

## **Rules for Upholding Good Scientific Practice at Forschungszentrum Jülich GmbH**

### **Preamble**

Ever since it was founded more than 50 years ago, regulations and elementary rules of diligence and guaranteed reliability have been established at Forschungszentrum Jülich within the framework of its basic company and employer obligations as well as its duties and obligations within the framework of authorizations and a range of legal regulations. Scientific work at Forschungszentrum Jülich is thus based on reliable practice that has evolved over many years as well as on quality assurance standards.

In line with practices on the international science scene, the large research organizations in Germany have also compiled explicit rules and procedures safeguarding good scientific practice.

The rules of good scientific practice, which have already been internalized and are always complied with by the vast majority of scientists, must be made as explicit as possible. At the same time, procedures must be institutionalized defining how to proceed in the case of allegations of actual or suspected scientific misconduct.

Forschungszentrum Jülich has drawn up the following rules based on the recommendations of the German Research Foundation (DFG)<sup>1</sup> in order to meet the framework provisions of the Helmholtz Association<sup>2</sup>:

<sup>1</sup> German Research Foundation (DFG): Proposals for Safeguarding Good Scientific Practice – Recommendations of the Commission on Professional Self Regulation in Science. Weinheim: Wiley VCH, 1998, ([http://www.dfg.de/download/pdf/dfg\\_im\\_profil/reden\\_stellungnahmen/download/empfehlung\\_wiss\\_praxis\\_0198.pdf](http://www.dfg.de/download/pdf/dfg_im_profil/reden_stellungnahmen/download/empfehlung_wiss_praxis_0198.pdf)).

<sup>2</sup> Hermann von Helmholtz Association of German Research Centres: Sicherung guter wissenschaftlicher Praxis und Verfahren bei wissenschaftlichen Fehlverhalten [*Safeguarding Good Scientific Practice and Procedures for Dealing with Scientific Misconduct*], Bonn, Sept. 1998 (in German; [http://www.helmholtz.de/fileadmin/user\\_upload/05\\_aktuelles/Reden-dokumente/GWP-Helmholtz.pdf](http://www.helmholtz.de/fileadmin/user_upload/05_aktuelles/Reden-dokumente/GWP-Helmholtz.pdf))

## **Rule 1: Responsibility**

Forschungszentrum Jülich as a whole and all those at Forschungszentrum Jülich entrusted with personnel management in the scientific area have a particular responsibility for complying with the principles of good scientific practice, as conclusively presented in detail in the memorandum<sup>1</sup> issued by the German Research Council (DFG). In particular, senior scientists are obligated not only to provide young scientists with appropriate scientific support, but also to implicitly teach them these principles by observing these rules of conduct themselves (e.g. providing instructions that conform to good scientific practice) as well as to explicitly discuss the rules of good scientific practice with them.

## **Rule 2: Organization**

Heads of organizational units in which scientific work is pursued are responsible for an adequate organizational structure. Taking into account the size of each scientific unit, the responsibilities for direction, supervision, conflict resolution, and quality assurance must be clearly allocated, and their effective fulfilment must be verifiable.

## **Rule 3: Good Scientific Practice**

Good scientific practice is based on the principles of scientific honesty, conscientiousness, integrity and open discourse. This open scientific discourse and its prerequisites must be respected and taught to young scientists. This includes encouraging them to formulate objectively justified scientific criticism and a diversity of opinions independent of the hierarchical position of those involved, to acknowledge originality and quality as decisive criteria in assessing scientific achievements, the obligation to recognize the priority of other researchers' past and present ideas and results and to cite them accordingly, as well as fostering their ability to willingly accept without resentment objective criticism and to unconditionally admit their own errors, whether pointed out by others or discovered by themselves. Acknowledging that this is an objective part of scientific discourse, rather than something that discredits the individual, is one of the most significant achievements of our scientific culture.

In addition, the ability to express extensive criticism and scrutinize results necessitates the secure storage of primary scientific data. In as far as these data provide the basis for publications, patents or ongoing research and development work, they must be securely stored in a durable form – and be made accessible to the respective organizational unit – for at least ten years. Authors of scientific publications are always jointly responsible for their content. A so-called "honorary authorship" is inadmissible.

## **Rule 4: Misconduct**

Scientific misconduct must be assumed whenever the principles of good scientific practice in accordance with Rule 3 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.

Scientific misconduct may include in particular:

Falsification of scientific facts, for example by

- inventing/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 distorted interpretation of results,
- deliberately distorted 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 concrete 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.

#### **Rule 5: Procedure for Dealing with Suspected Scientific Misconduct at Forschungszentrum Jülich**

Scientific ethics prohibit the tacit toleration of scientific misconduct. The usual procedure for dealing with suspected misconduct should therefore involve directly approaching the person(s) suspected of misconduct and seeking clarification and, if applicable, rectifying the matter.

However, this may be difficult for a number of reasons. As a result, Forschungszentrum Jülich is institutionalizing a procedure described in the following which must be adhered to when an allegation or suspicion of scientific misconduct is raised against a member of Forschungszentrum Jülich that cannot be clarified by speaking with the person(s) directly or through the usual human resource management instruments. This procedure aims to clarify the circumstances so that the Board of Directors can make the necessary decisions. How-

ever, it does not commit the Board of Directors to any specific results. Strict confidentiality is to be maintained throughout the entire procedure.

## **5.1 Ombudsman – Appointment and Preliminary Inquiry**

- 5.1.1 In consultation with the Scientific and Technical Council (WTR), the Board of Directors appoints three experienced scientists as ombudsmen and competent contacts for matters of scientific misconduct. The ombudsmen each serve for a term of four years. This group of ombudsmen 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. At least one of these three people must be a woman. The appointed ombudsmen elect one of themselves as a spokesperson to represent them at the level of ombudsmen of the Helmholtz centres.
- 5.1.2 Employees who suspect scientific misconduct (whistle-blowers) can in principle contact any one of the three ombudsmen to allow them investigate the allegation or suspicion of scientific misconduct.
- 5.1.3 If concrete grounds for the suspicion of scientific misconduct emerge after initial contact has been made, the ombudsman who was contacted must be informed in writing and provided with any supporting or documentary evidence.
- 5.1.4 Persons suspected of misconduct may also contact any of the three ombudsmen to request clarification and support.
- 5.1.5 If applicable, the three ombudsmen decide on the basis of the information submitted to them which of them will continue to pursue the matter. The ombudsmen represent each other in the case of conflicts of interest, inability to take part in meetings or other reasons, which would make it inappropriate for the ombudsman who was contacted to clarify the matter. The ombudsmen may consult with each other under strict confidentiality during the further inquiry into the facts presented to them.
- 5.1.6 The ombudsman entrusted with the matter immediately takes the steps he/she feels are necessary or prudent in order to clarify the matter as discreetly and thoroughly as possible. This may also include seeking advice from third parties, who are then also under an obligation to maintain strict confidentiality.
- 5.1.7 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 whistle-blower may be revealed to the person suspected of misconduct if the ombudsman believes that this is essential to clarify the situation and if the whistle-blower has no objection.
- 5.1.8 In cases where suspicions are not confirmed, no further steps are taken other than those laid down in 5.1.6. In all other cases, a final report will be prepared in accordance with 5.2.

## **5.2 Results of the Preliminary Inquiry – Final Report by the Ombudsman Entrusted with the Matter**

The ombudsman entrusted with the matter prepares a 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 the Personnel Division.

The member of the Board of Directors responsible for the respective scientific division briefs the Board of Directors as a whole on the report. Based on the ombudsman's report, the Board of Directors consults with the chairman of the Scientific and Technical Council and decides

- whether to conclude the proceedings and if necessary what subsequent measures should be taken
- or whether an investigation committee (5.3) should be set up if it considers further investigation of the matter necessary.

In both cases, the person suspected of misconduct and the whistle-blower are informed of the conclusion of the proceedings provided that they were involved in the inquiry undertaken by the ombudsman.

The documents belonging to the ombudsman entrusted with the matter must be stored 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 ombudsman entrusted with the matter. Rights pursuant to § 85 BetrVG (Works Constitution Act) remain unaffected.

### **5.3 Investigation Committee**

The Board of Directors may charge an investigation committee with undertaking additional inquiries into the matter based on the final report prepared by the ombudsman entrusted with the matter as part of the preliminary inquiry.

5.3.1 The 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 appointed by the Scientific and Technical Council,
- a further scientist appointed by the Board of Directors,
- the head of the Personnel Division.

The committee is chaired by the member of the Board of Directors responsible for administration and his/her deputy in case of absence 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.

If necessary, external experts/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.

5.3.2 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.

5.3.3 The results of the investigations are summarized by the chairman of the investigation committee and communicated in writing to the chairman of the Scientific and Technical Council as well as the person concerned. The chairman also informs the whistle-blower of the outcome of the proceedings in an appropriate manner.

Based on the findings of the investigation committee, the Board of Directors – if necessary, in consultation with the Personnel Division – decides what subsequent measures are to 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 § 85 BetrVG (Works Constitution Act) remain unaffected.

### **Rule 6: Potential Consequences of Scientific Misconduct**

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

- academic consequences such as the revoking of academic degrees,
- recall of scientific publications,
- notification of the general public/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, claims for restitution or for compensation,
- consequences under criminal law.

Violations of the principles of good scientific practice will be specified in Forschungszentrum Jülich's employment contracts as a potential cause for termination of employment without notice.

signed Prof. Dr. A. Bachem  
signed Prof. Dr. S. M. Schmidt

signed. K. Beneke  
signed Prof. Dr. H. Bolt

The Scientific and Technical Council:

signed Prof. A. Wahner

signed Prof. H. Ströher

signed Dr. M. Schiek

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