

# PhD in Computer Science/Engineering

Departamento de Electrónica, Telecomunicações e  
Informática (DETI)

Universidade de Aveiro

Braga, September 2010

# DETI-UA

- Two research units:
  - IEETA – Instituto de Engenharia Electrónica e Telemática de Aveiro
  - IT – Instituto das Telecomunicações, polo Aveiro

# Research Units

- IEETA – Instituto de Engenharia Electrónica e Telemática de Aveiro
  - Healthcare
  - Intelligent robotics
  
- IT – Instituto das Telecomunicações, Aveiro
  - Networks and multimedia communications

# Strategies to attract PhD students

- Integration in research groups as soon as possible
- Scholarships (few)
- PhD Programs to people with different needs and constraints:
  - Joint programs (multi-university)
  - Concentrated schedule
  - Part-time student

## Oferta actual de 3º ciclo (PDs)

- Joint Doctoral Program - Minho, Aveiro and Porto in Computer Science – MAP-i (2007/08)

<http://www.map.edu.pt/i/home>

- Doctotal Program in Computer Engineering - PDEInf (2008/09)  
(adapted from DEI after Bologna)

<http://www.ua.pt/PageText.aspx?id=8196>

# MAP-i, PDEInf

- Similar structure:
  - curricular year ( 60 ECTS)
  - +
  - Thesis preparation
    - MAP-i, min 2 years
    - PDEInf, 3 years
- Similar publics, with different needs and constraints (geographical, schedule):
  - Recently graduated/ scholarship
  - Ensino Superior Politécnico
  - Company employees(a significant percentage has a pre-Bologna MSc)

## PDEInf – curricular year

| <b>1rst Semestre</b>                                | <b>ECTS</b> | <b>2nd Semestre</b>                                  | <b>ECTS</b> |
|---|-------------|--|-------------|
| <b>TAEI-I</b> –Advanced topics in Computer Eng. - I | 6           | <b>TAEI-II</b> – Advanced topics in Computer Eng. II | 6           |
| <b>OEI-I</b> - Option I in Computer Eng.            | 6           | <b>OEI-II</b> - Option II in Computer Eng.           | 6           |
| <b>OPC</b> – Complementary Option                   | 6           | <b>OPE</b> - External Option                         | 6           |
| <b>SEM</b> - Seminar                                | 12          | <b>PTESE</b> - Thesis proposal                       | 12          |
| <b>Total</b>  | <b>30</b>   | <b>Total</b>   | <b>30</b>   |

### Thesis Proposal

The curricular year ends with the presentation and justification of the thesis proposal



## MAP-i – curricular year



| 1rst Semestre                             | ECTS      | 2nd Semestre                             | ECTS      |
|---|-----------|--|-----------|
| UCTF – Option in foundations of computing | 5         | UCT – Option in information technologies | 5         |
| UCPP – Option in programming paradigms    | 5         | OP1 –Free Option                         | 5         |
| OPT – Thematic Option                     | 5         | OP2 -Cultural Option                     | 5         |
| SEMT -Thematic Seminar                    | 5         | PTESE -Thesis Planning                   | 15        |
| SEM - Seminar                             | 10        |  |           |
| <b>Total</b>                              | <b>30</b> | <b>Total</b>                             | <b>30</b> |

### Doctoral Symposium

Curricular year ends with a symposium where thesis proposals are presented and justified.

## N. of students

| <b>MAP-i</b>              | <b>2007/08</b> | <b>2008/09</b> | <b>2009/10</b> | <b>2010/11</b> |
|---------------------------|----------------|----------------|----------------|----------------|
| <b>Opened positions</b>   | 50             | 50             | 50             |                |
| <b>Candidates</b>         | 43             | 32             | 76             |                |
| <b>Enrolled students</b>  | 25             | 14             | 34             |                |
| <b>Foreigner students</b> | 3              | 4              | 8              |                |
|                           |                |                |                |                |

| <b>PDEInf</b>             | <b>2008/09</b> | <b>2009/10</b> | <b>2010/11</b> |
|---------------------------|----------------|----------------|----------------|
| <b>Opened positions</b>   | 15             | -              | 10             |
| <b>Candidates</b>         | 12             | -              | 10             |
| <b>Enrolled students</b>  | 10             | -              |                |
| <b>Foreigner students</b> | 2              | -              |                |
|                           |                |                |                |

# Limitations

- To start a PhD in Portugal:
  - Funding (few projects/scholarships)
  - Reduced number of positions for PhDs
  - Recent research tradition (critical mass/experience)
- To work in Portugal after PhD:
  - Little recognition by the companies
  - Few positions in Universities and Research Institutes
  - Modest entrepreneurship tradition

- I believe that

the success of our economy implies more active PhDs, not only in Universities and research institutes, but mainly in companies

in diverse scientific areas

Computer Science/Engineering being very important