

Regulations for Upholding Good Scientific Practice at Forschungszentrum Jülich GmbH*

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* The English translation is for information purposes only. The German original is legally binding.

Preamble

Shaping change: this is what drives us at Forschungszentrum Jülich. As a member of the Helmholtz Association, we conduct research into the possibilities of a digitized society, a climate-friendly energy system, and a resource-efficient economy. We combine natural and engineering sciences in the fields of information, energy, and the bioeconomy with specialist expertise in high-performance computing and we also use unique scientific infrastructure.

Since the foundation of Forschungszentrum Jülich more than 60 years ago, we have conducted scientific work in accordance with basic principles that apply to all scientific disciplines in equal measure, such as the honesty of scientists towards themselves and others, scientific professionalism and diligence, and scientific integrity. These principles serve as a guideline for our actions and reflect our self-image:

- We want Jülich research to stand for the highest scientific quality.
- We assume our responsibility to society.
- We work in an honest, fair, and open fashion.
- We work with enthusiasm, respect, and a willingness to learn from one another.¹

Living up to this responsibility is the duty of each Jülich scientist and also of Forschungszentrum Jülich as an institution that upholds good scientific practice through its organizational and procedural regulations. In doing so, we are able to create transparency and reinforce society's trust in science.

In the interests of prevention, it is our aim to raise and maintain awareness among established scientists about the basic principles of scientific practice as well as to ensure that the next generation of scientists always views these principles as natural requirements of scientific work from a very early stage.

All employees of Forschungszentrum Jülich are obliged to perform their scientific work in accordance with these regulations for upholding good scientific practice (which are based on the German Research Foundation's Code of Conduct² and meet the framework provisions of the Helmholtz Association³) and to actively help prevent scientific misconduct.

The regulations serve to implement the German Research Foundation's Code of Conduct "Guidelines for Safeguarding Good Scientific Practice",⁴ which entered into force on 1 August 2019.

Principles

1. Commitment to general principles

Forschungszentrum Jülich stipulates these regulations for upholding good scientific practice with the involvement of its scientists, makes them known to employees and guests of Forschungszentrum Jülich, and obliges these persons to comply with them – while taking account of the particularities of respective scientific fields. Each individual scientist is responsible for ensuring that their own behaviour meets the standards of good scientific practice.

The principles include working in accordance with regulations, always documenting results, maintaining a strict policy of honesty in terms of your own work and the work of third parties,

¹ Our Mission Statement. Values. Mission. Vision. N.p., n.d.

² DFG Code of Conduct: Guidelines for Safeguarding Good Scientific Practice: <https://doi.org/10.5281/zenodo.3923602>

³ Recommendations for upholding good scientific practice and procedure in the event of scientific misconduct: <https://www.helmholtz.de/en/about-us/our-values/good-scientific-practice/>, last accessed on 24 August 2020.

⁴ DFG Code of Conduct: Guidelines for Safeguarding Good Scientific Practice: <https://doi.org/10.5281/zenodo.3923602>

consistently challenging your own results, and allowing and encouraging critical discourse within the scientific community.

2. Professional ethics

At Forschungszentrum Jülich, researchers and scientists are responsible for ensuring that they implement and stand up for the fundamental values and norms of scientific work in their actions. Communicating the principles of good scientific work begins at the earliest possible stage in academic teaching and scientific training. When supervising scientific work, the fundamental values and norms of scientific work must be taken into account and communicated. Scientists at all career stages must constantly ensure that their knowledge reflects the standards of good scientific practice and the current state of research. To this end, Forschungszentrum Jülich offers appropriate information and learning services and keeps records of how they are used.

Both experienced and young scientists must support each other in the continual process of learning and training, and regularly share their experiences with one another. This opportunity to exchange experiences should be provided regardless of whether persons have a contractual relationship with Forschungszentrum Jülich or are visiting scientists.

3. Responsibilities of the Board of Directors

The Board of Directors of Forschungszentrum Jülich creates the framework conditions for scientific work. It is responsible for upholding and communicating good scientific practice and providing appropriate career support to all scientists. It guarantees the conditions to ensure that scientists can uphold legal and ethical standards.

The framework conditions concerning work, organizational structure, and co-determination rights at Forschungszentrum Jülich are clearly defined. Forschungszentrum Jülich has appropriate instruments at its disposal to resolve conflicts and places a high value on its leadership culture.

A personnel selection/recruitment process, which is certified in accordance with the DIN EN ISO 9001 standard, creates the conditions necessary for a transparent procedure in relation to open job advertisements (doctoral researcher positions and those that fall under a TVöD contract). Within the framework of recruitment and human resource development, gender equality and aspects of diversity are taken into consideration.

Forschungszentrum Jülich has established appropriate supervision structures and concepts for young scientists. Scientific personnel are offered honest career advice as well as training and mentoring opportunities, all of which are also available to other groups of people at Forschungszentrum Jülich provided they perform tasks relevant to these guidelines or have corresponding career development prospects.

4. Responsibilities of the heads of organizational units

The head of an organizational unit is responsible for the unit as a whole. Collaboration within scientific organizational units must be structured in such a way that the group as a whole can fulfil its tasks and that the cooperation and coordination required to do so can take place, with all employees aware of their roles, rights, and responsibilities. Leadership responsibilities particularly include appropriate individual supervision of young scientists – a responsibility that is engrained in Forschungszentrum Jülich's overall concept – and career support for scientific personnel and those who perform tasks relevant to these guidelines. Abuses of power and the exploitation of dependent employment relationships must be prevented by appropriate organizational measures taken by both the individual scientific organizational unit and the Board of Directors.

The size and structure of the scientific organizational and working units are organized in such a way that leadership responsibilities (particularly the transfer of expertise), scientific support, and supervisory duties can be fulfilled in an appropriate manner. Fulfilling leadership responsibilities forms an important part of leadership positions. Scientists and personnel who perform tasks relevant to these guidelines enjoy a balance of support and personal responsibility that is appropriate to their career stage. They are given adequate status with appropriate co-determination rights. By being afforded increasing independence, they are also put in a position to shape their own career development.

5. Performance and assessment criteria

A multidimensional approach is required to assess the performance of scientists. In addition to scientific performance, other aspects can be taken into account. Performance is assessed according to qualitative criteria, with quantitative indicators being differentiated and reflected in the overall assessment. This also applies when assessing the scientific performance of organizational units.

High-quality science is guided by discipline-specific criteria. In addition to obtaining findings and critically reflecting upon them, other performance criteria form part of the assessment, such as commitment to promoting young scientists, self-management, and knowledge and technology transfer. Contributions that serve the interests of society as a whole are also taken into account. Furthermore, the scientific approach of individual scientists is considered. This might relate to their openness to new findings or their willingness to take risks. Absence or prolonged periods of training and qualification due to personal, family, or health-related reasons, as well as alternative career paths and other comparable circumstances, will also be accounted for as appropriate.

6. Ombudspersons

Forschungszentrum Jülich has three independent ombudspersons whom employees and other affiliated persons can contact if they have any questions related to good scientific practice or in suspected cases of scientific misconduct. The Board of Directors is responsible for ensuring that these ombudspersons are known throughout the research centre. The ombudspersons deputize for each other in cases where there may be a conflict of interest or due to absence.

On the recommendation of the Scientific and Technical Council, the Board of Directors appoints three experienced scientists as ombudspersons and contact persons for issues relating to scientific misconduct for a period of four years, with each ombudsperson serving no longer than two terms of office. This group of ombudspersons should ideally be composed of one head of institute who is still in active employment at Forschungszentrum Jülich, one scientific or technical employee who also holds a professorship (in line with the Jülich model, professor without chair, etc.), and one former head of institute at Forschungszentrum Jülich who has been retired for no more than three years upon appointment to the position. At least one of these three people must be a woman. The ombudspersons may not become a member of a governing body of Forschungszentrum Jülich GmbH while serving in this position. The governing bodies currently consist of the Board of Directors, the Supervisory Board, and the Partners' Meeting. The appointed ombudspersons nominate a spokesperson from amongst their ranks who represents Forschungszentrum Jülich's ombudspersons at Helmholtz level.

Employees who suspect scientific misconduct (whistleblowers) can in principle contact any one of the three ombudspersons to allow them to investigate the allegation or suspicion of scientific misconduct.

Moreover, these employees can contact the German Research Ombudsman, an independent committee that is appointed by the German Research Foundation (DFG) and supports all scientists in Germany when it comes to issues or conflicts relating to good scientific practice or scientific integrity.

All employees are free to contact either Jülich's ombudspersons, the German Research Ombudsman, or the main ombudsperson for the Helmholtz Association.

To enhance their capacity to fulfil their roles, the ombudspersons can contact the Board of Directors to ask for assistance whenever they are under particular strain.

Research process

7. Quality assurance across all phases

Scientists perform each step of the research process in accordance with regulations. This means that ongoing research-related quality assurance particularly concerns compliance with discipline-specific standards and established methods; processes such as the calibration of devices, the collection, processing, and analysis of research data, and the selection, use, development, and programming of research software; and the maintaining of laboratory notebooks. If standards are developed further or new standards established, they must be discussed within the scientific community. If scientific findings are made available to the public (either in the form of publications or through other communication channels), the quality assurance mechanisms being applied must always be presented. This particularly applies to the development of new methods.

If it is not possible to present the quality assurance mechanisms due to the publication format, then they must be communicated through the conventional and accepted channels within the scientific community. If scientists have made findings publicly accessible and they subsequently discover, or are made aware of, any inconsistencies or errors, they must rectify them immediately.

The origins of data, organisms, materials, and software used in the research process must be presented and their reuse demonstrated; original sources must be cited. The nature and extent of research data that are created during the research process must be described. The data are handled in accordance with the relevant requirements in the given scientific field. The source code of publicly accessible software must be persistent, citable, and documented.

An essential component of quality assurance across all scientific fields is that results and findings can be replicated or confirmed by other scientists (e.g. through an extensive description of the materials and methods).

8. Roles and responsibilities

The roles and responsibilities of scientists as well as non-scientific and technical personnel participating in a research project must be clearly defined at all times.

Those participating in a research project must be in constant exchange with each other. They determine their roles and responsibilities as appropriate and make amendments where necessary. An amendment is particularly advisable if the focus of a research project participant's work changes.

9. Research design

When planning a project, scientists must acknowledge and give comprehensive consideration to the current state of research. The identification of relevant and appropriate research issues

requires thorough research into publicly accessible research work. Forschungszentrum Jülich provides the necessary conditions for doing so.

Methods to avoid (unconscious) distortion effects in the interpretation of findings, for example the use of blinding in series of experiments, are applied as far as possible. Scientists examine whether gender and diversity could be relevant for the research project (in terms of methods, work programme, objectives, etc.) and, if so, to what extent. The relevant framework conditions must be taken into account when interpreting findings.

10. Security of action in (international) cooperation and ethics in research

Scientists must act responsibly with the freedom of research they are granted by constitutional law. They must take account of their rights and obligations, particularly those resulting from legal requirements or contracts with third parties, and obtain and present any necessary authorizations or ethical approvals (e.g. from Jülich's Committee for Ethics in Research (KEF)). For research projects, an in-depth assessment of the consequences of the research must be conducted and the various ethical aspects should be evaluated.

Scientists should particularly consider aspects related to dual-use research. As a result of their special expertise, scientists have a responsibility to use their knowledge and strength of judgement to identify and assess the risks and potential for misuse associated with their work. Researchers must be aware (beyond merely upholding legal requirements) of the potential for research findings to be misused by performing a risk assessment.

They should take account of the relevant processes in place at Forschungszentrum Jülich and if in doubt, particularly when it comes to matters relating to foreign trade law, should consult with Law and Patents (R) for a legal assessment. Researchers should also seek advice from the KEF before launching any research project that poses any ethical or legal concerns or risks. The same applies should any such concerns or risks become apparent during a research project. Should any security-relevant concerns or risks exist or become apparent – in the sense of dual use, military use, or misuse, for example – the KEF and R must be involved.

The legal framework of a research project also includes documented agreements on rights of use for the research data and findings resulting from the project.

Agreements on rights of use for research findings and research data should be made at the earliest possible time. It is particularly important that agreements be reached for collaborative projects or whenever it is foreseeable that researchers might change institution and want to continue to use the data they have produced. The right to use the data primarily resides with the researchers that collect the data. Rights holders can decide whether third parties should be granted access to the data.

11. Methods and standards

To answer research questions, Jülich scientists use well-established and comprehensible methods. When developing and applying new methods, they place particular emphasis on quality assurance and establishing standards.

Applying a method typically requires specialist expertise that in some cases might be covered by suitably close collaborations. The establishment of standards for methods, the application of software, the collection of research data, and the description of research findings are essential prerequisites for comparing and transferring research findings obtained at Forschungszentrum Jülich.

12. Documentation

Scientists must document all relevant information relating to how a research finding came about in a manner that is comprehensible and appropriate in the given scientific field to ensure that the finding can be verified and evaluated. They must therefore also document individual results that do not support the research hypothesis. To this end, scientists should not selectively present their findings. If there are specific recommendations in place in their research field for verifying and evaluating findings, scientists must document the information in accordance with the relevant requirements. If the documentation process does not meet these requirements, then the constraints and reasons for this must be presented in a comprehensible manner. Documentation and research findings must not be manipulated; they should be protected from manipulation to the greatest extent possible.

An important basis for enabling the replication of findings is to document any information that is necessary for understanding the research – whether this relates to the research data that are used or generated, the methodological, evaluation, and analysis steps, or, if applicable, the origin of the hypothesis. In addition, scientists should ensure the traceability of citations and, where possible, allow third parties to access this information. When developing research software, the source code must be documented.

13. Public access to research findings

Scientists typically make all findings available as part of scientific discourse. It is up to them to decide whether, how, and where they make their findings publicly accessible, while taking into account the standard practice in their scientific field. In individual instances, there might be reasons for not making findings accessible to the public (either through publications or other communication channels). However, this decision must not be dependent on third parties.

If a decision has been made to make their findings publicly accessible, scientists must describe these findings in a complete and comprehensible manner. As far as is possible and reasonable, this includes providing access to the research data, materials and information, methods, and software underlying the results as well as a comprehensive presentation of the workflows involved. Source code must be provided for any self-programmed software that is made publicly accessible. Scientists must also make complete and correct reference to preliminary work conducted by themselves or others.

Wherever possible and for reasons of transparency, integrability, and re-usability, scientists should make the research data, software, and key materials relating to the publication publicly accessible in recognized archives and repositories, and in accordance with the FAIR (findable, accessible, interoperable, re-usable) principles. With respect to patent applications, restrictions may arise in terms of public accessibility. If self-developed research software is to be made available to third parties, it should be covered by an appropriate licence. Scientists can seek advice on this matter from Corporate Development – Innovation and Strategy (UE-I).

Scientists should avoid unnecessarily detailed publications. They should limit the repetition of content in their publications to an amount that is required to understand the wider context. They should cite the results that they have previously made publicly available unless, in exceptional cases, this is not typically required by a given scientific discipline.

When entering into collaborations with partners from science or industry, an agreement should be reached as early as possible on the publication of research results that gives appropriate consideration to these regulations and is in the interest of both parties. Any patents must also be given due consideration.

When writing scientific works for the purpose of obtaining a degree qualification (master's dissertations, doctoral theses, or similar texts), scientists must be assured that the work will be

published in the extent required to obtain the qualification and that it will be made publicly accessible to the group of people reviewing the text. Further publication of the findings obtained while preparing this work should follow the general rules of this guideline.

14. Authorship

An author is an individual who has made a genuine, identifiable contribution to the content of a research publication of text, data, or software. All authors must approve the final version of the work to be published. They share responsibility for the publication unless explicitly stated otherwise. Authors should ensure, insofar as possible, that their research contributions are presented by publishers and infrastructure providers in such a way that they can be correctly cited by users.

An author's contribution must be relevant to the scientific content of the publication and not merely serve to provide technical support. Each contribution depends on the scientific field in question and must be examined separately to decide whether it is genuine and identifiable. Contributions are particularly considered to be genuine and identifiable when a scientist was scientifically involved in:

- ⇒ the development and planning of a research project
- ⇒ the generation, collection, procurement, or preparation of data, software, or sources
- ⇒ the analysis, assessment, or interpretation of data or sources and any conclusions drawn from these
- ⇒ writing the manuscript

Only persons who are responsible for the content, or parts of the content, of a manuscript should ever be listed as authors. If a contribution is not sufficient to justify authorship, then the support of this person can be recognized in footnotes, in the foreword, or in the acknowledgements section. Honorary authorships, in which no such contribution was made, are not permissible. A person's role as a leader or superior is not a sufficient reason on its own to be listed as a co-author.

Scientists should reach an agreement among themselves about who is the author of the research findings. An agreement about the order in which the authors are listed should be made in good time, and typically no later than when the manuscript is being formulated, on the basis of logical criteria and in accordance with the conventions of the given scientific field. Consent to the publication of results may not be withheld unless there is a valid reason for doing so. The withholding of consent must be supported by verifiable criticism of the data, methods, or results.

15. Publication medium

Authors must carefully choose a publication medium, taking account of its quality and visibility in the research field in question. A major criterion when choosing a publication medium is whether or not it has established its own guidelines on good scientific practice.

Forschungszentrum Jülich supports the publication of scientific articles in open access journals that are subject to a peer review process for the purpose of quality assurance. In addition to publications in journals and books, specialist repositories, data and software repositories, and blogs with appropriate quality assurance measures might be considered.

Scientists who act as publishers must carefully consider which publication medium they want to take on this role for. A new or an unknown publication medium must be examined in terms of its respectability and scientific standards.

The Central Library of Forschungszentrum Jülich provides an advice for authors service to offer support in this regard. The scientific quality of an article is not dependent on the publication medium in which it is to be made publicly accessible.

16. Maintaining confidentiality and neutrality for reviews and consultations

Honest conduct serves as a foundation for legitimizing the process of forming a judgement. In particular, scientists reviewing submitted manuscripts, funding applications, or the credentials of individuals are bound to strict confidentiality. They must disclose all facts that may give rise to doubt as to their impartiality. The obligation to maintain confidentiality and reveal all the facts that may give rise to doubt as to their impartiality also applies to members of scientific advisory or decision-making committees.

Confidentiality relating to third-party content to which the reviewer or committee member gains access precludes the disclosure of that content to third parties or its use by the reviewer/committee member for their own purposes. Scientists must immediately disclose to the relevant body any conflicts of interest that may be justified with regard to the research project being reviewed or to the person or subject of the consultation.

17. Archiving

Scientists must adequately secure publicly accessible research data or research findings as well as the underlying central materials and research data (typically raw data) and any research software used in accordance with standards for the research field in question. They must also retain these data and findings in a manner that is accessible and identifiable, usually for a period of ten years, in the institution where they were created or in cross-institutional repositories. Shorter retention periods may be appropriate in well-founded cases. If there are reasons for not preserving data, or retaining the data for a shorter period, scientists must provide logical reasons for doing so. The retention period begins on the date that the data were made publicly accessible. Forschungszentrum Jülich ensures that the infrastructure required for archiving is in place.

Research data must be managed, kept, and made available on a long-term basis at Forschungszentrum Jülich in accordance with recognized standards and high requirements. Research data stored locally must be compatible with the institutional research data repository of Forschungszentrum Jülich and thus with relevant national and international research data infrastructures. In turn, research data stored locally (at institute level) must be retained as long as is necessary, even when an organizational unit is dissolved or restructured.

Procedures in the event of failure to observe good scientific practice

18. Whistleblowers and those suspected of misconduct

The contacts responsible for reviewing suspected cases of scientific misconduct at Forschungszentrum Jülich (typically the ombudspersons and the investigation committees) take appropriate action to protect both whistleblowers and those suspected of misconduct. Allegations of scientific misconduct are investigated while maintaining strict confidentiality and the presumption of innocence.

The name of the whistleblower is kept confidential by the ombudspersons and investigation committees and is not passed on to third parties without explicit permission. Any deviation from this rule only applies when there is a legal obligation to do so. Section 19 of this guideline provides further details on this matter.

The information provided by the whistleblower must be given in good faith. A deliberately incorrect or maliciously raised allegation may represent a case of scientific misconduct in itself. The whistleblower must have objective evidence that the standards of good scientific practice have

been violated. An anonymously submitted report may only be reviewed as part of a procedure if the whistleblower provides the reviewing body with sufficient and reliable evidence. No disadvantages should arise regarding the (scientific) career development of the whistleblower or those who are the subject of allegations simply because a report of suspected misconduct has been submitted. The whistleblower must still be protected even if a case of suspected scientific misconduct is not proven, provided that the allegation was not demonstrably made against the whistleblower's better judgement.

Whistleblowers can also contact the DFG's German Research Ombudsman or the main ombudsperson for the Helmholtz Association.

19. Procedures in suspected cases of scientific misconduct

Forschungszentrum Jülich has established procedures for dealing with allegations of scientific misconduct. It has adopted appropriate regulations with a solid legal basis. In particular, the regulations cover the definitions of what comprises scientific misconduct, rules of procedure, and what measures should be taken when scientific misconduct has been proven. The regulations are applied alongside the relevant, overarching norms.

Scientific misconduct must be assumed whenever the principles of good scientific practice in accordance with these guidelines are deliberately violated or circumvented. The spectrum of potential scientific misconduct can range from marginal violations to criminal acts against the principles of scientific ethics, which may be punishable by law. It may also involve the violation of obligations laid down in employment contracts.

In particular, scientific misconduct may include:

- Falsification of scientific facts, for example by
 - inventing or presenting bogus results
 - falsifying results, for instance by neglecting to mention or omitting “undesirable” results
 - deliberately or negligently ignoring relevant contradictory results of others
 - deliberately distorting the interpretation of results
 - deliberately distorting the representation of the results of others
- Deception through the deliberate provision of false information, for example in
 - job applications
 - applications for funding and reports on the use of funding
 - publications, for instance multiple publications with no appropriate citations
- Violation of intellectual property rights, for example through
 - unauthorized use under pretence of authorship (plagiarism)
 - pretence of, or unjustified claim to, scientific authorship or co-authorship
 - refusal to acknowledge other researchers' claims to co-authorship despite appropriate contributions
 - exploiting, publishing, or making accessible by other means other researchers' unpublished ideas, methods, research results, or research approaches without the permission of the rightful claimant (theft of ideas)
 - deliberately withholding important relevant preliminary work by other researchers
- Malicious damage, destruction, or manipulation of research resources or results, for example of
 - equipment and experimental set-ups
 - data, documents, and software
 - consumables (e.g. chemicals)

- Co-responsibility for scientific misconduct on the part of others may arise, for example as a result of
 - active participation in the misconduct of others
 - awareness and toleration of the misconduct of others
 - culpable co-authorship of publications involving falsification of data
 - gross negligence of supervisory duties

If any suspicion of scientific misconduct has arisen after a whistleblower has made initial contact with the ombudspersons, the ombudsperson who has been contacted should first ask for a written statement, along with any supporting evidence where appropriate, within a period of four weeks.

Persons suspected of misconduct may also contact any of the three ombudspersons to request clarification and support.

Whistleblowers and those affected by the allegations must be given the opportunity to make a statement at all stages of the procedure. The entire procedure should be conducted in as timely a manner as possible.

The three ombudspersons decide which of them will continue to pursue the matter on the basis of any information submitted to them. The ombudspersons represent each other in the event of conflicts of interest, absence, or other reasons that would make it inappropriate for the ombudsperson who was contacted to clarify the matter. The ombudspersons may consult with each other under strict confidentiality during the further inquiry into the facts presented to them.

The ombudsperson entrusted with the matter immediately takes the steps they feel are necessary or prudent in order to clarify the matter as discreetly and as thoroughly as possible. This may also include seeking advice from third parties, who are then also under an obligation to maintain strict confidentiality. In difficult cases, the main ombudsperson at Helmholtz level can be consulted in an advisory capacity if required.

If several Helmholtz centres are involved or a case concerns the management level of an institution, the recommendations and framework guidelines of the Helmholtz Association must be observed.

Irrespective of the rights and obligations arising from provisions defined in the collective wage agreement or by labour law, the person suspected of misconduct must be provided with the opportunity to make a statement at the earliest possible stage. The identity of the whistleblower may be revealed to the person suspected of misconduct if the ombudsperson believes that this is essential to clarify the situation and if the whistleblower has no objection. The deadline for making a statement typically amounts to four weeks and begins once the person concerned has been informed of evidence supporting the allegations. The deadline may be extended depending on the circumstances of each individual case.

In cases where suspicions are not confirmed, no further steps are taken. Otherwise, a final report will be prepared within two weeks.

The ombudsperson entrusted with the matter prepares this final report on the results of the preliminary inquiry and sends it along with a proposal for further action to the member of the Board of Directors responsible for administration, the member of the Board of Directors responsible for the respective scientific division, and Human Resources.

The member of the Board of Directors responsible for the respective scientific division briefs the Board of Directors as a whole on the report within a period of two weeks. Based on the ombudsperson's report, the Board of Directors consults with the chair of the Scientific and Technical Council and within a period of four weeks decides whether:

- to conclude the proceedings and if necessary what subsequent measures should be taken
- an investigation committee should be set up if it considers further investigation of the matter necessary

In both cases, i.e. if a procedure is to be concluded or if an investigation committee is to be set up, the ombudsman dealing with the matter, the whistleblower, and the person who is the subject of the allegation are informed of the outcome of the procedure within seven days provided that they were previously involved in the ombudsperson's investigation.

The documents belonging to the ombudsperson entrusted with the matter must be kept in the division of the member of the Board of Directors responsible for the respective scientific division and must not be accessible to third parties unless the employer deems it necessary to take action at the level of labour law. There is no formal internal procedure for complaints against the report submitted by the ombudsperson entrusted with the matter. Rights pursuant to Section 85 of the Works Constitution Act (BetrVG) remain unaffected.

An investigation committee comprises the following members:

- the member of the Board of Directors responsible for administration
- the member of the Board of Directors responsible for the respective scientific division
- a scientist from among the members of the Main Committee of the Scientific and Technical Council appointed by the the member of the Board of Directors responsible for administration in consultation with the chair of the Scientific and Technical Council (in case of absence, a scientist from among the members of the Main Committee of the Scientific and Technical Council appointed by the the member of the Board of Directors responsible for administration in agreement with the chair of the Scientific and Technical Council as a deputy)
- an additional scientist appointed by the Board of Directors (in case of absence, an additional scientist appointed by the Board of Directors as a deputy)
- the head of Human Resources (in case of absence, an appropriate deputy in accordance with Forschungszentrum Jülich's organizational structure)

If necessary, additional (e.g. external) experts or consultants may be asked to participate in the deliberations of the committee. In cases where Forschungszentrum Jülich was informed of suspected misconduct by third parties, an additional external member must be appointed to the investigation committee. Committee members who are suspected of conflicts of interest in accordance with the DFG's Guidelines for Avoiding Conflicts of Interest or one of Forschungszentrum Jülich's internal regulations concerning conflicts of interest will be excluded from processing the specific individual case. In difficult cases, the main ombudsperson at Helmholtz level can be consulted in an advisory capacity if required.

The committee is chaired by the member of the Board of Directors responsible for administration; in case of absence their deputy is the member of the Board of Directors responsible for the respective scientific division. In particularly grave cases, a prominent external figure will be asked to chair the committee.

The investigation committee is responsible for clarifying the matter by consulting all parties involved and considering all of the applicable information sources in accordance with labour regulations based on the free evaluation of evidence. The deliberations of the investigation committee are only open to those involved.

The result of the investigations and the main reasons that have led to this outcome are summarized by the chair of the investigation committee and communicated in writing to the chair of the Scientific and Technical Council, the ombudsperson entrusted with the matter, the person and

scientific organization affected by the allegation, and any other persons who have a legitimate interest in the decision. The chair of the investigation committee also informs the whistleblower of the outcome of the procedure in an appropriate manner. The result of the investigation must be communicated within a period of two weeks.

Based on the findings of the investigation committee, the Board of Directors – if necessary, in consultation with Human Resources – decides what subsequent measures must be taken. There is no formal internal procedure for complaints against the report of the investigation committee or the Board of Directors. Rights pursuant to Section 85 BetrVG remain unaffected.

In principle, scientific misconduct may have the following consequences depending on the circumstances:

- recommendation to review potential academic consequences such as the revoking of academic degrees
- recall of scientific publications
- notification of the general public and/or cooperation partners
- consequences under labour law, such as a warning or termination of employment
- consequences under civil law, such as a ban from the premises or claims for restitution or for compensation
- consequences under criminal law
- Violations of the principles of good scientific practice are specified in Forschungszentrum Jülich's employment contracts as a potential cause for termination of employment without notice.

Jülich, 17 November 2021

The Board of Directors

signed Prof. Dr.-Ing. W. Marquardt

signed K. Beneke

signed Prof. Dr. A. Lambrecht

signed Prof. Dr. F. Melchior

The Scientific and Technical Council

signed Prof. Dr. A. Kiendler-Scharr signed Prof. Dr. R. Merkel signed Prof. Dr. P. Weiss-Blankenhorn

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