

# Short assessment report for evaluation of education at postgraduate level, Department of Earth Sciences

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## Background

The assessment report covers the PhD education at the Department of Earth Sciences, Uppsala University, composed of nine PhD subjects organized in five research programs. The assessment panel was invited to get a full view of the PhD education at the Department of Earth Sciences, identify potential development areas, and provide suggestions for improvement. The work was done according to the instructions in the *Guide for educational evaluations at the PhD level at Faculty of Science and Technology* and the *Assessment panel instructions for postgraduate educational evaluations*. The assessment was based mainly on the Self-evaluation report by the Dept. of Earth Sciences, and interviews conducted on the “site visit”, on Zoom, April 15 and 16. Six groups were interviewed: Faculty representatives, Department representatives, Administration, FUAPs, and Doctoral students from all subjects. The assessment panel consisted of: Karin Stensjö, Senior lecturer, Uppsala University (convening chair, internal), Margareta Hansson, Professor, Stockholm University, Ilmo Kukkonen, Professor, Helsinki University, Sina Shababi Ghahfarokhi, Doctoral student, Linnaeus University, André Månberger, Associate senior lecturer, Lund University, and Vivi Vajda, Professor, The Swedish Museum of Natural History, Stockholm

## Introductory summary

The department of Earth Sciences represents a broad diversity of geosciences, which provides a good platform for PhD education. The international research environment and diversity of PhD students are acknowledged by students and supervisors. The publication records of PhD students and their supervisors are good, and the research environment is built on a scientific foundation and proven experience. The department has developed a documented agenda with guidelines to ensure a high qualitative PhD education for all. From the department management side there is a well-defined plan on how to implement these routines through the department. The PhD education subjects reach and exceed in most cases the critical mass for good PhD education, and the number of competent supervisors per PhD student is sufficient. External funding has generated new contact surfaces with international research groups and industry, fostering collaborative work, exchange of ideas and to exercise skills of importance to reach the goals of a PhD education. The administrative support is professional, with awareness and practices concerning good communication, good information, and continuous support to all PhD students. The “mentor buddy” program has been successful for the new PhD students to efficiently enroll in their education.

The identified weaknesses can be summarized under three areas, within which the assessment panel recommends development and improvement. These are; 1. organizational and social working environment, 2. structure and organization of PhD education, and 3. general practices for follow-up, assessment of progress, and feedback. Although the broad spectrum of geoscience disciplines represented in the department is a strength, the split-up of the PhD education into discipline-oriented teams is assessed as a weakness, of which many of the areas of development stated below are related to.

Finally we would like to conclude that the covid-19 pandemic situation has made it more difficult for all involved in the PhD education to fulfil their given tasks. The communications between students and supervisors have had shortcomings, and in general the PhD students have suffered during the pandemics.

### **Areas of development/improvement**

- The cross-disciplinary collaboration within the department could be improved.
- Broader platforms for knowledge-sharing and cross-disciplinary research could be developed.
- The importance of practices concerning equal opportunities and gender equity could be discussed and assessed more.
- Transparent structures and clear guidelines should be implemented within all subjects.
- The seminar culture at the department could be enhanced.
- PhD education could be organized to be less dependent on the individual supervisor.
- The supervisors' communication with the PhD students concerning expectations, responsibilities and structure of education could be more clear.
- The department needs to address the issues concerning experienced negative stress among the PhD students.
- The strategy concerning courses for the PhD students could be a more clear and coherent.
- A common understanding on what equal opportunities measures could be taken to enhance the quality of the PhD education could be developed.
- The practices of career advices could be executed in all subjects.
- It would be beneficial if the time allocated for supervision varies less over the year.
- The fact that within some subject the students feel insecure about the future after graduation needs to be discussed and dealt with.
- Strategies to decrease the feeling of isolation during their education could be developed. Especially for the students at Campus Gotland.
- The ISP/RISP is stated as a tool to ensure equal treatment, however, the practices and strategies concerning these documents could be improved.
- Best supervising practices, including collaborative work among the supervisors as stated by *Guidelines of PhD education*, should be established.
- The use of ISP and RISP should be developed to add more value to the PhD education in all subjects.

### **Quality enhancing measures**

- Develop strategies for increasing cross-disciplinary research and education within the department, such as designing larger "PhD education schools" including multiple subjects. The LUVAL program provides a good example.
- Consider fusion of the two Geophysics subjects to increase collaboration, exchange of ideas, and discussions on best practices concerning PhD education.
- Continue the important work on improving documentation and communication concerning the admission of PhD students and the introduction to PhD studies.
- Develop clear roles for the equal opportunities officer, and the committee. The evaluation panel suggest to form a working group that act upon directions from the department board

and the head of department. All equal opportunities should be considered, and gender mainstreaming should be executed as ordinary processes at the department.

- Consider to invite specialists on equal opportunities and gender mainstreaming on occasions when all “leaders” at different levels are gathered. Two suggestions on what to discuss would be; working structures to improve equal opportunities and unconscious bias and the possible effects of those.
- Develop a clear structure for the “mentor buddy” program, including a work description for the mentors. Consider that mentoring could be a burden when there are few senior PhD students within one subject.
- Continue to promote the learning of Swedish among the PhD students and staff.
- Develop common good routines and good practices to increase the sustainability of high-quality PhD education for all, and over time.
- Coordinate the available PhD courses at the department. On what level this should be handled needs to be discussed.
- Continue to develop the seminar series *Grand challenges in Earth Sciences* that existed in 2019-2020 before the pandemic. Include as many subjects as possible.
- Guidelines for students concerning their responsibilities and expected contributions could be included in *Guidelines for PhD education*.
- Finalize the implementation process of all the guidelines and routines that have been worked out for the PhD education at the department during the last years.
- Consider formalizing supervisor meetings at lower levels, invited by the FUAPS, to discuss common routines, as well as on departmental level invited by FUS, to discuss departmental-wide policies and guidelines.
- Outline mutual expectations on supervision; e.g. sufficiently frequent contacts with the supervisor, what is expected of the student, what are the routines when writing a manuscript? Consider to include this in the ISP/RISP handling, or as a written “contract” between the student and supervisor.
- Improve the use of the ISP/RISP for progress assessment and feedback., and outline measures to increase the value of the yearly assessment of progression. One way for improvement could be to arrange workshops at the department level, covering general aspects of PhD education, maybe with a specific focus on the assessment of learning goals.
- Ensure that all internal and external supervisors are acquainted with the learning goals of PhD education.