

Informatics Doctorates in Europe

Some Facts and Figures

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Executive Summary

This report describes the findings and conclusions of an investigation, carried out for the ECSS 2012, Summit of Informatics Europe in Barcelona, where the quality of Informatics doctorates in Europe was discussed. For this investigation a simple approach was used: experienced colleagues from different European countries reported about their experience by filling in a questionnaire. The investigation is based on an analysis of these questionnaires.

There proves to be considerable similarity for the doctoral process: the candidate, by 85% chance a male and 80 % from the home university, is in the average 29 years old and has used 4.5 years for the dissertation.

The doctoral dissertation has a mean length of 200 pages and is mostly a monograph. It is becoming more and more a standard that the thesis is written in English (at the moment 70 %). Most results of the thesis have been published in the form of 5 to 10 articles in proceedings and journals before thesis submission, and they are written completely in English.

The scientific competences of a young doctor are comparable throughout Europe: from creating results (new ideas and solutions), discussing their underlying ideas and advantages (writing, presenting, and defending) to networking (creating contacts and cooperating).

Many procedural differences exist in different departments, due to different habits and traditions in universities and different countries of Europe, mostly at the beginning and end of the doctoral process. The doctoral process looks similar only on an abstract level. The essentials of a doctorate (ambitious candidate, supervisor obliged to scientific measures, faculty looking for quality) are not touched by the various differences.

Several dimensions for a characterization of the doctorate were found. Also 3 typical models are described: the Anglo-American model, the Northern European model, and the Central European model. Many doctorates in Europe consist of a mixture of these models.

The context, in which the doctoral process is carried out, plays an important role, less for the scientific competences but for further competences. If the position of the candidate demands for further duties (education, project work, technology transfer to industrial partners etc.), eventually accompanied by an application-oriented research topic, then further competences result. Industry appreciates that kind of doctoral qualification in some countries of Europe. In most countries scientific competences alone only help for an academic career.

As the scientific qualifications can be achieved by any of the models in use and the essentials of the doctoral process (and also further qualifications) are not due to regulations, we see no reason to look for a new and unified doctoral model in Europe. Looking how it works in different universities and countries might detect some habits which could be used elsewhere, if compatible to the local conditions.