

Position of the Graduate Council regarding “Good Scientific Practice”

Compliance with the rules of good scientific practice is of central importance for a well-functioning scientific community. As such, it is particularly welcome that TUM has already adopted appropriate guidelines and set up an ombuds office, which does not only investigate suspected cases of scientific misconduct, but also acts in an advisory capacity.

However, a culture of good scientific practice is one that exemplifies best practices to its young scientists. This responsibility falls to both TUM as an institution, e.g. within the framework of the design of its degree programs and, in particular, to individual professors. It must also be ensured that third parties are not unnecessarily burdened in the prosecution of scientific misconduct, even when this cannot be guaranteed solely by the confidentiality of the work of the ombudsperson.

On this basis, the TUM Graduate Council has decided on the following positions to promote good scientific practice (GSP):

1. GSP Module in All Degree Programs

An introduction to the principles of good scientific practice should be a compulsory part of every degree program at TUM. This course is to be offered by the respective departments and is to illustrate typical challenges to good scientific practice by way of case studies. It should also include an introduction to the relevant TUM guidelines and institutions (ombuds office and advisory services).

2. GSP Module at the Start of Doctoral Studies

The general introduction of GSP during the TUM Graduate School Kick-Off-Seminar will be expanded to include an active examination of the issue by seminar participants to deepen the awareness of its relevance. The general introduction should be supplemented by a discipline-specific event at the individual graduate centers, similar to the GSP module described above.

3. Courses for New Employees with Supervisory Responsibilities

Employees who assume positions involving the supervision of students and doctoral candidates should attend a course offered by TUM that provides information on ways of ensuring adherence to good scientific practice within their own working groups. This includes, for example, exemplary conduct and raising awareness of good scientific practice among their own research group members.

4. GSP Review before Publication

Before any publication in which TUM doctoral candidates and their supervisors are involved, the latter must ensure that the principles of good scientific practice have been observed. We recommend a pre-publication review discussion, dealing not only with the question of authorship, but with all aspects of GSP relevant to the respective type of publication. The TUM should provide a form to document these review discussions.

5. Quality Control for Publishers

Professors and supervisors are expected to guide the PhD candidates for choosing appropriate and qualified journals for their publications. However, more and more publishers exist that do not follow a serious peer-review process ('predatory journals'). Publishing through these channels affects the research quality of TUM and its reputation. Each Faculty, Department or School should agree to publish only in scientific journals with a trustworthy peer-review process. This agreement should be a consensus among professors, based on

everyone's best interests, and should require publishing articles in journals which are known to follow GSP standards. The agreement may refer to data bases such as *Scopus* or *Web of Science*.

6. Protection for those Affected by the Scientific Misconduct of Others

Doctoral candidates who report the misconduct of a supervisor to the ombudsperson must be given special protection. This implies that TUM must ensure that the doctoral candidate is able to continue his or her work, even if this is no longer possible in the previous environment. This includes, in particular, continued financial support and the provision of an appropriate working environment. If further doctoral projects are also at risk as a result of the report of misconduct, protection should extend to all the doctoral candidates concerned.

The points enumerated above were unanimously adopted as official positions by the members of the TUM Graduate Council, i.e. the elected representatives of the doctoral candidates, at the meeting of 29 May 2018, and amended at the meeting of 8 April 2021.