

## Industrial Liaison Board, Department of Computing

31<sup>st</sup> May 2012  
5pm  
Ballroom, 58 Prince's Gate  
South Kensington Campus

### Minutes

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#### Present:

External: Mr Mark Baker (Mind Candy), Mr Paul Clarke (Ocado), Mr Joseph Do (Formicary), Dr Krisztian Flautner (ARM Ltd.), (Orange Labs), Mr Simon Holden (Morgan Stanley), Mr Alex Kozlenkov (Betfair), Mr Vincent Mak (Deutsche Bank), Dr Bill Mitchell (BCS), Mr Jon Page (Imperial Innovations), Mr Hugh Proudman (IBM).

Internal: Professor Susan Eisenbach (Head of Department), Professor Morris Sloman (Deputy Head of Department), Mrs Anne O' Neill (Department Operations Manager), Dr Tony Field (Director of Undergraduate Studies), Dr Krysia Broda (Director of Postgraduate Studies), Dr Michael Huth (Deputy Director of Research), Dr William Knottenbelt (Industrial Liaison Co-ordinator), Miss Amy Allinson (Industrial Liaison & Student Support Officer).

**Apologies:** Mr Andrew Eland (Google), Mr Patrick Goldsack (Hewlett-Packard Laboratories), Professor David A. Oxenham (Dstl), Professor Daniel Rueckert (Director of Research, Department of Computing), Mr Christophe Tcheng (Amadeus).

#### Agenda Item

##### 1. Welcome and Introduction

Professor Susan Eisenbach welcomed all attendees to the meeting and gave a brief introduction.

## **2. Membership and Terms of Reference**

The Membership and Terms of Reference were presented to the Board as outlined in *Papers 1* and *2*. The following were welcomed to their first meeting; Mr Alex Kozlenkov (Betfair) and Mr Vincent Mak (Deutsche Bank). Professor Eisenbach also welcomed Dr Michael Huth (Deputy Director of Research), representing the Department of Computing in place of Professor Daniel Rueckert for this meeting.

## **3. Minutes of the Last Meeting**

The minutes of the last meeting held on 26<sup>th</sup> May 2011, *Paper 3*, were approved.

## **4. Matters Arising**

Professor Eisenbach reported the ILB discussion forum is now active. Board members will be contacted shortly to register (*2011 minutes, item 4*).

Professor Eisenbach reported that in response to concerns that EU undergraduate recruitment would suffer due to the increase in course fees the Department took a proactive approach and sent a personalised letter to all EU schools who have supplied us with students over the last 3 years outlining how the new fees regime works. Professor Eisenbach presented application figures by fees status for the current undergraduate admissions cycle as compared to the last two years. Overall applications were up on the previous two years. Applications from Home and Overseas applicants were up again this year with a significant increase in Overseas applicants. EU applications were only down by 12 on the previous cycle and up by 51 on the 2010/11 cycle. To date the increase in fees has therefore had no significant negative effect on undergraduate applications.

The effect of the undergraduate fees rise on MSc course fees was discussed at the 2011 meeting. Professor Eisenbach reported that the Department has opted for a stepped approach to increasing MSc fees, with fees for 2012/3 rising to £7000 for Home and EU students from £5700 in 2011/12. Long term fees will be increased to £9000 to avoid any cannibalisation of our flagship four year MEng degree. Ten bursaries of £3000 will be available to the top applicants for the coming year. MSc admissions figures suggest that applications are slightly down on the previous year but the number of offers made is up so the quality of the pool has once again proved strong.

Dr William Knottenbelt provided an update on entrepreneurship initiatives including a series of workshops run by board member Mr Joseph Do (Formicary), Seedcamp Week 2011, and the Imperial Digital Accelerator (*2011 minutes, item 5c*). Despite apparent student appetite for entrepreneurship support the first workshop run by Mr Do in May last year was poorly attended. However, the follow up workshop attracted two teams of students, one group working on a virtual clothes shopping application and the other on a digitising chess board camera system. Dr Knottenbelt reported that in September 2011 the Department hosted Seedcamp Week jointly with Imperial College Business School. Seedcamp Week is the culmination of mini Seedcamps held world-wide. One of our joint Mathematics and Computer Science students (JMC), Kahin Farah, was part of a business 'Fractal' awarded seed funding. Mr Jon Page (Imperial Innovations) reported that following Seedcamp Week Imperial Innovations has also invested in Fractal. Again, student attendance at Seedcamp was poor so this was discussed with students who committed to supporting future activities in this area rather than lose the opportunity. The Imperial Digital Accelerator was launched in January this year by Imperial Innovations and attendance at the

launch event totalled about 130. The launch event included presentations by Department of Computing graduates who are now successful entrepreneurs at different stages of business evolution. Four workshop events followed, including topics such as Business Model Generation and Understanding Customers, with attendance of up to 60 at each. A 'hackathon' was also held resulting in one concrete idea. The Accelerator has committed to funding 5 teams over the summer to further develop their ideas. Mr Page reported that Imperial Innovations plans to scale the initiative to College level next year including running an entrepreneurship 'hub' in the student Union to provide advice and guidance.

## 5. Strategic Issues

### a) REF and Impact Studies

Professor Eisenbach reported that the Research Excellence Framework (REF), which replaces the Research Assessment Exercise (RAE), will be completed in 2014. REF is a system for assessing the quality of research in UK higher education institutions and the results have a direct impact on research funding and league tables. Professor Eisenbach outlined that, in addition to the RAE, REF requires departments to submit Impact Case Studies. Professor Eisenbach reported on the Department's current set of likely Impact Studies which met with the approval of the board.

### b) Evolving landscape of research funding

Professor Eisenbach reported that the research funding climate has changed significantly. EPSRC have stipulated that they will only fund approximately 20% of what they funded this year next year so the Department is exploring other sources of funding. 40% of our funding now comes from the EU. CASE awards and EU grants present an opportunity for industrial partners to work with us.

The aim of CASE awards is to provide PhD students with a challenging research training experience, within the context of a mutually beneficial research collaboration between academic and partner organisations. Industrial partners benefit from a high-quality PhD student undertaking cutting-edge research relevant to the organisation's priorities and objectives. Students receive a full EPSRC studentship for 3.5 years and companies provide additional top up to the project of £25k. Students must spend at least 3 months at the company. The Department currently holds CASE awards with a number of companies including Arup, BAE and Syngenta. The EPSRC awards the Department more CASE Awards than we have industrial partners for – please contact us if this is of interest.

EU grants tend to focus on large collaborative research projects which may involve several companies and higher education institutions. Via FP7 awards the EU fund research in both companies and universities.

**Action:** Department of Computing to post calls for EU FP7 awards on the Industrial Liaison Board discussion forum.

### c) Institute for Sustainable Connected Cities

Professor Eisenbach reported that Imperial had joined with UCL as principal partners in the Intel Collaborative Research Institute for Sustainable Connected Cities which officially commences work in July. The focus will be the application of computing technologies to advance the social, economic and environmental well being of cities using London as a test-bed.

Professor Eisenbach noted that SAP and NEC will also be partners and that the Institute will look for other companies to join.

d) Human-Centred Design and Management and Business For Computing Engineers courses

Dr Anthony Field reported on the development of two courses within the undergraduate curriculum: 'Human-Centred Design' and 'Management and Business for Computer Engineers'. He noted that both present a real opportunity for our industrial partners to become involved in the undergraduate curriculum.

Human-Centred Design (HCD) was launched this year as a compulsory second year course. The one week course is designed to introduce the principles and practises of HCD and their exploitation in the design of complex interactive systems in consumer, business to business and public sector environments. The course runs in the summer term in conjunction with second year group projects and includes input from industrial partners such as Cisco and Nokia.

Dr Field reported the intention to re-launch the third year course 'Management and Business for Computing Engineers'. He noted that the re-launch is an opportunity to run a course which works better for our students and that a less traditional format is being considered with some form of theory as core content (possibly including microeconomics) followed by 5 or 6 case studies led by industry practitioners. Dr Field invited initial ideas from the Board on the proposal. Mr Alex Kozlenkov (Betfair) suggested two contacts for Dr Field to follow up: David Luckham and Nigel Barlow. Mr Vincent Mak (Deutsche Bank) suggested we explore linking the course with our entrepreneurship initiatives. Dr Krisztian Flautner (ARM Ltd) suggested that the course should include organisational behaviour/psychology as dealing with people is a key aspect of success in industry. Dr Flautner pointed to the work that the UK Leadership Foundation is undertaking as a starting point. He also noted that small group games are an effective teaching aid for soft skills. Mr Paul Clarke (Ocado) suggested that some form of shadowing in partner organisations may also be consider but feasibility would depend on numbers and practicalities.

**Action:** Board members to feed back any other suggestions or offers of practical involvement for the Management and Business for Computing Engineers course to Dr Field.

## 6. Industry Presentations

The following Board members presented to the meeting:

- a) ARM Ltd – Dr Krisztian Flautner, Director R&D  
'What to research'

The presentation considered the idea that experts in the field are sometimes too close to see the bigger picture and are therefore not necessarily best placed to decide what to research and where to focus future research resources. It is difficult for companies to predict the next big thing and they need to be open to looking at the wider storyline and what their research can enable – the direction may come from customers for example. From a curriculum perspective equipping students with the ability to consider the big picture whilst being an expert is a key challenge as graduates with these skills are in high demand.

- b) BCS – Dr Bill Mitchell, Director of the BCS Academy of Computing.  
*Paper 4, attached, on 'Computing at School'*

The Computing at School (CAS) Working Group aims to promote the teaching of computer science at school. CAS is a collaborative partner with the BCS, through the BCS Academy of Computing, and has formal industry partners including Google, Microsoft and Vital.

## 7. Computing for Schools

Following Dr Mitchell's presentation Dr Krysia Broda reported that the Department is introducing a new course for third year students from next academic year, 'Communicating Computer Science', which will provide students with the opportunity to assist with the teaching of Computing in schools. Students who take the Spring term module will spend one day a week under the supervision of a teacher in a school assisting with the promotion of Computing skills through formal classroom activities or helping to run after school clubs. Dr Mitchell gave strong support for this course.

Dr Knottenbelt asked about Computing at A level. At present CAS resources are limited so the focus is at GCSE level but they do recognise the importance of building a pipeline even from key stage three (ages 11-13) through GCSE and onto A level. Mr Clarke asked about the gender split in take up of Computing quoting the saying 'year 8 is too late' to attract girls. Once CAS cracks the GCSE level work also needs to be considered at Junior school level.

Dr Michael Huth noted the importance of working with schools to ensure the correct hardware/software and security access is in place to enable Computing to thrive in the school environment.

**Action:** CAS would welcome assistance from Board members in reading and formally endorsing their report to the Department for Education on the inclusion of Computer Science in the EBacc. Deadline 1<sup>st</sup> of July. Further information will be circulated.

## 8. Close

The meeting closed at 7.00pm.