



**NERC Centre for Doctoral Training (CDT) in Oil & Gas**

**Industry Advisory Board Meeting**

**25<sup>th</sup> January 2019, 10:30 a.m. – 4:15 p.m.**

**Board Room, Enterprise Building, Heriot-Watt University**

**MINUTE OF THE MEETING**

**ATTENDEES:**

**Industry Advisory Board Members**

John Underhill (HWU; CDT Director, Interim Chair) (JU)

Husnein Ahmed (Total) (HA)

Andy Bell (Shell) (AB)

Peter Bentham (BP) (PB)

Anne Constant (Cairn Energy) (AC)

Andy Henery (ConocoPhillips) (AH)

Russell Reekie (Verus Petroleum) (RR)

Andy Robinson (Equinor) (AR)

Chris Thomas (ExxonMobil) (CT)

**INVITEES:**

Lorna Morrow (HWU; CDT Manager) (LM)

**1. Welcome and apologies**

JU welcomed everyone to the meeting in particular CT representing ExxonMobil who joined the industry partnership during 2018 and was attending the IAB for the first time. JU outlined the HSE provision and thanked companies for their support of the CDT to date. As the Chair, Patrick Bermingham, had retired from Shell towards the end of 2018, JU offered to act as Interim Chair for this meeting, or offered members the opportunity to elect a new Chair from the start. Members agreed to JU continuing as interim Chair for this meeting.

There was full attendance with no apologies tendered. As changes in personnel have resulted in a number of new IAB representatives attending the meeting, JU asked members to introduce themselves briefly.



## 2. Review of actions from IAB meeting, 2<sup>nd</sup> November 2017

The minute of the previous meeting was circulated and amendments approved by members shortly after the November meeting itself.

<b>ACTION@2<sup>nd</sup> November 2017</b>	<b>AGENT – Update at 25/01/19</b>
Companies to provide details of their geophysics training personnel as possible contacts for the CDT Training Academy Programme	AClark – No details have been received so AClark will repeat the request
Circulate pdf copies of cohort course feedback reports, including numbers of students attending each course / survey response rate, to members. <i>Note subsequent to meeting: Overall response rates for first three cohorts to Dec 2017 are 2014 – 69%, 2015 – 70% and 2016 – 79%.</i>	AClark Circulated by LHM email on 19/12/17.
Source report from Awards Committee Chair	LM Included in minute appendix
Request metric suggestions from each IAB representative and then circulate a KPI document with current evidence for companies to weight according to their own priorities. Circulated by email 19/12/17	LM Draft KPI document circulated by email 19/12/17. No responses at the time but members at the 2019 meeting requested that updated spreadsheet be circulated.
IAB members to discuss ongoing chairmanship of the Board via email and advise JU by end of November 2017	JU / all IAB members – Patrick Bermingham elected 24/11/17
Circulate Doodle Poll to determine need/date for interim IAB meeting to review progress regarding CDT renewal and opportunities for 2018 entry cohort	LM – Deferral by academic partners of 2017 match-funded studentships ensured continuation of 2018 cohort recruitment so interim meeting was not required.

## 3. Review of 4<sup>th</sup> year of CDT operations

Delivery of Training Academy 2017/18 session programme As requested at the previous IAB meeting, a new elective course in Machine Learning with application to the geosciences was introduced in November 2018 led by academics from Heriot-Watt University and the



University of Lausanne. The course was over-subscribed and was well received by those who did attend so it will be repeated in the 2019 programme.

Members expressed their pleasure at the quality of the student feedback and positive responses to almost all courses. They highlighted a concern with the consistently poorer student feedback for one course, Mature Basins, which does not appear to be delivering what it is intended to do. JU/LM were asked to contact the Training Academy Committee Chair to ensure that the current course provider, University of Manchester, has a coherent and organised course structure in place before it is agreed that it offers the course again in 2019.

The Reservoir Engineering course provided by AGR Tracs is consistently popular and AH suggested that this topic should be given mandatory status. This will be followed up with the CDT Training Academy Committee.

Members discussed the provision of Careers training and LM advised that the focus and format of the 2019 course for the 2015 cohort had been increased to 5 days and would include specific sessions on academic and industry career paths with less emphasis on generic Life Skills. LM also noted that all universities offer their own career development training programmes, often in conjunction with the national research development organisation, [Vitae UK](#), and that the CDT academic partners requested that the CDT course does not want to replicate this local provision. Members suggested that the training could be split into a Life Skills section at the start of the PhD and career-specific training at the start of the final year.

In answer to a query from PB regarding the rationale behind the order in which courses are delivered to students, JU outlined the pyramid structure of the CDT's 20-week training programme with the front-loading of the introductory courses in the first year of the studentship followed by a narrowing and deepening of the content, including the provision of in-depth elective courses, in years 2 and 3. JU confirmed that industry sponsor staff members are welcome to join a CDT course or field trip for a day or so as appropriate and any requests should be directed to Anna Clark, CDT Training Officer.

Student Feedback The method of collection of course feedback continues to be on the basis of an anonymised on-line survey, with the link usually provided after the completion of the course. It is felt that insisting that students complete the survey before leaving the course would result in a quick 'tick box' approach and we would lose the valuable written comments which are more helpful in planning what would hopefully be improvements to a course the next time it runs. The overall return rate remains at 70% (309 responses out of a potential 442) with a range of 40 – 100%. In the spirit of openness, LM advised that the single day Business Simulation workshop which ran for the 2016 and 2017 cohorts combined, had the lowest return rate and if those figures are added to the overall total, the response rate has dropped to 66% (335 out of 507 potential responses). Recognising this was a single day course, members agreed that it could be discounted and stated that they were pleased that the minimum response rate of 70% was still being met.



Members suggested that the feedback summary documents be circulated to all academic partners.

Update on funding model for the Training Academy programme Taking into account the funding commitments of the current IAB membership, the salaries of the CDT Manager and Training Academy Officer to August and November 2020 respectively and the training requirements of the 2018 cohort, the TA budget shows a surplus of @£225k. Members discussed options for alternative uses for these funds under item 5 (Future commission of the CDT – studentship funding options). HA asked that the funding model spreadsheet be circulated to the membership. LM noted that the Euro/Sterling exchange rate is making the French and Spanish field trips more expensive and that the smaller 2018 cohort size may also increase the ‘cost per student per day’ from the current default budget of £100 which is used for estimating future course costs in the model.

Reports from Awards, Graduate and Training Academy Committees Reports from the Chairs of these committees had been circulated as pre-reading for this meeting. While the reports are useful, members would like to be able to speak to the Chairs in person and asked that they be invited to join the next meeting and deliver their summaries remotely for this item so that IAB members can question the Chairs in person.

Geological Society of London (GSL) accreditation A sample copy of the transcript provided to students who complete the CDT’s 100 day (20 week) training requirement was circulated. As per the recommendations of the Management and Training Academy Committees and the Industry Advisory Board, only students completing the full programme are provided with this record of their course attendance. JU explained that GSL accreditation is a step towards recognition as a Chartered Geologist which is vital if an individual is acting as an expert witness in legal cases for example.

#### **4. Industry expectations of the CDT**

Future Training Academy module provision Members discussed the continued need for more geophysics provision in the training programme and whether this should be a mandatory or elective course. It was felt that the use of seismic, sensor and other geophysical techniques such as 3/4D and time lapse are still required for exploration, development and production. It was agreed that JRU would draw up a skeleton schedule of topics e.g. Magnetics, Depth Conversion, Gravity, and circulate this to members for further additions and details of any company personnel who could deliver a day or half day under the agreed headings as AH noted that it is difficult to secure a week of anyone’s time. The final decision on whether the course would be mandatory or elective would be put to the CDT’s Training Academy Committee in the first instance once the course outline has been agreed.

#### **5. Future Commissioning of CDT beyond current 2017 entry cohort**

JU reported that although the response from Duncan Wingham, Chief Executive of NERC to JU’s letter to Sir Mark Walport, Chief Executive of the overarching government research



funding body, UK Research & Innovation (UKRI), was more positive than JU had been expecting, it is extremely unlikely that there will be any Research Council funding of studentships for a 2019 entry cohort because NERC had committed their budget to the Doctoral Training Partnership (DTP) programme this year. PB offered to draft a response from the IAB to NERC, copied to UKRI, with guidance from JU. JU will also circulate his original letter to Sir Mark to complement Duncan Wingham's response which was circulated as pre-reading. Members also suggested that the CDT team create a new presentation that highlights the successes for the first 4 years of the CDT's operations to new potential funders.

JU outlined his discussions with other potential funders e.g. Scottish Government, the Oil & Gas Authority (OGA) and the Oil & Gas Innovation Centre Aberdeen (OGIC). The CDT is already included in the Department of Business, Energy & Industrial Strategy's (BEIS) Oil & Gas Sector Deal, which is led by Trevor Garlick, who is responsible for BPs initial 6 year commitment to the CDT. The CDT fulfils BEIS' requirement for postgraduate education and apprenticeships to be covered in the Sector Deal, but the deal itself has been under discussion within BEIS for some months now with no progress to date. The OGA's budget is currently constrained but they can encourage companies to sponsor the CDT as this is worth 30 points in licensing rounds. Members asked if the OGA could provide the number of licence applications which included CDT sponsorship.

As regards the UK government-funded research funding bodies, NERC may reverse their current decision to discontinue industry CASE (Collaborative Awards in Science & Engineering) awards. EPSRC (Engineering & Physical Research Council) is continuing with their CASE awards programme, but our projects would need to meet their science remit. JU noted that Shell and BP are on EPSRC's list of preferred organisations and are automatically allocated a number of EPSRC studentships. He asked these two companies to explore the possibility of using these studentships to fund PhD in the Oil & Gas CDT.

JU explained that recruitment to the 2018 cohort had been enabled by the award by NERC of an additional 10 National Productivity Investment Fund (NPIF) studentships for the 2017 cohort which in turn had allowed academic partners to defer their match-funded studentships for that cohort to the 2018 group. However, because this funding came from the academic partners own funds, there was always uncertainty over the actual commitment of those funds. This resulted in the selection of project titles for 2018 entry and recruitment being delayed until summer 2018 when the UK agreed date for CDT/DTP studentship offers to be sent out to applicants was mid-March. The uncertainty as to the number of students who would be recruited to the 2018 cohort also made planning of the training programme difficult as there needs to be a minimum number of @15 students to make courses for a cohort viable.

Members discussed the possibility of re-purposing the current surplus (@£225k) in the Training Academy funds to provide studentships. In order to achieve a minimum viable cohort size, which also assumes that all academic partners going forward commit funds on a one-for-one studentship basis, a budget for 7 studentships of £98k for the 4 years' duration



(i.e. £686k) is desirable. If the remaining 3 companies whose subscriptions are on a rolling annual basis could commit to fund their subscription for the next academic session 2019/20 and all 8 current funders also commit to their subscriptions for the 2020/21 academic year, the monies accrued would provide sufficient funding for 7 studentships. Having this funding commitment would be a significant lever to attract matched funding from other external funders as well as current and new academic partners.

Members agreed that it would be difficult to secure commitments of this nature within the short timescale required for recruitment to a 2019 and the risk of damage to the CDT 'brand' by having an incomplete and poorly funded cohort were greater than delaying the next entry point to October 2020. Members requested that JU write to IAB representatives asking for permission for additional flexibility in the use of the subscription monies to include the funding of studentships. Companies would not be sponsoring a single project but would be allocated an equal share of all projects to ensure the continued access to the full CDT research portfolio. The letter should also seek confirmation of continued subscription funding for the 2018/19 and 2019/2020 academic sessions as appropriate to each company's current contract commitment to the CDT. JU confirmed that he would continue to seek external studentship funders and if successful, this would obviously reduce the call on using Training Academy surpluses to fund studentships. Members noted that sufficient funds would always need to be available to support the training requirements of cohorts recruited in the future i.e. the training must have primacy, and the possibility of increasing the annual subscription amount for 2020 onwards after 6 years (2014 – 2019) at the same level of £40k was mooted.

## 6. Future IAB Chairmanship

After discussion, members agreed that it was more appropriate that chairmanship of the Board should be held by one of the industry representatives rather than the CDT's Academic Director. RR said that he would personally be interested in assuming the role but thought that a household name would be more beneficial giving the short to medium-term transition to a new funding model and academic partnership. AH noted that acquisition talks between ConocoPhillips and Ineos meant he was not in a position to take on the role currently.

PB expressed interest in taking on the role and offered to speak to his management about this in the next two weeks. JU asked all IAB representatives to consider this offer in the meantime and await a reply from PB. JU stated that it would be advantageous to have a Co-Chair or Deputy Chair to share responsibilities and provide support. The possibility of a rotating Chair on an annual basis was also mooted. **Note subsequent to meeting:** PB confirmed in email dated 04/03/19 that BP had approved him taking on the role of IAB Chair. JU's sense from the discussion was that there was an appetite for the Chair to be a one-year post that rotates around the group with the suggestion that a co-chair or deputy also be appointed, who might step up into the role next year. Extension of the Chair's tenure remains an option so that there is flexibility but the intention is that the norm is an annual rotation.



## **7. Any Other Competent Business**

Members discussed the one day conference arranged and hosted by Shell who, through the CDT management team, invited CDT students along with research students who they sponsor directly. AB reported that students had found the experience useful but would have liked to learn more about the research undertaken within the company itself. AC stated that it was Cairn's intention to hold an Edinburgh-based event to raise awareness of the CDT in her company and it was agreed that this was acceptable on a one-off basis, but that it would be better if more Cairn staff attended the CDT's Annual Conference. Other companies expressed an interest in holding similar events but were mindful that having 8 separate days could overload students. Members favoured the option of an annual event which rotates round companies, moving between London and Aberdeen, to which other sponsor company staff would be invited. LM suggested this could be linked in to the YP mentoring scheme and work as the annual mentor networking event which encourages YP mentors and students to meet in person and develop their links.

The recruitment of a CDT student at the start of his second year to full-time employment by Equinor was discussed and concerns raised that this behaviour could lead NERC to claim that companies are viewing the CDT as a cheap recruiting vehicle rather than a research hub. Members agreed that it was not a good advert for the CDT and did not sit well with the spirit of co-operation between partners. AR explained that the student had undertaken an internship at the end of his MSc qualification and had been very close to recruitment at that point. His specific IT skills were attractive to Equinor and the student had prioritised industry employment rather than academia. It was therefore a unique case and AR did not expect a similar situation to arise in the future.

JU announced that the CDT Annual Conference would be held on Friday 1<sup>st</sup> November 2019 at the Sheraton Hotel in Edinburgh's City Centre.

## **8. Date of Next meeting**

JU anticipated that progress in funding discussions might require an IAB meeting in around six months' time to maintain momentum.





## Actions and agents

ACTION@25 <sup>th</sup> January 2019	AGENT
Contact the Training Academy Committee Chair (Andy Aplin) to ensure that the current course provider of the Mature Basins course, University of Manchester, has a coherent and organised course structure in place before it is agreed that it offers the course again in 2019.	JU / LM <i>Spoke to AA on 01/02/19 asking that he contact Mads Huuse, course leader at Manchester, to confirm content for 2019 delivery</i>
Request that Training Academy Committee considers a change in status of the Reservoir Engineering course from elective to mandatory	AC
Update the KPI spreadsheet with 2018 calendar year data and circulate to members	LM <i>Circulated with draft minute 11/02/19</i>
Circulate the CDT's August 2018 Annual Report to NERC to IAB members	LM <i>Circulated with draft minute 11/02/19</i>
Circulate course feedback summaries to CDT contacts at all academic partners	LM <i>Members agreed to retain current distribution</i>
Circulate Training Academy funding model spreadsheet to members	LM <i>Circulated with draft minute 11/02/19</i>
CDT governance Committee Chairs to be invited to report to the next IAB meeting in person to allow greater discussion of the Chairs reports	LM
Draw up outline schedule of topics for Geophysics course and circulate to members for comment and with request for company contacts who could deliver 0.5/1 day course on a particular subject	JU
Request OGA to supply the number of licence applications which feature sponsorship of the CDT	JU
IAB to send letter to NERC, cc UKRI, regarding the ongoing value of the CDT and case for continued government funding	PB
BP and Shell representatives to explore the opportunity to use their preferred organisation status within EPSRC's studentship scheme and allocate these to fund PhDs in the Oil & Gas CDT	PB / AB
Create a presentation for use with potential new funders to demonstrate 4 years of CDT successes	JU / LM / AC
Discuss assumption of role of IAB Chair with BP management	PB