



The
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Departmental update

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Overview

- News
- Strategic review and plans for growth
- Outlook



News

Undergraduate numbers

	2013/14	2015/16
UG Home	68	120
UG OS	20	21
PGT Home	12	6
PGT OS	42	54
PGR Home	10	8
PGR OS	17	10

- Student quality remains high – capable coders
- A level CS will present a challenge



Staffing highlights

- Lucia Specia and Kalina Bontcheva promoted to personal chair.
- Paul Richmond and Mike Croucher awarded EPSRC Research Software Engineering fellowships (2/7 national awards).

Successful HEFCE bid

- Bid for funding to develop new MSc in Data Analytics was successful
- £100k total from HEFCE to support three new MSc programmes in the Faculty
- More from Mark Stevenson later ...



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Strategic review

Given REF performance and buoyant student numbers, review our

- Research
 - Review research portfolio, with a view to where we want to be in 5-10 years time
- Teaching
 - Review teaching portfolio, including breadth, depth and opportunities within the Faculty.
 - Not a complete curriculum review.
- Infrastructure
 - Space and service provision related to our strategic ambitions

External advisors

Anthony Finkelstein

UCL and Alan Turing Institute

Muffy Calder

University of Glasgow

Ralf Herbich

Amazon

Simon Thompson

University of Kent

Steve Schneider

University of Surrey

Bonnie Webber

University of Edinburgh

Mandy Chessell

IBM

Future of the discipline

- Key themes identified:
 - Making sense of big data
 - Complex systems modelling
 - Distributed and parallel systems
 - Reliability, security and resilience
 - Autonomous and semi-autonomous agents

Current position

- Sheffield small in relation to competitors
 - Median academic staff is 57 for Russell Group, we have 38 and are below lower quartile
- Excellent REF
 - But some research groups lack critical mass
 - Relatively narrow portfolio, current focus on non-core CS, lacking activity in key areas
- UG and PGT programmes lack breadth
- High student-staff ratio for RG (~15)
- Space constrained

Recommendation: growth

- Recommend growing by 15-20 academic staff over next 5 years
 - Exploit new research, funding and collaboration opportunities
 - Offer teaching in key areas where we currently lack expertise
 - Mitigate risk (funding priorities, staff losses) by ensuring breadth and mass in research groups

Areas targeted for growth

- Machine learning
- Algorithms
- Verification

New research areas

- Security
- Networks and distributed systems
- Machine vision



Teaching

- Recommend a broader and more coherent UG curriculum with themes running through it
 - Core reduced in L2, some optionality
 - Tracks to make clear the specialism that is offered
 - Choice in final year of ITMB

Projects

- **Recommend:**
 - Moving project to 4th year for 4-year degrees
 - Maintain continuity of project work with group project at L3
 - Reduce number of credits for project
 - All students do project preparation module

Other UG recommendations

- Facilitate sharing of modules by COM, EEE and ACSE so that courses can be integrated
 - Requires change to Faculty financial model
- Raise entry tariff to A*AA/AAA

Masters

- New MSc in Data Analytics
- Introduce two-year MSc degrees
- Articulation arrangements
- In due course, new course in security
- Rebrand SSIT and restructure to improve content and module choice

Infrastructure

- Student experience officer
- University teachers
- Admin and support staff to grow in line with academic staff
- Space is a priority; we will outgrow existing space by 2018/2019 academic year

External feedback

- Reviewers liked our ambition
- Differing opinions about specific research areas (to be expected)
- Key points:
 - Concentrate on doing excellent research and high quality teaching
 - Appoint the very best to new posts
 - Expand carefully, and target specific groups

Implementation

- Shared with Faculty and broadly supported in planning round
- Staffing and space business plan proposing growth by 19 academic staff
- Recruitment of 2x ML posts in progress
- VC strategic development fund to recruit group (chair + 3) in information security



Questions?