

HEaTED Regional Network Event – Event Report

Region: North East

Date: 14 November 2013

Venue: Durham Castle, Durham University

Agenda:

Theme: The recruitment of Apprentices at Durham University – a case study

Agenda:

- | | |
|--------------------|---|
| 10.30 am | Welcome and Introductions – Linda Robinson, HEaTED North East Regional Network Coordinator |
| | HEaTED Update – Dr Katherine Forsey, HEaTED Course & Regional Networks Coordinator |
| 11.00 am | Durham University's Faculty of Science Apprenticeship Scheme – a case study
– Dr Ladan Cockshut, Special Projects Officer |
| 12.00 pm | Lunch and networking |
| 12.45 pm | Overview of carbon nano materials – Prof Karl Coleman, Durham University |
| 1.30 pm | Introduction to USHA (Universities Safety and Health Association) – Allan Watson, Deputy Chair, USHA |
| | Date/venue/themes for next North East Regional Network Event and evaluation |
| 2.00-3.00pm | Tour of Durham Castle |
| 3.00 pm | Close |

Key discussion points from each agenda item:

Heartfelt thanks to David Hunter and Durham University for hosting today's meeting in such beautiful surroundings.

Activity to facilitate interaction and networking lead by Linda Robinson

HEaTED Update – Dr Katherine Forsey, HEaTED Course & Regional Networks Coordinator

A copy of Katherine's presentation is available via the HEaTED North East Online Group
Katherine covered progress made by HEaTED to date, key statistics and areas of future work, including.

- 74 Member Institutions with 3000 individual members registered via the HEaTED website.
- 1900+ members also registered for [HEaTED Online Community Groups](#).
- Stanmore College, Harrow, has become the first FE College Member after HEaTED widened it's remit
- The [HEaTED Annual Conference](#) will take place on 16th January 2014, book your place now!
- HEaTED [Teaching & Learning Skills for Technical Staff](#) and [Leadership & Management Skills for Technical Staff](#) courses will be delivered in the North East during 2013/14 – contact HEaTED if you would like to host these courses.
- The Autumn Series of [Regional Network Events](#) are taking place in 8 UK Regions between September and December 2013.

- The [National Network of Arts Technicians](#) has been launched by HEaTED to further supports members from these disciplines and the national survey results have been added to the HEaTED website.
- The [Performance for All Project](#) – has been pilot tested and a new resource launched - the HEaTED CATTs (Competency Assessment Toolkit for Technical Staff). For further information on the CATTs please contact admin@heated.ac.uk
- Three new courses developed by HEaTED Member Technicians were launched;
 - **Developing an Apprenticeship Programme in Higher Education**
University of Liverpool, Tuesday 11th February 2014. Full details and booking from [HERE](#).
 - **Basics of light microscopy - hands on alignment and set-up**
University of York, Monday 9th December 2014. Full details and booking from [HERE](#).
 - **Introduction to Flow Cytometry**
University of Sheffield, Wednesday 26th March 2014. Full details and booking from [HERE](#).

ACTION: ALL – book to attend training courses or contact HEaTED if you wish to host an on-demand course at your Institution.

ACTION: ALL - Ask your colleagues, team members and other network groups (Unions and Staff Developers) to register independently on the HEaTED website to ensure everyone receives information direct from HEaTED and can take full advantage of your Institution's Membership.

ACTION: ALL – if you would like to host a HEaTED course at your Institution contact admin@heated.ac.uk

ACTION: ALL – contact Regional Co-ordinator, Linda Robinson at northeast@heated.ac.uk should you wish to discuss themes for forthcoming regional meetings.

Durham University's Faculty of Science Apprenticeship Scheme – a case study – Dr Ladan Cockshut, Special Projects Officer

A copy of Ladan's presentation is available via the HEaTED [North East Online Group](#)

Introduction

150 technical staff across the Science Faculty, 580 academics, 4800 students

Before the scheme only a handful of technical apprentices in the faculty. Glassblowing in Chemistry, plus Engineering and Physics.

Identifying the need – review of workshops in the Science Faculty. To check for possible areas where resources can be shared, duplication, equipment stock take, time in every mechanical workshop,

Results: equipment resource not excessive

Three 'generations' of technical staff identified-

1 – long serving, highly skilled, traditional, manual equipment

2 – newer, younger, more IT focussed staff

3 – a bridging group, who cover both areas

As groups 1 and 3 age, we risk losing training provision, succession, skills.

The system is very lean, the loss of one person impacts heavily on the services available to the schools/faculty. Whole specialist areas of expertise can be lost with the loss of one person.

The need to invest and strengthen the technical workforce was clearly identified.

Identified need to share resources and cross-train across the faculty.

The Solution

An apprenticeship scheme was introduced to meet the identified needs

5 apprentices with 3 year fixed term funded by the faculty across 6 of the departments/schools. i.e. not one in every school. As it was quickly identified that there would be difficulties in sharing an additional apprentice was recruited.

Durham used the training agency TDR to help with the recruitment and selection process and to deal with the training element of apprenticeships.

HEaTED | Myscience.co Limited | University of York | York YO10 5DD | T +44 (0) 1904 328 300 | F +44 (0) 1904 328 328
info@heated.ac.uk | www.heated.ac.uk

Each department was asked to identify their staffing needs as possible placements for the new apprenticeships, i.e. where only one staff member was close to retirement.

Also identified cross-over opportunities, so apprentices can be exposed to alternative departments.

Learning point: Apprentices start in the Autumn with their training, heavy workload over the summer (difficult time to action anything) to get everything in place.

Apprenticeships are only available in specific age ranges, so while age discrimination is officially not allowed it is difficult if anyone looks to apply who is outside this age range.

Defining the Faculty Apprentice Scheme – 5 bullet points to include.

The apprentice job description and person specification was shared.

Training

- managed by TDR who specialise in science and engineering
- one day per week over 3 years
- visit every 2 weeks by TDR mentor

Applications and interviews

Listed for 2 weeks on university website and through NAVMS

200 applications, 30% of these school leavers

17 shortlisted

Interviewed September included: tour of science site, lunch, panel interview with 6 people (15mins), training agency info session

6 offered post, all accepted. Two were school leavers. Four had college experience. Some had previous NVQ qualifications.

Age from 16 to 23. Five are female, went into science, one male, went to engineering.

Challenge: size of panel can be intimidating to young interviewee but each school wanted to be represented, this was not possible and some not able to be included.

Ongoing management

- Settling in now. Quarterly meetings with line managers. Ladan also checks informally with apprentices as an external person.

- First steps in cross-faculty training – gaps identified in H&S areas, Manual Handling, COSHH. Investigating ways to do this as a group to keep costs down. Investigating ways for crossovers with the business apprentices in terms of training.

Lessons:

- Many motivated people needed.
- Spend at least a year getting ready.
- Ensure buy-in of colleagues as they will be doing training and management.
- Identify decision makers – each dept is different.
- Share the resource but maintain awareness that these are apprentices and new to the workforce so needs of apprentice at the centre.
- Clear communication with training agency and apprentices, takes time to gain experience of processes and who tells who what!
- Dealing with the Regional perception of apprentices. Engineering is well known but Science is newer. Needs more awareness in schools of the differences between the two areas.

Recommendations:

- Know your need, do your homework.
- Try not to be too prescriptive – it is quite an organic process and needs flexibility, don't over think or over-complicate, be positive and optimistic
- Leadership buy-in is key, Pro Vice Chancellor support needed, Heads of Dept. key. Get funding secured and signed off in case of change of leadership.

- Set up a committed planning team with wide representation, admin, technical, academic.
- Have an open house, open day, in May or April so students can visit and get to know the dept. before putting job advertisement out. It can help attract the best/right apprentices.
- Clarify lines of communication – this is a steep learning curve, lots involved after launch.
- Don't underestimate the oversight/management responsibility and the on-going nature.
- Tour during interview process useful but smaller depts. Had more time, big depts. Was a rush and little hands-on.

Next Steps: more next year? Looking at capacity as would like to have posts for all the apprentices at the end of the scheme. Would be a shame if they only did it once! Would like to work more on outreach in schools to help with preparation, interview skills, CVs, etc.

Q. Qualifications gained? Why NVQs

A. TDR, the training provider/agency, feed in to qualification levels, NVQs first step, encourage to think about higher level up to degree level. NVQ Level 3.

Q. Funding?

A. Funded by government.

Q. How are apprentices supervised while at work?

A. Example in Physics. Line Manager has 6 staff, one is apprentice. Often managed by member of every team, day to day supervision transfers depending on department but a permanent line manager as point of reference. Apprentice often moves out of Line Managers area.

Q. What happens at the end of three years?

A. No guaranteed position, but aim to have role for all, and have planned to ensure apprentices are put into areas where a succession plan is needed due to retirement.

Q. Is there a day-to-day training schedule.

A. Most do, and differs by department.

Q. Probationary period?

A. Yes, all Durham Uni. contracts have that and is dependent on grade. Often when come in through agency, so can go back if there is a problem.

ACTION: HEaTED to request case study on Apprenticeships from Ladan for use in the new training course. – Katherine has contacted Ladan.

ACTION: Also have glassblowing links and trainee. HEaTED to approach about working with HEaTED to offer training in this area. – Katherine has contacted Dave Hunter.

ACTION: Linda Robinson to work with Ladan to ensure that all Durham Apprentices to be personally invited to the next North East Regional Network event.

Overview of carbon nano materials – Prof Karl Coleman, Durham University

A copy of Karl's presentation is available via the HEaTED [North East Online Group](#)

This subject knowledge focused session introduced us to what 'nano' means in terms of size (very small!). And what nanocarbons and carbon nanotubes are.

Advancing imaging techniques have allowed identification of the structure

Properties - stronger than high tensile steel and more conducting than copper! Three times better thermal conductor than diamond.

Making carbon nanotubes (CNTs) – reactors can make 400 tonnes per year by Chemical Vapor Deposition (CVD).

Graphene is the newest nanocarbon to be identified. It is less developed than CNTs but rapidly developing. Biggest issue is synthesis and availability. Karl described how Graphene is made, by sticking Scotch Tape to some graphite and peeling it off! A video demo was shown of this technique and this earned the scientist who demonstrated this a nobel prize! You can also 'grow' graphene on silicon carbide.

Applications

- Tethering a satellite to earth! Creating an elevator to the moon!
- Supercapacitors, like batteries, can store huge amounts of energy – can store as much energy in a one second charge of a nanocarbon supercapacitor as can be stored in a lithium ion battery that takes 4 hours to charge!
- Textiles - Carbon nanotubes, Formed into a rope by winding them together. These can be weaved into threads/fabrics and used to make very strong, light, body armour.
- It is antibacterial!
- Composite materials – 50% of the new Boeing Dreamliner is composite materials, replace the carbonfibre with carbon nano tubes, which have the advantage of being conducting (good for lightning strikes), and very light, reducing fuel use. Tennis rackets! Light and strong. Bikes, mixed with carbon fibre, again, light and strong. Audi A\$ fuel pumps for their static dissipation properties and again, lighter and therefore more fuel efficient.
- Field-effect transistors – to replace silicon. Advantage is that it can process a lot faster than silicon.
- Touch display screen, currently rigid and made of indium tin oxide (which is running out) , but the graphene ones are flexible, so can have flexible screens! Single atom thick touch screens!

Graphene widely predicted to replace CNTs in future.

Q. Does this have an asbestos type risk?

A. CNTs may have problems with this, due to long strands, but graphene does not. Hazard is in the CNT dust, so it is supplied wetted.

Introduction to USHA (Universities Safety and Health Association) – Allan Watson, Deputy Chair, USHA

A copy of Allan's presentation is available via the HEaTED [North East Online Group](#)

Universities Safety & Health Association (USHA), started in the 70's so now established over 40 years.

Non-profit making, promoting H&S in HE.

Membership Organisation, most HE institutions in the UK are members with some international and FE members.

The organisation's objectives were shared (see presentation slide).

- Exchange of information
- Links with HSE, Fire and Environmental Health
- Spring Conference, Autumn Seminars

USHA Structure – Executive board, admin, website, 9 Regional Groups. Specialist Groups (Fire Safety, Auditing-HASMAP, Nanotechnology, Creative Industries, Training, Estates).

Project Groups – H&S Management Code of Practice, Fieldwork, Student Placements, Responsible Research.... Publish guidance documents in these areas.

USHA work with many partnership organisations to bring like minded individuals together and meet needs across the sector.

Training Specialist Group – formed 9 months ago.

As a result of demand for further development and training.

IOSH Certified/Accreditation where possible.

Would like to develop a framework of training to allow those with H&S responsibilities to develop their practice.

HEaTED | Myscience.co Limited | University of York | York YO10 5DD | T +44 (0) 1904 328 300 | F +44 (0) 1904 328 328
info@heated.ac.uk | www.heated.ac.uk

Working with HEaTED on a portfolio of training for technical staff that would lead to the acquisition of a 'health and safety passport'.

Link to USHA website www.usha.org.uk

Q. Inclusion of the environment, H&S advisor now having to look at environment as well as H&S, inc. sustainability.

A. There is a parallel group EAUC, Environment Association for Universities and Colleges that USHA works in partnership with and who could provide advice in this area.

Q. Would training be transferrable between Institutions?

A. All Universities have their own standards but the intention is to have recognised standards across courses and USHAs links to the HSE help ensure level of training is appropriate.

Q. Does the H&S Passport confer fitness to practice?

A. Accreditation and the standards expected by the HSE are important to training in this area but care has to be taken to ensure it does not become prohibitively expensive. Each institution would be responsible for monitoring their own staff in terms of monitoring and fitness to practice, training is only a part of this.

ACTION: HEaTED to continue working closely with USHA to bring training to the HEaTED Membership. Fieldwork is on HEaTED's to be sourced list. Look to see what resources can be housed in the HEaTED online H&S group topic. HEaTED to attend next USHA training group meeting, USHA welcome a HEaTED rep on this group. Seek to promote, and publish as a news article, the results of the recent USHA training group survey. – Katherine attended the USHA Training Group meeting on the 5th Dec and is working with USHA and HEaTED member institutions to bring more H&S courses to the HEaTED membership.

ACTION: All – if you would like to deliver courses in the area of Health & Safety through the HEaTED network contact Katherine on k.forsey@slcs.ac.uk for further information

Discussion points to be incorporated into forthcoming meetings:

- How we deal with Estates Maintenance

Next event

March 2014 – Teesside University - to be confirmed

Save the date! Thursday 19th June 2014 - Joint North East and Yorkshire Regional Network Event, National Railway Museum

ACTION: ALL – contact Regional Co-ordinator, Linda Robinson at northeast@heated.ac.uk should you wish to discuss themes for forthcoming regional meetings.

Actions:

ACTION: ALL – book to attend training courses or contact HEaTED if you wish to host an on-demand course at your Institution.

ACTION: ALL - Ask your colleagues, team members and other network groups (Unions and Staff Developers) to register independently on the HEaTED website to ensure everyone receives information direct from HEaTED and can take full advantage of your Institution's Membership.

ACTION: ALL – if you would like to host a HEaTED course at your Institution contact admin@heated.ac.uk

ACTION: ALL – contact Regional Co-ordinator, Linda Robinson at northeast@heated.ac.uk should you wish to discuss themes for forthcoming regional meetings.

HEaTED | Myscience.co Limited | University of York | York YO10 5DD | T +44 (0) 1904 328 300 | F +44 (0) 1904 328 328
info@heated.ac.uk | www.heated.ac.uk

ACTION: HEaTED to request case study on Apprenticeships from Ladan for use in the new training course. – Katherine has contacted Ladan.

ACTION: Also have glassblowing links and trainee. HEaTED to approach about working with HEaTED to offer training in this area. – Katherine has contacted Dave Hunter.

ACTION: Linda Robinson to work with Ladan to ensure that all Durham Apprentices to be personally invited to the next North East Regional Network event.

ACTION: HEaTED to continue working closely with USHA to bring training to the HEaTED Membership. Fieldwork is on HEaTED's to be sourced list. Look to see what resources can be housed in the HEaTED online H&S group topic. HEaTED to attend next USHA training group meeting, USHA welcome a HEaTED rep on this group. Seek to promote, and publish as a news article, the results of the recent USHA training group survey. – Katherine attended the USHA Training Group meeting on the 5th Dec and is working with USHA and HEaTED member institutions to bring more H&S courses to the HEaTED membership.

ACTION: All – if you would like to deliver courses in the area of Health & Safety through the HEaTED network contact Katherine on k.forsey@slcs.ac.uk for further information

Appendices:

- Training requests noted at event – Centrifuge basic maintenance, XRD/XRF use, applications
- All presentations from event are available through the HEaTED [North East Online Group](#)