

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

Training Academy Committee, 27th March, 2015, University of Manchester

Present: Andy Aplin (Chair), Andy Bell, Anna Clark, Tony Dore, Lorna Morrow, Jonathan Redfern, Zoe Shipton, John Underhill

1. Welcome and apologies

JU opened the meeting with an HSE briefing and apologies were noted from Tony Gutierrez. JU then proceeded to remind members that since the first Training Academy (TA) Committee meeting a year ago, excellent progress had been made and four weeks of training have already been delivered. Before handing over to AA to chair the meeting, he confirmed that he was in attendance as the CDT lead to provide background information and details of course offerings already made for future years' provision.

2. Committee membership and remit

Members agreed the Committee's remit document as presented.

TD noted that he may represent Ole Martinsen at future meetings as he is based in the UK whereas Ole is in Norway. LM confirmed that ConocoPhillips had been invited to nominate a representative but had decided that they could not take on this commitment at present. The company are content that industry interests are suitably represented by the Shell and Statoil Committee members.

Tony Gutierrez is the Environmental Impact & Regulation representative on the Committee but was unable to be present and has just won a large Horizon award. It is therefore likely that Kate Gormley, NERC Knowledge Exchange Fellow at Heriot-Watt may take on this role.

Members agreed that JU should approach Nautilus to nominate a representative for the Committee once a signed contract is in place. JU explained that Nautilus' contribution is in the form of the £40k subscription fee equivalent of free course places for CDT students to choose from. These will be unsubscribed places on existing courses so will be available at relatively short notice.

Action: JU

3. Funding / Finance

At AA's request, JU reminded members of the financial construct of the TA. BG Group and Maersk signed on a one year rolling contract basis whereas BP and Total have committed to the full six years to cover all three cohorts. The remaining companies have signed for three years in the first instance with a further three years contingent on a successful review. JU has visited BG Group's OS Technology Group in Brazil which currently provides the budget for the CDT subscription to promote the CDT's success so far and to seek the annual renewal of their subscription.

JU reported that he had met with NERC's Chief Executive, Duncan Wingham, and Head of Innovation, Iain Gillespie, as NERC are currently auditing their oil and gas interests with a view to re-evaluating its investment in oil & gas exploration research. Both NERC executives had expressed their delight at how well the CDT is progressing with the elected representative and government departmental traction it has gained. This could affect the renewal of the CDT beyond the first three cohorts, although the true governmental budget support for the CDT model comes from the Department for Business, Innovation and Skills (BIS) and Prof. Wingham noted that there have already been two UK ministerial visits to Training Academy events.

TD is hopeful that Statoil will commit continued funding and he offered to look at getting earlier commitment to this by obtaining sign up during in a calendar year's time rather than waiting until Year 3. JU noted that there have been approaches from other universities to join if any current partners choose to leave the CDT.

JR noted that the NERC studentship RTSG is a minimal amount but other members replied that it is actually higher than the standard amount for UK research council studentships and is available for four years to allow for the 20 weeks' training commitment. JU confirmed that universities are now able to look at getting additional funds from industry to augment this RTSG amount in further support of a PhD project.

TD emphasised that industry is sponsoring the training aspect of the CDT model and contracts state that this funding is ring-fenced to ensure that companies obtain the maximum tax benefit. He underlined this fact, stating that the TA is the basis of company involvement in the CDT and the subscription fees should not be siphoned off to fund further research. AB stated that this is the unanimous view of the industry sponsors. If all companies subscribe for the six years of the Training Academy provision linked to the first three cohorts, there is a likely surplus whose disbursement will be the responsibility of the Industry Advisory Board.

There is evidence that some partners have not advised students of the RTSG element of their studentship and JU/LM have made efforts to ensure that this situation is rectified. LM reported that the annual RTSG is to be claimed in the fourth quarter invoice upon receipt of evidence of the amount spent. Any unused amount in any one year will be deferred to future years to ensure that each student has received £20k RTSG after 4 years.

All CDT students irrespective of their funding sources have cost-free, expenses paid access to NERC courses where there are unfilled places.

JU explained that projects linked to the environmental impact and regulation theme in the first cohort is lower than the desired 25%. However, NERC funds many environmental projects through their DTPs and this reduces the number of both projects and applicants to NERC CDT in Oil & Gas environmental theme. ZS asked if the Awards Committee includes a representative to cover the environmental theme as the Committee had requested significant revisions to some environmental projects that had been submitted for consideration in the 2015 round. JU confirmed that Anna Korre (Imperial) covers this aspect on the Awards Committee.

LM reported that two companies have not yet paid their first annual subscription. Some universities have not told students that RTSG is available and we have had conversations with them to ensure the money is spent correctly.

LM confirmed that speakers can be paid a daily fee if requested and that it is the responsibility of the institution organising the course to factor this into the overall budget which was given as £27–33k for a two week residential course. None of the over 65 presenters who has so far contributed to Training Academy have asked for a fee and less than 10% requested travel expenses.

4. 1st year provision to date and planned in 2015, including student feedback from Graduate Committee meeting, 20th March 2015

Student feedback forms and results for the Launch/Induction, EIR module, YP networking day and Petroleum Basin Analysis course.

Action: AC to circulate sheets to TA Committee and IAB members.

Feedback from the cohort that presenters have generally assumed that all students have a geoscience background was noted and it was agreed that there should be a presenter's pack with details of students and projects and a page about the course with the expected learning outcomes.

Action: AC to prepare this document and JR to provide the Mature Basins course learning outcomes as a template

Gaps in areas such as EIR, Chemical/Civil/Petroleum Engineering and policy making were identified in the current training provision. Soft skills were also mentioned but JU reported that HEI's had resisted the inclusion of this kind of training at the start of the CDT as this is part of each institution's standard training package and should remain the responsibility of the student's host institution.

A Communications course is in the process of being arranged, probably for November 2015 for the 1st cohort. TD gave his experience of where the use of video for training on presentations skills concentrates individuals on their foibles thus increasing their self-consciousness. Maggie Cusack (Glasgow) has been involved in the production of a video about preparing for a viva which would be useful of Year 3 provision.

Action: ZS to approach MC for use of this video at CDT conference in 2016.

AB suggested that a course on scientific writing skills would be beneficial as students gain considerable experience with presentation media technologies at school and UG levels, but the development of writing skills has lagged behind.

It was agreed that presenters should provide pre-reading lists to ensure all students have the basic background required to derive benefit from a course. Dictionaries of industry terminology and straightforward explanations of key concepts in each theme should also be provided prior to the Induction course.

Students clearly enjoyed the mentor networking event but would like to gain career insights from other roles in the oil industry, government/policy makers, environmental industry, NGOs and academia. Other suggestions for career development training included a 3rd year task of writing a proposal and training on how to approach industry for funding/data support etc. AB and TD confirmed that they are happy to see alternative energies, environmental issues and NGO's included in the Training Academy schedule as these are all part of the oil & gas landscape now. Richard Dixon, the Scottish secretary for Friends of the Earth and Jeremy Farrar were suggested as possible contributors to a geo-energy debate. Other suggested contacts included Susan Waldron (Glasgow), who has been involved in the Scottish Wind Farm Carbon Calculator and CREW, and HR Wallingford a company with expertise in water use and energy generation issues.

Members agreed that the priority task now is to draw up a schedule of training courses and dates for each cohort for the first two years of their programme as soon as possible to help students and supervisors plan. The current 1st year provision was agreed as being a suitable mix but with the Mature Basins course taking place from 4-13th May 2016. Advance booking of repeat business should result in cost savings. The schedule should also include the list of optional courses (in addition to the Nautilus portfolio) that will be offered to students so that they decide from a complete programme. **Action:** AC to draw this up.

It was confirmed that the Management Committee had agreed that any student who has to miss a course due to clashes with field trips can defer their attendance on that course to a future year in order to make up the 20 week CDT training requirement.

Other exercises to include in future themed residential courses to break up the lecture sessions were proposed:-

- students to explain their specialism to non-specialists in order to understand and improve their communication skills
- students to explain their project using only the top 1,000 most common words in the English language.
- field trip linked to induction could include the burning bings or attach Midland Valley field trip to the Petroleum Basin Analysis course provided by Shell

5. Proposals for 2nd and 3rd Year provision – content, timing, format, providers, venues

Members agreed that the philosophy for Year 2 is to provide courses with greater depth, with 4 weeks of bespoke training plus 2 days for the conference and 3 additional days. General skills such as communication, presenting evidence, career development advice and viva preparation should be included in themed residential courses.

Members agreed that the integrated exercise in year 3 will be the week-long field trip to County Clare.

LM tabled a proposal drawn up by the School of Life Sciences at Heriot Watt for a 2nd year residential course to include labs, dissection of contaminated fish, field trip to take water

samples and grow cultures to isolate oil-eating microbes. It was agreed this would form a compulsory Environmental and Impact Sensitivity one week course in 2nd year.

Action: LM to approach Kate Gormley to scope this course in greater detail

KT proposed a one-day course provided by BP personnel as part of the Unconventionals mandatory course, but JU suggested that this be included in one of the 2nd year optional course provision.

Action: LM to ask KT to approach BP for a detailed proposal.

ZS suggested approaching Dave Landis to present at the Unconventionals course given his extensive experience of drilling and fracking wells in Poland in particular. This could be linked to outreach and engaging with NGO's to further the debate.

Action: ZS to approach DL

Further field trip possibilities were proposed:-

- Clare field trip and deepwater session on cores in Aberdeen with iCrag. An Elgin field trip would also cover sub-surface reservoir modelling
- JU pursuing an opportunity with CEPSA to offer an Ayelungo field trip and he and AC are visiting the site in June with CEPSA staff after the EAGE conference
- Schlumberger test rig and seismic facility near Livingston (close to Heriot Watt)
- 3 day Petrel course - AB and TD expressed some concern about pushing a customised tool as this is proprietary training and not about the theory behind the tool. It was agreed this could be offered as an optional module
- field trip that demonstrates the different way of approaching stratigraphy to avoid using a proprietary model such as the Neflex carbonate sequence stratigraphy course. Peter Burgess (RHUL) was suggested as a possible provider/contributor to this course.

Action: JU to approach PB

Themes for additional optional courses for 2nd and 3rd year were suggested as follows:-

- Data management, geological risk and uncertainty, geo-controversies, competing mapping techniques e.g. MOVE software vs. BGS. Cabot School at Bristol provides a good risk and uncertainty course which could be the NERC-sponsored course. Clare Bond (Aberdeen) also has expertise in the field of risk and uncertainty – 2 days on basic background, plus case studies e.g. what does the Treasury look at when determining the tax rate for oil industry. Nautilus/RPS also offer an excellent Petroleum Economics, Risk & Uncertainty course taught by Ed Jankowski
Action: ZS to follow up with Clare and AC to follow up with Cabot/Nautilus
- Geopolitics – Alex Kemp (Aberdeen) to be approached as well as HWU staff who produce the annual BP Statistical Review
Action: JU to follow up with Alex and HWU staff
- Decommissioning and Energy Futures
Action: ZS to follow-up with colleagues at Strathclyde
- Geothermals, CCS, big data, geomicrobiology, social health and corporate societal impact and responsibility

Action: ZS to approach Anna Maria Esteves who has worldwide experience of societal impact assessment, not just focussing on the western world.

Action: JU to approach Andy Samuel and Glen Cayley from OGA to look at contributions to a policy-making/regulatory optional course

Action: ZS/AA to approach James Verden, University of Bristol, as possible speaker for 2015 cohort induction programme

Action: AA to contact Colin Oswald (Total) as well as colleagues at Durham to discuss courses on LIDAR and structure, as well as Daniel Koehn and Durham colleagues for CCS/geothermal contributions

- Drilling operations course could be the mandatory one supplied from the Nautilus portfolio
- Provision of the 'Geology of the North Sea and North Atlantic Margin', already presented at a previous PESGB event by JU would be explored with Guy Eliot (PESGB)

Action: JU to follow up

It was agreed that a call for proposals for contributions to 5 day optional courses should be circulated to all academic and industry partners. They should feel free to offer courses in their particular areas of expertise, but that the Training Academy Committee is particularly interested in courses focussing on geophysics, risk and uncertainty, geohazards and environmental impact. It is envisaged that optional courses will run with a minimum of 5 students with a budget of £100 per student per day. It is important that local CDT representatives at partner institutions are encouraged to spread the word about the success and importance of the CDT model to the oil and gas sector, both in the academic and operational fields, and that contributing to the Training Academy provision is an opportunity to advertise their institution's capability to industry, as well as fostering collaboration between local staff working on different aspects of research which can be applied to the oil and gas sector.

Action: Newsletter to be sent out from CDT secretariat to include this call. JU/LM/AC to consider a schedule of visits to partner institutions to publicise the CDT to a wider range of colleagues at each university. (JU has already been in touch with Southampton/NOC about a visit in May)

Action: TD will look at Statoil's Training Scheme for courses that would fit the main themes identified above and pass these to AC.

Some of Nautilus and other CIWM /ICE courses are accredited and this should be noted on the students' final training record. AC will advise students on the composition of their portfolio of optional courses and will draw up attendance certificates for each student. **Action: AC**

6. Proposals for 1st year provision for 2015 entry cohort

It was agreed that courses would be spread out with no courses back to back as had happened in the 2014/15 year. Organisers would pursue a format of provision that mixes lectures with group exercises/field trips and which includes a more general skills offering e.g. a debate on public perception or alternative energy options, student presentation of their work to their peers, career development skills and advice.

7. First Annual Conference, 28/29 October 2015

Members discussed possible formats for the conference and feedback is awaited from the students following discussions at the Graduate Committee meeting on 20th March 2015. This will be circulated to TA Committee members. **Action: AC**

The format used at current Mature Basins course when students gave short presentations on their results to date seemed to have worked well, but with the numbers involved, it was suggested that students should also provide a poster so that more detailed questions could be answered there rather than in the conference hall.

As at the Launch event in October 2014, a couple of keynote speakers, including a UK politician/Minister, should be included if possible, but the focus must be on the students and their research. Supervisors must be strongly encouraged to attend the conference and it was also agreed that a presentation by JU on the background to CDT, with clear guidance on the terms and conditions of being a member of the CDT and the commitment expected is essential.

8. Internship scheme

The possibility of establishing a CDT internship scheme had been brought up by Total at the first Industry Advisory Board (IAB) meeting in October 2014. A number of companies use internships as a recruitment tool, regarding it as an extended interview. Entry to such a scheme would be competitive however, and therefore not available to all CDT students so members decided that although internships should be encouraged, these should not be an official component of the TA offer. AB expressed a preference for students working on their PhD thesis within a company. **Action:** LM to check with NERC regarding any penalty if a student extends their study period beyond 4 years if an internship is undertaken.

Members then looked at the possibility of having shorter work placements that would count towards the 20 week training requirement. It was agreed that a sub-group would explore this with further with the IAB and submit a detailed proposal to both committees for consideration. **Action:** AA to set up the sub-group and contact IAB to progress these discussions.

9. Date of Next meeting

Members agreed on mid-June for the next meeting
Action: AC to circulate Doodle Poll to determine a suitable date.