

Statutes for Ensuring Good Scientific Practices at the University of Hohenheim

The Senate of the University of Hohenheim has, in accordance with Sec. 3(5), Sec. 8(5) and Sec. 19(1) sentence 2 no. 10 of the State Higher Education Act (LHG) of 1 January 2005 (GBl. p. 1) in the version of 1 April 2014 (GBl. p. 99), last amended by Article 1 of the Act of 17 December 2020 (GBl. p. 1204), passed the following statutes on 9 March 2022 to ensure good scientific practice at the University of Hohenheim:

Preamble

The freedom of research and teaching is constitutionally guaranteed. Inseparably linked to this freedom is the responsibility for scientific work with integrity. Scientific integrity is the foundation of trustworthy science. It is the basis for society's trust in science, but also for trust among those working in science who build their work on the findings of others.

Universities in the state of Baden-Württemberg are required by the State Higher Education Act (Landeshochschulgesetz) to establish rules for compliance with the generally accepted principles of good scientific practice and for dealing with scientific misconduct. Scientific institutions such as the German Research Foundation have issued related guidelines, which provide the basis for these statutes. The University of Hohenheim takes the generally accepted principles of scientific practice, as laid down in the Code of the German Research Foundation, as the foundation for its activities. Therefore, the University of Hohenheim has adopted the following statutes as well as additional rules of procedure for self-monitoring in science.

The University of Hohenheim, as a center for research, teaching, and the promotion of early career researchers, also has an institutional responsibility in this regard. The President's Office and the Senate of the University of Hohenheim undertake to create and further develop the appropriate bodies, personnel structures, and other necessary conditions for ensuring good scientific practice.

Part 1 Principles of good scientific practice

Section 1

Commitment to the general principles

The University of Hohenheim defines the rules for good scientific practice with these statutes adopted by the Senate. It shall make them known to its members and obligate the members to comply with the provisions - taking into account the specifics of the relevant discipline. Every scientist is responsible for ensuring that their own conduct complies with the standards of good scientific practice. The principles include in particular

- *lege artis*, i.e. working in accordance with professional standards and norms,
- maintaining strict honesty with regard to the scientist's own and third parties' contributions,
- consistently questioning their own results as well as
- allowing and encouraging critical discourse in the scientific community.

Section 2

Professional ethics

The scientists at the University of Hohenheim bear responsibility for implementing the fundamental values and standards of scientific work in their actions and for standing up for these values and standards. Teaching the fundamentals of good scientific work begins at the earliest possible stage in academic teaching and scientific training. Scientists at all career levels regularly update their knowledge of the standards of good scientific practice and the state of research.

The University of Hohenheim expects and encourages experienced scientists and junior scientists to support each other in the continuous learning and further education process and to engage in regular discussions.

Section 3

Organizational responsibility of the university management

The President's Office and the responsible committees of the University of Hohenheim work towards creating the best possible conditions for scientific work. These conditions ensure adherence to and communication of good scientific practice. They contribute to adequate career support for all scientists. The President's Office and the responsible bodies create the conditions for scientists to comply with legal and ethical standards. These conditions include clear and written procedures and principles for personnel selection, personnel development including the promotion of early career researchers, and equal opportunities.

In this context, the President's Office and the responsible central bodies bear responsibility for an appropriate institutional organizational structure within the framework of their respective legally determined scope of action. This ensures that, depending on the size of the individual scientific work units, the tasks of management, supervision, quality assurance, and conflict regulation are clearly assigned and appropriately communicated to the respective members and affiliates. Gender equality and diversity are taken into account in personnel selection and development. The corresponding processes are transparent and avoid unconscious bias to the extent possible. Suitable support structures and concepts have been established for early career researchers. Advising is conducted in an unbiased manner in the interest of the persons advised. In addition to career path counseling, continuing education opportunities and mentoring are provided for academic personnel and science support staff.

Section 4

Responsibility of the work unit director

Each director of a scientific working unit at the University of Hohenheim (= working group of researchers) bears responsibility for the entire unit at their respective level. Cooperation in scientific work units must be organized in such a way that the group as a whole can fulfill its tasks, that the necessary cooperation and coordination take place, and that all members are aware of their roles, rights, and duties. The management task also includes, in particular, ensuring appropriate individual supervision of early career researchers – embedded in the overall concept of the respective institution – as well as career advancement of academic and science support staff. Abuse of power and exploitation of relationships of dependency are to be prevented by appropriate organizational measures both at the level of the individual scientific work unit and at the level of the management of the University, faculty, institute, or department. For this purpose, it is necessary that the size and the organization of the scientific work unit are designed in such a way that the management tasks, in particular the transfer of competences, the scientific support as well as the supervisory and mentoring duties, can be performed adequately. The performance of management duties goes hand in hand with the corresponding responsibility. At the University of Hohenheim, scientists and science support staff enjoy a balance of support and personal responsibility appropriate to their career level. They are accorded adequate status with corresponding rights of participation.

Section 5

Performance dimensions and evaluation criteria

A multidimensional approach is needed to evaluate the performance of scientists: In addition to scientific performance, other aspects may be considered. The evaluation of performance primarily follows qualitative benchmarks, although quantitative indicators may be differentiated and reflected in the overall evaluation where appropriate. Where voluntarily indicated, individual characteristics in CVs are also included in the judgment - in addition to the categories of the General Equal Treatment Act (Allgemeines Gleichbehandlungsgesetz).

At the University of Hohenheim, there is an awareness, and it is constantly being strengthened, that high-quality science is based on criteria that originate from the respective disciplines. To assess scientists, their contribution to the generation of knowledge and critical reflection on this contribution is important. In addition, other performance dimensions such as commitment to teaching, academic self-administration, public relations work, knowledge and technology transfer are also included in the assessment; contributions in the interest of society as a whole can also be recognized. The scientist's attitude toward academic work, such as openness to knowledge and willingness to take risks, is also taken into account. Appropriate consideration will be given to personal, family, or health-related absences or resulting extended periods of training or qualification, alternative career paths, or comparable circumstances.

Section 6

Ombudspersons

The University of Hohenheim ensures via its rules of procedure for self-monitoring in science that an appropriate number of ombudspersons are available to whom its members and affiliates can turn in matters of good scientific practice and in matters of suspected scientific misconduct. This also applies to substantiated anonymous complaints, which are also reviewed by the ombudspersons. The University of Hohenheim takes sufficient care to ensure that the ombudspersons are known at the institution. The process is regulated by the Rules of Procedure for Self-Monitoring in Science at the University of Hohenheim.

Part 2 Research process

Section 7

Quality assurance across phases

The University of Hohenheim is aware that continuous quality assurance accompanying research relates in particular to compliance with subject-specific standards and established methods; to processes such as the calibration of equipment, the collection, processing and analysis of research data, the selection and use of research software, its development and programming; and to keeping laboratory records.

The scientists at the University of Hohenheim carry out each sub-step in the research process *lege artis*. If scientific findings are made publicly available (in the narrower sense in the form of publications, but also in the broader sense via other communication channels), the quality assurance mechanisms applied are outlined to the required extent. This is especially true when new methods are developed.

If scientists at the University of Hohenheim have made findings publicly available and subsequently notice discrepancies or errors, they correct them. If the discrepancies or errors are the reason for the retraction of a publication, the scientists of the University of Hohenheim will work with the corresponding publisher or infrastructure provider etc. as quickly as possible to ensure that the correction or retraction takes place and is marked accordingly. The same applies if the scientists of the University of Hohenheim are informed of such discrepancies or errors by third parties.

The origin of data, organisms, materials, and software used in the research process is identified and subsequent use is documented; original sources are cited. The nature and extent of research data generated in the research process are described. The way in which they are handled is designed according to the standards of the subject concerned. The source code of publicly available software must be persistently documented for retrieval. Depending on the discipline concerned, an essential component of quality assurance is that results or findings can be replicated or confirmed by other scientists (for example, by means of a detailed description of materials and methods).

Section 8

Actors, responsibilities, and roles

The roles and responsibilities of the scientists involved in a research project and of the science support staff must be clear at the University of Hohenheim at all times during a research project. For this purpose, it is necessary that the participants of a research project regularly discuss matters with one another. They define their roles and responsibilities appropriately and adjust them as necessary. An adjustment is particularly indicated if the focus of a participant's work in the research project changes.

Section 9

Research design

Scientists at the University of Hohenheim take the current state of research comprehensively into account and acknowledge it when planning a project. Identifying relevant and appropriate research questions requires careful research into findings that have already been made publicly available. The University of Hohenheim ensures the necessary conditions for this in the best possible way.

Researchers consider whether and, if so, how gender and diversity may be significant to the research project (in terms of methods, work program, goals, etc.). Methods to avoid conscious and unconscious bias in the interpretation of findings, for example blinding of experimental series, are applied as far as possible and in accordance with the respective subject-specific standards.

Section 10

Legal and ethical framework, rights of use

Researchers at the University of Hohenheim act responsibly in line with the constitutionally granted freedom of research. They take into account rights and obligations, in particular those resulting from legal requirements, but also from contracts with third parties, and obtain and submit approvals and ethics votes where necessary. With regard to research projects, a thorough assessment of the research consequences and the evaluation of the respective ethical aspects should be carried out. The legal framework of a research project also includes documented agreements on the rights of use of research data and research results arising from it. Researchers at the University of Hohenheim must always be aware of the danger of misuse of research results. Their responsibility is not limited to compliance with legal requirements, but also includes the obligation to apply their knowledge, experience, and skills in such a way that risks can be identified, assessed, and evaluated. Where relevant, they take into account the aspects associated with security-related research (dual use). The University of Hohenheim bears responsibility for its members and affiliates conforming to the rules in their scientific activities and promotes this through suitable organizational structures. It develops binding principles for research ethics and procedures for the appropriate assessment of research projects. If possible and reasonable, researchers at the University of Hohenheim make documented agreements on the rights of use at the earliest possible stage in the research project. Documented agreements are particularly useful if several academic and/or non-academic institutions are involved in a research project or if it is foreseeable that a researcher will

change research institutions and would like to continue using the data generated for further research purposes. Particularly the researchers who collect data should have the right to use it. In the context of an ongoing research project, the authorized users also decide (in particular in accordance with data protection regulations) whether third parties should have access to the data.

Section 11

Methods and standards

To answer research questions, researchers at the University of Hohenheim apply scientifically sound and comprehensible methods. When developing and applying new methods, they place particular emphasis on quality assurance and the establishment of standards.

In this context, the application of a method usually requires specific competences, which may be covered by close collaboration with other researchers. Establishing standards for methods, applying software, collecting research data, and describing research results are essential prerequisites for the comparability and transferability of research results.

Section 12

Documentation

Researchers at the University of Hohenheim document all information relevant to the achievement of a research result as comprehensibly as is necessary and appropriate in the discipline concerned in order for others to be able to check and evaluate the result. They therefore also document individual results and data that do not support the research hypothesis. Specific data and results should not be selected while others are ignored in this context ("cherry-picking"). If concrete professional recommendations exist for the review and evaluation, the researchers of the University of Hohenheim carry out the documentation according to the respective specifications. If the documentation does not meet these requirements, the limitations and the reasons for this are explained in a comprehensible manner. Documentation and research results must not be manipulated; they must be adequately protected against manipulation.

These documentation measures provide an important basis for enabling replication, provided that the information necessary for understanding the research and, if applicable, the genesis of the hypothesis is included on research data that was used or is still emerging, the methodological, evaluation, and analysis steps; citations must be traceable; and, as far as possible, third parties are allowed access to this information. When developing research software, the source code must be documented.

Section 13

Establishing public access to research results

Researchers at the University of Hohenheim contribute all their results to the scientific discourse. In individual cases, however, there may be reasons not to make results publicly available (in the narrower sense in the form of publications, but also in the broader sense via other communication channels); this decision must not depend on third parties. Research at the University of Hohenheim decide on their own responsibility - taking into account the customs of the discipline concerned and the legal requirements - whether, how, and where they make their results publicly available. Once a decision has been made to make results publicly available, researchers at the University of Hohenheim describe these results fully and comprehensibly. This also includes, as far as possible and reasonable, making available the research data, materials, and information on which the results are based, the methods applied, and the software used, and comprehensively explaining work processes. Self-programmed software is made publicly available with indication of the source code at the appropriate time, taking into account concerns such as ensuring qualification work can be completed (e.g. doctorates), protection of intellectual property, and economic issues, e.g. in the context of research and development work.

Researchers of the University of Hohenheim state their own and external preliminary work completely and correctly.

Researchers of the University of Hohenheim deposit the research data and central materials underlying the publication - following the FAIR principles ("Findable, Accessible, Interoperable, Re-Usable") - as accessibly as possible in recognized archives and repositories to ensure that their research can be understood, serve as a basis for further research, and reused. Restrictions may arise in the context of patent applications with regard to public accessibility. If research software developed in-house is to be made available to third parties, it is to be provided with an appropriate license. In keeping with the idea of "quality before quantity," scientists avoid inappropriately small publications (in the narrow sense). They limit the repetition of the contents of their publications as (co-)authors to the extent necessary for understanding the context. They cite their results which have already been made publicly available unless the discipline standards allow this to be dispensed with in certain cases.

Section 14 Authorship

At the University of Hohenheim, an author is only someone who has made a genuine, traceable contribution to the content of a publication such as scientific texts, data, or software. All authors agree to the final version of the work that is to be published. They bear joint responsibility for the publication unless explicitly stated otherwise. Authors take care and, as far as possible, work to ensure that their research contributions are labeled by publishers or infrastructure providers in such a way that they can be correctly cited by users. A contribution must be made by each author to the scientific content of the publication. When a contribution is genuine and comprehensible must be examined separately in each individual case and depends on the discipline concerned. A comprehensible, genuine contribution exists in particular when a researcher contributes in a scientifically relevant manner to

- the development and conception of the research project or
- the development, collection, procurement, provision of the data, software, sources or
- the analysis/evaluation or interpretation of the data, sources, and the conclusions drawn from these, or
- the writing of the manuscript.

If a contribution is not sufficient to justify authorship, this support can be appropriately acknowledged in footnotes, in the preface, or in the acknowledgements. Honorary authorship, in which no such contribution has been made, is not permissible. A management or supervisory function does not in itself constitute co-authorship. Researchers agree on who will be the author of the research results. Agreement on the order of authors is reached in good time, usually no later than when the manuscript is being formulated, on the basis of transparent criteria, taking into account the conventions of each discipline. Without sufficient reason, consent to a publication of results that is required may not be withheld. Refusal to give consent must be justified by a verifiable criticism of data, methods, or results.

Section 15 Publication medium

Authors of the University of Hohenheim carefully select the publication medium - taking into account its quality and visibility in the respective field of discourse. Researchers at the University of Hohenheim who assume the function of editors carefully consider for which publication media they assume this task. The scientific quality of a contribution does not necessarily depend on the publication medium in which it is made publicly available. In addition to publications in books and journals, specialist repositories, data and software repositories, and blogs are also particularly worthy of consideration. A new or unknown publication medium must be checked for its seriousness. A key criterion in the selection decision is whether the publication medium has established its own guidelines for good scientific practice and applies these.

Section 16

Confidentiality and neutrality in reviews and consultations

Integrity is the basis of the legitimacy of a judgment process. Researchers of the University of Hohenheim, in particular those who review submitted manuscripts, funding applications, or the credentials of persons, are obliged to maintain strict confidentiality in this regard. They must disclose any facts that may give rise to potential bias. The obligation to maintain confidentiality and to disclose facts that may give rise to concerns of bias also applies to members of scientific advisory and decision-making bodies.

The confidentiality of the third-party content to which the reviewer or committee member gains access precludes disclosure to third parties and personal use. Researchers of the University of Hohenheim shall immediately report any conflicts of interest or biases that could be justified with regard to the research project being reviewed or the person or subject of the consultation to the responsible office.

Section 17

Archiving

Researchers at the University of Hohenheim adequately secure publicly accessible research data or research results as well as the underlying central materials and, if applicable, the research software used, measured against the standards of the discipline concerned, and preserve them for an appropriate period of time. If there are comprehensible reasons for not retaining certain data, the researchers at the University of Hohenheim must explain this. The University of Hohenheim ensures that the necessary infrastructure is in place to enable archiving to an appropriate extent.

When scientific findings are made publicly available, the underlying research data (usually raw data) - depending on the discipline - are generally kept accessible and traceable for a period of ten years at the institution where they originated or in multi-site repositories. In justified cases, shortened retention periods may be appropriate; the reasons for this are described in a comprehensible manner. The retention period begins on the date public access is established.

Part 3 Scientific misconduct

Section 18

Whistleblowers and those affected by allegations

Whistleblowers and persons affected by allegations may contact the competent bodies designated by the Rules of Procedure for Self-Monitoring in Science at the University of Hohenheim (Ombudspersons and Commission for Self-Monitoring in Science), which review allegations of scientific misconduct. The competent authorities shall take appropriate action to protect both the whistleblower and the person affected by the allegations. The investigation of allegations of scientific misconduct shall be conducted expressly with due regard for confidentiality and the fundamental principle of the presumption of innocence. The process is regulated by the Rules of Procedure for Self-Monitoring in Science at the University of Hohenheim.

Section 19

Ombudspersons for scientific misconduct

The University of Hohenheim has established a set of rules for dealing with allegations of scientific misconduct with its rules of procedure for self-control in science, to which reference is made. The regulations include, in particular, definitions of what constitutes scientific misconduct, procedural rules, and measures to be taken in

the event that scientific misconduct is found to have taken place. The regulations are applied in addition to relevant, higher-ranking laws. Only those intentional or grossly negligent violations that are set forth in the university's rules and regulations or in relevant additional, higher-ranking laws are considered scientific misconduct. In particular, the invention and falsification of data and plagiarism are considered to be acts of scientific misconduct. The University's procedural rules therefore include, in particular, rules on jurisdiction for each stage of the proceedings, the assessment of evidence, the representation of ombudspersons and members of the Misconduct Investigation Commission, bias, and procedural principles of the rule of law.

Part 4 Information on the rules of good scientific practice

Section 20

These regulations are handed out to academic employees of the University of Hohenheim upon conclusion of their first employment contract, and to academically active civil servants upon their appointment. Acknowledgement of these Statutes is to be confirmed.

When students and early career researchers begin a seminar paper, Bachelor's thesis, Master's thesis, or dissertation, they are to be familiarized with the rules of good scientific practice by their supervisors and warned against scientific misconduct. The same applies when students and early career researchers collaborate on scientific projects. Familiarization with the rules of good scientific practice can also take place within the framework of courses.

When submitting a seminar paper, Bachelor's thesis, Master's thesis, dissertation, or post-doctoral thesis, the editors must provide an assurance that they have complied with the rules of good scientific practice, have written the paper independently, and have not used any sources or aids other than those specified. At the same time, they are to give their consent for the use of plagiarism software. Further details are governed by the relevant statutes.

In addition to the usual publication channels, these statutes are to be published on the homepage of the ombudspersons of the University of Hohenheim.

Part 5 Entry into force

Section 21

These statutes shall enter into force on the day after they have been published. At the same time, the Statutes for Ensuring Scientific Integrity and Good Scientific Practice at the University of Hohenheim, which were adopted by the Senate of the University of Hohenheim on 21 February 2014, shall cease to be in force.

Stuttgart, 9 March 2022

signed

Professor Dr. Stephan Dabbert
- President -