

Guidelines and Procedures for Safeguarding Good Scientific Practice at RWTH Aachen University dated 4/28/2020

Please note: This English translation of the “Leitlinien und Verfahren zur Sicherung guter wissenschaftlicher Praxis der Rheinisch-Westfälischen Technischen Hochschule Aachen” is provided for informational purposes. The English text was carefully translated; however, in the event that the English and German versions permit different interpretations, the German text shall prevail.

On the basis of §§ 2 (4) and 4 (4) of the NRW Higher Education Act (HG) dated September 16, 2014 (GV. NRW. p. 547), last modified by Article 10 of the NRW Act on Containing the COVID-19 Pandemic (Gesetz zur konsequenten und solidarischen Bewältigung der COVID-19-Pandemie in Nordrhein-Westfalen und zur Anpassung des Landesrechts im Hinblick auf die Auswirkungen einer Pandemie) dated April 14, 2017 (GV. NRW. p. 218b, p. 304a), RWTH Aachen University has agreed on the following policies and principles:

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Preamble

With these guidelines for safeguarding good research practice, RWTH fulfils its legal obligation pursuant to § 4 (4) HEA, according to which all those involved in the University's research activities as well as all students are required to observe the highest standards of scientific integrity. These guidelines form the basis for good practice in research and define appropriate framework conditions. The entire University, as a place of research, teaching and promotion of early career researchers, has an institutional responsibility to safeguard good practice in research. In addition to determining measures for the identification and sanctioning of misconduct in research, these guidelines aim to propose and promote appropriate measures to prevent scientific misconduct from occurring in the first place. The rules and principles outlined below implement, in a legally binding form, the Guidelines for Ensuring Good Research Practice of the German Research Foundation (DFG), which came into force on August 1, 2019, and are therefore closely aligned with these Guidelines.

Section One: Principles of Good Scientific Practice

I. General Guidelines

§ 1 Guiding Principles

- (1) Researchers at RWTH Aachen University have the obligation
 - to work "lege artis,"
 - to document their research results and consistently to doubt their own findings,
 - to be strictly honest with regard to their own contributions and those of third parties
 - to avoid and prevent research misconduct, and
 - to adhere to the principles laid out in the present guidelines.

This obligation also applies to all members and affiliated institutions of RWTH Aachen University that are engaged in research activities.

- (2) Every researcher at RWTH Aachen University is responsible for ensuring that their own conduct complies with the standards of good research practice. This includes implementing and standing up for the fundamental values of academic integrity in all their activities.
- (3) All scientists and scholars at all career levels are called upon to impart the fundamentals of good research practice at the earliest possible stage in academic teaching and learning. They support each other in this endeavor in a joint learning process.

§ 2 Management Responsibilities

- (1) The Rectorate of RWTH Aachen University, in cooperation with the Senate, is responsible for creating and maintaining good framework conditions for scientific activity. Thus, the Rectorate is responsible for providing and maintaining appropriate organizational structures, in which, depending on the size of the individual scientific units, the tasks of general management, supervision, quality assurance, and conflict resolution have been clearly assigned and appropriately communicated. Furthermore, the Rectorate is responsible that the rules of good research practice are clearly communicated and adhered to, and that all researchers are provided with appropriate career support. This includes formulating (in writing) and putting in

place procedures and principles that govern staff selection and staff development processes, the promotion of early career researchers, and the implementation of equal opportunities policies. Aside from focusing of individual competencies, staff selection and development shall take gender equity and diversity aspects into account. Suitable supervision structures and concepts for early career researchers must be in place. These also include appropriate career advising and continuing education opportunities.

- (2) The head(s) of an academic institution at RWTH Aachen University is/are responsible for all activities of the institution. All activities must be organized in such a way that the institution is in a position to fulfill its responsibilities, based on the effective collaboration and coordination of all members of staff. All staff members must be fully aware of their roles, rights and obligations. In particular, it is the task of the management team to ensure appropriate supervision of early career researchers. Concepts for the supervision of young scientists as well as career support measures for all those involved in research are to be included in the overall strategy of the university institution. Abuse of power and the exploitation of relationships of dependency must be prevented by appropriate organizational measures, both at the management level as well as all other organizational levels of the institution.

§ 3

Performance Dimensions and Evaluation Criteria

Research performance assessment requires a multidimensional approach. Performance assessments are primarily qualitative in nature and need to take discipline-specific criteria into account. In addition to academic performance, other aspects and activities should be taken into consideration, such as particular dedication to teaching, administrative or public relations activities, knowledge and technology transfer activities, or research-related attitudes such as openness towards new methods and findings as well as a willingness to take risks. More generally, activities that contribute to the greater good of society may also be positively taken into account. Family or health-related periods of absence and any extension of the researcher's periods of academic training or qualification resulting from this should be appropriately taken into account. This also applies to alternative career paths or comparable circumstances.

II. Guidelines for Research

§ 4

Quality Assurance, Methods and Standards, Research Design

- (1) Researchers shall carry out every step in the research process "lege artis." High quality is to be assured in particular with regard to discipline-specific standards and methods; 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 the keeping of lab journals. They shall apply scientifically sound and transparent methods and place particular importance on quality assurance and the establishment of standards when developing and applying new methods.
- (2) In order to ensure that research results or findings can be reviewed and confirmed by other researchers, the origin of data, organisms, materials, and software used in the research process must be identified and their possible re-uses documented. The type and scope of research data generated in the research process is to be described.
- (3) When planning and implementing a research project, researchers shall fully take into account and acknowledge the current state of research. The identification of relevant and appropriate research questions requires careful research into prior research achievements that have been made publicly available.

§ 5

Responsibilities, Roles and Rights of Use

- (1) The roles and responsibilities of all researchers – as well as those of other personnel involved in scientific activities – must be clearly defined at all stages of a research project.
- (2) Researchers shall take into account all relevant rights and obligations, in particular those arising from legal requirements, but also from contracts with third parties, and shall, where necessary, obtain and be able to present authorizations and ethical assessments. Among other responsibilities, they are obligated to use their knowledge, experience and skills to identify, estimate and evaluate possible risks.
- (3) Researchers shall, if possible and reasonable, conclude formal agreements on the rights of use of generated data at the earliest possible stage in the research project, especially if several institutions are involved. In particular, the scientist responsible for collecting the data is entitled to use them for their purposes. When conducting a research project, those authorized to use the data shall decide whether any third parties should be given access to the data (taking into account the data protection regulations currently in place).

§ 6

Documentation and Archiving

- (1) Researchers are asked to document any information used to generate their research results in accordance with the standards of their discipline, so that their results can be verified and assessed accordingly. If documentation in accordance with these requirements is not possible, the reasons for this, such as possible restrictions or limitations, shall be clearly laid out. Research results and their documentation are to be protected as well as possible against manipulation.
- (2) When developing research software, the source code is to be documented.
- (3) In accordance with the standards of their discipline, researchers are responsible for securing the data underlying the results of their published research as well as the key materials on which they are based and, if applicable, the software that has been used in their generation. These data are to be kept at the originating institution, as a rule for a period of ten years. The retention period begins with the date of publication.

§ 7

Authorship and Publication

- (1) Each individual who has made a genuine, identifiable contribution to a scientific publication published in the form of a text document (such as a journal article), a data set, or a software program, is an author of the publication. All authors shall agree on the final version of the work to be published. Unless explicitly stated otherwise, they are jointly responsible for the publication. It is not permitted to include honorary authors who have not genuinely contributed to the publication. Authors seek to ensure that, as far as possible, their research publications are identified by publishers or infrastructure providers such that they can be correctly cited by users.
- (2) Taking the standards of their discipline into account, the researchers themselves decide whether, how and where they make their results publicly available. Authors choose a suitable medium of publication, taking into account its quality and visibility in the respective field of discourse.
- (3) Whenever scientific findings are made publicly available (in the narrow sense, in the form of publications; in a broader sense, via other media of communication), the applied mechanisms

of quality assurance are always to be described. Researchers are required to reference all prior work – their own and that of others – which their contribution draws on. If shortcomings or errors are identified in the publication, these will be transparently amended and marked as such. If necessary, the publication will be retracted.

§ 8 Review Process and Consultations

Scientists and scholars who review submitted manuscripts, grant applications, or the eligibility of individuals for certain positions or responsibilities are obliged to maintain strict confidentiality. They are obligated to declare any facts which may result in conflicts of interest or personal bias. This also applies to members of scientific advisory and decision-making bodies.

III. Scientific Misconduct

§ 9 Definition

Scientific misconduct includes the deliberate or grossly negligent statement of falsehoods in a scientific or scientifically relevant context, the appropriation of the research achievements of others, or impeding another individual's research work.

§ 10 What Constitutes Scientific Misconduct

(1) Scientific misconduct within the meaning of § 9 includes:

1. The provision of false information

- by fabricating data and/or research results,
- by falsifying data and/or research results, in particular by suppressing and/or eliminating data and/or results obtained in the research process without making this explicit,
- by manipulating a representation or illustration,
- by providing incorrect research-related information in a proposal for funding (including incorrect information on the medium of publication or on publications currently in print)
- by claiming the (co-)authorship of the publication of another researcher without their consent.

2. Unauthorized appropriation of other individuals' scientific achievements by

- the adoption of third party content without the required indication of sources ("plagiarism"),
- the exploitation of research approaches and ideas ("theft of ideas"),
- the unauthorized disclosure of data, theories and findings to third parties,
- the presumption or unfounded assumption of authorship or co-authorship, especially if no genuine, identifiable contribution to the scientific content of the publication has been made
- the falsification of content,
- unauthorized publication and unauthorized provision of scientific content to third parties, as long as the work, knowledge, hypothesis, teaching or research approach has not yet been officially published.

3. The obstruction of the research activities of others, in particular

- refusal to give the required consent to publication of research results without sufficient reason,
- sabotage of research activities (including damaging, destroying or tampering with experimental setups, equipment, documents, hardware, software, chemicals or other items needed by others for research purposes)
- falsification or unauthorized deletion of research data or research documents,
- falsification or unauthorized deletion of documentation of research data.

(2) In case of intent or gross negligence, the following actions are also considered scientific misconduct:

- co-authorship of a publication that contains false information or appropriates, without authorization, scientific achievements of others,
- neglect of supervisory duties, if an individual has committed scientific misconduct, which could have been prevented or made considerably more difficult by the provision of proper supervision,
- intentional contribution to the intentional misconduct of others (in the sense of instigation, or aiding and abetting).

Section Two: Procedure in the Event of Suspected Scientific Misconduct

§ 11

Investigations Into Scientific Misconduct

- (1) RWTH will investigate any suspicion of scientific misconduct at the University. To this end, the Rectorate shall institute, following a proposal by the University groups in the Senate, a Standing Investigation Panel to officially clarify the matter. If the Panel finds that scientific misconduct has occurred, the Rector's Office will take measures within its authority that are appropriate to the situation at hand.
- (2) The investigation conducted by the Panel does not replace any other legal or statutory proceedings (such as academic procedures, legal proceedings relating to employment or civil service, or civil or criminal proceedings). Such proceedings may be initiated by the relevant bodies and authorities.

§ 12

Ombudspersons

In consultation with the Elders Advisory Council, the Rectorate shall appoint four university researchers as ombudspersons, who serve as contact persons for questions concerning good research practice and in case of suspicions or allegations of scientific misconduct. The group of ombudspersons shall include at least one woman member and one university professor. The ombudspersons are appointed for a period of three years; one-time reappointment is possible.

§ 13 Investigation Panel

In order to investigate and resolve any possible cases of academic misconduct, the Rector's Office appoints an Investigation Panel. The Panel is appointed for a period of two years. It consists of three members from the group of university professors and one member each of the groups of academic staff, technical and administrative staff, and students. The Panel shall be chaired by a member from the group of university professors. The Investigation Panel has the right to involve further individuals who serve in an advisory function. The Panel will be chaired by a member from the group of university professors. For each member at least one designated substitute is to be appointed, in case there is any concern about conflicts of interest or personal bias or in case the ombudsperson is unable to carry their duties. The Investigation Panel has the right to involve further individuals who serve in an advisory function.

§ 14 General Rules of Procedure

- (1) Meetings of the Investigation Panel are not open to the public.
- (2) Resolutions of the Investigation Panel are passed by a majority of the voting members; otherwise, the rules of procedure for RWTH Aachen University bodies and committees shall apply.
- (3) The Investigation Panel is entitled to take any steps necessary to clarify the facts of the case at any stage of the procedure. To this end, it may obtain all necessary information and opinions and, if necessary, consult experts from the scientific field in question.
- (4) Until proof of scientific misconduct has been established, information about the parties involved in the procedure and any findings of the Panel shall be treated confidentially.
- (5) The name of the complainant – the person making an allegation of research misconduct – shall not, in principle, be revealed to the respondent – the person against whom an allegation is being made – at any stage of the procedure without their consent. Their identity will only be disclosed in individual cases, e.g. if there is a legal obligation to do so or if the respondent is otherwise unable to defend themselves properly because the identity of the complainant is, in this particular case, decisive. The complainant will be informed prior to their name being disclosed and can then decide whether to withdraw the complaint.
- (6) The Investigation Panel shall take its decisions based on the facts and evidence established at each stage of the procedure and in light of its free judgement.

§ 15 Preliminary Investigation

- (1) As soon as any specific suspicions of scientific misconduct are raised at RWTH Aachen University, the Investigation Panel is commissioned to conduct a preliminary investigation. An anonymous complaint can only be reviewed in a procedure if the complainant presents concrete facts and evidence of research misconduct.
- (2) In the case of sufficiently concrete suspicions of scientific misconduct, which are typically reported in writing, the Commission of Inquiry gives the individual(s) affected the opportunity to submit a written statement on the allegation, providing them with comprehensive information on the the incriminating facts and evidence. The deadline for submitting this written statement is usually three weeks upon notification. This deadline may be extended depending on the circumstances of the individual case.

- (3) After reviewing the statement or once the deadline has expired, the Commission prepares a decision in a timely manner whether the preliminary investigation is to be terminated, either due to insufficient grounds of suspicion of scientific misconduct or due to insignificance, informing both parties involved on the reasons for this decision. Before taking a decision, the Commission may ask the Rectorate to provide a statement on the case at hand.
- (4) If there are no reasonable grounds for suspicion of scientific misconduct, the procedure will be terminated. Termination on the grounds of insignificance may be considered if a less severe form of scientific misconduct has been established and the respondent has significantly contributed to clarifying the matter. If the respondent has already taken measures to redress the damage that has occurred, this is considered to be a contribution to clarification. Termination on the grounds of insignificance requires the Rectorate's approval.
- (5) The complainant is the first person to be notified of the decision to terminate the procedure. If the complainant does not agree to the termination of the investigation, they have the right to re-contest the case with the Rectorate within two weeks. This, however, is only possible if new facts can be presented. Subsequently, the Commission reviews the decision to terminate the investigation.
- (6) The result of the preliminary investigation procedure shall then be communicated to the parties involved.
- (7) If the Panel decides not to terminate the procedure, the preliminary investigation will be followed by the formal investigation procedure.

§ 16 Formal Investigation

- (1) The Commission chair notifies the Rectorate of the opening of a formal investigation.
- (2) In a formal investigation is initiated, the complainant shall be informed that this decision is to be treated in strict confidence.
- (3) At this stage, the respondent must again be given the opportunity to provide a statement. Additionally, they may request a hearing before the Investigation Panel. For this purpose, they may call upon a person of trust for support during the hearing.
- (4) The Panel examines the evidence to determine whether scientific misconduct has occurred and which measures may be taken within the meaning of §§ 19 to 24.
- (5) If the majority of the Panel finds scientific misconduct to be proven and recommends action to be taken, it shall submit the results of the investigation to the Rectorate, including a proposal for decision.

§ 17 Decision of the Rectorate

Based on the report and recommendation of the Investigation Panel, the Rectorate decides on whether the investigation is to be closed or whether there is sufficient evidence for research misconduct. In the case of the latter, the Rector's Office shall decide on what action to take. Depending on the nature and seriousness of the misconduct established, the Rectorate shall decide on one of the measures outlined in §§ 19 to 24.

§ 18 Conclusion of the Procedure

- (1) The principal reasons resulting in the termination of the procedure or the decision of the Rectorate shall be communicated to both the respondent and the complainant.
- (2) Once the investigation has been completed, the result shall be communicated to all individuals who are (or were) involved in the case and, where appropriate, to third parties with a legitimate interest in the decision.
- (3) Upon request, the respondent and the complainant may be granted access to all records after the end of the procedure. The request is to be made no later than one month after notification of the outcome of the procedure, in accordance with Section 1, to the chair of the Investigation Panel, who shall determine where and when the inspection of the records is to take place. In each individual case, deliberations must be made on how the justified interest in viewing the files can be met without at the same time infringing the special protection afforded the complainant pursuant to § 14 (5). In particular, the complainant as well as other parties involved in the proceedings, such as expert witnesses, must be informed in advance that the records are made available for inspection, and, as a rule, their consent must be obtained.

Section Three: Measures to be Taken in the Event of Research Misconduct

§ 19 Preliminary Remark

The following catalogue of possible penalties or other consequences for research misconduct has been created for initial guidance only and is far from complete. Importantly, there are no clear-cut rules for measures to take, since each case is likely to be different. For each case, the seriousness of the misconduct as well as the entire surrounding circumstances are to be taken into account when considering consequences.

§ 20 Academic Measures

In particular, the following consequences may be considered:

- Withdrawal of the right to supervise doctoral candidates
- Withdrawal of the doctoral degree
- Withdrawal of the permission to teach

§ 21 Retraction of Scientific Publications

In case of scientific publications that are compromised due to scientific misconduct, authors and participating editors are obliged to correct or retract them, respectively, depending on whether they have already been published or are set for publication.

§ 22

Measures Under Civil Law

The following civil law measures may be considered:

- Ban on entering the University premises
- Legal rights to recover possession vis-à-vis the respondent, for example, with regard to misappropriated scientific work or material, etc.
- Claims for removal and for injunctive relief arising from copyright law, personal rights, patent law, and competition law
- Claims to repayment of funds, e.g. fellowship stipends, external funding, or similar
- Claims for compensation for personal injury, damage to property, or similar

§ 23

Measures Under Criminal Law

Criminal law consequences are always an option if there is a suspicion that a case of scientific misconduct may constitute an offence under the German Criminal Code (StGB) or other criminal norms. Any involvement of the investigating authorities shall, in principle, be coordinated with the Rectorate.

Possible statutory offences include:

- § 202a StGB (German Criminal Code): Data espionage
- § 204 StGB: Exploitation of another's secrets
- § 222 StGB: Negligent homicide
- §§ 223, 230 StGB: Intentional or negligent bodily harm
- § 242 StGB: Theft
- § 246 StGB: Misappropriation
- § 263 StGB: Fraud
- § 264 StGB: Subsidy fraud
- § 266 StGB: Embezzlement
- § 267 StGB: Forgery of documents
- § 268 StGB: Forgery of technical records
- § 303 StGB: Damage to property
- § 303a StGB (German Criminal Code): Data manipulation
- § 106 UrhG (Act on Copyright) Unlawful exploitation of copyrighted works

§ 24

Measures under Labor and Civil Service Law

If the respondent is employed at RWTH, measures under employment or civil service law, such as issuance of a warning notice, termination of employment, termination of contract, dismissal from civil service, and disciplinary action may also be taken.

§ 25

Coming Into Force

The guidelines come into force on the day following their publication as an Official Guideline of RWTH Aachen University. At the same time, the Principles for Safeguarding Good Scientific Practice at RWTH Aachen University, dated March 28, 2000, in the third amended version providing changes to the Principles for Safeguarding Good Scientific Practice, dated July 19, 2019 (Official Notice 2019/106), will cease to apply.

Issued based on the decision of the Senate dated April 23, 2020.

It is pointed out that, in accordance with § 12 (5) NRW Higher Education Act, no claims may be asserted after one year has elapsed since official publication of this announcement for a violation of procedural or formal requirements of the regulatory or other autonomous right of the university, unless:

- 1) the announcement has not been properly published
- 2) the Rectorate has objected, prior to publication, to the decision of the committee adopting the regulations,
- 3) the defect of form or of procedure has been previously notified in a complaint to the University, specifying the infringed legal provision and the fact which gives rise to the defect, or
- 4) the legal consequence of the exclusion of complaints was not pointed out in the public announcement.

The Rector
of RWTH Aachen University

Aachen, 4/28/2020
(dated)

— signed. Rüdiger
Univ.-Prof. Dr. rer. nat. Dr. h. c. mult. U. Rüdiger