Postgraduate Research in Informatics @ Edinburgh

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What is a PhD, and what will I learn?

- PhD is a research degree
  - Training you to be a professional researcher in your field
- You’ll discover what is current in your subject.
- You’ll know how to make an original contribution.
- You’ll have mastered the appropriate methods, and can build on them.
- You will learn to communicate your results effectively.

- It’s like your final year/MSc project only longer and you have the responsibility to drive the project
Motivation for doing a PhD

- 😊 Advancing the frontiers of knowledge
- 😊 Personal satisfaction
- 😊 Passion for the subject
- 😊 Improved job prospects

- 😞 3+ years of sustained work
- 😞 Success not guaranteed, but failure is rare
What does doing a PhD involve?

- Challenging work
- ...on an original research topic
- ... with the help of experienced researchers:
  - principal supervisor + assistant supervisor
  - or equal co-supervisors from different areas
  - often within a research group of post-docs or further advanced PhD students
  - within an Informatics Research Institute
- PhD study is a research apprenticeship
What does doing a PhD involve?

- Typical timeline of activities...

- **First year:**
  - Fill in gaps in background, learn about current research directions, decide exact topic, develop a research plan, and start...

- **Second year:**
  - Follow plan and achieve goals 1, 2, 3, discover that goal 4 is unachievable, change to plan B, achieve goal 4B...

- **Third year:**
  - Write thesis outline, achieve more goals from plan, write thesis, look for jobs, submit thesis...

- **Fourth year:**
  - Oral thesis examination (viva)
What else will you do?

- Practice presenting your research
  - Talks, papers, workshops, conferences
- Learn more
  - Seminars, MSc courses, summer schools
- Learn to teach
  - Tutorials, other teaching assistance
- Transferrable skills training
  - Presentation skills, management skills, entrepreneurship skills, ...
Post-doctoral Career Options?

- Many options:
  - academic positions, university research,
  - corporate research, start-ups,
  - consultancy firms, government departments,
  - high school teaching, etc.

- Our graduates are in high demand

- Not as many new academic positions in Europe, UK, US as in past
The role of PhD students in Informatics

- PhD students are the largest constituency (250-300) in the School.

- PhD students are involved in every aspect of research, and make a massive contribution towards the success of the School.

- 😊 There is a strong and thriving community

- 😊 There is a large range of opportunities to get involved in, beyond your direct study
Informatics Research Programmes

- Based in six Research Institutes + three Centres for Doctoral Training

ICSA
- Computer Architecture
- Compilation & System Software
- Networks and Communication

LFCS
- Theory & Foundations of Computer Science
- Databases
- Software & Systems Modelling

CISA
- Automated Reasoning
- Agents
- Data Intensive Research
- Knowledge Management

ANC
- Machine Learning
- Computational Neuroscience
- Computational Biology

IPAB
- Robotics
- Computer Vision
- Computer Graphics & Animation

ILCC
- Language Processing
- Speech Technology
- Information Retrieval
- Cognition

Pervasive Parallelism

Robotics & Autonomous Systems

Data Science
EPCC Research Programme

- EPCC (Edinburgh Parallel Computing Centre) is the UK’s leading centre for High Performance Computing
  - EPCC is an independent centre in the College of Science and Engineering
  - EPCC PhD students are registered in Informatics
- Main source of PhD funding is through the Pervasive Parallelism CDT
  - joint CDT between Informatics and EPCC
  - also welcome applications from students with external sources of funding
- Areas of research include:
  - parallel programming APIs
  - parallel algorithms
  - performance analysis and benchmarking
  - novel applications of HPC
  - Big Data engineering
Do You have a chance?

- Need at least a 2.i, but 1st or MSc Distinction is more realistic
- We expect to admit 70-80 new students
- Funding is key limiter:
  - Informatics will be able to fund approx. 45 places
- UK / EU students:
  - Funding from 3 CDTs and EPSRC DTAs
- Overseas students:
  - Having your own national funding helps enormously
  - Be aware of any scholarships available to you
- More information on Informatics PGR website
Funding

- There are scholarships for 2017 entry 😊
- Funding is limited, and therefore not guaranteed, but Informatics is well-placed:
  - 3 CDT programmes
  - 10+ individual EPSRC scholarships

- Wide range of funding sources
  - Some open to best students, with strong research proposals
  - Some for specific topics (supervisor has project and associated student funding)
  - Some for specific groups (e.g. China Scholarships)
  - Many in specific research areas: Data Science, Pervasive Parallelism, Robotics and Autonomous

- See: www.ed.ac.uk/schools-departments/informatics/postgraduate/fees/researchscholarships
To apply

- [http://www.ed.ac.uk/schools-departments/informatics/postgraduate](http://www.ed.ac.uk/schools-departments/informatics/postgraduate)
- Find out about our research
- **Approach potential supervisor(s)**
- Decide what you want to do
- Write a provisional research proposal
- Find two referees
- **Submit an application NOW**
- Understand your funding options and take action if necessary
- Wait for the result
Thank you

Any Questions?