

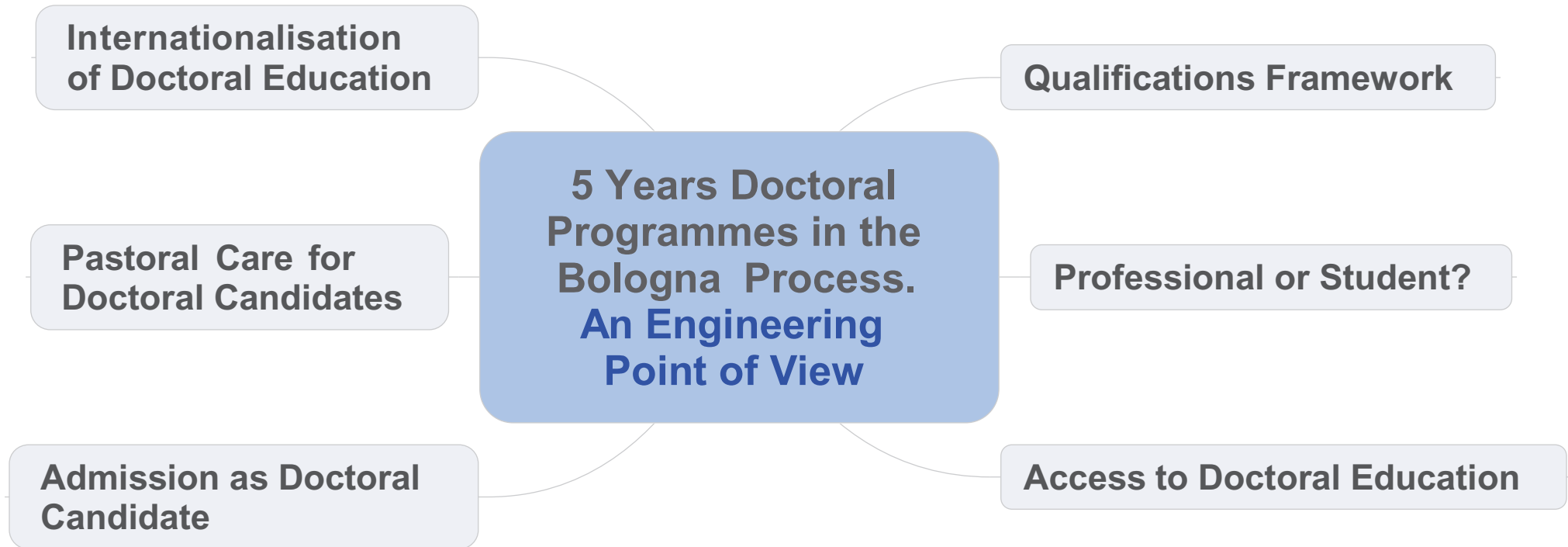
5 Years Doctoral Programmes in the Bologna Process:

Do we have the right focus?
What is missing?
What did we learn?

An Engineering Point of View

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- Dublin Descriptors
- European Qualifications Framework for the Higher Education Area
- European Qualifications Framework for Lifelong Learning
- German Qualifications Framework for Higher Education
- German Qualifications Framework for Lifelong Learning
- 4ING Qualifications Framework for Engineering and Informatics at Research Universities

Qualifications frameworks make a promise ...

What they promise:

Doctors (in engineering) shall be able to ...

Knowledge:

- Comprehend their field systematically

Competences:

- Identify new areas of research
- Conduct in-depth research
- Supervise researchers and administrative staff
- Instruct less qualified coworkers
- Acquire and administer funds
- Communicate their research to the greater public

...and what they keep:

| | Model | |
|--|--------------------------------------|---------------------------------|
| | assistant individual 3-5 years | structured cohort 3 years |
| Salary | 50.000 €/a | - |
| Stipend | - | 16.000 €/a |
| Apparatus & machinery & resources | 50.000 €/a | 5000 €/a |
| Comprehend their field systematically | ✓ | ✓ |
| Identify new areas of research | ✓ | ✓ |
| Conduct in-depth research | ✓ | ✓ |
| Supervise researchers and administrative staff | ✓ | - |
| Instruct less qualified coworkers | ✓ | - |
| Acquire and administer funds | ✓ | - |
| Communicate their research to the greater public | - | - |

The third cycle of the Bologna process is distinct from the other two cycles:

- **Doctoral candidates** vs. ~~doctoral students~~
- The doctoral candidate is a young researcher in the first stage of his/her professional career.
- **The European Charter for Researchers**
(http://ec.europa.eu/eracareers/pdf/am509774CEE_EN_E4.pdf) shall apply:
 - ◆ Fair and attractive conditions of funding and/or salaries
 - ◆ Adequate and equitable social security provisions
 - ◆ Sickness benefits
 - ◆ Parental benefits
 - ◆ Pension rights
 - ◆ Unemployment benefits

Prerequisite:

- Preferred: **Master's degree**
- Not so preferred: **Fast track** :
 - ◆ Bachelor's degree
 - ◆ Coursework equivalent to a Master's degree
 - ◆ No Master's thesis
- **No way:** ~~Informally educated non-academics~~

| | Model | |
|-------------------|------------------------|------------|
| | assistant | structured |
| Funds | Doctoral father/mother | Committee |
| Admission | Doctoral father/mother | Committee |
| Research topic | Doctoral father/mother | Committee |
| Research strategy | Candidate | Candidate |
| Supervision | Doctoral father/mother | Committee |
| Mentoring | Mentor | Mentor |
| Exam | Committee | Committee |

To be kept in mind:

The Lisbon Recognition Convention

requires equal treatment for **all** applicants

- Doctoral “centers/clubs/schools” etc. provide
 - ◆ Mentoring
 - ◆ Kindergarten
 - ◆ Dual career service
 - ◆ Training
 - Rhetorics
 - Manners
 - Social behaviour
 - Wellness
 - ...
 - ◆ ...

...which is good and deserves to be expanded.

- Joint degree programmes
- Double degree programmes (not easily realised)
- Joint universities (e. g. German-French university)
- Erasmus Mundus
- Individual mobility
 - ◆ e.g. Marie Curie funding

...which is good and deserves to be expanded.