Minutes from the Bioengineering and Biomaterials IAB meeting

Date
The 11th of November 2016

Location
Nanoforce Boardroom

Start
1 pm

IAB Members present
Dr. Allan Ritchie (chair), Mr. Michael Dean (Baxter), Mr. James Grainger (St Jude), Prof. Andrew Lewis (BTG)

Apologies
Dr. Phil Jackson (Lucideon), Dr. Amy Kinbrum (DePuy), Prof. Mehdi Tavakoli (KTN), Dr. John Thomson (Vygon)

SEMS staff present
Prof Hazel Screen (Chair of Division of Bioengineering and Biomaterials, Prof Wen Wang (Head of School), Dr Nuria Gavara (Deputy for teaching, Division of Bioengineering and Biomaterials), Dr Pavel Novak (Industrial Liaison for Division of Bioengineering and Biomaterials)

Introductions and minutes from previous IAB meeting

There have been a few changes in the membership of IAB reflecting the modifications in the organisation of SEMS introduced by the new head of school Prof Wen Wang. Therefore, AR invited all current and new members to introduce themselves and briefly describe their background and role in SEMS. Andrew Lewis from BTG, previously member of Materials IAB, has joined the Bioengineering and Biomaterials IAB. Prof Hazel Screen and Dr Nuria Gavara joined IAB as the new representative members of the Division of Bioengineering and Biomaterials. Prof Wen Wang joined the board as the new head of school and academic member of Division of Bioengineering and Biomaterials.

AR reminded everybody about the role of IAB, that it is a two-way relationship between industry and academia which helps both sides to understand the specific needs and problems of the other side.

AR asked whether anyone has any comments on the minutes from the previous meeting on the 3rd of March 2016. No comments were raised and the board approved the minutes.

Introduction of the new structure of the school

AR asked the new head of school WW to introduce the new structure of the school. WW explained the rationale behind the changes in the school structure. WW sees the biomaterial sciences and bioengineering as two sides of the same coin and therefore decided to create a Division of Bioengineering and Biomaterials which covers both teaching and research in this

area. Division of engineering science covers the existing teaching and research in the area of mechanical engineering, aerospace engineering, modelling and simulation, robotics and renewable energy. Division of Materials Science covers areas of materials teaching research. Each division has a chair professor and deputies for teaching and research. WW then explained that the fourth division of the school is represented by strategic partnership with North Polytechnic University in China which is mainly focused on materials science.

AR asked about the overlap between the Division of Materials and Division of Bioengineering and Biomaterials. WW explained that Division of Materials was mainly focused on materials research outside the biomedical applications.

JG asked how does the change in organisation structure affect current students. WW explained there is no change to teaching in the short term. HS added that in the long term the aim of the restructuring was to improve teaching and research by bringing them closer together. HS also explained that each Division has a considerable amount of autonomy which allows it to make decisions about its research strategy and development of its curriculum.

AL opened the topic of excellence frameworks and noted that according to his understanding it is difficult to achieve good ranking both in research and teaching, and that universities may have a tendency to focus on one of the rankings. The he asked what is the goal of SEMS – whether it is trying to achieve the best REF or best TEF score. WW noted that TEF is a new challenge. REF score of the school has been very good in the last run, while TEF is based on student feedback which is often variable and it is not so clear how it can be improved. HS added that we view ourselves as research intensive university but that does not mean we ignore TEF. WW and HS then continued explaining the difficulties in achieving good TEF. One of the problems seems to be that expectations of students are very different to the reality, for example in the number of contact hours. HS noted that the goal of university is to prepare students for reduction in the contact hours at university compared to schools as this is closer to reality outside academia where the number of contact hours is minimal if any.

New programmes

PN briefly introduced the new MSc programmes in Biomedical Engineering running for the first time this academic year. PN explained that the aim of the new programmes was to address the issue of gradual decrease in number of applications on the Medical Electronics and Physics (MEP) MSc which is running for the last time this year. Paradoxically, the new MSC in Biomedical Engineering with Instrumentation and Imaging designed to replace MEP attracted no students this year while MEP attracted 6 students. Another MSc programme with small number of students is the conversion MSc designed to “convert” graduates from biology/medicine to biomedical engineering. JG asked about the appeal for students, from what background we are trying to attract students and what is needed to attract more students for the conversion programme. AR and AL noted that it is difficult to convert graduates from biology and medicine to a “true” engineer within a year and suggested that it may be easier to try to create conversion programme into engineering project management or design engineering which may be more realistic. AR then suggested that regulatory affairs are another area of biomedical engineering which may be more suitable for one year conversion programme. AL suggested to bring more design and less math engineering to the conversion programme and to consider Bioengineering Design as possible future MSc conversion programme. NG asked whether it would be acceptable for industry to have these conversion programmes as part time programme for people with biomedical sciences background already working in industry to improve the chances of succesful “conversion” AL and AR supported the idea in principle but noted that this kind of programme would need to be tuned to the needs of industry to be successful. It would need to focus on company specific problems. AL asked

whether it would be possible to have the course accepted as one of the steps towards a chartered engineer to give it a competitive edge.

PN then briefly mentions the new Robotics programme which is run by the Division of Engineering Sciences. AR notes that it would be worth to have the robotics programme linked to biomedical engineering stressing huge opportunity for robotics in biomedical engineering in future.

In the last point dedicated to the new programmes WW talked about the Joint Education Institute with the North Polytechnic University in China. WW explained the focus will be on materials and polymers. AL asked how this is going to be organised. WW explained that 50 % of academics will be teaching in China and 50 % in the UK.

Actions: Consider future conversion MSc programmes aimed at engineering project management, engineering design, and regulatory affairs. Consider creating part time MSc conversion programmes. Consider increasing the amount of design, management skills and regulatory affairs in the conversion programme and reduce the math engineering content which may be difficult for biomedical scientists considering the short duration of the course. Consider having the course accepted as one step towards chartered engineer.

Exploring opportunities for collaboration between industrial partners and the school

PN presented “price list” for industrial partners listing typical cost of fully funded and half funded PhD studentships. PN notes that members of IAB will have priority when considering half-funded PhD studentships.

Half funded PhDs, MEng projects, industrial placements

WW explained that the half-funded PhDs are co-supervised with industry. Projects can be flexible, part of the time can be spent at the company part at the university. WW is willing to fund more projects than the initially suggested limit if the project is good and has clear impact. At the moment, we just need title and few lines describing the project before Christmas. NG suggested to put together list of new equipment which will be available for the half-funded PhD studentships and list of expertise of academics which may help industrial partners to decide to sponsor a project. PN presented success story of developing collaboration with Phil Jackson member of IAB representing Lucideon which started through MEng project progressed into offering of two industrial placements and now considering half PhD. MD mentioned successful collaboration between Baxter and SEMS which dates back to Apatech – company spin out of the Interdisciplinary Research Centre (IRC). MD stated they are involve in a number of MEng projects and PhD studentships at SEMS.

HS asked to for suggestions from companies to get involved in MEng project that can later join IAB. AR remined to approach ABHI (Association of British Health care industry) to get the list of companies that could be invited to join IAB.

JG asked about the HR contact in St Jude Medical he provided last time. PN explained that the information came late for the last round of industrial placement recruitment but will be used in the next round. PN said he will forward the contact to Crawford Blagden who is in charge of managing student placements.

Actions: Create list of expertise and equipment available at SEMS to encourage creation of new industry-sponsored PhD studentship. Send ideas for projects to PN who can find appropriate partner for the project. PN to forwarding HR contacts to Crawford Blagden.

Talks, guest lectures and other industrial liaison matters

AR briefly describes his positive experience with giving guest lectures at SEMS and encoured other members of IAB to give guest lectures. AL added that he also has positive experience with guest lectures at other universities and is happy to give talks at SEMS. PN asked IAB members to send suggestions for possible talks to him and he will try to find the best match among academic staff members.PN also mentioned Engineering societies as possible platform for guest lectures. NG added Women in Science and Engineering as a good platform for guest talks and asked IAB members for suggestions for talks featuring women in engineering.

WW mentioned the upcoming EPSRC deadline for applications for CDT (Centres of doctoral training) which requires participation of industry. WW stated that any help from IAB members during the process of preparing the application would be greatly appreciated.

Actions: IAB members to send suggestions of possible guest talks to PN. PN to find a link between suggested talks and existing modules or IoB seminar series. Suggestions for CDT centres participation/support.

Any other matter

The next IAB date to be confirmed.

Actions: PN to send e-mails to IAB members informing about the date of the next IAB meeting.