

# **Rules and Requirements of the University Medical School Hannover in order to maintain standards of good scientific practise**

These guidelines refer to recommendations by the “Deutsche Forschungsgemeinschaft (DFG)” and the “Hochschulrektorenkonferenz (HRK)”.

## **1.) Honesty is the fundamental principle in Science**

Honesty towards oneself and others is the fundamental principle of scientific work in all institutions and disciplines worldwide. Honesty is the ethical norm of every scientific practise no matter how different the respective disciplines are technically and thematically. The self-government of science is responsible for maintaining the rules of good scientific practise.

## **2.) Basic Principles of good scientific practise**

Scientists and their coworkers are obliged to follow the basic principles of scientific practise and to behave in an exemplary manner. They are also obliged to teach and train students and junior staff in the principles of good scientific practise, which especially applies to senior lecturers and professors. According to the recommendation of the DFG (letter from August, 3<sup>rd</sup> 1999), the basic rules are:

### **- general principles of scientific work:**

- work “lege artis”
- documentation of results and securing primary data sets
- consequent critics and doubt of own results
- strict honesty concerning contributions of partners, competitors and predecessors

### **- the responsible supervision of students and junior staff/coworkers**

### **- cooperation and responsibility of performance in research groups**

### **- scientific publications**

## **3.) Violation against the rules of good scientific practise**

The following facts are regarded to be a violation against the rules of good scientific practise and, possibly, a scientific fraud or an incitement to scientific fraud:

### **- invention, forgery and suppression of data**

### **- plagiarism**

### **- scientific misconduct**

- **obtain authorships in publications by false pretences**
- **exclusion from legitimate authorships**
- **missing or insufficient scientific discussion in research groups**
- **insufficient supervision of doctoral students**
- **loss or insufficient documentation of original data**
- **missing teaching and training of research assistants/coworkers in the principles of good scientific practise**
- **defamation of the principles of good scientific practise**
- **breach of confidence acting as an expert (member of an advisory committee) or as a senior scientist/group leader (professor)**

#### **4.) Responsibility towards the realization of good scientific practise**

Every scientist is responsible for his own behaviour in the context of his/her scientific work.

Every leader of a research group is responsible for the realization of the principles of good scientific practise in his/her group and for the overall compliance with the rules.

Therefore, an animated communication is needed within a research group, especially, the free and open discussion of scientific results and data e.g. in regular group meetings.

The leaders of scientific research groups have the responsibility to guarantee that every member of the group is familiar with the principles of good scientific practise and, moreover, to provide the basic requirements for constantly acting according to the rules.

They have to make sure that every single member of the group is willing to discuss his/her hypotheses, theories and scientific data openly in order to obtain a critical evaluation.

The leadership of a research group requires presence and control. In cases, where these major aspects cannot be guaranteed all the time, delegation of duties is necessary.

#### **5.) Doctoral/PhD students**

Concerning the supervision of doctoral or PhD students, it is recommended that a written description or sketch including a detailed plan and the aims of the project is developed before starting the practical work. This project description has to be handed in at the "Promotionsbüro" or "PhD office" at the beginning of the Doctoral or PhD thesis.

Importantly, this project description includes the written statement of the respective supervisor proving that he has instructed the student in the principles of good scientific practise.

In case of any conflict between the supervisor and doctoral/PhD student during his/her work, the "Prorektor of research" or members of the PhD commission can be consulted as mediators.

## **6.) Obligation to documentation**

Primary data sets having served as the basis for publications or a thesis should be kept safe and in solid files for at least ten years in the respective research group.

Every scientist is responsible for the safekeeping and is obliged to prove the appropriate documentation of his/her work by providing carefully written protocols.

Furthermore, the documentation of experiments including numeric calculations has to be done in every single detail, so that another scientist/supervisor can repeat the experiments or understand them easily at any time.

The reproducibility of scientific experiments is regarded to be a basic test. Protocol and lab books/files have to be solid and have to contain numbered sheets. It is not allowed to remove sheets. Everything has to be kept carefully and safe.

The loss or removal of original data from the lab is thought to be a violation against the scientific conscientiousness and justifies primary suspicion of dishonest or grossly negligent behaviour.

In case of a move to another lab/institution, the data sets produced by a scientist, in principle, remain in the lab/institution of origin. However, exceptions from this rule are possible according to prior written and signed agreements between members of the labs/institutions involved.

## **7.) Publications, authorship**

Authors of scientific publications are jointly responsible for the respective contents of the manuscripts. Therefore, a so called “authorship by honor” is excluded.

In publications, especially in those bearing completely new scientific findings, methods and results have to be described in full detail, so that every scientist can easily follow and understand them.

Previous work (from oneself or others) has to be indicated thoroughly and cited correctly. Furthermore, previous findings have to be repeated and described as such as being necessary for fully understanding the respective context.

Authorship of a scientific original paper can only be granted to those who have contributed substantially to the conception of the study or experiments, to the production, analysis or interpretation of data or to the writing of the manuscript. Common agreement is needed before publication, that implies that all authors are responsible. See also “rules for authorship” by the Senate of the MHH (October, 14<sup>th</sup> 1998).

## **8.) Arbitration Body**

The Senate of the MHH elects a neutral and qualified representative being responsible for all questions concerning matters of “good scientific practise” (Ombudsfrau bzw. –mann; recommended by the DFG). This person has to be a faculty member of the MHH. Exceptionally, the “Prorektor of research” or the “Prorektor of study and teaching” can be elected by the Senate for this position.

The duties of the Ombudsfrau/mann are: confidentially listening to accusations of dishonest behaviour and deciding to initiate further steps (inform other responsible institutions).

In case of a reasonable suspicion for a misconduct against the principles of good scientific practise, the Ombudsfrau/mann has the right to interview the respective person or institution, to ask for protocols and files and to consult other people/coworkers in the close vicinity of the accused person or institution. Clearing of suspicion should not take longer than 14 days. All people involved are bound to silence.

In some cases, the “Forschungskommission” can be involved, too, (in a non-public session) if all persons concerned agree.

The Ombudsfrau/mann has to hand in a final report to the “Rektor” of the MHH, a copy goes to the persons accused.

If the final report does not clear the primary suspicion, the “Rektor” (or together with the Senate) can decide to initiate further steps or sanctions.

## **9.) Sanctions**

The following sanctions can be performed by the MHH in case of proven fraud or misconduct against the principles of good scientific practise (disregarding the consequences concerning labour or civil service law):

- **admonishment by the “Rektor” (with or without an official announcement within the MHH)**
- **official warning or threat to further sanctions in case of recurrence**
- **order, to correct or withdraw the incorrect publication**
- **withdrawal of resources by the university (for a certain time or under restrictions)**

In the case of projects sponsored by third parties, scientific fraud has to be reported to the respective sponsor/institution.

**The Senate of the MHH (February 10<sup>th</sup> 1999).**

**All members of the the scientific staff of the MHH (including Doctoral and PhD students) are obliged to follow the “rules of good scientific practise”. This has to be confirmed by their personal signature.**