

# **ORPHEUS Labelling**

## ***Evaluators' Report***

### **The Faculty of Medicine and Dentistry, University of Bergen, Norway**

Based on the self-evaluation report provided by the University of Bergen, The Faculty of Medicine and Dentistry and web-site analysis, site visit was performed on the 14<sup>th</sup> to 15<sup>th</sup> of January 2016 by Prof. Andre Nieoullon and Ass. Prof. Ana Borovecki.

The discussions with persons in charge of the PhD program took place at the university (the program of the labelling visit is in appendix). Discussions included meetings with the Vice-Dean of research, the head of the PhD program and the person in charge of the Basic courses in medical and health related research. Other meetings included discussions with representatives of selected research schools and with delegates of PhD supervisors and PhD candidates. The meetings were very informative and contributed to solve some questions that arose during the analysis of the self-evaluation report.

### **General characteristics of the institution and the PhD Program**

- The University of Bergen (UiB) is a research university that offers PhD programs at different faculties (humanities, law, mathematics, natural sciences, psychology, social sciences and medicine and dentistry). The doctoral programs are related to the different faculties. The present visit was focused on the doctoral program at Faculty of Medicine and Dentistry.
- UiB is characterized by strong research activity with leading research in different fields of biomedicine and dentistry. Thus PhD education is directly linked to original research.
- As reported from the questionnaire, there are 691 supervisors and 512 PhD candidates in the PhD program.
- The length of the PhD program is defined at national level and is in agreement with the implementation of the Bologna process based on three year full-time doctoral education.
- Clinical activities and teaching activities will be performed during the PhD training and the duration is prolonged as the percentage of time devoted to these activities.
- About 1/3 of PhD candidates come from abroad.
- In order to obtain the PhD degree candidates have to follow courses and collect in total 30ECTS points. Basic courses are mandatory and are counted for 15 ECTS points. These include transferable skills such as introduction to ethics, communication skills, research strategy and career development, scientific writing, translational medicine, innovation technology etc.
- Research training is under the responsibility of 6 research schools ( biochemical research school, school in inflammation, school in clinical medical research, school in cancer studies, school in public health, school for international health) plus 2 interfaculty research schools (neuroscience and molecular and computational biology).

## **PhD Program in relation to Basic ORPHEUS Standards**

### **1. RESEARCH ENVIRONMENT**

The Faculty of Medicine and Dentistry is divided into 5 departments (clinical medicine, clinical sciences, clinical dentistry, biomedicine and global public health and primary care). Research groups are related to research schools (the research environment). The faculty also runs core facilities for flow cytometry, metabolomics, genetics, proteomics, advanced microscopy, biostatistics and animal house, all available also for the PhD training. This means that advanced scientific equipment and highly trained technical staff contribute to research and PhD candidates.

University ensures financial support for research (salary /stipends) and attendance for international conferences and courses. The process of thesis defense including the invitation of experts from abroad is also covered by university. The University is opened to collaborations with industrial partners through industrial PhD. The University has considerable connections with international scientific community through different agreements and international scientific projects. International cooperation part of PhD education and PhD candidates have the possibility to visit other laboratories during their training.

### **2. OUTCOME**

Completion of the PhD program entitles publication of scientific papers (normally 3 papers or equal to that) and encourages the candidate to develop competencies useful for future career perspective.

### **3. ADMISSION**

Admission process is an open procedure. National and international candidates are invited to apply. Master degree or equivalent is required for admission. Each application is evaluated by an admission committee including members from departments, research groups and research schools. The following is evaluated:

1. Quality of the candidate (CV, previous publications);
2. Quality of detailed PhD project description and financial support;
3. Suggested supervisors (main supervisor and co-supervisor(s));
4. Quality of the research group;
5. Previous affiliations of the candidate to the research group.

Financial support for the PhD training is provided either by the fellowships or salaries from the hospitals. Large number of applicants, however, has obtained MD degree and specialization before admission to the PhD program. This would explain why the mean age of admission is rather elevated (36 years of age). The university is aware of this issue and they have started a new program for early admission during MD studies (Start in the 3<sup>th</sup> year of the MD studies) for selected students.

#### **4. PhD TRAINING PROGRAM**

As mentioned above, in order to obtain the PhD degree candidates have to follow courses and collect in total 30 ECTS points. Basic courses are mandatory and are counted for 15 ECTS points (MEDMET1 = 8; FORMIDL = 6; Midway evaluation = 1). These include transferable skills such as introduction to ethics, communication skills, research strategy and career development, scientific writing, translational medicine, innovation, technology, etc. Ethics course is a major part of the basic course. Other courses are elective. The candidate can select different courses provided by different research schools. The training component must be completed and approved before submitting the thesis for evaluation and defense. Courses in laboratory animals science (6 and 4 ECTS) is mandatory for PhD candidates involved in animal experiments. Teaching activities are highly recommended and most of the candidates are teaching 25% of time (in that case the duration of PhD program is 4 years).

#### **5. SUPERVISION**

80% of PhD candidates have two supervisors (main supervisor and co-supervisor). Other candidates could have 1 or 2 additional co-supervisors. Main supervisor has to be qualified person (PhD, permanent teaching position, active researcher). Co-supervisor can be anyone with a PhD and a good research track record. In general each supervisor has on average 3 candidates although there is no limitation on the number of candidates per supervisor. From the discussion it is clear that supervisors are aware of their responsibilities for including PhD candidates in the academic community.

#### **6. PhD THESIS**

General feature of the thesis is a compilation of published papers (minimum 3 original scientific papers with preferentially at least two accepted for publication and at least one where a PhD candidate is the first author). The thesis summary can be written in one of the three Scandinavian languages but generally in English. The manuscripts include large introduction into subject, critical assessment of material and methods, summary of results, discussion, conclusion and perspectives. Papers are added as annexes. The presentation of the manuscript is standardized for the university.

#### **7. ASSESMENT**

The assessment procedure involves the designation of a committee which consists of two external opponents of whom one should come from abroad. The supervisors are not member of the assessment committee. The public defense is evaluated in the presence of the committee. The written report is submitted to the dean and the faculty.

#### **8. STRUCTURE**

The PhD program is under the responsibility of the faculty and is in agreement with national regulations. The division of research management has the overall responsibility for the research program under the supervision of the dean.

## **Compliance with ORPHEUS basic standards**

The PhD program as described above complies with all the basic ORPHEUS standards.

## **PhD Program in relation to the Quality Development ORPHEUS Standards**

There is a mandatory mid-term evaluation of advances in the PhD project. The evaluation is done by an independent committee and is counted for 1 ECTS point. Every year candidate and the supervisor are required to submit progress reports which are then evaluated primarily at the departmental level (Deputy Head for research). Sufficient information is available on the web-site about the PhD program. At the moment mandatory training courses for supervisors are not set up. However, a one-day seminar is offered annually to all supervisors. Furthermore, there is another available course open for supervisors and run by the Department of Pedagogics, Faculty of Psychology.

## **Other comments**

The PhD program at Faculty of Medicine and Dentistry at UiB is well-established and highly structured. Annual flow is about 90 theses.

## **Recommendations of the visiting committee to executive committee of ORPHEUS**

**Members of the visiting committee recommend to executive committee of ORPHEUS to attribute the ORPHEUS label to the PhD program of the Faculty of Medicine and Dentistry, University of Bergen, Norway.**

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### **Additional recommendations/suggestions to the Faculty of Medicine and Dentistry, University of Bergen, Norway, to be communicated to the University:**

1. Decrease significantly the age of admission in the PhD program. Proposal of the Dean of the faculty fits with this recommendation.
2. Make explicit limitation of the number of PhD candidates per supervisor.
3. Promote auto-evaluation of PhD program by PhD candidates in order to improve supervisor-candidate interactions and overall PhD program.
4. The university is strongly encouraged to develop training courses for supervisors.
5. Allow separate time for a discussion with a PhD candidate and a supervisor(s) during mid-term evaluation process.
6. Basic courses should be more clearly identified as transferable skills courses.
7. Career development of the PhD candidates should be addressed to a large extent.
8. Some of the transferable skills courses should be more specialized (biostatistics and bioinformatics, project management, innovation, for example).

9. Create mentoring structure for new PhD candidates to be mentored by the older ones.
10. Create an annual PhD day at the level of the faculty and may be at level of the university in order to encourage PhD candidate networking.
11. Promote a PhD candidate organization and encourage PhD candidates to join international PhD candidates' organizations (such as Eurodoc).
12. Create a database recording of the professional insertion of the former PhD candidates of your program.

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***Marseilles and Zagreb, January 22th, 2016***