

## Industrial Liaison Board, Department of Computing

5pm, 20<sup>th</sup> May 2014  
Drawing Room, 170 Queen's Gate  
South Kensington Campus

### Minutes

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#### Present

External Mr Glynn Barton (Transport for London), Mr Christopher Blatchford (Thomson Reuters), Mr Tim Brennan (Amadeus Ltd.), Mr Paul Clarke (Ocado), Mr Joseph Do (MindLink Software), Mr Patrick Goldsack (Hewlett-Packard Laboratories), Mr Mark Hammond (Imperial Innovations), Mr Simon Holden (Morgan Stanley), Ms Irene Kapusta (Orange Labs), Mr Vincent Mak (Deutsche Bank), Dr Bill Mitchell (BCS), Mr Jon Page (BBC R&D), Mr Hugh Proudman (IBM), Mr Sean Ralph (DSTL), Mr Matt Stuttle (Google), Ms Wendy Tan-White (Moonfruit).

Internal Professor Susan Eisenbach (Head of Department), Dr Anandha Gopalan (Teaching Fellow), Professor Yike Guo (Professor of Computing Science), Professor Michael Huth (Deputy Director of Research), Professor Paul Kelly (Professor of Software Technology) Dr William Knottenbelt (Director of Industrial Liaison), Dr Peter McBrien (Director of Undergraduate Studies), Dr Julie McCann (Deputy Director of Industrial Liaison), Miss Victoria Nicholl (Support Officer for Industrial Liaison and Undergraduate Admissions), Ms Anne O'Neill (Department Operations Manager), Professor Daniel Rueckert (Director of Research), Professor Morris Sloman (Joint Deputy Head of Department)

**Apologies** Mr Mark Baker (Mind Candy), Ms Carolina Costa (Orange Labs), Mr Mike Warriner (Google), Dr Krisztian Flautner (ARM Ltd.), Mr Alex Kozlenkov (Betfair), Professor David A. Oxenham (Dstl), Professor Marek Sergot (PhD Tutor)

#### Agenda Item

##### 1. Welcome and Introduction

Professor Susan Eisenbach welcomed all attendees to the meeting and recounted a number of important events that had impacted upon the department over the past year including REF submission, a successful hiring round (with new academics in in the fields of data analytics, security, optimisation and robot vision), a new MSc in Security and widespread funding successes including a Centre for Doctoral Training in High-Performance Embedded and Distributed Systems (HiPEDS) and two industry-funded initiatives: Dyson Robotics Lab and the Data Science Institute.

Professor Eisenbach thanked everyone for attending the board and in particular to the

Stand-ins:

Mr Ralph Sean (DSTL; standing in for David Oxenham)

Mr Matt Stuttle (Google; standing in for Mike Warriner)

Ms Irene Kapusta (Orange Labs; standing in for Carolina Costa)

Guest members:

Mr Christopher Blatchford (Thomson Reuters)

Mr Glynn Barton (Transport for London)

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

The minutes of the last meeting, held on 30<sup>th</sup> May 2013, were approved.

## **3. Matters Arising**

UG admissions – we have an increase across home, EU and OS for UG, please see attached documentation.

## **4. Strategic Issues**

### **a) HiPEDS Centre for Doctoral Training**

Prof Kelly presented an overview of our engagement with PhD students and sought advice on how best to improve this, especially in the context of the new Centre for Doctoral Training.

In subsequent discussions, Wendy Tan-White (Moonfruit) proposed the idea of holding a workshop (possibly two months) whereby PhD students could meet companies and discuss potential internships and lines of research early on in their degree programme. There was general agreement amongst the board that this would be highly desirable. Entrepreneurial initiatives and how to engage positively and cost effectively with universities and PhD students were raised by Christopher Blatchford (Thomson Reuters), Sean Ralph (DSTL), Jon Page (BBC), Paul Clarke (Ocado) and Mark Stuttle (Google). The need for creating networks of staff beyond the PhD students within the college was emphasised.

**Action: anyone who would like to become involved with HiPEDS to contact Paul Kelly [p.kelly@imperial.ac.uk](mailto:p.kelly@imperial.ac.uk) or Victoria Nicholl [cnp@doc.ic.ac.uk](mailto:cnp@doc.ic.ac.uk)**

### **b) Data Science Institute**

Professor Guo gave an overview of the Institute's founding and purpose, explaining the various options for interaction, such as supplying data, working on mutual projects, and creating joint initiatives, such as Huawei's lab within the Data Science Institute. He emphasised that a strength of the Institute is that it brings together staff from the entire College, so that any specialism that is needed can be provided. In the long time the Institute will probably set up an MSc, but in the short term, data competitions are the focus for education with students (industry will provide the data).

Issues of portability of data were raised by Jon Page (BBC). Christopher Blatchford (Thomson Reuters) stated that they have huge data challenge. The first thing they need to do is get the data in a useable format to go into their data repository. Logic processing is important.

Issues regarding privacy, and the need to ensure that personal data could not be reconstructed from anonymous data so that people can be secure in the knowledge that their data is being handled appropriately were raised by Paul Clarke (Ocado). Wendy Tan-White (Moonfruit) agreed that organisations are wary because they want to maintain the potential to earn as well as being concerned over privacy. She stated, however, that unless we are open we won't progress.

**Action: anyone who would like to learn more about the Data Science Institute or get involved should contact Yike Guo [y.guo@imperial.ac.uk](mailto:y.guo@imperial.ac.uk)**

c) Communicating Science in Schools

Dr Gopalan gave an overview of the department's successful scheme, launched in the 2013-14 academic year, where Imperial Computing students spend around 3-5 hours per week over 8-10 weeks at a school as one of their courses.

- Schools are a mix of high-schools, sixth form and Kent grammar schools (school student ages range from 12-18 and there are two all-girls schools taking part in the scheme)
- Computing students are selected based on interest and motivation
- Eight students (out of 14 interested) were chosen for this option in the current academic year
- Topics for teaching chosen by mutual agreement between host school teacher and Computing students. This year these ranged from Minecraft on Raspberry Pi, to an iPhone game to a Programming Club to a Course in basic Computing

There is a need for more schools to join the scheme so that all Computing students who wish to take part and are properly motivated may do so: Dr Gopalan is actively pursuing more schools.

The scheme was met with approval and hopes were expressed by Joseph Do (Mindlink Technologies) for a summer camp and Paul Clarke (Ocado) that more opportunities might be created beyond the department's students.

Susan Eisenbach replied that the department are currently advertising for an outreach teaching fellow, as the department wishes to expand in this area, and that it needs someone with creative and imaginative ideas.

Bill Mitchell (BCS) stated that there are £25k scholarships for people who want to become computing teachers and who have relevant qualifications and experience and who just need a teaching qualification. There is also the Barefoot teaching project consisting of half day in schools.

**Action: if anyone is interested in the Barefoot Teaching Project please get in touch with Bill Mitchell [bill.mitchell@hq.bcs.org.uk](mailto:bill.mitchell@hq.bcs.org.uk)**

Glynn Barton (Transport for London) stated that they ran engineering courses in schools which were very well received by everyone involved, and that they have seen their recruitment numbers come up as a result.

**Action: Dr Gopalan to create a flyer and to do a case study**

## 5. Industry Presentation

The following Board member presented to the meeting:

Transport for London (TfL)

Mr Glynn Barton, Chief Engineer, Network Management Section

Presentation: 'Road Space Management'

Mr Barton stated that it is his responsibility is to set the road network up to meet everyone's needs. Principally he does this through signals. TfL are constantly criticised but face a massive challenge which will get significantly worse by 2031 when the population of London is expected to increase by 1.6 million people. Capacity to be added is far outstripped by the volume increase that will be needed and therefore technological improvements are key here with TfL's traffic modelling tool one of its most powerful tools to help understand what their signals are achieving and ensure the best balance for the network. Managing incidents and prolonged traffic altering events (such as the Olympics and road works etc). better was also a key concern, and therefore the ability to use data better is vital.

**Action: Imperial to see how it can get TfL's data (which is public) for the Data Science Institute**

Paul Clarke (Ocado) raised the issue of security, and Mr Barton confirmed that this is a huge issue for TfL, and they are as weak as everyone else. Jon Page (BBC) stated that this is mostly about start/stop of vehicles and asked whether recommendations were a viable avenue. Mr Barton agreed and said that people don't like being told what to do, although it worked well during the Olympic Games 2012, The key is explaining different options and letting people chose what is best for them.

## 6. AOB

Paul Clarke (Ocado) enquired about mechanisms which might be used to engage more frequently with the Industrial Liaison Board. After some discussion it was generally agreed that a mailing list should be set up to promote ad hoc discussions of important topics with board members.

**Action: Susan Eisenbach asked board members to get in touch with Victoria Nicholl [cpp@doc.ic.ac.uk](mailto:cpp@doc.ic.ac.uk) if there is anything they feel where a closer relationship with the department would be beneficial.**

**Action: Victoria Nicholl to set up a mailing list**

## 7. Close

The meeting closed at 7.00pm.