

Information to External Examiners (Opponents) of Doctoral Students at the Department of Molecular Biosciences, The Wenner-Gren Institute, Stockholm University

This document contains advice and guidance on the procedures of examination and the dissertation act.

National regulations concerning doctoral studies can be found in the *Higher Education Ordinance*, Chapters 5-7, 10, 12 and Appendix 2. In addition, the rules and regulations in effect at Stockholm University are in the following documents: *Admission Regulations for Doctoral Studies at Stockholm University*, *Regulations for Third-Cycle Education and Examinations at Stockholm University*, and *Local System of Qualifications for Stockholm University*.

The recommendations follow the [GENERAL SYLLABUS FOR DOCTORAL STUDIES IN MOLECULAR BIOSCIENCES](#), adopted by the Board of Science on 2013-03-20 and revised on 2017-06-12.

Background - Dissertation

The purpose of the graduate training program of the Department of Molecular Biosciences, The Wenner-Gren Institute (MBW) is to enable doctoral students to obtain profound knowledge of a particular field of molecular biosciences. This includes familiarity with all aspects of scientific work, such as defining testable hypotheses and carrying out experimental research, which should include project planning, interpretation and publication of results. The dissertation, where the thesis is defended by the doctoral candidate, is the end of a long process. The dissertation allows the members of the MBW faculty and in particular the examination committee to evaluate whether the thesis complies with the high academic standards that MBW and Stockholm University strive to maintain. The external examiner has an important role in this process.

The Examination Committee

The Faculty of Science appoints a chairperson and an examination committee consisting of three academic researchers selected on the basis of their scientific expertise. The examination committee has the responsibility to prescreen and scrutinize the publications/manuscripts intended to be included in the thesis, and also have the opportunity to preview the candidate's introduction and summary portions of the thesis. If the material is favorably reviewed, the candidate is given permission to defend the thesis work at the scheduled dissertation, and the thesis is printed. In the event that the committee discovers deficiencies, the dissertation can be postponed. The examination committee participates at the dissertation, the members engage in the discussion with the candidate, and are empowered to render the

final decision regarding whether the candidate has successfully defended the thesis and qualified to obtain a Doctorate in Molecular Biosciences (PhD).

Dissertation Act

The dissertation at Stockholm University is a tradition-bound ceremony. The dissertation, being a discussion between the examiner (opponent) and the candidate, offers an opportunity for the candidate to prove that he/she is in full command of the subject and relevant literature. The dissertation also provides the committee the final opportunity to judge whether the thesis adds to the general knowledge of the field and is vital to the decision regarding whether the candidate is entitled to obtain his/her Doctorate in Molecular Biosciences.

The dissertation is a public event. The auditorium is therefore mixed, often comprised of the candidate's colleagues, other scientists with an interest in the research field, friends and relatives. The latter groups often with only some or very limited knowledge of the subject.

Examiner's Role

The examiner (opponent) has two important tasks at the dissertation. First, to provide a brief overview of the research field in question. The overview should serve to place the thesis work in an understandable context. Second, to facilitate and provide a detailed analytical critique of the thesis in the form of a discussion with the candidate.

The Procedure

The chairperson of the dissertation is often a senior member of the MBW faculty and opens the dissertation by introducing the candidate, the title of the thesis, the examiner and the examination committee. The candidate is then invited by the chairman to add any last-minute changes or corrections (Errata).

The presentations normally follow an order previously agreed between the Examiner and the main supervisor of the thesis. Below, the indications for order and timings of presentations and discussion are informative and not regulated by the Higher Education Ordinance or the Syllabus but rather by tradition.

The chairperson will ask the examiner to provide the overview. The overview serves to introduce the major theme(s) of the thesis research and can include a short description of work as well as a summary of what the examiner believes to be the candidate's most important findings. The overview is often no longer than 20 min. Computer presentations (e.g., PowerPoint) may be used to provide illustrations for clarity. The overview presentations may well include material taken directly from the thesis. It is important that the overview makes the content of the thesis clear to all members of the auditorium and should serve to prepare for and lead to the discussion of the thesis. After the presentation by the examiner, the candidate is given the opportunity to present a more specific summary of his/her work. This allows the candidate to highlight the major findings. The candidate's presentation normally lasts about 30 min.

After the examiner's overview and candidate's presentation, the chairperson will direct the examiner to commence the main part of the dissertation - the critical discussion of the thesis. The thesis should be regarded as a single piece of work. The criticism of the candidate's work could be regarded as the review of a manuscript; all aspects of the work should be covered. It is the choice of the examiner as to how to lead the discussion and also when to end the discussion. He/she may choose to begin by asking more general questions about the reasons for the study, the most important findings, the way the data is presented, or to discuss the work of others in the same field with similar or dissimilar results. The candidate should be given ample time to respond to the questions as he/she may be nervous, especially in the early stages of the dissertation. Once more general questions have been addressed, it is common for

the examiner to become more specific and begin to scrutinize the papers/manuscripts one by one in the order that feels most logical. The examiner may choose to separately examine the methodology employed, for example to critically discuss the technical approaches used, etc., that may influence the interpretation of the results. In the ideal case, the examination should resemble a thorough, expert scientific discussion between the opponent and the candidate rather than an interrogation.

The critical discussion of the thesis work should not be too short. For reference, a discussion of less than 1 hour leaves the general impression that the candidate may not have been as thoroughly examined as he/she should have been. Consequently, it is advisable for the examiner to prepare at least 4-5 thorough questions for each paper in advance. The dissertation is demanding, and it is quite natural for the examiner as well as the candidate to feel somewhat exhausted by the intense intellectual interaction.

After completion of the critical discussion between the examiner and the candidate, the chairperson will invite the members of the examination committee to ask questions, and then finally the discussion is open for anyone who wants to pose a question.

The Committee Meeting and Decision

After the dissertation the examination committee meets to decide whether the thesis has been successfully defended and if the student has fulfilled the requirements. The examiner is invited to participate in the meeting but may not place a vote in the final decision. The supervisor is also invited to answer questions and to give his/her opinion of the development of the candidate and to state which parts of the thesis were based upon co-operation and what parts were performed entirely by the candidate. When the committee is ready to render its final decision, the examiner and supervisor are required to leave the meeting room.

Additional Information - Dissertation Party - Optional

Candidates often choose to host a party, including dinner to which the examiner might be invited. At this event, during dinner, it is greatly appreciated if the examiner gives a short toast to the newly examined and hopefully approved Doctor of Molecular Biosciences.