



CENTRE FOR DOCTORAL TRAINING (CDT) IN OIL & GAS

MANAGEMENT BOARD MEETING MINUTE

31st October 2019, 3:30 p.m. – 5:30 p.m.

Board Room, Enterprise Building, Heriot-Watt University

ATTENDEES:

Management Committee Members

John Underhill (HWU; Chair, CDT Academic Director)	(JU)
Peter Bentham (Chair, Industry Advisory Board)	(PB)
Andy Aplin (Durham)	(AA)
Rob Butler (Aberdeen)	(RB)
Stuart Clarke (Keele)	(SC)

INVITEES:

Lorna Morrow (HWU; CDT Manager)	(LM)
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1. Welcome and Apologies

JU welcomed everyone to the meeting and outlined the HSE provision.

Apologies had been received from Al Fraser (Imperial) and Mads Huuse (Manchester).

2. Approval of Minute of the Management Committee meeting on 2nd November, 2017 and review of actions

The minute had been circulated previously and amendments made in the light of members' comments and the minute was therefore unanimously approved as a true record of the previous meeting.

Update on Actions

Action@2 nd November 2017	Agent(s) and update@31 st October 2019
Imperial to seek guarantee of deferred studentship funding for 2018 entry cohort in return for receiving the remaining unallocated studentship from the NERC CDT grant for the 2017 entry cohort	AF. Imperial's studentship recruitment to the CDT over 5 years has been 6 grant-funded and 9 institutionally funded students.
Update Guidance to Students and Supervisors document with ruling on provision of CDT transcripts on completion of Training Academy programme	LM. Guidance updated 17/11/17
Contact BP to find out whether they already have an interest in the NERC CASE studentship scheme	AF. NERC discontinued CASE studentship scheme from 2018 and so no opportunities currently exist.
Contact all current CDT academic partners to seek an indication of their likely commitment in terms of numbers of students that they would be prepared to fund as part of the CDT in the absence of any other RCUK funding.	JU / LM. All partners except Glasgow, Newcastle and Southampton had agreed to accept NPIF funding for the 2017 cohort and defer their 2017 funding to 2018 cohort. BGS moved all their British University Funding Initiative (BUFI) funding to exclusively support NERC's Doctoral Training Partnership (DTP2) programme. The actual 2018 commitment is therefore Heriot-Watt, Aberdeen and Imperial, 3 students, Manchester, 2 students, Birmingham, Durham, Dundee, Exeter, Keele, Nottingham, Royal Holloway and Strathclyde, 1 student. As a consequence, Glasgow, Newcastle and Southampton join Oxford, NOC and BGS in dropping out of the program.
Training Academy to investigate possible contributors to a new elective course in Big Data and Machine Learning	AC / TAC Chair. New elective Machine Learning course ran for 1 st time in November 2018 led by Dr Vasily Demyanov (Heriot-Watt) and Mikhail Kanevski (Lausanne)
Approach Andy Pulham and Nigel Evans for replacement 3D Seismic Interpretation course	AC / TAC Chair. Industry Advisory Board (IAB) representatives from Equinor and Cairn Energy indicated a willingness at the earlier IAB meeting to provide a Geophysics course and JU will prepare a draft course content document for discussion.
Offer Stratigraphy course as an elective and source alternative provision for 2 nd week of Challenging Environments research theme course	AC /TAC Chair. The Exploration Stratigraphy course was offered as an elective to the 2017 cohort and the final year Careers course was lengthened from 3 to 5 days. No additional Challenging Environments material has been sourced and this cohort currently has only 78.5 mandatory days scheduled. An additional 1.5 days needs to be resourced.
Gauge interest at The Geological Society (GS) London to host a student research results presentation event as part of a 'graduation' ceremony for the 2014 cohort to mark the completion of their studies and the GS accreditation of the CDT's training programme.	LM Difficult to agree a time that would suit everyone. A number of 2014 cohort students did not submit until 2019. No recent demand from students. Perhaps look at a joint cohort event in 2020? GSL is not pressing for such an event at the moment and those present agreed that the CDT

	Annual Conference remains the best and most suitable opportunity for an alumni event.
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3. Current CDT membership

LM reported that there are now 20 students in the 2018 cohort, two of whom are replacements for students in the 2017 cohort who withdrew voluntarily from their studies. These two students, plus 3 others who also missed the October 2018 start due to the delay in that year's recruitment process caused by NERC's late announcement of the allocation of its National Productivity Investment Fund (NPIF) studentships, have missed some of the 1st year courses and may therefore struggle to complete the 100 day training requirement. All affected students have been made aware of this prior to their recruitment.

The Oil & Gas label had already stopped some of the CDT partners from recruiting to the 4th cohort. As regards the 5th cohort who started in October 2018, some partners used the money they had earmarked from the deferral of the 2017 cohort funding (replaced by additional NPIF studentships that year), for their own DTPs which had been renewed in 2018. Supporting the Oil & Gas CDT in the 2018 DTP renewal process was seen by many as undermining their own DTP aspirations which led some partners not to support the CDT's attempts to secure NERC funding. Cardiff and Oxford did not participate in the 2018 recruitment round despite accepting 50% NPIF studentships for their 2017 cohort recruits. Newcastle and Southampton had notified their intention not to participate in the 2018 recruitment round and so did not receive NPIF funding for their 2017 entry students. BGS moved all their British University Funding Initiative (BUFI) funding to be exclusive to NERC DTP2 programs. As a consequence of the changes, Glasgow, Newcastle and Southampton joined Oxford in dropping out of the CDT program.

4. Update on studentship and Training Academy funding models

Interim Financial Expenditure Statement, July 2019 LM reported that NERC had been satisfied with the mid-term grant expenditure return supplied by Heriot-Watt. A number of partners continue to be dilatory in claiming reimbursement of the CDT studentships allocated to them, particularly with regard to the RTSG element of the studentship. NERC informed Heriot-Watt that this is a common issue across all CDT/DTPs and approved of the CDT's stance of not providing reimbursement until proof of expenditure for all Oil & Gas CDT students registered at a university had been provided. LM will continue to send reminder emails to partners regarding outstanding invoices.

Training Academy funding There are currently 6 companies who have committed to paying the annual CDT subscription amount for the 2019/20 academic session. On that basis, the Training Academy model shows a surplus of @238k taking into account the salaries of the CDT Manager and Training Academy Officer to July and November 2020 respectively and the training requirements of the 2018 cohort. The default budget of £100 per day per student continues to be the basis on which future course costs are estimated. It is expected that the other two industry sponsors will continue with their subscription but the model only includes committed funding.

5. Industry sponsorship

JU was pleased to report that all existing IAB members had expressed willingness to remain with the CDT in 2019/20 despite the agreement that no students would be recruited for entry in October 2019. He said that he had initially been concerned that this would be perceived as 'managing decline before program closure', but that it had actually had the effect of making many realise that the most successful of NERC's CDT

investments was at a cliff edge, something that has been emphasised during all of the visits JU has made to BEIS, NERC, companies etc. in recent months.

Conoco Phillips has been taken over by Chrysaor but their representative is very hopeful that the company will honour their 2019/20 subscription. JU reported that he is working with another company who is likely to offer internships in the 2019/20 academic session and may well also subscribe.

6. Reports from NERC CDT Committees

(a) Training Academy Committee (TAC): Report from Committee Chair, Andy Aplin, was tabled at the meeting and is included in the Appendix to this minute. It was agreed that the current programme has a good balance of industry and academic-led courses.

(b) Industry Advisory Board (IAB):

PB reported that all company representatives at the January 2019 IAB meeting were present again at the IAB meeting which preceded this Management Committee meeting which demonstrates the industry's commitment to continued involvement with the CDT. The CDT is clearly still working for industry and a message from the IAB to NERC now, rather than back in January 2019, is probably timelier, and will have greater traction with the Research Council.

It was frustrating that companies were not able to make use of the NPIF industrial placement funding offered by NERC and JU asked that companies outline these difficulties and suggest a process to NERC which would work for everyone.

(c) Graduate Committee: SC had provided a report which had been circulated prior to the meeting and is included in the Appendix to this minute.

(d) Awards Committee Kevin Taylor, Chair of the Awards Committee, had provided a report which had been circulated prior to the meeting and is included in the Appendix to this minute.

7. Forward Planning

YP mentoring scheme PB reported that this issue had been raised by an industry sponsor at the earlier IAB meeting, and that opposing views on the most efficacious means of connecting young professionals in industry with CDT students had been aired. Mentor/student allocation and an open access scheme of student/mentor profiles on the CDT website have been tried. Both approaches demonstrate some successes but negative feedback had also been received in equal measure. The IAB representatives from Cairn Energy and Equinor agreed to discuss this further between them and all IAB members would be asking students for their views on the topic at the CDT Annual Conference on 1st November 2019.

Future Commissioning of CDT – Update on studentship funding options JU gave an overview of his attempts to secure funding from UKRI (EPSRC, NERC) and through the Department of Business, Energy and Industrial Strategy (BEIS). JU reported that NERC had concentrated its efforts on its DTP2 programs and had not launched a CDT in 2019. They are cash-strapped and were looking to make savings.

One consequence was that NERC had discontinued its CASE studentship scheme which previously provided industry with a low-cost (@£2k) opportunity to support industry-focussed research. Unlike its EPSRC (Engineering & Physical Sciences Research Council) counterpart, NERC also does not guarantee any workplace-based studentships to its preferred industry partners so this avenue seems to be ruled out as well.

BEIS also provided the Research Councils with National Productivity Investment Fund (NPIF) studentships in 2017 and 2018, from which the CDT gained 12 awards in total. No NPIF studentships were made available in 2019. It is clear that UKRI in general, and NERC in particular, is having difficulty in spending their NPIF allocation so this remains a potential target for funding of the new CDT. However, in the absence of an Autumn Statement and budget allocation, NERC is overall desperately short of funds and until such time as they have clarity over their financial position, would not be in a position to consider funding another CDT.

Nevertheless, JU has continued dialogue with Duncan Wingham, NERC's Chief Executive, throughout the year and had received a strong letter of support from him.

JU indicated that an announcement about continued funding for a CDT model similar to Oil & Gas, but re-purposed to be significantly different from the existing program, is imminent and that he is working with the IAB which has agreed to write to NERC in support of the continued funding of the CDT model if JU secures a new CDT.

JU agreed with members that the terms for joining a new CDT, should studentship funding be secured, would be circulated to the existing partnership and PB reiterated the desire of the IAB to continue its support.

JU reported that the Scottish Funding Council (SFC) had recently reviewed its pooling initiatives and if the recommendations of the Heathwaite review are adopted, they would change to a more thematic basis, which may help Scottish partners to build a case for PhD support. However, like NERC, the SFC will not be able to announce any funding opportunities until the details of the next budget are known. This was due to be announced in November but has been postponed due to the UK election and will not now be made until Q1 2020 at the earliest. Should the Scottish CDT partners obtain funding from this source, that would leave more of any other funding the CDT attracts to be available for PhD positions at English partner universities.

8. Any Other Competent Business

Following the announcement of The Geological Society's accreditation of the CDT training programme, members at the previous Committee meeting had proposed a final 'graduation' ceremony at the GSL's Burlington House headquarters for the 2014 cohort at the end of their studies. Students would be invited to present their research results and it would also be an opportunity to celebrate the GS accreditation of the TA programme and the students' successful completion of the 100 day training programme requirement. Lack of demand, and the extended period over which students in each cohort make the final submission of their PhD theses, led to a consensus amongst IAB members to hold any such event in association with the Annual Conference.

JU stated that Bernie Vining (RHUL) had reached out to find out more about the CDT in light of his attempts to get a Centre of Masters Training (CMT) in Petroleum Geoscience off the ground. JU said that Bernie would form part of the RHUL delegation that attends the Annual Conference and would be canvassing opinions regarding the need and opportunity for a CMT to be set up.

ACTIONS AND AGENTS

Action	Agent(s)
Continue to send reminders to partners re outstanding invoices for reimbursement of fees, stipend and particularly RTSG expenditure	LM
Members to join IAB representatives in questioning students about their experience of the YP mentoring scheme and collecting their suggestions for possible amendments to how the scheme is run	LM

APPENDIX

Awards Committee - Report of Committee meeting that sat on 14th June 2018

Chair – Prof Kevin Taylor (University of Manchester)

Members – Professor Al Fraser (Imperial College London), Professor Keith Gerdes, Dr Alan Roberts (Badley Geosciences), Professor Dorrik Stow (Heriot-Watt University)

- This awards committee considered a smaller number of project titles than in previous years due to the smaller number of funded studentships.
- As in prior years, project outlines were submitted to the CDT centre and distributed among the awards committee ahead of the formal meeting to allow time for members to review.
- The awards committee sat (via teleconference) on June 18th to consider each proposed project. The majority were felt to be appropriate to the CDT and in a few cases some small clarifications were requested from supervisors.
- A number of projects were questioned by the panel and significantly more clarifications were sought. The most common reasons for such clarifications were either it not being clear on the specific focus, and the novelty, of the research being addressed; or it was not clear to the panel that the data were fully available to the project. Those projects were invited to submit a robust clarification and in these cases were accepted via a later email exchange with the panel. In a small number of cases a project was rejected due to the panel feeling it was out of scope for the CDT or was overlapping too much with other projects.
- One observation in this round was that machine learning projects were included, in response to growing interest in this area in the industry. However, in some cases the language used in the proposals was not felt to be accessible to prospective PhD students and significant revisions were requested. It is recommended that clarity on research aims and novelty be considered carefully for this area in any future calls.

Graduate Committee report – meeting dated 29th March 2019. Chair: Dr S.M.Clarke (Keele)

The Graduate Committee met this year in March in Edinburgh to discuss the experiences of students studying for PhD as part of the CDT in Oil and Gas. The meeting was attended by representatives of all cohorts.

The general opinions of students in all years of the CDT programme were extremely positive. Students generally appreciated and valued both their PhD experience as part of the CDT group, and the training that they received along the way.

General discussion concentrated on two items:

Training Academy: The final year Careers Course has been reworked to include preparation of careers and translating of research into business start-ups. The new material was appreciated, but the students had expressed concern that the timing of the course may be a little late in the day for many of them. They also suggested a short course in industry operations and roles would be helpful in providing context for future employment opportunities in the oil and gas sector. The possibility of providing training to address these comments is currently under investigation.

Difficulties (and non-recoverable expenses) have been incurred by students missing or deferring mandatory courses on the Training Academy. This practice is to be discouraged because as well as causing logistical problems for the TA, it also results in students developing a back-log of mandatory courses, or a back-log of the number of required training days, towards the end of the PhD time and during their write-up. The courses then become a 'distraction' from successful completion of PhD, rather than the learning experience they should be.

Two members of the 2014 Cohort had failed to reach the mandatory 100 days of training, although there was not a suggestion that this was necessarily because of a back-log created by circumstances outside of the student's individual control. Nevertheless, these students will not receive accreditation, and where possible the situation should be avoided for future students. Google and Outlook calendars, to which all students on the training academy have access, and regular email updates of each student's current status in terms of training days should help to address this problem.

Student Conference: Arrangements for the poster presentations at last year's conference attracted a fair bit of discussion with many student representatives receiving feedback from their cohorts about a lack of foot-fall at some posters. Consequently, the poster session at this year's conference will be reworked in an attempt to ensure good attendance. The proposal for a best poster /presentation, originally tabled in 2018, was discussed again at length but generally rejected on the grounds that it would add nothing to the conference. Instead, comments forms for feedback will be provided to help delegates with the future posters or presentations.

Training Academy Committee Notes for CDT Oil & Gas Industrial Advisory Board and Management Board October 2019 - Chair, Andrew Aplin (Durham)

Our first cohort of students are now graduating from both the training programme and their PhD studies. Only 2 of the 26 students now registered to this cohort have failed to make the 100 day requirement, 20 have completed the training and 4 are in the process of completing between 1 and 3 days of external training to bring their commitment up to the necessary total. Note that whilst students do not graduate from the Training Academy unless they complete the 100 day requirement, we cannot oblige them to attend.

For those that we know about, employment of the 2014 cohort is as follows: academic 11; oil and gas industry 5; other industry/employment 6. Four students are yet to submit, with one working in the oil & gas sector. For the 2015 cohort: academic 1; oil and gas industry 2. All jobs are appropriate for PhD graduates.

Feedback on courses continues to be very positive in the vast majority of cases. There is a small number of courses where feedback has been more mixed, which we discuss with the course leaders. We continue to offer a broad range of high level training opportunities, and allow students to select up to 10 days of non-CDT training, approved by the Committee on the basis of relevance, quality and experience of teachers, and diversity from what is available within the CDT.

For the first four cohorts, we have stayed within our training budget. We express our sincere thanks to (a) sponsors for funding and (b) large amounts of time given pro bono by training staff from many HEIs and industry. Although there are inherent uncertainties (contracts, elective courses), we believe that there are sufficient funds to maintain a similar level of training until 2022, when the final cohort will graduate.

Continuation of the CDT into a new phase may result in a different set of training requirements and different students, in which case the Training Academy must respond accordingly.