Guidelines for Promoting Good Scientific Practice and Reviewing Cases of Scientific Dishonesty, Faculty of Medicine, AAU

The guidelines were approved by the Academic Council on December 4, 2013 and enter into force January 1, 2014. The Academic Council must establish guidelines for promoting good scientific practice and handling cases of scientific dishonesty, cf. Aalborg University Statutes of June 11, 2012, § 24 (6). The guidelines are maintained on an ongoing basis by the faculty administration.

Item 4.5 Award of PhD and doctoral degrees in written hearings has been revised after approval by the Academic Council on June 18, 2014.
Item 1 What is good scientific practice and scientific dishonesty has been revised after approval by the Academic Council on September 9, 2015.
Item 3.2 General review of cases has been revised after approval by the Academic Council on September 9, 2015.
Item 3.7 Disciplinary measures has been revised after approval by the Academic Council on September 9, 2015.

Purpose and structure
The purpose of the guidelines for promoting good scientific practice and reviewing cases of scientific dishonesty is:

- to promote good scientific practice
- to prevent errors from occurring due to lack of knowledge or awareness of the current rules on good scientific practice
- to have clear procedures for reviewing cases where there is a suspicion of scientific dishonesty

The guidelines apply to all academic staff, PhD students (those employed as well as those enrolled), adjunct professors, doctoral candidates and honorary doctors at the Faculty of Medicine. Students are not covered by these guidelines.1

The guidelines cover four main areas:
1. What are good scientific practice and scientific dishonesty
2. Promoting good scientific practice
3. Administrative procedures for violations of good scientific practice and for scientific dishonesty
4. Special conditions for PhD theses and doctoral dissertations

1The current rules for students can be found at http://www.plagiat.aau.dk/regler/.
1. What is good scientific practice and scientific dishonesty

The Faculty of Medicine defines good scientific practice in accordance with the Danish Code of Conduct for Research Integrity (see Appendix C), Singapore Statement (see Appendix A) as well as the Danish Committees on Scientific Dishonesty Guidelines for Good Scientific Practice with special focus on health science, natural science and technical science (see Appendix B).

In the Danish Code of Conduct for Research Integrity good scientific practice is based on three basic principles:
- Honesty
- Transparency
- Accountability

In the Act on the Research Advisory System, scientific dishonesty is defined as: “Falsification, fabrication, plagiarism and other serious violations of good scientific practice committed willfully or in a grossly negligent manner by planning, performance or reporting research results.” The DCSD ministerial order enumerates a number of examples (not exhaustive) of what this definition includes and notes that the concept does not include questions concerning the quality or validity of scientific works.

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2 The Danish Code of Conduct for Research Integrity was drafted by a working group established in 2013 by the Ministry of Higher Education and Science and the organization Universities Denmark.
3 The Singapore Statement of 2010 is an international endeavor to develop common principles, definitions and guidelines for research integrity and the responsible conduct of research worldwide. In 2013, the Singapore Statement was supplemented by the Montreal Statement.
4 The Danish Committees on Scientific Dishonesty’s Guidelines for Good Scientific Practice, January 2009
5 “To ensure the trustworthiness of research, researchers should be honest when reporting objectives, methods, data, analysis, results, conclusions, etc. This requires accurate and balanced reporting when:
- presenting and interpreting research
- making claims based on findings
- acknowledging the work of other researchers
- applying for research funding
- reviewing and evaluating research” (the Danish Code of Conduct for Research Integrity, 2014)
6 “To ensure the credibility of scientific reasoning and to ensure that academic reflection is consistent with practice in the relevant field of research, all phases of research should be transparent. This requires openness when reporting:
- conflicts of interest
- planning of research
- research methods applied
- results and conclusions” (the Danish Code of Conduct for Research Integrity, 2014)
7 “To ensure the reliability of research, all parties involved should be accountable for the research carried out. This requires that researchers and institutions accept responsibility for the research they are conducting, in terms of:
- accuracy and reliability of research results
- adherence to all relevant regulations
- fostering and maintaining a culture of research integrity through teaching, training, and supervision
- taking appropriate measures when dealing with breaches of responsible conduct of research” (the Danish Code of Conduct for Research Integrity, 2014)
8 Act on the Research Advisory System, etc., cf. Act No. 1064 of September 6, 2010
9 Ministerial Order No. 306 of April 20, 2009 on the Danish Committees on Scientific Dishonesty.
10 Thus, inter alia, 1) undisclosed fabrication of data or substitution with fictitious data, 2) undisclosed selective or surreptitious discarding of a person’s own undesired results, 3) undisclosed unusual and misleading use of statistical methods, 4) undisclosed biased or distorted interpretation of a person’s own results and conclusions, 5) plagiarism of other persons’ results or publications, 6) misrepresentation of authorship, title or workplace, as well as 7) submission of incorrect information on scientific qualifications.
In this document, the wording *violation of good scientific practice* is used as a generic term for practices that do not fall under the definition of good scientific practice. This means that the wording covers everything from minor situations to cases involving outright scientific dishonesty which cf. above are described as serious violations of good scientific practice.

The ministerial orders on doctoral degrees\(^{11}\) and PhD degrees\(^{12}\) require that dissertations and theses make clear which works have been done collaboratively with others, and additionally in the case of doctoral dissertations, which parts of the dissertation have been previously assessed\(^{13}\) and in relation to this, how the dissertation significantly advances the science. Good scientific practice in this context must be viewed as including the use of coauthor statements as well as correct referencing of a person's own previously assessed or published scientific works; gross violations thereof will consequently be regarded as scientific dishonesty.

Scientific dishonesty thus includes serious (gross) violations of good scientific practice\(^{14}\) including the use of a person's own works in assessment situations, if such violations are neither purely accidental nor solely attributable to ordinary negligence (sloppiness).\(^{15}\) The following situations will normally constitute gross violations of good practice:

- The publication of another person's work as one's own (plagiarism) by direct copying, paraphrasing or using another person's original ideas without giving appropriate credit.\(^{16}\)
- Submission of insufficient information relevant for assessment of the work, including the foundation for the data, the data and methods used or the author's scientific qualifications.\(^{17}\)
- In an assessment situation a) use of a person's own previously assessed or published works without referencing (in the same way as for other people's work), b) use of a person's own works authored jointly with others without also submitting coauthor statements, or c) disregard of the rules that apply to assessment.

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\(^{11}\) Ministerial Order No. 750 of August 14, 1996 on Doctoral Degrees.
\(^{12}\) Ministerial Order No. 1039 of August 27, 2013 on the PhD Programme at the Universities.
\(^{13}\) “Previously assessed work” is defined here as “research results [...] that – in Denmark or abroad – have previously been the basis for granting [the author] an academic degree or have been positively assessed for an award.”
\(^{14}\) As defined in the relevant scientific area.
\(^{15}\) The author's academic level thus affects the assessment in that the scope for gross negligence increases with the author's academic level.
\(^{16}\) This point can be formulated as a requirement in the positive in that one should be able to see which work the author himself has contributed to, and the requirement extends so as to also apply to a person's own work jointly authored with others.
\(^{17}\) This point can be formulated as a requirement in the positive in that the author must dutifully provide all relevant information on the work so that others can verify the research results and the author's conclusions.
2. Promoting good scientific practice
The following measures are intended to promote good scientific practice and prevent violations of good scientific practice due to lack of knowledge of current rules and procedures.
1. Development and maintenance of informational material
2. Compulsory courses for PhD students
3. Digital plagiarism screening
4. Clarification of the department head’s responsibility
5. Recurring consideration of the topic of good scientific practice at Academic Council meetings

2.1. Development and maintenance of informational material
The Faculty of Medicine develops and maintains informational material on good scientific practice including rules and procedures for the area. The informational material is available through the Faculty of Medicine website.

Informational material on good scientific practice for PhD students is also available on PhD Moodle.

2.2. Compulsory course on scientific methodology
All PhD students must complete a compulsory course on scientific methodology and good scientific practice in health science research. The course is offered by the Faculty of Medicine’s doctoral school

2.3. Digital plagiarism screening
The Faculty of Medicine makes use of digital plagiarism screening in cases where there is a suspected violation of good scientific practice. The purpose of the screening is to determine whether there is an overlap in the content of a scientific work and a person’s own or another person’s already published texts.

2.4. Clarification of the department head’s responsibility
It is the department head’s responsibility that new employees are informed about the guidelines for promoting good scientific practice and reviewing cases of scientific dishonesty, that good scientific practice is a topic for discussion in the relevant meeting forums, and that the topic is part of the staff development interview (MUS) (with regard to any competence development) where relevant.

2.5. Consideration of the topic of good scientific practice at Academic Council meetings
Good scientific practice is dealt with in Academic Council meetings with the aim of developing initiatives on a regular basis that can contribute to promoting good scientific practice. The subject is considered at least once a year where there is an opportunity to discuss experiences and any revision of the guidelines for promoting good scientific practice and reviewing cases of scientific dishonesty.
3. Administrative procedures for violations of good scientific practice and scientific dishonesty
This section deals with guidelines for the faculty’s review of cases concerning suspected violations of good scientific practice and scientific dishonesty.

3.1. Groups and actors involved
The following administrative procedures for reviewing cases of violations of good scientific practice apply to all academic staff, PhD students (employed as well as enrolled), adjunct professors, doctoral candidates and honorary doctors at the Faculty of Medicine. Overall, the procedures are the same for all groups; however, there are additional conditions for PhD theses and doctoral dissertations. These are discussed in more detail in Section 4.

The actors involved are:
- Complainant. The complainant submits a complaint concerning a suspected violation of good scientific practice to the Committee on Good Scientific Practice (via the faculty).
- Respondent. When the faculty receives a complaint, the respondent is informed by the faculty and is consulted in connection with the actual proceedings.
- The Committee on Good Scientific Practice reviews cases of violations of good scientific practice and scientific dishonesty. The committee can recommend to the Dean that a case not be reviewed and be rejected as manifestly unfounded. If the case is not deemed to be manifestly unfounded, the Committee on Good Scientific Practice initiates an investigation into whether there is a violation of good scientific practice and on that basis submits a recommendation to the Academic Council.
- The Academic Council at the Faculty of Medicine. The Academic Council reviews all recommendations from the committee and decides whether there is a violation of good scientific practice or scientific dishonesty in the relevant cases.
- The Dean of the Faculty of Medicine. The Dean makes the decision on rejecting manifestly unfounded cases.

3.2. General review of cases
All complaints regarding suspected violations of good scientific practice (including outright scientific dishonesty) concerning academic staff (including PhD students (employed and enrolled), adjunct professors, doctoral candidates and honorary doctors) at the Faculty of Medicine are sent to the Committee on Good Scientific Practice via the faculty. All complaints will result in the opening of a case.

The Committee on Good Scientific Practice conducts a preliminary investigation in order to determine whether or not the suspicion can be rejected as manifestly unfounded. The assessment is based on the documentation enclosed. If the committee cannot reject the suspicion as baseless, an extended investigation is conducted in the committee with the involvement of relevant experts in the area in question. If the committee determines that the suspicion is baseless, the committee recommends to the Dean of the Faculty of Medicine that the case be closed. If the Dean evaluates the recommendation as correct, the case is closed without further review. Alternatively, if the Dean determines that a suspicion is not baseless, the case is sent back to the Committee on Good Scientific Practice which then conducts an extended investigation into whether there is scientific dishonesty.

After the committee's extended investigation, the committee prepares a reasoned recommendation for the Academic Council stating whether or not there is a violation of good scientific practice. The Academic Council considers the recommendation and on that basis decides whether there is a violation of good scientific practice.
Following the decision of the Academic Council, any disciplinary measures are determined (see item 3.7).

In particularly serious cases, the Academic Council may also decide to submit the complaint to the Danish Committees on Scientific Dishonesty (DCSD).

3.3. Committee on Good Scientific Practice
The Committee on Good Scientific Practice is appointed by the Academic Council. The committee cannot make decisions. The committee's purpose is to review individual cases and prepare a reasoned recommendation for the Dean in the cases the committee deems manifestly unfounded, and for the Academic Council in cases where an extended investigation has been conducted.

The committee consists of the head of the doctoral school (chair) and an academic staff member of at least associate professor level who is appointed by the Academic Council for a period corresponding to the Academic Council's term of office. As a rule, s/he cannot simultaneously be a member of the Academic Council. Legal expertise is also part of the committee's proceedings. The committee is provided with secretarial services by faculty administration staff.

The committee's regular members conduct the preliminary investigation into all complaints. In the subsequent extended investigation into an individual case, the committee can assign one to two external subject-specific academic staff members of at least associate professor level who can assist the regular members in the case. This is approved by the Academic Council.

The committee's regular members participate in Academic Council meetings when specific cases of violations of good scientific practice are being reviewed, and when the Academic Council generally discusses good scientific practice and scientific dishonesty.

3.4. Consultation of the parties involved
When a complaint is received by the Committee on Good Scientific Practice, the committee acknowledges its receipt. The complainant is asked to treat the matter confidentially for the duration of the review. The complaint is sent in its present form to the respondent who is informed of the procedure for reviewing cases and asked to treat the matter confidentially for the duration of the processing. The respondent is also asked to submit comments on the complaint.

The precise extent of the consultation procedure is determined by the committee according to the needs of the specific case.

3.5. Anonymity
In all cases of suspected violation of good scientific practice, a preliminary investigation is conducted in the Committee on Good Scientific Practice. This also applies even if the suspicion is presented anonymously, meaning that a complaint is submitted such that the university is not aware of the identity of the complainant. As a rule, cases submitted by an anonymous complainant will not be reviewed further beyond the preliminary investigation unless the committee finds that there are special circumstances – in relation to the documentation submitted – that justify extended review of the case.

As a rule, the purpose of not pursuing anonymous complaints further is to limit the possibility for submitting anonymous baseless complaints.
3.6. Ineligibility
The Committee on Good Scientific Practice decides on ineligibility in relation to the individual case. Each member is obligated to declare themselves ineligible if this is the case. If one or more members of the committee are declared ineligible, they may not participate in the case proceedings. The case is submitted to the Academic Council who may convene extraordinary members for reviewing the specific case.

3.7 Disciplinary measures
In cases where the Academic Council determines that there is a violation of good scientific practice, any disciplinary measures are determined by the Dean provided that it is an employment-related disciplinary matter (e.g. reprimand, warning, or dismissal). In relation to program-related disciplinary measures (e.g. expulsion from the PhD program), for enrolled PhD students who are not employed by the university as well as for employed PhD students, these are determined by the head of the doctoral school.

In cases of gross violations of good scientific practice in connection with a PhD or doctoral degree, the Academic Council can revoke the degree awarded.

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18 Cf. the Public Administration Act § 3 and § 6 (in Danish only).
19 Conditional on that the PhD student has signed a declaration of compliance with good scientific practice cr. Item 4.1.
4. Special conditions for PhD theses and doctoral dissertations

4.1. Mandatory declaration of compliance with good scientific practice.
With the submission of a thesis or dissertation, PhD students and doctoral candidates at the Faculty of Medicine must sign that the dissertation, to the best of their knowledge, has been done in accordance with good scientific practice in the area, and that the author is aware and accepts that a finding of plagiarism and similarly gross violations of good scientific practice will preclude the award of a PhD or doctoral degree and possibly result in the revocation of a degree already awarded.

4.2. Submission of dissertations in electronic format
All PhD theses and doctoral dissertations submitted for assessment at AAU must be submitted to VBN in an approved electronic format.

4.3. Digital plagiarism screening of dissertations submitted
The electronically submitted PhD theses and doctoral dissertations are screened for plagiarism with a digital anti-plagiarism tool (currently Ephorus). Plagiarism screening is performed by VBN editors. The individual plagiarism screening results in a scanner report\(^{20}\).

If the scanner report results in a strengthened/substantiated suspicion of scientific dishonesty, the head of the doctoral school is informed and the case is sent to the Committee on Good Scientific Practice.

4.4. Legality of the assessment committee’s recommendations
It is the responsibility of the chair of the assessment committee that the committee’s recommendation meets the requirements in this area. All assessment committee chairs are to be informed about the requirements for the committee’s work.

The head of the doctoral school must conduct random checks of assessment committee recommendations on a regular basis.

4.5 Award of PhD and doctoral degrees in written hearings
PhD degrees can be awarded through written hearings. Degrees can only be awarded if a majority of the Academic Council members submit an active positive statement within the specified time limit and no substantive objections to the statements are received. It is not possible to award degrees solely because there is "no objection raised within a specified period."

Degrees based on doctoral dissertations can only be awarded at Academic Council meetings.

\(^{20}\) An electronic version of the uploaded file that directly indicates which sections, etc., in the text under investigation that are identical or nearly identical with the existing sources the program has access to.