Session 3b: Quality Assurance
Periodic Review of PhD Programmes

Harald Lenschow
Secretary for the Research and Researchers Committee
Faculty of Information Technology, Mathematics and Electrical Engineering

Innovative Doctoral Training: principles and practice at European Universities of Science and Technology
Joint workshop by CESAER, CLUSTER, EuroTech Universities, IDEA League and Nordic Five Tech
29-30 August 2016
NTNUs system for quality assurance in education

October 02, 2013

- At least every 5 years, the Dean is to ensure that a periodic evaluation of the programmes of study is conducted with input from external parties. The Dean reports to the Rector in the annual quality assurance report.
- The periodic evaluation is to assess the overall quality, strategic consistency and societal relevance of the program of study.
- Specification of requirements in connection with the establishment of new programmes of study specifies prerequisites that must be fulfilled. Based on the annual evaluations of the programmes of study or specific challenges, the focus for the periodic evaluation is chosen. The aim of the periodic evaluation is to provide the basis for assessing whether the programme of study should be continued in its present form, be modified, or discontinued.
Periodic Evaluation of the PhD study programs at the IME faculty, NTNU
- issued by the faculty

- Ensure
  – High International quality in the PhD education
  – Efficient and well organized
  – Relevance

- Use
  – Revision of study programmes
  – Need for organizational changes in the PhD education

- Mandate, Terms of reference
  – Academic quality should be on a high international level
  – Good environment for the training of the PhD candidates
  – Aware and skilled supervisors
  – Adequate with respect to the needs of society and industry
  – In-line with international standards
  – International cooperation
  – Organisation and administrative
  – The "system" including Quality Assessment
Timeline

Start
Recruiting committee
Start Quality reporting
Paperwork sent
Committee visit
Report due
Initiate revision of programmes

Apr 15
Jun 15
Aug 15
Oct 15
Dec 15
Feb 16
Apr 16
Jun 16
Aug 16
Oct 16
Dec 16
Feb 16

2015
2016
Evaluation committee

FU Task force:
• Prodekan Bjarne E. Helvik (chair)
• Professor Thomas Tybell
• Professor Colin Boyd
• Professor Agnar Aamodt
• PhD-candidate Even Låte
• Harald Lenschow (coordinator)

Support:
• Professor Guttorm Sindre
  – ”Guide”
  – Reporting
• Harald Lenschow
  – Arrangements
  – Documentation

Professor Arne Svensson (Chair)
• Department of Signals and Systems
  • Chalmers

Professor Joaquim Bruna Floris
• Department of Mathematics
  • Universitat Autònoma de Barcelona

Associate Professor Henk Polinder
• Department of Electrical Sustainable Energy
  • TU Delft

Professor Anja Feldmann
• Department of Telecommunication Systems
  • TU Berlin

Professor Susan Craw
• School of Computing Science and Digital Media
  • Robert Gordon University, Aberdeen

Professor Rolf Johansson
• Department of Automatic Control
  • Lund University
Some essential excerpts given by the mandate, dated 2015-08-06:

- "assess the quality and relevance of the research education“
  – (i.e., of IME's 6 Ph.D. study programs: Electric Power Engineering, Electronics and Telecommunication, Engineering Cybernetics, Information Technology, Mathematics, and Telematics)
- "ensure that the learning outcomes [...] are up to date and relevant, and that portfolios of courses in the programmes are sufficiently supportive for the Ph.D. candidates in order to achieve the learning outcome."
- "offer a critical assessment of the strengths and weaknesses of the Faculty’s research education and to improve the knowledge base for strategic decision-making by the Faculty in matters that are relevant for the Ph.D. studies."

It must be noted that the committee’s mandate was to evaluate the quality of the research education, not the quality of the research per se.
Documents sent as a basis for the evaluation

1. Documentation provided by the faculty:
   a. Presentation: Introduction; Phd Education and Research; PhD Education – training of researchers
   b. Annual reporting 2015
   c. Annual Reporting 2015 appendix
   d. Mandate for Evaluation Committee
   e. Programme for Evaluation Committee (April 2016)
   f. List of PhD courses (provided on the visit)

2. Documentation provided by PhD Programme/Department
   (Individual reports from all 6 PhD programmes):
   a. Self-evaluation 2015
   b. Research profile
   c. Introducing new PhD candidates

3. Documentation provided by NTNU
   a. PhD Regulation for NTNU
   b. PhD Handbook for NTNU
   c. Guidelines for assessment of candidates for Norwegian Doctoral Degrees
   d. NTNU system for Quality Assurance
Programme self-evaluation

- Study program description and learning outcomes (educational objectives)
- The study program coordinator’s assessment of the quality of the study program, incl.:
  - Overview of all PhD courses
  - Yearly report from the PhD-candidates and main supervisor, incl. assessment of learning environment
  - Recruitment and dropout 2015
  - Publishing activity
  - Internationalization of candidates
  - List of completed mid-way evaluations
  - Assessment from PhD evaluation committees
  - List of completed disputations
- Action plan
**04 - 08. april 2016**

**PhD Evaluation 2016 VISIT**

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**On arrival Trondheim Airport - Værnes**
- Shuttle bus for the city centre of Trondheim every 10 minutes, price NOK 140.

**14.00**
- The bus Værnespressen stops at the hotel you will stay in: Hotel Scandic Hotel Bakklandet

**15.00**
- The rooms are reserved and paid for by NTNU.

**16.00**
- We will meet in the Reception area at 19:00 and walk to a nearby Restaurant.

**17.00**
- **Arrival**
- **19:30 Dinner** at Una
- **19:30 Dinner** at To rom og kjøkken
- **19:00 Dinner** at Kulas & Canasta
Status

The general observation of status is that the 6 evaluated Ph.D. programs are of good quality both from a national and international perspective, and that the resulting research is generally of high quality, sometimes even of very high quality.

The evaluation committee did not discover any serious quality problems with the Ph.D. programs, nor any serious deficiencies with their quality assurance systems.

• “The impression of the committee is that IME's Ph.D. education is of very good quality, with programs that are generally well-managed, offering good learning and working conditions for the Ph.D. students, and with supervisors that are competent in their field of research to the level expected for being a Ph.D. supervisor (or beyond).

Although the quality of the research output has not been studied by the committee, it is also the impression that this is of good international quality, and sometimes even of excellent, world-leading quality.

The competence that the students gain during their Ph.D. studies appear relevant both for academia and industry.”
Recommendations for Improvement

This should not be misinterpreted as an indication that the evaluated Ph.D. programs are poor. Rather it follows from the mandate itself that the feedback that the faculty will be most interested in, is constructive criticism and suggestions for improvement, not an appraisal of the current situation.

“Still there are some weaknesses / [R32] issues that the faculty should have an ambition to improve upon.”

- recruitment [R7]
- learning goals and courses [R3]
- supervision and co-supervision [R5]
- student engagement and social environment [R2]
- mobility [R3]
- progress, completion, and termination [R8]
- quality assurance [R4]
…The faculty is now in a better position to act and make improvements and plans for our PhD education…

… the evaluation committee members expressed that they got many good ideas on how to improve their own PhD education…

Thank you for your attention!