



# **Setting Standards for PhD Education**

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# Meaning of a PhD degree in biomedicine and health sciences

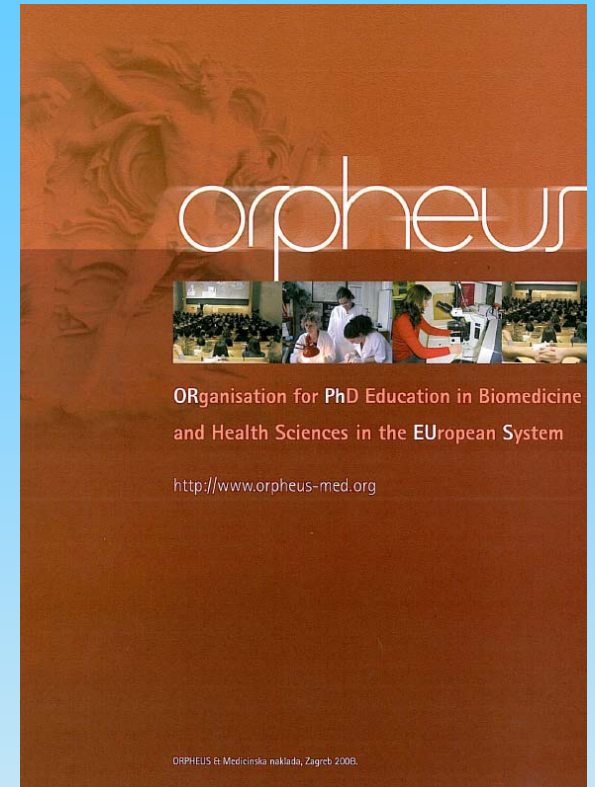
- **Different traditions and different resources.**
- **The overall aim: to train students to become qualified researchers**
- **But what is the standard?**

## Aim of talk

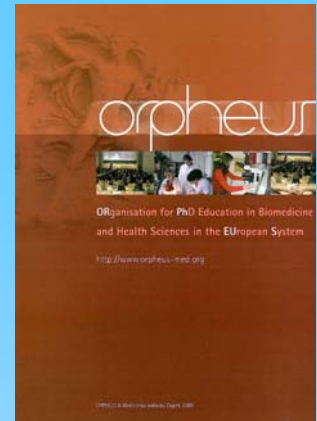
Review of previous  results.

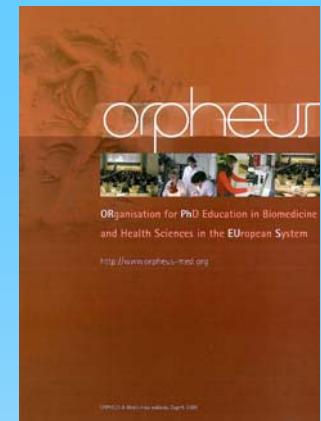
Background for draft position paper

- points of consensus
- recommendations for the future



- a PhD programme in biomedicine and health sciences has as its aim to produce a **qualified researcher**, that is a person capable of conducting independent research,
- The PhD is evaluated by the PhD **thesis** and an **oral defence** of the scientific results.
- the PhD programme should have a **limited length**, normally not less than 3 years and not longer than 4 years.
- The PhD programme should be structured with qualified and regular **supervision**.





- the PhD program should include **formal training**, with course work lasting around six months.
- the PhD thesis should normally be based on a **review and a number of articles**, either published papers or equivalent manuscripts. The benchmark for the thesis is a review of around 50 pages and three articles.
- a **clinical PhD should have the same level** as any other PhD in biomedicine and health sciences.

## Position paper

### Aim:

- to describe some of the common features of European PhD programmes
- to make a number of recommendations
- to provide a process for learning from each other
- **Standards not standardization!**

### Content:

- Admission criteria
- Requirements of PhD programme
- Requirements for the supervisor
- Requirements for the PhD thesis
- Evaluation of the PhD thesis

## Admission criteria: *Qualifications*

- **Bologna third cycle of higher education**
  - **bachelor ... Master's ... PhD**
  - **but is a Master's degree a requirement?**
- **Are there other enrolment qualifications?**
  - **"enthusiasm to do research"?**
    - **how should motivation be assessed?**
  - **"perceived potential to do research"?**
    - **how should this be assessed?**

## **Admission criteria: *Requirements for enrolment***

- **The scientific quality of the project.**
  - **Approval of the project before start**
  - **To what extent should PhD students formulate their PhD projects?**
- **The quality of the supervisors.**
  - **quality of supervision is the single most important factor in a successful PhD programme**
- **The resources needed to complete the project.**
  - **running expenses**
  - **tuition or bench fees**
  - **salary. Students or academics?**

## **Admission criteria: Access to PhD programmes**

**"PhD students should be selected on the basis of a competitive and internationally open process"**

**But:**

- **entrance to a PhD programme is often a continuation of a Master's program.**
- **open entry is to some extent incompatible with evidence that a successful PhD programme is dependent on good personal interaction between student and supervisor**
- **interaction before admission is desirable**

## Requirements of the PhD programme: *Length*

**European PhD programmes are normally 3-4 years**

**Benefit of clear time limit.**

- **upper limit to the amount of scientific work, which can be expected,**
- **encourages the PhD student to devote concentrated time to the scientific problem.**

**4 years:**

- **Greatly increased output**

**3 years:**

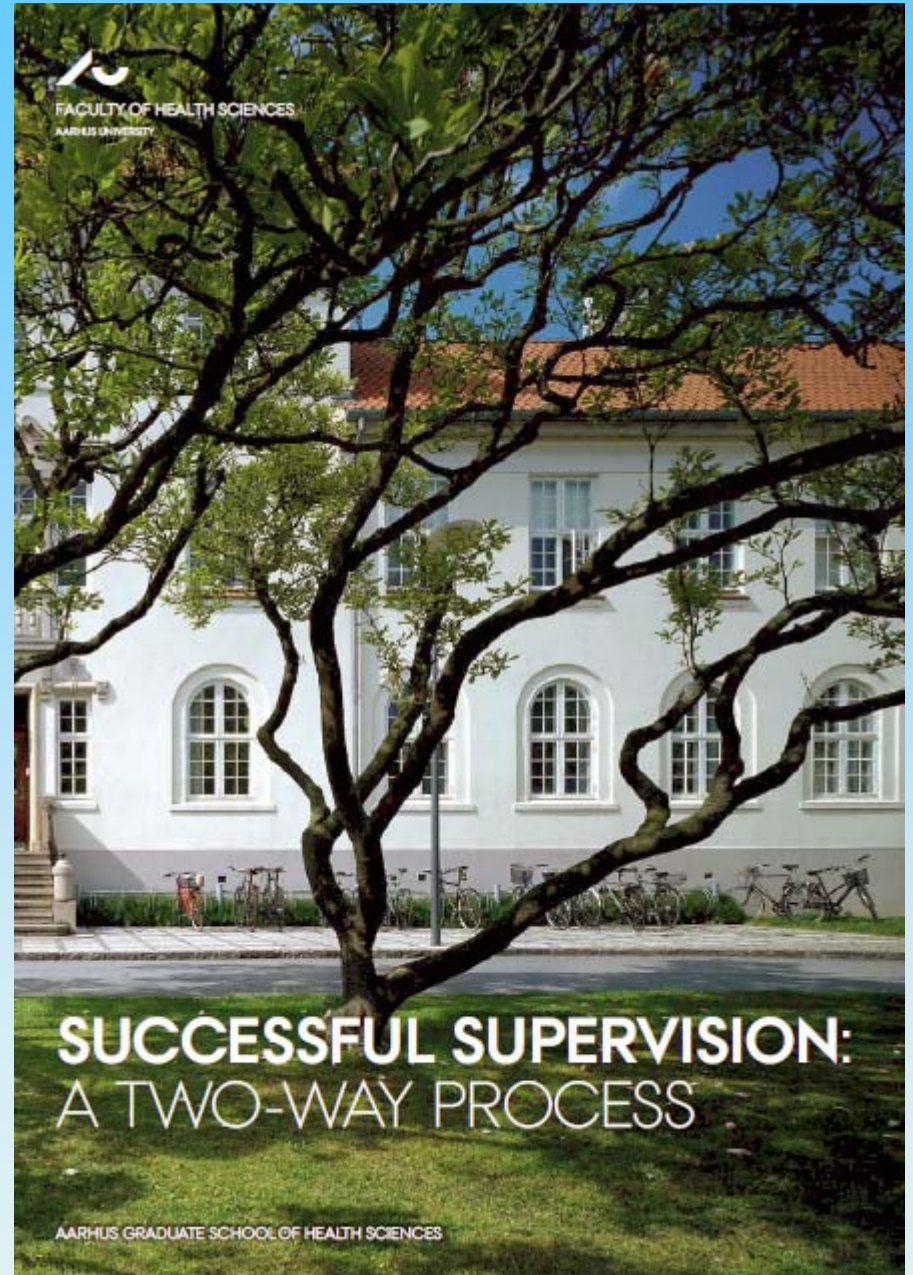
- **Quicker**
- **Cheaper**

## **Requirements of the PhD programme: *Content***

- **Scientific training: methodology, experimental design, analysis and data presentation.**
- **Formalized PhD courses, ca. 6 months. General courses (e.g. biostatistics and ethics), and specialized courses.**
- **Training in transferable skills.**
  - **presentation of research (oral/poster)**
  - **university teaching**
  - **linguistic skills**
  - **project management**
  - **critical evaluation of scientific literature**
  - **supervision of technicians and research students**
  - **networking (establishing contacts).**

# Requirements for the supervisor

- **Supervisor-student relationship is**
  - **key to a successful PhD programme**
  - **requires mutual respect and a contribution from both**



## Requirements for the supervisor

- **Supervisor-student relationship is**
  - **key to a successful PhD programme**
  - **requires mutual respect and a contribution from both**
- **Expectations should be agreed before starting**
- **Academic requirements.**
  - **active scholar, local and international network**
  - **formal training as a supervisor?**
- **Responsibilities.**
  - **available throughout the PhD education**
  - **provide general scientific advice from protocol to publication**
  - **career development**
- **More than one supervisor?**

## Requirements of the PhD thesis

- **Primary basis for evaluating the PhD student**
- **Consistent with the 'Zagreb declaration' (ORPHEUS 2004) thesis should include**
  - **the equivalent three papers published in international journals, or equivalent manuscripts**
  - **review**
  - **occasionally a monograph may be more appropriate**
- **Language of thesis?**
  - **"To encourage internationalisation the thesis should be written and also defended, in English".**
  - **But**
    - **practical reasons may preclude it**
    - **it may be inappropriate**

# Evaluation of PhD theses

- **Assessment committee**
  - responsible for maintaining the standard of the PhD thesis
  - should consist of independent persons
  - the supervisor should not be included
  - advantageous to have an international member?
- Instructions to the assessment committees should be clear, and also known to the PhD student.
- Rapid assessment consistent with rigour.
- Consequences of negative assessments?

## In summary. Setting standards for biomedicine and health sciences

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- Admission criteria
- Requirements of PhD programme
- Requirements for the supervisor
- Requirements for the PhD thesis
- Evaluation of the PhD thesis

- Master's?
- motivation
- potential?
- formulate own project?
- students or academics?
- interaction before admission?

- 3 years or 4 years?
- transferable skills?

- advise on career development
- more than one?

language of thesis?

international assessment?  
time for assessment?  
consequences of negative assessment?

## **Finally!**

- **Many points of consensus**
- **The recommendations for the future are for discussion**
- **Standards not standardization!**