

Engineering Doctorate (EngD) in Computer Science

School of Computer Science, University of St Andrews
in partnership with The Data Lab
<https://engd.cs.st-andrews.ac.uk/>

What is an EngD?

EngD overview

- 4-year graduate research programme leading to the qualification of **Engineering Doctorate (EngD)**, established for over 20 years, internationally recognised as equivalent to a PhD.
- Our first intake will be Sep 2016, with initial funding:
5 studentships at 50% from The Data Lab
<https://engd.cs.st-andrews.ac.uk/>
- *Research Training Component (RTC)*:
8 MSc modules (2 Semesters, ~32 weeks).
- *Individual Research Component (IRC)*:
5-6 Individual Research Projects (IRPs) (~170 weeks)
IRPs take place in an industry setting.

The Data Lab

- The School is excited to be partnering with The Data Lab — <http://www.thedatalab.com/>
- The Data Lab will sponsor five **Data Lab Prize Studentships** for 2016/17 at 50% of costs with fees at UK/EU rate.
- Awarded to those REs and Industry Sponsors wishing to undertake data-driven and/or data-intensive research.
- Anyone can apply for these studentships, but Industry Sponsor must have a base or operations in Scotland.

Research Engineers (REs)

- Students on the EngD are referred to as *Research Engineers (REs)*.
- REs will have an *Industry Sponsor*:
 - Will be the owner of the problem domain(s) for the IRPs that constitute the IRC.
 - Will provide an Industrial Supervisor for the RE.

Supervision

- All REs will have two supervisors:
 - An **Industrial Supervisor** (provided by the Industry Sponsor).
 - An **Academic Supervisor** (from the School).
- The two Supervisors **collaborate** for the benefit of the RE:
 - A lot of scope of flexibility in the nature and scope of the relationship, to suit the RE and industry sponsor.

Research Training Component (RTC)

- The RTC is a **taught component** (~32 weeks, i.e. two Semesters).
- 8 MSc modules from our existing MSc courses.
- Options for REs:
 - All 8 modules in Y1 (traditional EngD model).
 - 4 modules in Y1 then 4 modules in Y2.
- (Depending on an applicant's background, there may be exemptions from the requirement for 8 modules, and a RE would be able to enter in Y2 of the programme.)

Individual Research Component (IRC)

- This is the bulk of the EngD (~170 weeks).
- 5-6 *Individual Research Projects (IRPs)*:
 - Each must make a contribution to knowledge.
 - ~25-30 weeks per IRP.
- IRPs documented and collated into a *portfolio dissertation* (not the same as PhD by portfolio) for a final *viva voce* examination:
 - a traditional *monograph* dissertation submission is also possible (collection of IRPs more compatible with industry).

RTC and IRC options

Months	Activity
01-12	RTC and background reading
13-44	IRC
45-47	Final write-up
48	Submission and <i>viva voce</i> examination

Months	Activity
01-06	RTC Semester 1 background reading
07-16	IRC
17-20	RTC Semester 2
21-44	IRC
45-47	Final write-up
48	Submission and <i>viva voce</i> examination

Why an EngD?

Benefits to Industry [1]

- Human capital and skills development: organisations and individuals
- New knowledge: short-, mid- and long-term application potential.
- Innovation: potential for patents and commercialisation.
- Knowledge networks: link with other organisations as well as academia.

Benefits to Industry [2]

- Partnership with The Data Lab: resources, links, expertise, studentships.
- Scope and flexibility for research: not restricted to a single topic area.
- Context-sensitive admission: some exemptions may be possible for entry into year 2.
- Non-traditional entry routes: consider background and experience of applicant.
- Flexibility in engagement for taught component: spread over first 2 years.

Experience

- Previous experience is positive.
- EngDs remain popular.
- REs and Industry Sponsors gain technical and non-technical benefits.
- Looking forward: link with industry for Computer Science expertise becoming increasingly vital in the Age of Data!