GUIDELINES FOR GOOD SCIENTIFIC PRACTICE AND FOR DEALING WITH ALLEGATIONS OF SCIENTIFIC MISCONDUCT AT THE DEUTSCHES BERGBAU-MUSEUM BOCHUM, LEIBNIZ RESEARCH MUSEUM FOR GEO-RESOURCES

DEUTSCHES
BERGBAU-MUSEUM
BOCHUM

PREAMBLE

The Deutsches Bergbau-Museum Bochum, Leibniz Research Museum for Geo-resources (hereafter: Deutsches Bergbau-Museum Bochum), embraces its responsibility of teaching its scientists the rules of good scientific practice and protecting itself against scientific misconduct by establishing appropriate procedures and measures. By issuing these Guidelines on good scientific practice and dealing with allegations of scientific misconduct at the Deutsches Bergbau-Museum Bochum, the Deutsches Bergbau-Museum Bochum has committed itself to the "Guidelines for Good Scientific Practice in the Leibniz Association", and in doing so recognises the latest edition of the "Guidelines for Safeguarding Good Research Practice" published by the German Research Foundation (Deutsche Forschungsgemeinschaft, DFG) as a legally binding frame of reference for their application.[1]

Compliance with these Guidelines is mandatory under employment contracts with the Deutsches Bergbau-Museum Bochum. In the case of existing employment contracts, staff are obliged to agree to the Guidelines by signing a written declaration. These Guidelines are also mandatory for visiting scientists and scholarship holders.[2]

The Guidelines, which take the form of procedural instructions, are an essential element in the quality management system (QM system) of the DMT-Gesellschaft für Lehre und Bildung mbH (DMT-LB), which is the supporting organisation the Deutsches Bergbau-Museum Bochum – and are thus binding upon the Deutsches Bergbau-Museum Bochum.

SUBJECT AND AREA OF APPLICATION

These Guidelines formulate the rules of good scientific practice and define scientific misconduct. They also describe the role and responsibilities of the Deutsches Bergbau-Museum Bochum ombudspersons and define the procedure for dealing with allegations of scientific misconduct at the level of the Deutsches Bergbau-Museum Bochum.

The Guidelines also describe the election and responsibilities of the ombudspersons, as well as the procedures for ensuring good scientific practice and dealing with allegations of scientific misconduct in accordance with the aforementioned guidelines of the DFG and the Leibniz Association. They also define potential sanctions in the event of scientific misconduct on the part of staff at the level of the institution.

[1] Many of the passages of these Guidelines are verbatim reproductions of the two papers mentioned. References have been omitted.

[2] This English translation of the Guidelines for Good Scientific Practice and for Dealing with Allegations of Scientific Misconduct is provided for information purposes only. In the event that the English and German versions permit different interpretations, the German text shall prevail.

RULES OF GOOD SCIENTIFIC PRACTICE

1. Good scientific practice

1.1 Good scientific practice means working *lege artis*, while taking into account the latest subject- and discipline-specific standards, and always aligning oneself with the latest state of knowledge. It demands knowledge and utilisation of the existing literature in the subject area, as well as application of the latest methods and findings. Every scientist is responsible for ensuring that their own conduct complies with the standards of good scientific practice.

1.2 Good scientific practice is characterised by doubt and self-criticism, by critical examination of one's findings and the way they are supervised, by means of methods such as mutual reviews within working groups, but also by being honest vis-à-vis the contributions of staff, partners, competitors and predecessors, and by allowing and encouraging critical discourse in the scientific community.

2. Professional ethics

Scientists are responsible for applying and defending the foundational values and standards of scientific work in their actions. Conveying the foundations of good scientific work begins at the earliest possible point in academic teaching and scientific training. Scientists at every professional level regularly update their knowledge of the standards of good scientific practice and the current state of research. Experienced and junior scientists support each other in the process of continuous learning and training and are in regular dialogue.

3. Organisational structures and responsibilities

3.1 The Museum's management and the people in charge of research areas and project management are responsible for the management, supervision, conflict resolution and quality assurance of the scientific work done at the Deutsches Bergbau-Museum Bochum, and for complying with and communicating good scientific practice. Management is responsible for maintaining a suitable institutional organisational structure that ensures that the responsibilities of management, supervision, quality assurance and conflict resolution are clearly assigned and appropriately communicated to the relevant members and affiliates, as befits the scale of the particular scientific work units concerned. The Museum's management and the people in charge of different disciplines, research areas and projects ensure through suitable arrangements and overall conditions that:

a) scientists are able to comply with legal and ethical standards;

b) the objectives of research work and the responsibilities of each scientist are established, defined and allocated;

c) roles and responsibilities (rights and duties) are clearly assigned to each member of staff (scientists and research support staff); an appropriate balance must be struck between support and personal responsibility; roles and responsibilities should be adjusted if necessary – for instance: if there is a change

in the focus of the work of those involved. Staff should be granted adequate status, including rights of participation;

d) compliance with targets is regularly checked;

e) there are clear, transparent and written procedures and principles governing staff selection, staff development and equal opportunities, and these uphold gender equality and diversity. These procedures should avoid unconscious bias as far as possible;

f) appropriate supervision and counselling of young scientists and the entire scientific and research support staff and their career development are ensured through suitable support structures and concepts. This includes:

- delegating and clearly assigning leadership tasks so that the necessary presence of management staff and an overview of work and activities is guaranteed at every level. Active communication helps to prevent people from slipping into dishonest behaviour. People leading working groups are responsible for ensuring that these conditions are met at all times;
- offering career guidance and additional career paths, as well as further training opportunities and mentoring for scientific and research support staff;
- PhD candidates, as well as their primary supervisors at the Deutsches Bergbau-Museum Bochum, should receive support from two other more experienced scientists who are available for advice and help and, if necessary, conflict resolution, but who also discuss the progress of their work at annual intervals. They should be available locally, but should not all belong to the same working group, nor necessarily to the same faculty or institution; at least one of them should be chosen by the PhD candidate themselves;
- establishing a supervision concept that sets out the basic requirements for supervisors and PhD candidates resulting from the supervision relationship.

g) Abuses of power and the exploitation of dependent relationships are prevented by appropriate organisational measures at every management level.

3.2 In the case of cross-departmental projects, it is especially important for the departments to agree on the appointment of a responsible project manager who will perform the tasks described in (3.1).

4. Research process

a. Quality assurance across phases

4.a.1 Careful, continuous quality assurance in parallel with research is an important aspect of scientific integrity and, alongside responsibility towards oneself and other ethical standards, is the basis of scientific professionalism. It is assured by (critical) collaboration in scientific working groups and projects, and by clear structures of responsibility. It is especially dependent on compliance with subject-specific standards and established methods, and therefore also on processes such as the calibration of equipment, the collection, processing and analysis of research data, and the selection and use of research software along with its development and programming. To this end, the Museum's management develops binding principles governing research ethics and the appraisal of research projects.

4.a.2 Quality assurance and thus good scientific practice also include:

- full consideration of the current state of research when planning a project. Identifying relevant and suitable research questions requires careful investigation of research that is already in the public domain. The Deutsches Bergbau-Museum Bochum provides the conditions required for this;
- research should be designed wherever possible to use methods that avoid bias, unconscious or otherwise, in the interpretation of findings, such as blinded experiments; prevalent general conditions are taken into account in the interpretation of findings;
- scientifically sound and replicable methods are used to answer research questions. Special emphasis is placed on quality assurance and the establishment of standards when new methods are developed and applied;
- documentation of every working step, so that results and findings can be reproduced or confirmed by other scientists; and, depending on the subject area, keeping laboratory books and a detailed description of materials and methods (method, evaluation, analysis steps). This includes documenting the origins of the data, materials and software used in the research process and citing original sources. If the documentation of research results does not meet the relevant requirements, including those of the discipline, then the limitations and their causes are clearly explained. Furthermore:
- safekeeping of all records;
- the documentation of any results that do not support the research hypothesis. There should be no selection of results in this respect; documentation and research results may not be manipulated; they are to be protected against manipulation as far as possible.
- ensuring reproducibility before publication (depending on the subject area);
- honesty in distinguishing the contributions of everyone involved and transparency in disclosing third-party funders;
- respecting the intellectual authorship of others in all publications and properly identifying all quotations and borrowings;
- creating means by which authorised third parties can access the research;
- explaining the mechanisms of quality assurance used, especially in the development of new methods, when scientific findings are made publicly available;
- if scientists have made findings publicly available and then notice discrepancies or errors, they rectify them. If the discrepancies or errors give cause to retract a publication, the scientists must work with the publisher, infrastructure provider or similar to ensure that the correction or retraction happens as quickly as possible and is appropriately identified. The same applies if scientists are told about any such discrepancies or errors by third parties. Furthermore:
- cooperating and performing leadership duties responsibly in working groups; this includes supervising their members appropriately;

- consistent and citable documentation of the source code of self-developed and publicly available software, as far as possible and reasonable;
- where relevant, some reflection on the relevance of the research project's gender and/or diversity dimensions.

b. Data

4.b.1 Management (Section 3) shall establish clear specifications and rules on how data is recorded and documented. Primary data shall be backed up in accordance with the FAIR principles[3] and kept accessible for re-examination for a sufficient period of time (at least ten years). Objects, sources and preparations (such as samples) used to obtain primary data shall be retained for the same length of time wherever possible. If there are clear reasons not to retain certain data, the scientists shall explain them. Digital data is backed up on internal storage media and servers, and bit-level preservation is ensured by redundant storage, mirroring and regular storage media renewal. The Deutsches Bergbau-Museum Bochum develops strategies for appropriate long-term digital preservation based on the OAIS model[4] in conjunction with a suitable technical network, and also aims to establish its own research repository. Management makes sure that the necessary infrastructure exists to enable archiving in line with the strategies.

4.b.2 The primary rules are established in the QM system of the Deutsches Bergbau-Museum Bochum and can be adapted to define detailed regulations.

c. Legal and ethical framework, rights of use

4.c.1 Scientists behave responsibly towards the freedom of research granted to them by the Constitution. They take into account rights and obligations, especially those resulting from legal requirements, but also those stemming from contracts with third parties; and, if necessary, they obtain approvals and ethical commission votes and submit them. When a research project is being considered, the research consequences should be assessed thoroughly and its ethical aspects evaluated. The legal framework of a research project also includes documented agreements on the rights to use the research data and results it produces.

4.c.2 Where possible and reasonable, scientists shall enter into documented agreements on rights of use at the earliest possible stage in a research project. Documented agreements are especially important whenever multiple academic and/or non-academic institutions are involved in a research project, and if it is foreseeable that a scientist will change research institutions and want to continue using the data they generate for their own research purposes. The scientist who collects the data is most entitled to use it. When it comes to ongoing research projects, authorised users also decide whether third parties should have access to the data, in particular in accordance with data protection regulations. Developed research software must be licenced if made available to third parties.

[3] FAIR = Findable, Accessible, Interoperable and Reusable.

[4] OAIS = Open Archival Information System.

d. Original work

4.d.1 Original work constitutes the communications of new observations, text, image and object interpretations, and experimental results, including conclusions. Publishing the same results more than once as original work is therefore not allowed. Previously published results can only be included in subsequent publications if they are essential to understanding the context of the publication and if their initial publication is referenced.

4.d.2 In order to ensure the verifiability of a scientific investigation, a publication must contain a complete and clear description of the results and the methods used to obtain them, unless the particular form of the publication (abstract, short communication) explicitly precludes this.

4.d.3 Findings that support the authors' hypothesis and findings that contradict it must be communicated equally.

4.d.4 Breaking up studies with the aim of separate publication should be avoided.

4.d.5. Other scientists' findings and ideas and other authors' relevant publications must be cited appropriately.

4.d.6 As a rule, scientists contribute all of their results to the scientific discourse. Cases can exist, however, in which there are reasons not to make results publicly available, but that is not a decision that can depend on third parties. Scientists are themselves responsible for deciding whether, how and where they make their results publicly available, taking into account the conventions of the discipline concerned. Once it has been decided to make results publicly available, scientists shall describe them fully and clearly. This includes, as far as possible and reasonable, making available the research data, materials and information on which the results are based, the methods used and the software used, including its source code where relevant; and explaining work processes fully. Scientists provide complete and correct evidence of their own preliminary work and that of others.

e. Authors

4.e.1 A key aspect of good scientific practice is responsibility of (co-)authorship. The authors of scientific publications are jointly responsible for their content and for the presentation and discussion of results. Honorary authorships are not allowed. Every author is accountable, identifies with the scientific result, agrees to the final version of the work and takes responsibility for the content of the publication. In cases in which responsibility is to extend only to part of the publication, this must be stated and explained explicitly.

4.e.2 Only those who have made a genuine, clear contribution to what a scientific text, data or software publication contains should be named as the authors of an original scientific publication. A clear, genuine contribution is in particular one in which a scientist has themselves been involved in and agreed to the publication of:

- the development and conception of the research project, or
- the development, collection, procurement or provision of the data, software or sources, or

- the analysis and interpretation of data and sources and the conclusions based on them, or
- the writing of the manuscript itself; and thus that they share responsibility for the publication. Whether a contribution to a publication is genuine and clear needs to be considered on a case by case basis and in the context of the discipline involved. Managerial or supervisory involvement does not in itself constitute authorship.

4.e.3 If a contribution is not enough to justify authorship, then it may be appropriately mentioned in the annotations, in the preface or in an acknowledgement.

4.e.4 Scientists shall agree on who the author of the research results is to be. They shall agree in good time (this being usually no later than when the manuscript is being formulated) on the order of authors, based on comprehensible criteria and taking into account the conventions of the discipline. The consent required for the publication of results may not be refused without good reason. Refusal of consent must be justified by verifiable criticism of data, methods or results.

4.e.5 Authors shall check and, where possible, work to ensure that their research work is identified by publishers and infrastructure providers in such a way that it can be correctly cited.

f. Publishing entity

4.f.1 Authors must select publishing entities carefully, taking into account their quality and visibility in the field of discourse concerned. Scientists who assume the role of editors shall carefully consider the publishing entities on whose behalf they do so. The scientific quality of an article does not depend on the publishing entity in which it is published. Publishing entities can include books and specialist journals, but also discipline repositories, data and software repositories and blogs.

4.f.2 A new or unknown publishing entity should be checked for its respectability. A key factor in the selection process is whether the publishing entity has established its own guidelines on good scientific practice.

g. Confidentiality and neutrality in appraisals and consultations

Scientists who, in particular, appraise submitted manuscripts, funding applications or the personal qualification of others, are obliged to maintain strict confidentiality in that regard. They shall disclose any facts that could give rise to concerns of bias, whether with regard to the research project under review, or the person or subject of the consultation.

This duty to maintain confidentiality and to disclose facts that could give rise to concerns of bias also applies to members of scientific advisory and decision-making bodies. The confidentiality of third-party content to which reviewers and committee members gain access precludes disclosure to third parties and personal use.

5. Evaluation criteria for assessing scientists

When establishing performance and evaluation criteria for assessing scientists, originality and quality should always take precedence over quantity and a multidimensional approach is required which takes other aspects

into account alongside scientific achievements. Productivity should only be considered in conjunction with quality indicators. Furthermore, other relevant performance aspects should be taken into account, especially public relations work, involvement in teaching, knowledge and technology transfer, and contributions towards the interests of society as a whole. Alternative career paths, as well as personal, family and health-related absences and the lengthening of training or qualification periods these can entail, are taken into account appropriately.

6. Ombudsperson

6.1 At least one ombudsperson shall be elected at the Deutsches Bergbau-Museum Bochum to arbitrate or settle disputes, disagreements or suspicions relating to good scientific practice. A deputy ombudsperson shall be appointed to cover in the event of concerns of bias or inability to perform.

6.2 The ombudsperson(s) and their deputies shall be elected from among those scientific employees of the Deutsches Bergbau-Bochum who have completed a degree course and who perform scientific or research work, regardless of whether they are permanently employed or not. Members of the Directorate cannot be elected.

Scientists with integrity and leadership experience (beginning with the professional supervision of students) can be considered as ombudspersons. More than one ombudsperson can be elected. The ombudsperson(s) and their deputies should represent different hierarchical levels as far as possible. Ideally, one person should have management experience in the form of responsibility for other staff (e.g. a head of department or deputy) or doctoral supervision, and one person should have management experience at the level of the academic supervision of students.

6.3 All employees of the Deutsches Bergbau-Museum Bochum who are engaged in scientific or research work, such as editors, assistants, technical staff and curators, are entitled to vote.

6.4 The term of office is four years; re-election is permitted once. The ombudsperson shall exercise their office confidentially, voluntarily, independently and free from the instructions of others. The Museum's management shall ensure that a secret ballot is conducted properly and that the work of the ombudsperson is adequately visible, independent and supported.

6.5 The ombudsperson must be supported in the discharge of their duties by everyone involved and be accepted in the performance of their work. If necessary, steps shall be taken to relieve the ombudsperson from other duties in order to render their position more effective.

6.6 If it no longer appears possible for an ombudsperson to fulfil their duties reliably over the long term, or if there is no longer confidence in them performing their duties properly, in particular due to a sustained and serious breach of duty, then the ombudsperson may be voted out of office. This is only possible if at least two thirds of the institution's eligible voters agree. The ombudsperson concerned must be heard before a decision is taken for their dismissal.

6.7 Duties of the ombudsperson

a) The ombudsperson receives enquiries, which are treated confidentially, and, where necessary, forwards suspected cases of scientific misconduct to the responsible body, usually an investigative commission or

the Central Ombuds Committee of the Leibniz Association. As a neutral and qualified contact person, they advise on questions of good scientific practice and in suspected cases of scientific misconduct, and help as far as possible to resolve conflicts on a solution-oriented basis. The ombudsperson helps to establish good scientific practice at the Deutsches Bergbau-Museum Bochum.

b) The ombudsperson investigates allegations of scientific misconduct on the basis of the regulations presented herein.
If in the course of such an investigation it becomes apparent that the allegations cannot be conclusively resolved at the level of the Deutsches Bergbau-Museum Bochum, or that the investigation is hampered by unusual circumstances – in particular bias – then the ombudsperson shall submit the case to the Leibniz Association's Central Ombuds Committee.

6.8 Alternatively, employees can apply directly to the Leibniz Association's Central Ombuds Committee or to the the German Research Ombudsman. The latter is an independent body that provides advice and support on issues of good scientific practice and its violation through scientific improbity.

6.9 The Leibniz Association's Central Ombuds Committee advises its member institutions' ombudspersons and scientists and helps to establish a culture of good scientific practice and scientific integrity in the Leibniz Association. It can issue statements addressed to the institutions themselves, the Executive Board and the President of the Leibniz Association. It also investigates allegations of scientific misconduct against employees and former employees of member institutions of the Leibniz Association on the basis of the Leibniz Association Guidelines. The Leibniz Headquarters oversees and supports the work of the central ombudspersons.

PROCEDURE FOR DEALING WITH SCIENTIFIC MISCONDUCT

7. Scientific misconduct

7.1 Scientific misconduct is when, in a substantially scientific context, misstatements are made deliberately or through gross negligence, or when the intellectual property of others is infringed or their research work impaired in some other way, as described in the following sections.

7.2 The following in particular shall be considered misconduct:

a) false statements

- the invention of data and the falsification of original objects or text
- the falsification of data, such as
  - by selecting and rejecting undesirable results without disclosing it
  - by manipulating a representation or illustration
- incorrect statements provided in a letter of application or grant application (including incorrect statements about publishing entities and publications in print)
- Multiple publications of data or texts without disclosure.

b) Disposal of research data, meaning primary data or originals, if this violates legal provisions or other recognised principles of scientific work, as well as the unlawful non-disposal of data, especially personal data.

c) Infringement of intellectual property in relation to copyrighted work created by somebody else or in relation to substantial scientific knowledge, hypotheses, teachings or research methods developed by somebody else. For example:
   - unauthorised exploitation while pretending to be the author (plagiarism);
   - exploitation of research methods and ideas, especially as a reviewer (theft of ideas);
   - pretence or unfounded assumption of scientific authorship or co-authorship, as well as the denial of such authorship or co-authorship;
   - claiming another person's authorship or co-authorship without that person's consent;
   - falsification of content;
   - unauthorised publication and unauthorised making available to third parties when the work, findings, hypothesis, teaching or research methods have not yet been published.

d) Impeding the research activities of others by:
   - sabotaging research activities (including damaging, destroying or manipulating original images, text or objects, experimental set-ups, equipment, documents, hardware, software, chemicals or other items needed by somebody else to conduct their research);
   - producing grossly erroneous, deliberately false or misleading expert evaluations of other people's research activities, or producing artificially favourable expert opinions.

e) Deliberately fabricating quality assurance measures and procedures (such as peer reviews).

8. Whistle-blowers and people subject to allegations

8.1 When investigating suspicions of scientific misconduct, the ombudsperson(s) and investigating commissions shall take appropriate steps to protect both the person(s) making the allegation and those who are the subject of them. Allegations of scientific misconduct are investigated expressly in confidentiality with regard to the subject matter and the persons involved; the basic principle of the presumption of innocence applies. The person(s) providing the information must do so in good faith. Deliberately false or malicious allegations may themselves constitute scientific misconduct. The whistle-blower must have objective evidence that the standards of good scientific practice may have been breached. He or she must be protected in the event of unproven scientific misconduct, unless it can be demonstrated that the allegations were made against their better judgment. Neither the whistle-blower nor the person affected by the allegations should suffer any impediment in their own scientific or professional advancement as a result of the report. Above all, the report should not be detrimental to the preparation of final dissertations or doctorates; the same applies to working conditions and potential contract extensions. The person affected by the allegations should not suffer any disadvantages

whatsoever from the reviewing of allegations, until such point that scientific misconduct has been formally established.

8.2 Anonymous reports can only be formally reviewed if the person(s) providing the information present(s) the body reviewing the allegation with facts that are reliable and sufficiently specific.

9. Initiating proceedings

9.1 To report actual suspicions of scientific misconduct, the person providing the information contacts the ombudsperson(s) of the Deutsches Bergbau-Museum Bochum. The latter is/are obliged to inform the Museum's management. Details are not divulged for reasons of confidentiality; only that proceedings are being initiated. The report is made in writing; a written note is made in the event of a verbal report. The ombudsperson(s) may inform the Leibniz Association's Central Ombuds Committee in writing, if it is appropriate to do so. Further information about the role of the Leibniz Association's Central Ombuds committee in this procedure can be found in the Leibniz Association's current Guidelines for Good Scientific Practice.

9.2 If the Museum's management itself is implicated in suspicion of misconduct, the chairperson of the Scientific Advisory Committee of the Deutsches Bergbau-Museum Bochum and the chairperson of the Board of Trustees of the Deutsches Bergbau-Museum Bochum shall be informed, who in turn shall inform the management of DMT-LB if necessary.

9.3 If an ombudsperson is implicated in suspicion of misconduct, they may no longer participate in the proceedings.

9.4 The facts on which the reported suspicion is based shall be investigated without delay. Investigations are initiated and conducted by the ombudsperson(s). They must be carried out in strict observance of confidentiality with regard to the subject matter and the people involved, and the accused and the whistle-blower must be protected. The identity of the whistle-blower(s) must be treated confidentially and is never disclosed without consent. The only instance in which this does not apply is if there is a legal obligation to disclose the identity, or if the person affected by the allegations cannot defend themselves properly if it is not disclosed. All of the stages of the process must be documented.

9.5 The person implicated in suspicion of misconduct shall be given the opportunity to respond within a reasonable period of time after the suspicion has become known, the incriminating facts and evidence having been stated. This period shall not exceed four weeks.

9.6 Once the statement of the person concerned has been received, or once the deadline has passed, the ombudsperson(s) of the Deutsches Bergbau-Museum Bochum shall decide within a reasonable period of time whether the findings so far have invalidated the suspicion of misconduct, whether the suspicion has become stronger, or whether misconduct is to be regarded as proven. Their decision must be recorded in a written memorandum; the Museum's management shall be informed of the key reasons for the decision.

9.7 If misconduct has not been established, the proceedings shall be closed. If the suspicion has become stronger, the ombudsperson(s) shall decide whether to set up an investigation committee at the Deutsches Bergbau-Museum Bochum (see 10.1).
If it is likely that the Deutsches Bergbau-Museum Bochum will not be able to resolve the allegations conclusively, or that exceptional circumstances prevent the proceedings from going ahead, the ombudsperson(s) shall decide whether to forward the matter to the Leibniz Association's Central Ombuds committee for investigation. This body shall forward the results to the Executive Board of the Leibniz Association, which, in the case of sufficiently concrete allegations of scientific misconduct, shall set up an investigation committee to fully investigate them (see Guidelines for Good Scientific Practice in the Leibniz Association, Section 6).
The Museum's management shall be informed of both decisions in writing by the ombudsperson(s), who then notifies the DMT-LB management and the chairperson(s) of the Scientific Advisory Committee.

10. Further proceedings, investigation committee

10.1 The ombudsperson(s) shall propose the establishment of an investigation committee within the Deutsches Bergbau-Museum Bochum (see 9.7). The investigation committee consists of two representatives of the relevant research field/discipline (with at least a PhD), one representative from the management level, one junior scientist representative and one ombudsperson of the Deutsches Bergbau-Museum Bochum. The ombudsperson(s) of the Deutsches Bergbau-Museum Bochum may also bring in one optional external person involved in overseeing good scientific practice. Each committee member must nominate at least one substitute who can take over in the event of prevention or concern of bias. The internal and external ombudspersons do not have the right to vote in the committee. The committee shall be appointed by the Directorate (excluding accused members). The chairperson and deputy chairperson are elected at the inaugural meeting.
In the event that one or more persons are likely to be absent from ongoing proceedings in the long term, replacements can be brought in at short notice after consultation between the remaining committee members in accordance with the above guidelines, in order for the committee to keep functioning.

10.2 The investigation committee may in particular cases call in experts from the field in which scientific facts are being considered, as well as experts in dealing with such cases, as additional members who are given advisory votes.

10.3 The bias of a member of the investigation committee may be asserted at any time by the member themselves, by the persons against whom allegations are made, or by other participants. In the event of bias, the member is excluded from proceedings; the investigation committee shall decide on this. The member concerned may not take part in this decision or in the preceding deliberations.

10.4 The deliberations of the investigation committee shall be verbal and non-public. Working in consultation with the Museum's management and the Chairperson of the Board of Trustees, it may initiate further investigations and examine whether scientific misconduct has occurred by considering the evidence freely.

The accused should be guaranteed transparency at all times, while at the same time safeguarding the rights and protecting the identity of the accuser. Both the accused and the whistle-blower shall be given the opportunity to comment at each stage of the procedure; they may be assisted by a person they trust. Other people may also be consulted.

10.5 Everyone involved is obliged to treat the committee's documentation and the findings of the proceedings confidentially. In addition to that, information about the persons involved must also be treated confidentially.

10.6 As a rule, the investigation committee must conduct and conclude its investigations within a maximum of two months of its inaugural meeting. The various procedural steps are to be recorded and documented.

10.7 If the investigation committee considers the misconduct unproven, it shall cease its activities and inform the parties involved.

10.8 If the investigation committee considers the misconduct proven, it shall submit the results of its investigations, including a statement on the severity of the misconduct, to the Museum's management or the Chairperson of the Board of Trustees and the Chairperson of the Scientific Advisory Board.

11. Proven misconduct

11.1 If scientific misconduct is considered proven by the committee detailed in Section 10, the Museum's management or the Chairperson of the Board of Trustees, advised by the Chairperson of the Scientific Advisory Board of the Deutsches Bergbau-Museum Bochum, shall decide at their duty-bound discretion on the need for further action.

11.2 In light of the circumstances of the case in hand, and in particular the severity of the proven misconduct, sanctions can be considered from a wide range of legal areas, if necessary cumulatively, such as a) Consequences under labour law:

- Disciplinary warning
- Dismissal for exceptional reasons
- Cancellation of contract

b) Consequences under civil law:

- Ban on entering the premises
- Demands for restitution against the persons concerned; for example: for the return of stolen scientific material
- Demands for removal and injunctive relief under copyright law, personal rights law, patent law, competition law
- Demands for repayment; for example: scholarships and third-party funds
- Demands for damages by the Deutsches Bergbau-Museum Bochum, DMT-LB or third parties

c) Consequences under criminal law

d) Retraction of scientific publications

11.3 Scientific publications that are defective on account of proven scientific misconduct must be withdrawn if still unpublished and corrected if already published (retraction). Collaborating parties shall be informed in an appropriate fashion where necessary. As a rule, in the aforementioned cases, the author and publishers involved are obliged to initiate the appropriate steps in each instance; if they fail to do so within a reasonable period of time, the Museum's management shall take the appropriate action available to it.

11.4 In cases of proven, serious scientific misconduct, the Museum's management shall inform any research institutions or research organisations that may be affected, in particular the Leibniz Association.

11.5 The Museum's management may also be obliged to inform the public. This is done to protect third parties, to maintain confidence in scientific integrity, to restore the scientific reputation of the Deutsches Bergbau-Museum Bochum and/or to prevent damage caused by the misconduct.

11.6 As well as the measures outlined here, the person convicted of misconduct can expect further consequences at the level of the Leibniz Association, such as:

a) withdrawal of the right to be elected to bodies of the Leibniz Association for between one and five years (depending on the severity of the scientific misconduct);

b) exclusion from the lead management of projects entered into Leibniz's internal research funding competitions for between one and five years (depending on the severity of the scientific misconduct);

c) in the event that scientific misconduct may result in the withdrawal of academic degrees, the matter may be forwarded to the awarding university.

For other potential consequences at the Leibniz level, refer to the Guidelines for Good Scientific Practice in the Leibniz Association, Section 7.2-4.

AMENDMENTS

These procedural instructions have been drawn up by the Deutsches Bergbau-Museum Bochum. Amendments can only be made in consultation with the aforementioned body.

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