prevented by offering guidance in honest and responsible behaviour in academics. The regulations for exams, doctoral and post-doctoral proceedings shall each contain a passage concerning compliance with the rules of scientific good practice.

4. The cause for violations of scientific good practice can often be found in the emphasis of quantitative parameters, not least when having to do with appointments and nominations. For this reason, the LHPK emphatically recommends, in line with the DFG, giving preference to quality and originality instead of quantity for decisions concerning appointment or nomination. Primary data upon

which publications are based shall be archived on secure and stable storage media for ten years by the research institutions or departments under which the data was created.

5. Authors are always collectively responsible for the content of their publications as long as the separate responsibilities are not explicitly indicated in the publication. To be considered an author, one must have made a substantial contribution to the work in question (see Addendum 1).

Safeguarding Good Scientific Practice – Procedures at the University of Trier

A. Safeguarding Good Scientific Practice

University performance is, at its core, a function of the quality of its research. For this reason, it is extremely important to engender and maintain an atmosphere marked by openness, creativity, critical faculty and dedication, as well as to institute measures which prevent scientific misconduct.

Scientific work serves the acquisition of knowledge. The integrity of scientific personnel is the basic prerequisite for quality scientific work. Scientific good practice must be taught and rehearsed. Misconduct and fraud damage the image of science and scientists.

B. The Definition of Good Scientific Practice

1. Scientific misconduct exists when, in a scientifically important context, deliberate falsifications are made, the intellectual property of another is misused or the scientific work of another is impaired. The circumstances surrounding each individual case are decisive. A catalogue of behaviours considered to be scientific misconduct has been compiled in **Addendum 1**.

2. Shared responsibility for misconduct may be seen to exist when, among other things,
- Supervisory duties are neglected
- Active assistance in the misconduct of another takes place
- Knowledge exists of another's fraudulent presentation or fabrication of results

Again, the circumstances surrounding the individual case are the critical determinant.

3. Even before scientific misconduct as such takes place, there can be breaches of scientific good practice that cannot be subsumed by the two points listed above. Each department will retain the responsibility of dealing with such cases. The individual departments should ensure discussion about such cases and enact preventative measures.

C. Jurisdictions

1. The University Senate's Research Committee is the standing committee responsible for investigating allegations of scientific misconduct. The committee can be called by request from an ombudsperson, one of the committee's members or by request of the university leadership.

In the case of an investigation, the Research Committee will quickly form a subcommittee from its members, choosing as chair of the subcommittee a person qualified for judgeship. The committee may invite external consultants. An ombudsperson should be included as advisory member of the subcommittee. The Research Committee's process does not replace other legal or statutory processes. Such processes will be initiated by the parties responsible.

2. The University of Trier will summon three scientists from the circle of professors to act as ombudspersons for members of the university either making charges of or being charged with scientific misconduct. Of the three, at least one should be a professor and one a professor conducting empirical research.

The ombudspersons act as confidential advisors to those who suspect that scientific misconduct has taken place. They examine the charges for plausibility, factuality and with respect to the possibilities for settling the charges. The ombudspersons will be listed by name on the university internet page. Every member of the university has the right to personally speak with an ombudsperson within a reasonable amount of time.

D. Course of the Procedure

1. Preliminary Investigation

In the case of a concrete suspicion of scientific misconduct, an ombudsperson and the chair of the Research Committee will normally be informed directly. Information concerning possible scientific misconduct should be delivered in written form. Should such information be delivered orally, a written note concerning the suspicions and the justifications thereof should be made.

The ombudsperson is responsible for informing the chair of the Research Committee about any allegations of scientific misconduct. The confidentiality of both the person making the allegations and the person being accused of scientific misconduct should be protected. Scientists who present a specifiable suspicion of scientific misconduct should not be disadvantaged in their research or professional progress. The ombudsperson as well as the institution investigating the charges is responsible for protecting such people. Accusations may not be made without sufficient knowledge of the facts and must be well examined. Dealing with accusations of scientific misconduct recklessly or fabricating false charges of scientific misconduct can be seen as a form of scientific misconduct in and of itself. The person under suspicion shall be informed directly by the ombudsperson, presented with the incriminating evidence and be given the opportunity make a statement regarding the accusations. The statement should be made in written form. The written statement must be made within two weeks. The name of the informant may not be released without their explicit consent during this phase. After receipt of the written statement or after the two week time limit has expired, the ombudsperson will decide within two weeks, based on the accuracy and plausibility of the accusations and with fair regard for the written statement of the accused, if the preliminary investigation should be closed due to insufficient validation of the charges or because the alleged misconduct was otherwise resolved. Otherwise, the ombudsperson will direct the Research Committee to begin the formal investigation. In both cases, the accused person, the person bringing the charges and the chair of the Research Committee shall receive written reports containing the ombudsperson's justification for their decision. Should the informant (internal or external) not be in agreement with the decision to close the investigation, they have two weeks to present a written request to the President of the University that the investigation be continued by the Research Committee. The President, the chair of the Research Committee and two other members of the committee will then decide together whether the investigation should be continued. Of the two committee members, one member should be of the same professional status as the accused. The Research Committee shall be informed about the result of the deliberations.

2. Formal Investigation

The ombudsperson shall inform the university leadership concerning the referral of the investigation to the Research Committee. The committee chair will then send confirmation to the university leadership that a formal investigation has been opened. The committee is empowered to call technical consultants

from the discipline in question as well experts on related cases of misconduct to take part in the committee in an advisory capacity. These experts may also include, among others, arbitration counsellors. The committee will deliberate in a private oral hearing. The committee will decide in free assessment of the evidence if scientific misconduct has taken place. The accused person shall have the opportunity to state their position in an appropriate form. Should the accused wish to do so orally, they may and they may also be accompanied and supported by a person of trust. This applies to all those who may be called to testify. The name of the informant shall only be made public when a factually appropriate defence cannot otherwise be made because, for example, the credibility and motive of the informant with regards to the accusations need be examined. The investigation will be closed should the committee find that the charge of misconduct has not been proven. Should the committee find that misconduct has been proven, the committee will present the results of their investigation to the university leadership with a recommendation for further proceedings, including measures to protect the rights of third parties. The university leadership will then make the final decision about how to proceed. The central reasons leading to either closing the case or transferring the case to the university leadership shall be delivered to all involved parties in written form. There is no procedure for making an internal appeal against the decision of the committee. After the formal investigation has been ended, the ombudsperson remains available to advise the (previously) involved members of the university. The ombudsperson advises, in particular, young scientists as well as students who, through no fault of their own, were involved in the scientific misconduct on how to safeguard their personal and scientific integrity. The files from the formal investigation will be held for 30 years. All persons named during the investigation have the right to request an official statement from the ombudsperson concerning the exact length of time the files from the investigation will be archived (i.e. for the purposes of exoneration).

Additional Proceedings

In the case that scientific misconduct has been identified, the university leadership will examine the necessity for further action to protect the scientific integrity of the university and to protect the rights of persons both directly and indirectly affected. Penalties for scientific misconduct shall be determined based on the specifics of the case.

Within the university, the academic consequences of scientific misconduct shall be examined at the departmental level. Together with the university leadership, the departments shall determine whether it be necessary to inform other scientists, including previous cooperation partners and or co-authors, scientific institutions, scientific journals and publishers, research and funding foundations, professional organizations, government ministries or the public.

Depending on the particular circumstances, each responsible body within the university is responsible for opening labour, civil, criminal or regulatory legal processes. Potential legal measures are listed in **Addendum 2**. The committee shall make available the records from the formal investigation for any further proceedings.

Addendum 1

Catalogue of Behaviours Considered to be Scientific Misconduct

The following behaviours in particular are considered to be scientific misconduct:

False Statements

1. The use of fabricated data, without explicit indication;
2. The use of adulterated data, for example:
   a) through the inclusion of only desired results or the exclusion of undesired results, without disclosure,
   b) through the manipulation of a figure or representation;
3. False statements in job or grant applications (including false statements to a publication medium or to publications still in print).

Violation of Intellectual Property

4. With respect to third party copyrighted material or major scientific insights, hypotheses, teachings or research approaches:

   a) The use of intellectual property under the pretence of authorship (plagiarism),
   b) The theft of research approaches and ideas, in particular while preparing an assessment (theft of ideas).
   c) The presumption or unfounded adoption of scientific author- or co-authorship,
   Not to be considered sufficient for the claim of authorship are:
   - Mere organizational responsibility for the procurement of funding,
   - Providing standard test material,
   - Schooling of persons in standard research methodology,
   - Solely technical assistance in data collection,
   for example, providing equipment, test animals or the regular transfer of datasets,
   - Only reading a manuscript without substantial contributions to the contents,
   - Occupying the leadership position of an institution or organization in which a work is published.

   Said assistance can be duly noted in footnotes or forewords.
   Neither does a current nor a past supervisory relationship alone justify the claim of co-authorship.
   d) The manipulation of contents or
   e) The unauthorized publication or sharing of the work of a third party, including major scientific insights, hypotheses, teachings or research results before the publication of said work;

Impairment of the Research Work of Others

5. Through the sabotage or obstruction of research work and the publication of their results (including damaging, destroying or manipulating the set-up of experiments, devices, documents, hardware, software, chemicals or other matters required by another for an experiment).

Other Forms of Misconduct

6. Contributing to or tolerating the misconduct of another;
7. Non-disclosure of conflicts of interest (including those that are of an economic, political, social/collegial or religious nature),
8. Grossly neglecting supervisory responsibilities.
9. The impairment of young scientists and violations of advisory duties.

Addendum 2

Catalogue of Possible Sanctions or Consequences for Scientific Misconduct

The following catalogue of possible sanctions or consequences for scientific misconduct is not intended to be comprehensive but should instead be seen as a preliminary aid for orientation. As every case is surely subject to individual differences and the gravity of the misconduct should play a role in determining the weight of the consequences, there is no adequate guideline for how to react appropriately; the appropriateness of a reaction should instead be judged in accordance with the specifics of a given case.

I. Consequences in Labour Law

10. Reprimand
The reprimand, which is to be given in written form and filed in the personnel record, is a precursor to termination. It is therefore a possible consequence only for minor acts of scientific misconduct, where termination is not yet judged to be necessary.

11. Extraordinary Termination
An extraordinary termination presupposes that, in consideration of the specifics surrounding a case of misconduct and the interests of both parties of the employment contract, a continuation of the employment relation is no longer reasonably bearable. Cases of severe scientific misconduct almost certainly meet this standard. The termination must take place within a two week deadline, where the two week period begins at the point when the terminating party becomes aware of the misconduct which justifies the termination. This does not include the mere suspicion of misconduct, but is instead the point at which misconduct has been verified and the university leadership has been thusly informed.
An extraordinary termination for other important reasons remains unaffected.
The preparation of an extraordinary termination normally requires special labour law counsel.
For extremely urgent suspicions, it seems advisable to provide for such counsel immediately in order to clarify if a so-called 'Verdachtskündigung' (termination due to suspicion) is appropriate; this step should be taken to minimize the risk that a court could decide that the two week period began at the moment the leadership became aware of an urgent suspicion rather than at the moment when the committee confirmed those suspicions.

12. Ordinary Termination
An ordinary termination based on the regular deadlines mandated by labour law will most likely only rarely be useful for the cases being discussed here. For cases of scientific misconduct, the options of extraordinary termination or contract dissolution will be probably be preferable.

13. Contract Dissolution
In addition to ordinary and extraordinary terminations – considering the two week time limit for extraordinary termination – the option to dissolve the contract by mutual agreement should remain in consideration.

14. Specificities Associated with Employment Contracts Similar to Civil Service Contracts
For scientists employed as civil servants, the state law for civil servants applies. It is reasonable to expect that severe scientific misconduct is sufficient reason for termination under the civil servant laws in the Rhineland-Palatinate.

II. Consequences under Civil Law

The following consequences under civil law may be considered:

1. An exclusion order prohibiting entering the campus;

2. Order to surrender the right of possession, i.e. the requirement that misappropriated scientific goods be returned to their original owner;

3. Remedy claims and prohibitory injunctions arising from copyright law, personality rights, patent law and competition law;

4. Repayment claims, i.e. for scholarships or external funding ;

5. Claims for damages by the university or by third parties for personal, property or financial damages.

III. Consequences under Criminal Law

Criminal consequences come into consideration when the suspicion exists that a particular case of scientific misconduct is also action covered by the German Criminal Code (StGB), or when other criminal provisions are met or administrative offences have taken place. In those cases, investigative authorities shall be informed by the university leadership.

Possible criminal offences include, among other things:

1. Privacy Violations
- § 202 a StGB: Data espionage
- § 204 StGB: Unauthorized usage of other persons‘ secrets

2. Crimes against Life and Physical Integrity
- § 222 StGB: Negligent homicide
- §§ 223, 230 StGB: Malicious injury or injury resulting from negligence

3. Property Crimes
- § 242 StGB: Theft
- § 246 StGB: Embezzlement
- § 263 StGB: Fraud
- § 264 StGB: Subsidy fraud
- § 266 StGB: Breach of Trust

4. Document Fraud
- § 267 StGB: Document fraud
- § 268 StGB: Falsification of technical records

5. Property Crimes
- § 303 StGB: Property damage
- § 303a StGB: Data alteration

6. Copyright Infringements
- § 106 Copyright law: the unauthorised use of copyrighted materials.

IV. Academic Consequences

Academic consequences in the form of revocation of degrees can only be administered by the universities which granted the degrees. If severe scientific misconduct can be connected to having obtained a degree, the institution where that degree was earned should be informed. Possible academic consequences include:

1. Revocation of doctoral degree

2. Withdrawal of the license to teach

3. Revocation of a final degree or exmatriculation

V. Retraction of Scientific Publications/ Information for the Public and the Press

As a matter of principle, authors, groups of authors, publishers and publishing houses have a duty to withdraw, correct or retract publications which, due to scientific misconduct, contain errors. If third parties were involved in the publication, they too should be informed through the appropriate channels. Should these duties remain unfulfilled, the President shall, as he or she can, initiate appropriate proceedings.

For cases of grave scientific misconduct, the President shall inform any other research institutions or scientific organizations affected by said misconduct. For some cases it may also be justified to inform professional associations of the misconduct. In order to protect third parties, maintain trust in scientific honesty, restore the university's scientific reputation, prevent subsequent damages, and to act with respect to general public interests, the university may be obliged to inform affected third parties or the public.

Sources

The German version of this text is based on "Sicherung guter wissenschaftlicher Praxis - Verfahren an rheinland-pfälzischen Universitäten“(25.03.1999), written by the Rhineland-Palatinate university system task force for safeguarding good scientific practice.

The model developed by the task force was itself based, in large part word for word, on the following explicitly referenced publications:

- Max-Planck-Gesellschaft: Verfahren bei Verdacht auf wissenschaftliches Fehlverhalten in Forschungseinrichtungen der Max-Planck-Gesellschaft – Verfahrensordnung. Beschluss vom 14.11.1997;
- Deutsche Forschungsgemeinschaft: Vorschläge zur Sicherung guter wissenschaftlicher Praxis. Empfehlungen der Kommission "Selbstkontrolle in der Wissenschaft". Weinheim 1998;
- Medizinische Fakultät der Universität Freiburg: Bericht der Kommission „Verantwortung in der Forschung“, Freiburg, Januar 1998;
- Hochschulrektorenkonferenz: Entwurf einer Stellungnahme des Plenums vom 06.07.1998
- „Zum Umgang mit wissenschaftlichem Fehlverhalten in den Universitäten“, Bonn, Stand: 10.06.1998, Drucksachen-Nr. 185/9.

The revision from 2016 is based on the following updates:

DFG (2013): Sicherung guter wissenschaftlicher Praxis, Denkschrift;
ergänzte Auflage, WILEY-VCH Verlag GmbH & Co. KGaA, Weinheim.

HRK (2013): Empfehlung der 14. Mitgliederversammlung der HRK am 14. Mai 2013 in Nürnberg.

MPG (2000): Verfahrensordnung bei Verdacht auf wissenschaftliches Fehlverhalten, beschlossen vom Senat der Max-Planck-Gesellschaft am 14. November 1997,
geändert am 24. November 2000