ISSUE 01 • AUTUMN 2015

post-16 and FE stem LEARNING

Science LEARNING NETWORK

in this issue

- BURSARY SUPPORTED STEM CPD LISTING 18
- FROM PILLS TO PRACTICAL SKILLS 14
- GIVING THE BEST CAREER ADVICE 8
- BEHIND THE SCENES AT CERN 12

Our brand new magazine

Full of useful information, resources and continuing professional development... take a look inside!

Supporting STEM educators to deliver inspirational, world-class teaching

NATIONAL STEM CENTRE

Get in touch...

We would welcome your feedback on our new magazine: feedback@slcs.ac.uk

VISIT US:

- nationalstemcentre.org.uk
- sciencelearningcentres.org.uk
- heated.ac.uk

FOLLOW US ON TWITTER:

@NtlSTEMCentre
@ScienceVoice
@HEaTEDtechs

LIKE US ON FACEBOOK:
/NationalSTEMCentre
/NationalScienceLearningCentre

The National Science Learning Network is a joint initiative by the Department for Education and the Wellcome Trust.

Myscience.co Limited, registered in England and Wales. Company number 05081097.

Welcome

Welcome to the first edition of the post-16 and FE STEM Learning magazine.

STEM education has never been more in the news or more crucial to young people's future options and careers. Hardly a day goes by without some mention of STEM subjects in the news, and we know that all young people need the best possible STEM education whether they are to move into STEM-related careers, or simply to be able to participate fully in an increasingly technological world.

As teachers of STEM subjects, the National Science Learning Network and National STEM Centre is here to help you inspire, excite and engage the young people with whom you work. This new magazine brings together lots of useful information, ideas and resources in one place to help make it easier for you to find the support you need. That may be identifying resources to help teach some of those 'tricky bits of STEM', highlighting professional development opportunities for you and your colleagues (and how Impact Awards and ENTHUSE bursaries can support you getting involved), providing some inspiration on how to bring STEM careers to life, or simply providing you with different perspectives on these exciting, dynamic areas which never stand still.

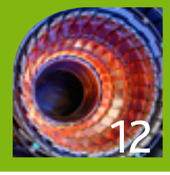
We do hope you like the new approach to letting you know about the support available. We would love to hear your feedback, especially ideas on how we can make it even more relevant and useful, and also areas you'd like to see covered in future editions. And if you'd like to contribute an article or idea – well, you only have to ask!!

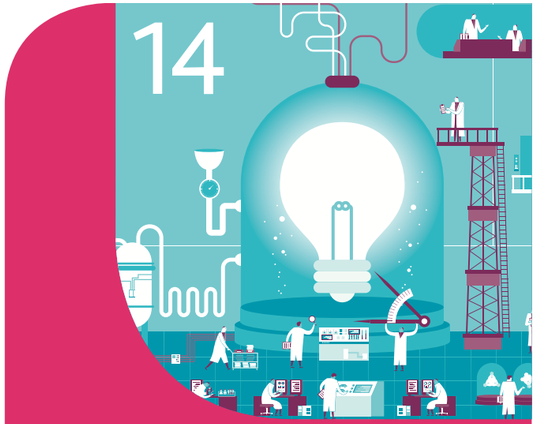
Happy reading and our very best wishes for a successful 2015-16 academic year.

YVONNE BAKER. CHIEF EXECUTIVE
NATIONAL SCIENCE LEARNING NETWORK AND NATIONAL STEM CENTRE

Features

Further eduction vs the machine 6
Giving the best career advice 8
Inside the Swiss time machine: behind the scenes at CERN 12
News and social media 17





Articles

Join the celebration 5
Mind the skills gap 10
Get your skills recognised 11
From pills to practical skills 14
Unlocking technicians' potential 15

CPD LISTING

COMPUTING

19 General
25 Online

DESIGN AND TECHNOLOGY

19 General
19 Design and technology technicians
25 Online

MATHEMATICS

19 General
25 Online

SCIENCE

19 General
21 Leadership
21 Biology
22 Chemistry
23 Physics
24 Psychology
24 Technicians
25 Conferences
25 Online

HEaTED CPD LISTING (CPD for technicians)

26 General
26 Chemistry
27 Design and technology
27 Engineering
28 Health and safety
29 Science

Project **ENTHUSE**

Supporting state funded schools across the UK with access to high impact professional development.

Project ENTHUSE is a unique partnership of government, charities and employers that have come together to bring about inspired STEM teaching, through the continuing professional development of teachers, technicians and support staff across the UK. The ENTHUSE Partners are the Wellcome Trust, the Department for Education, BAE Systems, BP, Institution of Engineering and Technology, Institution of Mechanical Engineers, Rolls-Royce and the Royal Society of Chemistry.

ENTHUSE AWARDS

Bursaries available to all state funded schools and colleges in the UK to support participation in professional development through the National Science Learning Centre and partners in Scotland, Northern Ireland and Wales. See our full CPD listing on page 18.

■ **www.slcs.ac.uk/mf/enthuse**

INTENSIVE ENTHUSE AWARDS

£5,000 bursaries to support in-school, consultant led professional development for state schools in England that have not participated in Project ENTHUSE supported professional development in the last five years.

■ **www.slcs.ac.uk/mf/intensive-enthuse**

TEACHER INDUSTRIAL PARTNERS' SCHEME

IMechE and IET supported two week placements with local employers to help teachers expand their knowledge of engineering and technology careers to help inspire the next generation of scientists and engineers.

■ **www.slcs.ac.uk/mf/tips**

Join the celebration

A world-leading STEM education for all young people across the UK

2005 was a big year: Facebook launched in the UK, the first videos were uploaded to YouTube, the first iPod Shuffle was released, Tony Blair became the longest serving Labour Prime Minister, and Labour was re-elected for their third consecutive term. A young, previously little-known, MP, David Cameron, was elected head of the Conservative party. Crazy Frog dominated the pop charts, Batman Begins and Brokeback Mountain were released in cinemas. And, of course, the National Science Learning Centre ran its first course.

Funded by the Wellcome Trust, the National Science Learning Centre was built to provide transformative, residential professional development for teachers and technicians of science in UK schools and colleges to reach its vision of 'a world-leading STEM education for all young people across the UK'.

Since its launch, the National Science Learning Centre has supported over 20,000 teachers and technicians, reaching 84% of state funded secondary schools in the UK.

In 2008, Project ENTHUSE was launched to allow for greater access to professional development by providing bursaries for professional development activities open to all state funded schools and colleges. Now supporting all STEM subjects and working with partners in Northern Ireland, Scotland and Wales the National Science Learning Centre has gone from strength to strength, and we are commemorating its anniversary with a range of events:

- ten great experiments from ten great years – 'experiment' along with us in November
- firing fireworks – live near York? Then all the family are invited to the anniversary of our first course on 1 November 2015
- the art of science – we're unveiling a new piece of art at the National Science Learning Centre
- a new website – bringing together the free resources in the National STEM Centre eLibrary with the range of professional development activities on the National Science Learning Network website

PROJECT ENTHUSE

Project ENTHUSE offers ENTHUSE Award bursaries to all state funded schools and colleges in the UK to help teachers, technicians and support staff access STEM focussed professional development through the National Science Learning Centre.

Project ENTHUSE is a unique partnership of government, charities and employers that have come together to bring about inspired science teaching through the continuing professional development of teachers of science and technicians across the UK.

The ENTHUSE Partners are the Wellcome Trust, the Department for Education, BAE Systems, BP, Institution of Engineering and Technology, Institution of Mechanical Engineers, Rolls-Royce and Royal Society of Chemistry.

■ www.slcs.ac.uk/mf/enthuse

USEFUL LINKS:

- ten great experiments for ten great years: **www.stem.org.uk/mf/ten-experiments**
- firing fireworks open day: **www.slcs.ac.uk/mf/openday**
- National Science Learning Network: **www.slcs.ac.uk**
- National STEM Centre: **www.nationalstemcentre.org.uk**
- Project ENTHUSE: **www.stem.org.uk/mf/project-enthuse**

Further education vs the machine

by ANDREW GADSDON › Learning and Development Manager, Preston College

The knowledge economy in further education has changed so irrevocably that it may never recover, largely because of the unprecedented access modern learners have to vast online repositories of knowledge that are available at anytime, anywhere.

These resources are often engaging, presented in ways that our learners' brains have come to understand and rely upon and, crucially, they never nag about missed deadlines, they are never in a bad mood and they never pressurise learners to achieve grades that bolster league tables.

In other words, competition for our learners' attention and engagement is fierce and we are losing out to internet courses that have the freedom of imagination on their side because they are unfettered by the constraints of awarding bodies. More than ever, we need continuing professional development that reflects the demands of our learners, the constraints of our shrinking budgets and our personal need to remain at the leading edge of our subjects.

In the past, the role of professional development manager was very often reduced to budget holder, the person who signs the cheques, rather than a strategist of professional learning. However, the changing face and fortunes of further education demands that professional development budgets, however large or small, are now managed with measureable impact in mind, and how quality professional development can play a role in adding to the shared knowledge of an organisation.

We need to lead the charge for continuing professional development that will be valuable and worthwhile. Because of the dynamic nature of scientific discovery and development, science teachers and lecturers want to keep learning about their subject, yet they also need to learn about approaches to learning and engaging the dynamic student cohort.

All too often, continuing professional development focuses on the what rather than the how – leading to science being in the odd no-man's land where all the knowledge is held but cannot be transmitted to anyone in a way they would understand it.

Meaningful professional development in science learning is that which can help our lecturers marry the tradition of science with the modern idea of science, weaving a thread between the popular culture view of science that learners find accessible and the skills and knowledge development needed to ensure success in the modern workplace. Science teachers and lecturers need the support of experienced science educators who recognise that the changing world of further education is a more demanding, more complex place than ever before.

Beyond the horizon: giving the best career advice

by GEMMA TAYLOR Technology CPD Lead, National Science Learning Centre
@GTaylorSTEM

Teachers are a vital source of careers information, but they need the opportunity to build their knowledge of careers outside of education.

As a teacher I have always been grateful that I decided to go into teaching following a career in industry, not because it made me a better teacher, as the reality was I arrived in school several years older than my fresh faced colleagues whose NQT days were long behind them. Rather, I found my former life an advantage when it came to bringing industrially relevant ideas and references into my classroom. Teaching is undoubtedly a perverse juggling act. With demonstrating progress and preparing for new specifications at the front of every teachers mind, is there time in the day to ensure that the curriculum reflects the world outside of school?

In the first few weeks into term, before marking truly kicks in, behaviour management techniques are still doing the trick and coursework is still embryonic, there's probably no better time to consider the role that teachers have in representing the real life projects and careers that your subject can lead to. However, with many teachers never having ever left the education system – primary to secondary, sixth form to university, PGCE to classroom, how do we ensure that our understanding of available careers is up to date? And even for those who have their own experience of industrial work before teaching, how do we secure a wider knowledge of careers, than just our own?

> "Whether we like it or not, teachers are a crucial part of the current careers education climate. The key question is, how can we provide real life guidance for our students without having to re-train and leave teaching?"

A 2014 report into students' opinions on careers information and guidance showed that teachers were seen as second only to parents, in giving all-important careers information and advice (Professional careers advisers source – *Careers Guidance; Guaranteed*, summary report of online survey, AoC January 2014). Whether we like it or not, teachers are a crucial part of the current careers education climate. The key question is, how can we provide real life guidance for our students without having to re-train and leave teaching?

> "I found my former life an advantage when it came to bringing industrially relevant ideas and references into my classroom... But how do we secure a wider knowledge of careers, than just our own?"

There are a number of types of support to help teachers in this vital area without them having to undertake hours of research. For those who would like their students to meet real life STEM professionals, there are a number of opportunities available, including STEMNET's Ambassador Programme which providers STEM employees from a wide range of professions to deliver talks or workshops in your school. Alternatively your students could take part in longer term industry linked projects such as those run by EDT.

If you don't have the time or schedule to accommodate external opportunities, or would prefer to develop your own knowledge, why not have a look at the industry relevant resources available through the National STEM Centre or attend STEM careers focussed professional development. You could even get a bursary to support you spending time with an employer through the Teacher Industrial Partners' Scheme.

INFORM YOURSELF

Make use of the industry relevant resources available through the National STEM Centre: **www.stem.org.uk/mf/careers**

Take part in a CPD experience like the Teacher Industrial Partners' Scheme (TIPS): **www.slcs.ac.uk/mf/tips**

Find out more about STEM careers through a short course near you: **www.slcs.ac.uk/RP226**

Invite visiting speakers into the classroom through STEMNET's STEM Ambassador programme: **www.stemnet.org.uk**

Participate in industrially linked projects such as those run by EDT: **www.etrust.org.uk**

Mind the skills gap

A post-16 science tutor examines the gulf between secondary and post-16 and how to help bridge the gap for students.

When it comes to skills, what are the problem areas when students arrive at college?
The skills that students lack can be spilt into two main categories: those that the GCSE was designed to develop, but which students still struggle with despite achieving a grade B or higher, and those that A level seeks to develop.

> "Students find it difficult to identify the link between what they know and the problem that they are given... even very able students often need help to develop these skills"

The lack of practical activities demanded at GCSE has also resulted in a skills gap which affects students when they embark on their A level studies. A number struggle using basic practical equipment having not used it before or at least, having not mastered using it.

Many students also lack an awareness of STEM careers, including the breadth of opportunities that are available to them once they have left their time in education. Many have developed a misunderstanding of the nature of certain professions, especially engineering, meaning they are unable to make informed decisions.

Which skills do students struggle to develop at A level?
One of the fundamental differences between GCSE and A level is the shift from knowledge to application. Feedback from students highlights that they find it difficult to identify the link between what they know and the problem that they are given. Almost all students initially struggle to link ideas from one topic to another or apply it to an unfamiliar situation.

Study skills at A level are significantly different to those required for GCSE; even very able students often need help to develop these. Many students need help to make effective notes or to develop revision techniques which are appropriate to the new skills that they are learning.

Finally, what can colleges do to help address these issues?
As GCSEs aren't always the indicator of skills that they should be, colleges often implement their own strategies to identify and rectify the gap in skills. For example testing skills at the start of the course as a basis to identify and address areas for development, so that students can begin their studies from an even playing field.

Where there is a likelihood of a vital skill gap, we reteach the key skill at the start of the relevant topic before proceeding; so that no students are demotivated or intimidated.

With regards to the awareness of STEM careers we have developed a comprehensive provision of enrichment activities designed to widen knowledge and understanding of the diverse nature of these. This has included evening events delivered by a range of STEM professionals, placements and awards.

Boost your students' skills with our new A level science web page
- **www.stem.org.uk/mf/alevel-science**

Rachel Crossley joined the HEaTED team in 2011. She has a background in lab-based research and a wealth of experience in directing projects and programmes across the public and private sector.

Get your skills recognised

by RACHEL CROSSLEY Head of HEaTED programme

Many technical staff have told us that they do not feel valued or recognised as professionals, and do not believe they are seen as an integral part of the workforce. But what can technicians do to turn the tide? Professional registration could be the answer...

Registration is awarded by licensed bodies who represent the Science Council or Engineering Council and is based on knowledge, competence and commitment to professionalism. What's more, registration is valid throughout your career because it allows you to continually update your new skills and knowledge.

CHOOSING A REGISTER
At the moment, you can register as any of the following:
- RSciTech - Registered Science Technician
- RSci – Registered Scientist
- EngTech – Engineering Technician
- IEng – Incorporated Engineer
- ICTTech – ICT Technician

If you're unsure which to register as, then ask yourself: where does your specialism lie? For example, if you have more lab experience in biological sciences then, the science registers would be the place to start. Come along to one of the free HEaTED networking events to chat through your options, and learn from other technicians who have already registered.

FINDING YOUR LEVEL
Your experience will determine which qualification you should be aiming for. Your skills and experience could directly translate to the register – you just need to show evidence of what you can do.

WHAT TO DO WITH YOUR EXISTING QUALIFICATIONS
The registers are competency based, which means you could qualify through experience alone. However, if you do have any qualifications, it could count as evidence. Check with the Science or Engineering Councils about whether any of your existing training or qualifications match up with the competencies needed to register.

For more information visit our dedicated web pages at:
- **www.heated.ac.uk/professional-registration**

Inside the Swiss time machine: behind the scenes at CERN

by ADAM LITTLE Professional Development Leader, National Science Learning Centre
@SecretPhysicist

Between snow-topped peaks, buried 175 metres under the earth, physicists and engineers are working to uncover the secrets of time and discover the building blocks of the universe. CERN, the European Organisation for Nuclear Research, is a Mecca for science lovers.

In a tunnel 27 kilometres long, sensors in the Large Hadron Collider (LHC) detected the Higgs boson, or God particle, which earned Professor Peter Higgs the Nobel Prize for Physics in 2013. Dormant for two years, the LHC has been sealed and is once again seeking out theoretical elements of the cosmos.

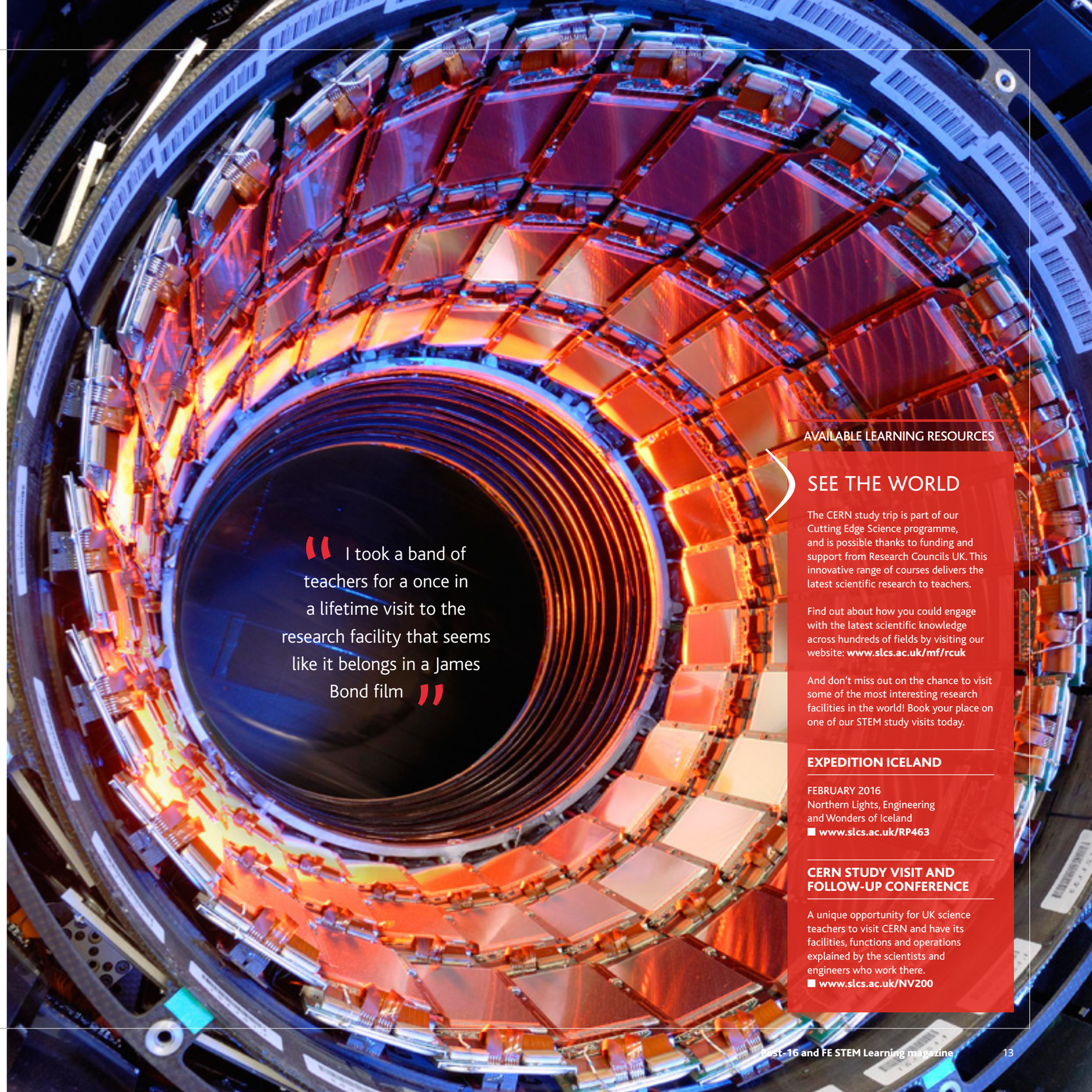
Just before it was closed to the public, however, I took a band of teachers for a once in a lifetime visit to the research facility that seems like it belongs in a James Bond film.

We began by meeting Welsh physicist, Lyn Evans, Director of the Linear Collider Collaboration. Many are now familiar with the LHC at CERN, but Lyn is already planning the next step: a new collider, which will study discoveries in detail by smashing particles into one another in different ways.

Then Dr Sparsh Navin, expert in the field, told us about her experiments exploring the future of cancer treatment via proton beam therapy using ALICE (A Large Ion Collider Experiment).

Finally, we walked through the CERN Control Centre, which acts as air traffic control for the minute particles as they journey through the network of complex devices, including the LHC and ALICE.

A trip like this opens your eyes. It showed me that it's not just physicists at the centre of CERN, but also engineers, computing specialists, mathematicians and more all working together. CERN shows how science, technology, engineering and maths can work together for a common goal.



"I took a band of teachers for a once in a lifetime visit to the research facility that seems like it belongs in a James Bond film"

AVAILABLE LEARNING RESOURCES

SEE THE WORLD

The CERN study trip is part of our Cutting Edge Science programme, and is possible thanks to funding and support from Research Councils UK. This innovative range of courses delivers the latest scientific research to teachers.

Find out about how you could engage with the latest scientific knowledge across hundreds of fields by visiting our website: **www.slcs.ac.uk/mf/rcuk**

And don't miss out on the chance to visit some of the most interesting research facilities in the world! Book your place on one of our STEM study visits today.

EXPEDITION ICELAND

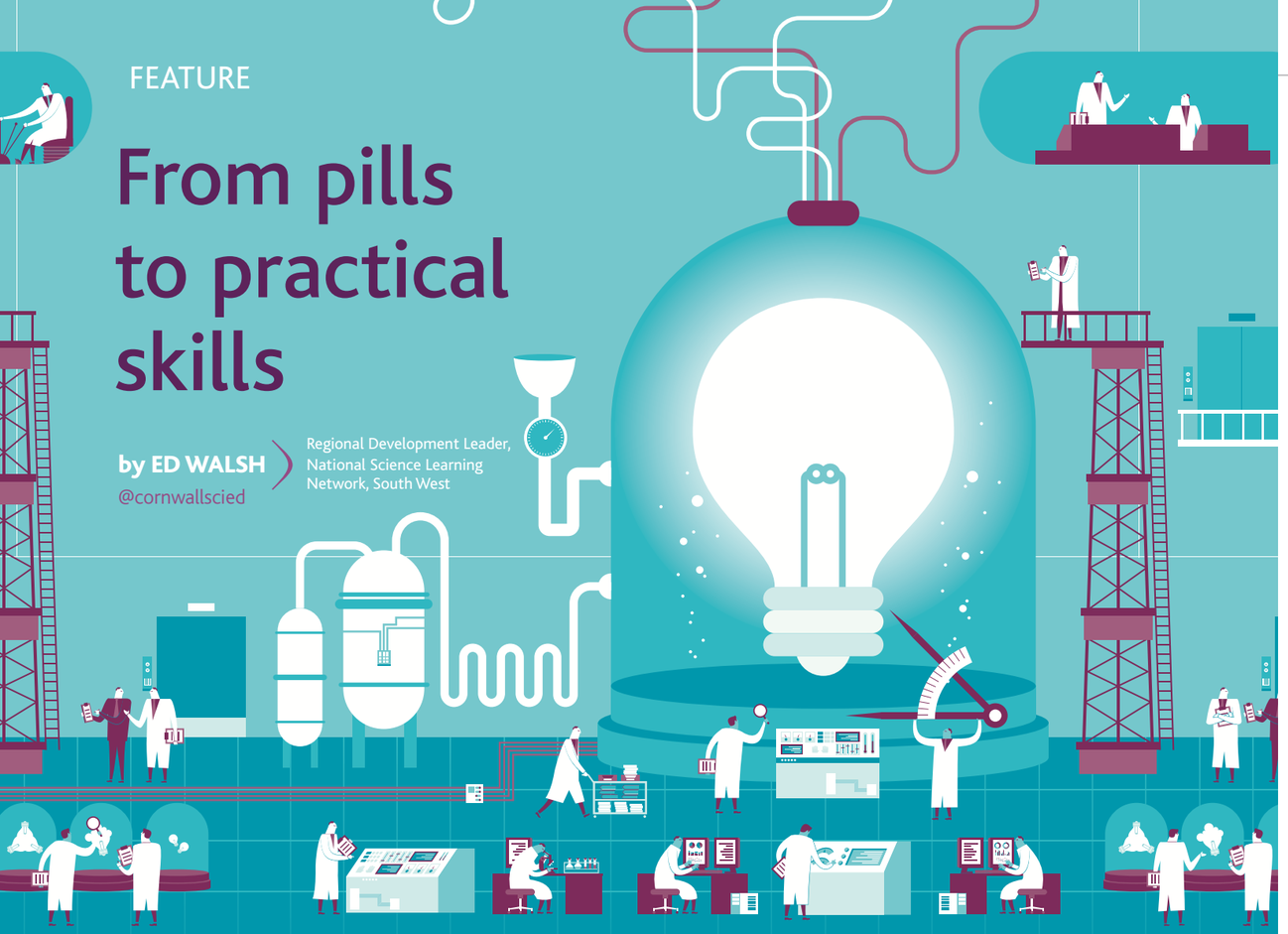
FEBRUARY 2016
Northern Lights, Engineering and Wonders of Iceland
■ **www.slcs.ac.uk/RP463**

CERN STUDY VISIT AND FOLLOW-UP CONFERENCE

A unique opportunity for UK science teachers to visit CERN and have its facilities, functions and operations explained by the scientists and engineers who work there.
■ **www.slcs.ac.uk/NV200**

From pills to practical skills

by ED WALSH
@cornwallscied
Regional Development Leader, National Science Learning Network, South West



I recently got the chance to visit the Pfizer plant in Sandwich, Kent, where they prepare drugs for small scale trials. After a guided tour around the facility, what really impressed me was the ingenuity that went into designing the release systems - I have to admit that I'd not really thought about this before.

Here's an example: elderly people are sometimes on a cocktail of pills - so one pill taken once a day that releases the active ingredient steadily over 24 hours is a good idea. Another solution was a pill for children that can be sprinkled on food. The drug has to be released in the body but not onto the food, in case the taste affects the flavour. Again, the fewer needed per day the better - there's only so much chocolate mousse a child can be plied with without other implications… Another of the release mechanisms involves laser drilling a 1mm diameter hole into the end of pills 2mm across. I'd imagine that job's given to the team newbie - do that 200 times and your eyes cross over!

This is crucial stuff. Get this right and you improve people's quality of life. It needs top class manipulative skills, as well as understanding why you're doing what you're doing.

Let's cut to the chase – are the changes to the assessment of practical skills at A level going to help produce people who can do things like this? By stipulating practical investigations the intention is to encourage their integration with the aspects of the course. They require a set of practical competencies to be repeatedly addressed so the range of opportunities will encourage feedback and development of skills. If a teacher knows there will be several bites of the cherry that will shape the conversation in the laboratory.

However that won't be the only purpose for the practicals. As 15% of the marks in the final exams will go on questions relating to these investigations – and they can be on application and interpretation as well as recall – students will need to be 'minds on' as well as 'hands on'. Again, this is to be applauded. Examiners can be devilishly ingenious when it comes to devising probing questions.

Lastly, if all other arguments fail, there will be The Visit. I don't think representatives from the exam boards will actually turn up wearing fedoras - but they will ask some searching questions, of students as well as teachers. It won't take them long to find out if students are getting a fair crack of the whip when it comes to developing practical skills.

Science is a practical subject and we want students to be able to cut the mustard in the lab. Don't imagine it's all been reduced to a nominal tick list. It's a crucial aspect of the new courses - getting it wrong will mean taking a hit both on skills and grades.

DEVELOPING AND ASSESSING PRACTICAL COMPETENCES IN A LEVEL SCIENCE
- biology - www.slcs.ac.uk/RP510
- physics - www.slcs.ac.uk/RP511
- chemistry - www.slcs.ac.uk/RP512

A LEVEL PRACTICAL ENDORSEMENT
- biology - www.slcs.ac.uk/NY246
- chemistry - www.slcs.ac.uk/NY247
- physics - www.slcs.ac.uk/NY248

Simon is responsible for technician development for the National Science Learning Network and advising on technical support issues nationally. His background is as a technician and senior technician in a school in London and as a biology technician at a large FE college.

Unlocking technicians' potential: bringing new expertise to the classroom

by SIMON QUINNELL
@Quinnell75
Technician Lead, National Science Learning Centre

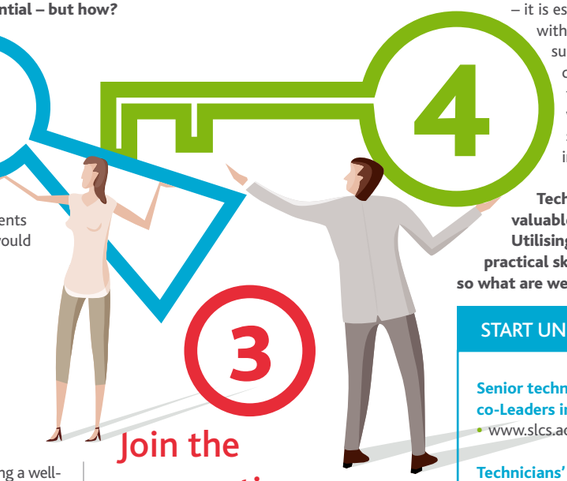
Practical work is a vital part of engaging students in science education for the benefits it can bring to both teaching and learning. Technicians have a wealth of experience in practical science and yet they still remain in the background. Schools need to unlock technicians' full potential – but how?

Jump in

It may seem obvious – but getting technicians into the classroom can have a dramatic effect on learning. Introducing experiments and practical work led by technicians would make them more visible in schools and allow their skills to be showcased.

Get ship-shaped

A prep room should be the engine room of the science department. Creating a well-organised prep room is one of the most important steps the technical department can take. Spring-cleaning the prep room could reveal equipment that's been hiding on a shelf for years and additional space could be made by recycling or donating old or unwanted items. LabAid provides unwanted lab equipment to schools in developing countries across the world, something which could be worth considering.



Join the conversation

There is a vibrant technician community in the UK. Being part of this allows technicians to keep skills up-to-date and share their knowledge and expertise. School leaders should encourage technicians to join online forums and build relationships with local schools to enable technical staff to network.

Boost your skills

The science world is highly skilled and fast-paced – it is essential to keep skills topped up with the latest developments. Lots of support is available, be that external courses or bespoke training brought to you. Other opportunities include work shadowing schemes and swapping knowledge by setting up internal training sessions.

Technicians are an incredibly valuable resource in education. Utilising their expertise could boost practical skills for students across the UK – so what are we waiting for?

START UNLOCKING TODAY

Senior technicians accredited co-Leaders in science (STACS)
- www.slcs.ac.uk/NY600

Technicians' online community
- www.stem.org.uk/mf/technicians-group

Technicians supporting practical work in the classroom
- www.slcs.ac.uk/RP600

HEaTED: our dedicated technicians' scheme
- www.heated.ac.uk

Our top picks for you to put in the calendar...

HEATED REGIONAL NETWORK EVENTS

The HEaTED regional network events are valuable opportunities for technicians to share their experiences, challenges and knowledge with like-minded colleague.

Each network event is completely free to attend, find your nearest event:

- **www.heated.ac.uk/regional-networks/**

NOVEMBER 2015

BAE SYSTEMS EARLY CAREERS AWARENESS PROGRAMME
16, 18, 23, 24 NOVEMBER

Discover how STEM skills are used in the business world and the key employability skills that are needed by large engineering employers. You will also gain project based ideas and resources for your STEM curriculum.

- Book today: **www.slcs.ac.uk/TY221**

OPEN DAY FOR 10TH ANNIVERSARY
1 NOVEMBER

This year, the National Science Learning Centre in York will be celebrating ten years since the first course took place. To celebrate this, we're hosting an open day at the beginning of November. This event will be revolved around the chemistry of fireworks, involving a number of different bonfire night related activities for all the family to enjoy.

- Keep a look out for more information about how to book a place: **www.slcs.ac.uk**

MANAGING BEHAVIOUR FOR LEARNING
2 NOVEMBER

Transform your classroom by making small shifts in your own behaviour. This free, online course will be led by Paul Dix, a leading voice in behaviour management in the UK and internationally.

- Sign up today: **www.slcs.ac.uk/mf/behaviour-management**

DECEMBER 2015

TIM PEAKE LAUNCH
15 DECEMBER

The first ever British European Space Agency (ESA) astronaut to go to the International Space Station, Tim Peake, is due to launch on his mission in December. Tim will be completing a number of different experiments while on-board the Space Station and a few lucky schools have been chosen to have contact with him during his mission via amateur radio.

- For more information about Tim Peake and how your school can be involved, please visit: **www.esero.org.uk/mf/timpeake**

JANUARY 2016

ASE ANNUAL CONFERENCE
6 JANUARY

The Annual ASE Conference will be held in January 2016 at the University of Birmingham. Over 300 science education sessions will be available to visit, and we too are attending. We are planning on hosting a number of sessions and activities during this conference.

- For more information about attending this event, please visit **www.ase.org.uk/conferences/annual-conference**

BETT SHOW 2016
20 JANUARY

The Bett Show will be taking place from 20-23 January 2016 in London. This leading learning technology event has been successfully running for over 30 years and we will be attending in 2016.

- www.bettshow.com

The last few months have seen plenty happening. The National Science Learning Network, National STEM Centre and Project ENTHUSE continue to work tirelessly to support great STEM teaching and learning. Here is a brief round up of the latest news:

Amanda Phillips (left) stood with Yvonne Baker

Award win

The First Women Awards were established in 2005 to celebrate senior professional women. We were delighted when our Chief Executive, Yvonne Baker, won the 2015 First Women Award for Science and Technology at a glittering ceremony in London, hosted by the television presenter and journalist Clare Balding.

ENTHUSE celebrations

The 2015 ENTHUSE Celebration Awards were held this June at a prestigious ceremony at the Wellcome Trust in London. Now in its third year, the Awards were created to celebrate exceptional educators who have made a significant impact on science teaching in their schools. This year's winners were David Townsend, who won the ENTHUSE Leading Science Technician 2015 award and Jo Cox, who was awarded the Secondary Science Leader 2015. Could you be the next winner?

- **www.slcs.ac.uk/mf/enthuse-celebration**

Rolls-Royce Science Prize

The Rolls-Royce Science Prize is an annual awards programme that helps teachers implement science teaching ideas in their schools and colleges. This year's finalists are Rode Heath Primary School; Churchend Primary School; Lancaster Girls Grammar School; Gairloch High School; Bury St Edmunds County Upper School; Simon Langton Girls Grammar School; Bishop Challoner Catholic College; The Judd School; and The Brit School for the Performing Arts. They all took part in professional development activities through the National Science Learning Network. The winners will be announced in November.

- To find out more visit: **www.slcs.ac.uk/mf/rolls-royce**

UK team take home the trophy

CanSat, an annual competition run across Europe, challenges students to design a satellite that fits inside a drinks can. ESERO-UK runs the UK round of the competition and was delighted to see Team Impulse, winners of the 2015 UK CanSat competition, take the European round by storm.

- **www.esero.org.uk/cansat**

SOCIAL MEDIA

Let's take a peek at what people have been tweeting:

@NtlSTEMCentre
Followers: 13.9K

@ScienceVoice
Followers: 4524

@HEaTEDtechs
Followers: 361

@Ashwin_Ahuja Excited that our team (Cyclone) has been accepted into CanSat 2015-2016 @NtlSTEMCentre. Thanks! Let the work begin! #CanSat

@BrenHellier @NtlSTEMCentre Thanks from us. @PracticalAction You do great work to help keep the #STEM community up to date with resources.

@SecretPhysicist NQT Conference here at @ScienceVoice is going great. Science education is in safe hands with these guys.

@RebeccaAHarding @ShareRadio UK @yvonnebaker @NtlSTEMCentre @audioBoom #STEM vital and women still under-represent in #STEM so great to hear Yvonne!

@michael11999907 @HEaTEDteachs
Thanks for an Interesting and Informative day! at North East Yorkshire regional event

@GatsbyEd
Great visit to the @NtlSTEMCentre seeing some of the amazing teacher resources after **@HEaTEDtechs** event.

Follow us **@NtlSTEMCentre** and **@ScienceVoice** and let us know what STEM related things you're up to!

Welcome to the STEM CPD listing

The National Science Learning Network is the largest UK provider of subject-specific Continuing Professional Development (CPD) for teachers, technicians and support staff working in STEM subjects covering computing, design and technology, mathematics and science.

The Network comprises of 50 Science Learning Partnerships (SLPs) in England, the National Science Learning Centre in York and partners SSERC, the Education Authority (NIEA) and Techniquest in Scotland, Northern Ireland and Wales.

The Network offers a diverse programme of research–led STEM CPD with proven impact on teacher development and student outcomes.

Our high quality CPD is also very affordable. Generous bursary funding from the Department for Education (DfE) and through Project ENTHUSE means all state funded schools, academies and colleges can benefit from Impact Award and ENTHUSE Award bursaries.

You can access our CPD online, face to face locally through SLPs and our partners and on longer residential activities at the National Science Learning Centre. We can also tailor our CPD to meet the individual needs of your department, school or network through our bespoke support.

Bursary support for all state funded schools and colleges

ENTHUSE Awards

ENTHUSE Awards contribute towards the costs of attending world-class professional development provided by the National Science Learning Centre.

ENTHUSE Awards are provided by Project ENTHUSE which is a unique partnership of government, charities and employers that have come together to bring about inspired STEM teaching through the professional development of teachers, technicians and support staff across the UK.

www.slcs.ac.uk/mf/enthuse-awards

Impact Awards

Impact Awards are equivalent to 50% of the CPD fee and are available for many of the CPD activities offered through the Science Learning Partnerships across England.

Impact Awards are provided by the Department for Education (DfE).

www.slcs.ac.uk/mf/impact-awards

All fees and award values are valid for state funded schools and colleges and are correct at the time of print (October 2015). See **www.slcs.ac.uk** for fees for non-state funded schools and the latest information.

COMPUTING

RESIDENTIAL

GETTING STARTED WITH MOBILE TECHNOLOGY IN THE SECONDARY CLASSROOM

Learn how teaching with iPads in your classroom can improve student engagement and motivation. Activities include collecting and analysing data and student collaboration.
- Activity fee: £551 (ex VAT)
- Bursary: £578 (ENTHUSE Award)

www.slcs.ac.uk/TY700

SUPPORTING THE TEACHING OF A LEVEL COMPUTER SCIENCE

Improve subject knowledge and provide experience in practical and investigative activities including a range of programming challenges.
- Activity fee: £551 (ex VAT)
- Bursary: £578 (ENTHUSE Award)

www.slcs.ac.uk/TY217

SUPPORTING THE TEACHING OF GCSE COMPUTER SCIENCE

Develop your leadership of practical and gain experience of a range of tools that can be used in teaching.
- Activity fee: £551 (ex VAT)
- Bursary: £578 (ENTHUSE Award)

www.slcs.ac.uk/TY218

USING 3D PRINTERS CREATIVELY AND EFFECTIVELY IN THE CLASSROOM

3D printers are changing the world that we see around us. Find out how 3D printers can effectively be used to encourage creativity and risk taking in the classroom.
- Activity fee: £551 (ex VAT)
- Bursary: £578 (ENTHUSE Award)

www.slcs.ac.uk/TY214

DESIGN AND TECHNOLOGY

RESIDENTIAL

DESIGN AND TECHNOLOGY TECHNICIANS: CO-LEADERS IN THE DEPARTMENT

This course is for anyone who is responsible for running or aspiring to run their design and technology department's technical service.
- Activity Fee: £852 (ex VAT)
- Bursary: £867 (ENTHUSE Award)

www.slcs.ac.uk/NY619

E-TEXTILES: A BEGINNERS GUIDE TO PROGRAMMING IN THE TEXTILES CURRICULUM

Taking you from being an absolute beginner in e-textiles to having the confidence to do basic e-textiles programming in order to create more adventurous projects.
- Activity Fee: £551 (ex VAT)
- Bursary: £578 (ENTHUSE Award)

www.slcs.ac.uk/TY219

USING 3D PRINTERS CREATIVELY AND EFFECTIVELY IN THE CLASSROOM

3D printers are changing the world that we see around us. Find out how 3D printers can effectively be used to encourage creativity and risk taking in the classroom.
- Activity Fee: £551 (ex VAT)
- Bursary: £578 (ENTHUSE Award)

www.slcs.ac.uk/TY214

MATHEMATICS

RESOURCING THE MATHEMATICS CURRICULUM

Explore resources designed to support improved teaching of the new curriculum with hand-on activities.
- Activity Fee: £40 (ex VAT)

www.slcs.ac.uk/MY202

USING RESOURCES TO DEVELOP PROBLEM SOLVING SKILLS IN SECONDARY MATHEMATICS

Develop students problem solving skills in your lessons with hand-on activities and resources.
- Activity Fee: £40 (ex VAT)

www.slcs.ac.uk/MY203

RESIDENTIAL

NEW AND ASPIRING LEADERS OF MATHEMATICS

Inspirational, intensive CPD for new and aspiring leaders of mathematics provides the skills required for outstanding learning and leading a mathematics department.
- Activity Fee: £1,400 (ex VAT)
- Bursary: £1,000 (ENTHUSE Award)

www.slcs.ac.uk/MY200

SCIENCE: GENERAL

ASSESSMENT FOR LEARNING IN SCIENCE

Trial a range of strategies for gathering and using data, explore the research behind assessment for learning, and develop and test your own techniques in the classroom.
- Activity Fee: £215 (ex VAT)
- Bursary: £107.50 (Impact Award)

www.slcs.ac.uk/RP203

BEHAVIOUR MANAGEMENT IN SCIENCE

This course will support teachers new to the profession in considering ways of managing the behaviour of their students so that a positive, effective learning environment can be sustained.
- Activity Fee: £215 (ex VAT)
- Bursary: £107.50 (Impact Award)

www.slcs.ac.uk/RP222

CAREERS IN STEM

Develop your understanding and support students in signposting career options.
- Activity Fee: £215 (ex VAT)
- Bursary: £107.50 (Impact Award)

www.slcs.ac.uk/RP226

CERN STUDY VISIT AND FOLLOW-UP CONFERENCE

Engaging students with big stories of contemporary science is a characteristic of inspiring science teaching. This study visit is a unique opportunity for UK science teachers to visit CERN and have its facilities, functions and operation explained by the scientists and engineers who work at CERN.
- Activity Fee: £300 (ex VAT)
- Bursary: £1,200 (ENTHUSE Award)

www.slcs.ac.uk/NV200

DEVELOPING THINKING SKILLS IN SCIENCE

Explore and develop effective strategies, such as questioning techniques, for enhancing your students' ability to think more deeply about science, using critical and other higher level thinking skills.
- Activity Fee: £215 (ex VAT)
- Bursary: £107.50 (Impact Award)

www.slcs.ac.uk/RP216

DEVELOPING TRANSFERABLE SKILLS THROUGH SCIENCE

Identify and develop the transferable skills students will need to operate effectively in their future workplaces and in society.
- Activity Fee: £215 (ex VAT)
- Bursary: £107.50 (Impact Award)

www.slcs.ac.uk/RP221

ENHANCING LITERACY SKILLS IN SCIENCE

Supporting participants in responding to the increased literacy demands in examinations and help to provide students with the skills to be effective, independent learners.
- Activity Fee: £215 (ex VAT)
- Bursary: £107.50 (Impact Award)

www.slcs.ac.uk/RP212

ENHANCING NUMERACY SKILLS IN SCIENCE

This course will support you in exploring ways in which numeracy skills can be enhanced through science teaching.
- Activity Fee: £115 - £215 (ex VAT)
- Bursary: £57.50 - £107.50 (Impact Award)

www.slcs.ac.uk/RP217

EXPEDITION ICELAND (NORTHERN LIGHTS, ENGINEERING AND WONDERS OF ICELAND)

This expedition has been designed to give participants the opportunity to experience an area of the natural world which has recently been at the centre of STEM relevant stories. From earthquakes to Mars training, Iceland is a destination that can bring STEM subjects to life in the classroom!
- Activity Fee: £985 (ex VAT)
- Bursary: £720 (RCUK)

www.slcs.ac.uk/RP463

MATHEMATICS IN THE SCIENCE CLASSROOM

Exploring the use and failure to use mathematics in science. It looks at typical weaknesses in mathematics that hinder students' ability to understand and solve scientific problems.
- Activity Fee: £215 (ex VAT)
- Bursary: £107.50 (Impact Award)

www.slcs.ac.uk/RP210

PREPARING STUDENTS FOR LINEAR EXAMINATIONS

This course will support teachers in developing effective strategies for supporting students as they prepare for exams.
- Activity Fee: £215 (ex VAT)
- Bursary: £107.50 (Impact Award)

www.slcs.ac.uk/RP211

RESPONDING TO STUDENTS' NEEDS IN SCIENCE

Develop strategies which personalise the science curriculum, in order to engage students of all abilities, widen participation and increase progression to further science study.
- Activity Fee: £215 (ex VAT)
- Bursary: £107.50 (Impact Award)

www.slcs.ac.uk/RP220

SUBJECT LEADERS' NETWORK

This is a chance for collaboration with your peers so you can share information and develop as a leader. Expert consultants will help you identify priority issues in teaching and learning and professional development for your teams.
- See website for details and information

www.slcs.ac.uk/RP219

TOWARDS OUTSTANDING

Secure knowledge of what outstanding practice looks like strengthens the ability to support colleagues, for the benefit of themselves and their students.
- Activity Fee: £215 - £645 (ex VAT)
- Bursary: £107.50 - £322.50 (Impact Award)

www.slcs.ac.uk/RP215

TRACKING AND IMPROVING PROGRESS IN SCIENCE

In response to demand from teachers, this course is for those wishing to improve their students' progress and attainment in science.
- Activity Fee: £215 (ex VAT)
- Bursary: £107.50 (Impact Award)

www.slcs.ac.uk/RP213

USING DIGITAL TECHNOLOGY TO SUPPORT SCIENCE LEARNING

This course explores a range of technology-based applications to develop understanding, communicate ideas and collect and analyse data.
- Activity Fee: £215 (ex VAT)
- Bursary: £107.50 (Impact Award)

www.slcs.ac.uk/RP700

RESEARCH COUNCILS UK

Bringing Cutting Edge Science into the Classroom

In partnership with Research Councils UK (RCUK); the Bringing Cutting Edge Science into the Classroom, is an innovative programme delivered by researchers.

Designed to deliver the latest cutting edge research, knowledge, new contexts and practical activities to support teachers in delivering the curriculum in an accessible, enjoyable and stimulating way for their students.

www.slcs.ac.uk/mf/rcuk

BRINGING CUTTING EDGE SCIENCE INTO THE CLASSROOM: SUSTAINABLE SCIENCE

Update your subject knowledge about alternative technologies for developing a sustainable global future.
- Activity Fee: £210 (ex VAT)
- Bursary: £180 (RCUK)

www.slcs.ac.uk/RP462

RESIDENTIAL

BRING SCIENCE TO LIFE: CSI FORENSICS

Work with experienced crime scene officers and forensic scientists to develop skills and learning approaches using forensics as a contemporary, motivating context.
- Activity Fee: £1,222 (ex VAT)
- Bursary: £1,036 (ENTHUSE Award)

www.slcs.ac.uk/NY203

EFFECTIVE TRANSITION

This course will equip teachers to identify what would be helpful and work for their students, as well as experience different activities that may be useful in increasing support within science transition.
- Activity Fee: £852 (ex VAT)
- Bursary: £867 (ENTHUSE Award)

www.slcs.ac.uk/NY249

FROM GOOD TO OUTSTANDING: MAKING LEARNING VISIBLE

Moving from good to outstanding is not just about having a wide pedagogical approach, but how you engage all your students. This course investigates that shift in role to facilitate truly student-centered classrooms by evaluating effective approaches.
- Activity Fee: £1,623 (ex VAT)
- Bursary: £1,734 (ENTHUSE Award)

www.slcs.ac.uk/NY714

MATHEMATICS FOR SCIENTISTS

Would you like to know how to teach mathematical skills to your students so they can tackle issues across the three sciences?
- Activity Fee: £1,102 (ex VAT)
- Bursary: £1,156 (ENTHUSE Award)

www.slcs.ac.uk/NY258

PRE-NQT KICK START PROGRAMME

Are you ready for your first science teaching post? Let us support your personal planning and help you develop your repertoire of effective practical science activities.
- Activity Fee: £1,653 (ex VAT)
- Bursary: £1,734 (ENTHUSE Award)

www.slcs.ac.uk/NY245

RESOURCING THE SCIENCE CURRICULUM

Develop a great awareness of the National STEM Centre and resources available and become familiar with how to use the eLibrary to increase subject knowledge.
- Activity Fee: £40 (ex VAT)

www.slcs.ac.uk/NY239

SCIENCE: LEADERSHIP

ESSENTIAL SKILLS FOR NEW AND ASPIRING SCIENCE LEADERS

Working with an experienced science leader, you will develop your vision and leadership skills to enable you to lead an effective and vibrant science team.
- Activity Fee: £215 - £430 (ex VAT)
- Bursary: £107.50 - £215 (Impact Award)

www.slcs.ac.uk/RP206

LEADING EFFECTIVE PROFESSIONAL DEVELOPMENT IN SCIENCE

This course will help you to identify the principles, strategies and resources that can be used to develop a programme valued by colleagues and demonstrates impact in the science classroom.
- Activity Fee: £215 (ex VAT)
- Bursary £107.50 (Impact Award)

www.slcs.ac.uk/RP204

RESIDENTIAL

AIMING FOR PROMOTION AND PREPARING FOR YOUR FIRST LEADERSHIP ROLE

Designed and timed for science teachers early on in their careers, looking to take on some responsibility at their first post-qualification career move.
- Activity Fee: £897 (ex VAT)
- Bursary: £660 (ENTHUSE Award)

www.slcs.ac.uk/NY218

ESTABLISHED HEADS OF SCIENCE: STRATEGIC LEADERSHIP OF YOUR TEAM

If you want to develop your skills to meet the challenges of addressing the changes in expectations then this is the perfect course.
- Activity Fee: £1,478 (ex VAT)
- Bursary: £1,685 (ENTHUSE Award)

www.slcs.ac.uk/NY257

NEW AND ASPIRING HEADS OF SCIENCE

New to the role of head of science or looking for your next challenge? This course will provide you with strategies and techniques to be successful.
- Activity Fee: £2,806 (ex VAT)
- Bursary: £3,033 (ENTHUSE)

www.slcs.ac.uk/NY200

SUPPORTING SENIOR LEADERS IN STRATEGIC DEVELOPMENT OF SCIENCE DEPARTMENTS

This course will provide members of SLT and line managers of science with the expertise and knowledge required to support a diverse and challenging area of the curriculum; science.
- Activity Fee: £852 (ex VAT)
- Bursary: £867 (ENTHUSE Award)

www.slcs.ac.uk/NY241

SCIENCE: BIOLOGY

ACTIVE APPROACHES AT A LEVEL BIOLOGY

Providing opportunities to explore the acknowledged benefits of active, collaborative and 'minds-on' approaches to learning at advanced level.
- Activity Fee: £215 (ex VAT)
- Bursary: £107.50 (Impact Award)

www.slcs.ac.uk/RP506

BRINGING CUTTING EDGE SCIENCE INTO THE CLASSROOM: BIODIVERSITY

This course considers the nature and importance of biodiversity for all species.
- Activity Fee: £210 (ex VAT)
- Bursary: £180 (RCUK)

www.slcs.ac.uk/RP452

BRINGING CUTTING EDGE SCIENCE INTO THE CLASSROOM: FOOD SECURITY AND AGRICULTURE

Discover how humans performance in sport is linked to modern technologies and advances in science.
Activity Fee: £210 (ex VAT)
- Bursary: £180 (RCUK)

www.slcs.ac.uk/RP456

BRINGING CUTTING EDGE SCIENCE INTO THE CLASSROOM: GENETICS

Explore how science is working towards creating sustainable global food production.
- Activity Fee: £210 (ex VAT)
- Bursary: £180 (RCUK)

www.slcs.ac.uk/RP457

BRINGING CUTTING EDGE SCIENCE INTO THE CLASSROOM: PERFORMANCE IN SPORT

Develop an understanding of how genetics will play a central role in the lives of future generations.
- Activity Fee: £210 (ex VAT)
- Bursary: £180 (RCUK)

www.slcs.ac.uk/RP459

CONTEMPORARY A LEVEL BIOLOGY

Discussing the wider implications and applications of biology and exploring some tools for teaching and learning will broaden and deepen your 'repertoire' of practical activities and teaching approaches.
- Activity Fee: £215 (ex VAT)
- Bursary: £107.50 (Impact Award)

www.slcs.ac.uk/RP509

DEVELOPING AND ASSESSING PRACTICAL COMPETENCES IN A LEVEL BIOLOGY

This course is designed to prepare teachers to make effective use of practical work in the new A level science curriculum.
- Activity Fee: £215 (ex VAT)
- Bursary: £107.50 (Impact Award)

www.slcs.ac.uk/RP510

GETTING TO GRIPS WITH A LEVEL BIOLOGY

Supporting teachers in developing higher level thinking with their students through use of practical work, demonstrations and modelling activities.
- Activity Fee: £430 (ex VAT)
- Bursary: £215 (Impact Award)

www.slcs.ac.uk/RP501

STRENGTHENING PRACTICAL WORK IN BIOLOGY

Explore strategies for teacher topics across the biology curriculum and how practical work can be made more effective.
- Activity Fee: £215 (ex VAT)
- Bursary: £107.50 (Impact Award)

www.slcs.ac.uk/RP200

RESIDENTIAL

A LEVEL PRACTICAL ENDORSEMENT - BIOLOGY

Faced with the challenge of the new practical endorsement in biology A level? If you want ideas for new practical techniques, this is the course for you.
- Activity Fee: £551 (ex VAT)
- Bursary: £574 (ENTHUSE Award)

www.slcs.ac.uk/NY246

INSPIRING POST-16 BIOLOGY

New practical techniques, uses of ICT, active and context based learning strategies can help students find tricky subjects inspiring.
- Activity Fee: £1,478 (ex VAT)
- Bursary: £1,295 (ENTHUSE Award)

www.slcs.ac.uk/NY501

POST-16 MOLECULAR BIOLOGY IN CONTEXT

This hands-on course will show you how to use a wide range of molecular biology and biotechnology techniques with your students.
- Activity Fee: £897 (ex VAT)
- Bursary: £660 (ENTHUSE Award)

www.slcs.ac.uk/NY505

SCIENCE: CHEMISTRY

ACTIVE APPROACHES AT A LEVEL CHEMISTRY

Providing opportunities to explore the acknowledged benefits of active, collaborative and 'minds-on' approaches to learning at advanced level.
- Activity Fee: £215 (ex VAT)
- Bursary: £107.50 (Impact Award)

www.slcs.ac.uk/RP504

DEVELOPING AND ASSESSING PRACTICAL COMPETENCES IN THE NEW A LEVEL CHEMISTRY COURSE

This course is designed to prepare teachers to make effective use of practical work in the new A level chemistry curriculum.
- Activity Fee: £215 (ex VAT)
- Bursary: £107.50 (Impact Award)

www.slcs.ac.uk/RP512

GETTING TO GRIPS WITH A LEVEL CHEMISTRY

Improve confidence in subject knowledge and skills appropriate to post-16 chemistry through the exploration of key ideas common to all specifications.
- Activity Fee: £430 (ex VAT)
- Bursary: £215 (Impact Award)

www.slcs.ac.uk/RP502

STRENGTHENING PRACTICAL WORK IN CHEMISTRY

Through hands-on activities you will undertake new and established strategies and practical techniques to make students' learning more effective.
- Activity Fee: £215 (ex VAT)
- Bursary: £107.50 (Impact Award)

www.slcs.ac.uk/RP202

BRINGING CUTTING EDGE SCIENCE INTO THE CLASSROOM: DRUG DISCOVERY AND DEVELOPMENT

By drawing on substantial expertise from researchers, this course provides you with the opportunity to explore the contemporary themes and cutting edge developments in cancer research and anti-cancer drugs.
- Activity Fee: £210 (ex VAT)
- Bursary: £180 (RCUK)

www.slcs.ac.uk/RP460

BRINGING CUTTING EDGE SCIENCE INTO THE CLASSROOM: NEW MATERIALS AND NANOTECHNOLOGY

From energy sources and carbon capture to cosmetic enhancements and medical breakthroughs these new technologies are providing creative scientific solutions, as well as raising new ethical concerns.
- Activity Fee: £210 (ex VAT)
- Bursary: £180 (RCUK)

www.slcs.ac.uk/RP460

DEVELOPING EXPERTISE IN TEACHING ACIDS AND BASES

This course provides hands-on opportunities for teachers to explore effective strategies for teaching acids and bases.
- Activity Fee: £125 (ex VAT)
- Bursary: £62.50 (Impact Award)

www.slcs.ac.uk/RP262

DEVELOPING EXPERTISE IN TEACHING ANALYTICAL TECHNIQUES (POST-16)

Focussing on the underlying properties of elements and compounds that enable them to be separated from a mixture and to identify them.
- Activity Fee: £125 (ex VAT)
- Bursary: £62.50 (Impact Award)

www.slcs.ac.uk/RP266

DEVELOPING EXPERTISE IN TEACHING CARBON CHEMISTRY

Using molecular models, this course develops participants' understanding of simple carbon chemistry and makes links between the underlying chemistry and teaching and learning activities.
- Activity Fee: £125 (ex VAT)
- Bursary: £62.50 (Impact Award)

www.slcs.ac.uk/RP257

DEVELOPING EXPERTISE IN TEACHING DEVELOPING AND USING MODELS

The focus throughout this course is developing and understanding of how chemists use models to try and explain their observations.
- Activity Fee: £125 (ex VAT)
- Bursary: £62.50 (Impact Award)

www.slcs.ac.uk/RP264

DEVELOPING EXPERTISE IN TEACHING ENERGY AND CHANGE

An introduction to the key chemical ideas needed to understand energy changes.
- Activity Fee: £125 (ex VAT)
- Bursary: £62.50 (Impact Award)

www.slcs.ac.uk/RP265

DEVELOPING EXPERTISE IN TEACHING EQUILIBRIA CHEMISTRY

This course focuses on understanding what happens during a chemical reaction on a macroscopic and microscopic level
- Activity Fee: £125 (ex VAT)
- Bursary: £62.50 (Impact Award)

www.slcs.ac.uk/RP259

DEVELOPING EXPERTISE IN TEACHING MATERIALS CHEMISTRY

Develop an understanding of how a range of different teaching activities can be used to strengthen students' grasp of how and why the use of materials has changed, including the manipulation of desirable properties to suit particular needs.
- Activity Fee: £125 (ex VAT)
- Bursary: £62.50 (Impact Award)

www.slcs.ac.uk/RP260

DEVELOPING EXPERTISE IN TEACHING ORGANIC CHEMISTRY (POST-16)

This course is designed to introduce participants to the key chemical ideas needed to understand how organic mechanisms work.
- Activity Fee: £125 (ex VAT)
- Bursary: £62.50 (Impact Award)

www.slcs.ac.uk/RP258

DEVELOPING EXPERTISE IN TEACHING QUANTITATIVE CHEMISTRY

This course will give you an opportunity to explore how to make calculations more approachable through a series of 'hands-on' opportunities.
Activity Fee: £125 (ex VAT)
- Bursary: £62.50 (Impact Award)

www.slcs.ac.uk/RP253

DEVELOPING EXPERTISE IN TEACHING RATES OF REACTION

This course focuses on developing an understanding of kinetic theory and rates through experimental work, with practical investigations forming the essential core of the face to face workshop.
- Activity Fee: £125 (ex VAT)
- Bursary: £62.50 (Impact Award)

www.slcs.ac.uk/RP263

DEVELOPING EXPERTISE IN TEACHING REDOX CHEMISTRY

This course focuses on developing an understanding of redox in terms of electron transfer, using both practical and non-practical approaches to addressing this area of chemistry.
- Activity Fee: £125 (ex VAT)
- Bursary: £62.50 (Impact Award)

www.slcs.ac.uk/RP254

DEVELOPING EXPERTISE IN TEACHING STRUCTURE AND BONDING (POST-16)

Support in teaching the topic of structures and bonding post-16 including opportunities to explore effective teaching strategies.
- Activity Fee: £125 (ex VAT)
- Bursary: £62.50 (Impact Award)

www.slcs.ac.uk/RP256

INSPIRING CREATIVE CHEMISTRY TEACHERS DEVELOPING EXPERTISE IN PEDAGOGICAL APPROACHES TO CHEMISTRY

Participants are introduced to active learning and teaching strategies, and consider the progression of key ideas in chemistry.
- Activity Fee: £125 (ex VAT)
- Bursary: £62.50 (Impact Award)

www.slcs.ac.uk/RP250

INSPIRING CREATIVE CHEMISTRY TEACHERS DEVELOPING EXPERTISE IN PRACTICAL CHEMISTRY FOR NQT'S

This course is designed to help participants to develop their own practical skills and understanding of how to teach practical chemistry to secondary aged students.
- Activity Fee: £115 (ex VAT)
- Bursary: £57.50 (Impact Award)

www.slcs.ac.uk/RP251

RESIDENTIAL

CHEMISTRY FOR NON-SPECIALISTS

This course is designed to provide teachers with the confidence, flair and enthusiasm to teach chemistry at all levels.
- Activity Fee: £1,212 (ex VAT)
- Bursary: £1,685 (ENTHUSE Award)

www.slcs.ac.uk/NY243

A LEVEL PRACTICAL ENDORSEMENT: CHEMISTRY

Experience and develop chemistry activities to meet the new assessment regimes, working alongside examiners, teachers and technicians, to help your school or college implement the new changes.
- Activity Fee: £551 (ex VAT)
- Bursary: £574 (ENTHUSE Award)

www.slcs.ac.uk/NY247

INSPIRING A LEVEL CHEMISTRY

This course provides many opportunities to be reconnected with the frontiers of chemistry and the teaching of it by engaging in a wide variety of stimulating sessions.
- =Activity Fee: £1,162 (ex VAT)
- Bursary: £1,036 (ENTHUSE Award)

www.slcs.ac.uk/NY500

NEW TO A LEVEL CHEMISTRY

With much of chemistry centred around good experimental skills, this course allows you to develop, lead and support outstanding practical chemistry, linking it to effective pedagogy within the subject.
- Activity Fee: £1,162 (ex VAT)
- Bursary: £1,348 (ENTHUSE Award)

www.slcs.ac.uk/NY251

SCIENCE: PHYSICS

ACTIVE APPROACHES AT A LEVEL PHYSICS

Explore the acknowledged benefits of active, collaborative and 'minds-on' approaches to learning at advanced level.
- Activity Fee: £215 (ex VAT)
- Bursary: £107.50 (Impact Award)

www.slcs.ac.uk/RP505

CONTEMPORARY A LEVEL PHYSICS

This course will provide opportunities to explore the acknowledged benefits of active, collaborative and 'minds-on' approaches to learning at advanced level.
- Activity Fee: £215 (ex VAT)
- Bursary: £107.50 (Impact Award)

www.slcs.ac.uk/RP507

DEVELOPING AND ASSESSING PRACTICAL COMPETENCES A LEVEL PHYSICS

Designed to prepare teachers to make effective use of practical work in the new A level physics curriculum and use them to improve outcomes for students.
- Activity Fee: £215 (ex VAT)
- Bursary: £107.50 (Impact Award)

www.slcs.ac.uk/RP511

GETTING TO GRIPS WITH A LEVEL PHYSICS

The course will develop subject knowledge, confidence and skills primarily through the exploration of key demonstrations and practicals common to all specifications.
- Activity Fee: £215 - £430 (ex VAT)
- Bursary: £107.50 - £215 (Impact Award)

www.slcs.ac.uk/RP503

PHYSICS FOR NON-SPECIALISTS

Develop your understanding of key physics principles and the skills and strategies needed to teach physics effectively.
- Activity Fee: £215 - £645 (ex VAT)
- Bursary: £215 - £332.50 (Impact Award)

www.slcs.ac.uk/RP208

STRENGTHENING PRACTICAL WORK IN PHYSICS

Explore a range of ideas for teaching topics across the physics curriculum and develop an understanding of how practical work can be made more relevant and effective.
- Activity Fee: £215 (ex VAT)
- Bursary: £107.50 (Impact Award)

www.slcs.ac.uk/RP201

BRINGING CUTTING EDGE SCIENCE INTO THE CLASSROOM: ARCHAEOLOGY

Understand the depth and breadth of the scientific processes involved in the archaeology of one particular site and use them to provide a context that will motivate your students.
- Activity Fee: £210 (ex VAT)
- Bursary: £180 (RCUK)

www.slcs.ac.uk/RP450

BRINGING CUTTING EDGE SCIENCE INTO THE CLASSROOM: ASTROPHYSICS

This course aims to give you a firm grounding in key theories of space science, highlight recent advances in the field and provide you with an insight into current research efforts.
- Activity Fee: £210 (ex VAT)
- Bursary: £180 (RCUK)

www.slcs.ac.uk/RP451

BRINGING CUTTING EDGE SCIENCE INTO THE CLASSROOM: CLIMATE CHANGE

You will explore practical ways in which the effects of climate change can be monitored so that you can engage students in scientific investigations.
- Activity Fee: £210 (ex VAT)
- Bursary: £180 (RCUK)

www.slcs.ac.uk/RP453

BRINGING CUTTING EDGE SCIENCE INTO THE CLASSROOM: EARTHQUAKES AND OTHER NATURAL HAZARDS

This course will explore the science behind seismic hazards from global to local scales and how scientists are currently attempting to understand, monitor and manage these hazards.
- Activity Fee: £210 (ex VAT)
- Bursary: £180 (RCUK)

www.slcs.ac.uk/RP455

RESIDENTIAL

A LEVEL PRACTICAL ENDORSEMENT: PHYSICS

Working with examiners, teachers and technicians we have developed a course that helps and colleges provide students with the practical skills to ensure a complete understanding of what is required.
- Activity Fee: £551 (ex VAT)
- Bursary: £574 (ENTHUSE Award)

www.slcs.ac.uk/NY248

INSPIRING POST-16 PHYSICS

We have worked alongside research scientists, teachers and examiners to practise new activities, approaches and experiments which will help you inform and alter your classroom practice.
- Activity Fee: £1,213 (ex VAT)
- Bursary: £1,036 (ENTHUSE Award)

www.slcs.ac.uk/NY502

NEW TO A LEVEL PHYSICS

With recent changes to the A level specification now is an ideal time to develop your schemes of learning and integrate inspiring and engaging practical activities.
- Activity Fee: £1,162 (ex VAT)
- Bursary: £1,348 (ENTHUSE Award)

www.slcs.ac.uk/NY252

PHYSICS FOR NON-SPECIALISTS (11-16)

Designed to focus on the key principals needed to teach physics effectively through the use of stimulating practical activities and demonstrations.
- Activity Fee: £1,212 (ex VAT)
- Bursary: £1,685 (ENTHUSE Award)

www.slcs.ac.uk/NY201

SCIENCE: PSYCHOLOGY

GOING FURTHER WITH PSYCHOLOGY

The course aims to deepen and develop classroom skills and understanding to promote active learning approaches.
- Activity Fee: £1,102 (ex VAT)
- Bursary: £1,036 (ENTHUSE Award)

www.slcs.ac.uk/NY503

STARTING OUT WITH PSYCHOLOGY

Through engaging classroom practice, it focuses on key concepts, fostering an independent approach to further development.
- Activity Fee: £1,102 (ex VAT)
- Bursary: £1,036 (ENTHUSE Award)

www.slcs.ac.uk/NY226

SCIENCE: TECHNICIANS

A DAY OF PHYSICS FOR TECHNICIANS

The day will be completely hands-on, allowing you the opportunity to try commonly used practical activities.
- Activity Fee: £185 (ex VAT)
- Bursary: £92.50 (Impact Award)

www.slcs.ac.uk/RP659

INTRODUCTION TO THE ROLE OF SCIENCE TECHNICIAN

Sessions on this course will cover the role of a technician, general health and safety, policies and procedures, technician skills and working in a science department.
- Activity Fee: £185 (ex VAT)
- Bursary: £92.50 (Impact Award)

www.slcs.ac.uk/RP601

LEADERSHIP, TRAINING AND MANAGEMENT FOR SENIOR TECHNICIANS

Designed to enhance leadership and management skills, through examining the role of the senior technician, managing an effective technical service, creating and contacting local groups and training other technicians.
- Activity Fee: £185 (ex VAT)
- Bursary: £92.50 (Impact Award)

www.slcs.ac.uk/RP602

TECHNICIANS SUPPORTING A LEVEL BIOLOGY

This course, developed in collaboration with CLEAPSS, will give technicians an opportunity to learn skills and techniques specifically tailored to supporting advanced level biology.
- Activity Fee: £185 (ex VAT)
- Bursary: £92.50 (Impact Award)

www.slcs.ac.uk/RP603

TECHNICIANS SUPPORTING A LEVEL CHEMISTRY

This course, developed in collaboration with CLEAPSS, gives technicians an opportunity to learn key skills and techniques required for the effective support of post-16 chemistry.
- Activity Fee: £185 (ex VAT)
- Bursary: £92.50 (Impact Award)

www.slcs.ac.uk/RP604

TECHNICIANS SUPPORTING A LEVEL PHYSICS

This course, developed in collaboration with CLEAPSS, gives an opportunity to learn skills and techniques specifically tailored to supporting advanced level physics.
- Activity Fee: £185 (ex VAT)
- Bursary: £92.50 (Impact Award)

www.slcs.ac.uk/RP605

TECHNICIANS SUPPORTING PRACTICAL WORK IN THE CLASSROOM

The course includes sessions on what makes good practical work, working effectively with teachers and students, assisting with practical project work, managing small group work and individuals with practical activities.
- Activity Fee: £185 (ex VAT)
- Bursary: £92.50 (Impact Award)

www.slcs.ac.uk/RP600

RESIDENTIAL

EXPERIENCED TECHNICIANS PROGRAMME: BIOLOGY

This course will examine and explore: microbiology, biotechnology, genetics, dissections, ecology, microscopy and working with animals and plants.
- Activity Fee: £852 (ex VAT)
- Bursary: £777 (ENTHUSE Award)

www.slcs.ac.uk/NY604

EXPERIENCED TECHNICIANS PROGRAMME: CHEMISTRY

Examine and explore a range of practical activities which include micro-practicals, analytical techniques including chromatography, spectrometry and colorimetry, polymers, diffusion, electrolysis, distillations, titrations and demonstrations.
- Activity Fee: £852 (ex VAT)
- Bursary: £777 (ENTHUSE Award)

www.slcs.ac.uk/NY605

EXPERIENCED TECHNICIANS PROGRAMME: PHYSICS

This course will examine and explore: electricity, electronics, sound, light, radioactivity, forces, heat transfer, space, astronomy and electromagnets.
- Activity Fee: £852 (ex VAT)
- Bursary: £777 (ENTHUSE Award)

www.slcs.ac.uk/NY606

APPRENTICE TECHNICIANS: HOW TO EFFECTIVELY LEAD AND MANAGE

Through an interactive session, you will explore the processes and skills involved in effectively training and managing an apprentice, from starting in the role to becoming an experienced and self-leading technician.
- Activity Fee: £250 (ex VAT)
- Bursary: £220 (ENTHUSE Award)

www.slcs.ac.uk/NY613

SENIOR TECHNICIANS ACCREDITED CO-LEADERS IN SCIENCE (STACS)

Deliver an effective service, support engaging practical work, network with large numbers of colleagues and keep abreast of changes within the profession.
- Activity Fee: £3,327 (ex VAT)
- Bursary: £3,707 (ENTHUSE Award)

www.slcs.ac.uk/NY600

SKILLS FOR NEW TECHNICIANS

This course will provide a thorough grounding in the science technician profession and is suitable for those new to the role within a school or college.
- Activity Fee: £1,924 (ex VAT)
- Bursary: £1,813 (ENTHUSE Award)

www.slcs.ac.uk/NY601

THE A LEVEL TECHNICIANS PROGRAMME: CHEMISTRY

Explore and examine a range of relevant practicals for technicians to support students with the practical endorsement and skills required at A level.
- Activity Fee: £551(ex VAT)
- Bursary: £440 (ENTHUSE Award)

www.slcs.ac.uk/NY618

SCIENCE: CONFERENCES

NEW AND RECENTLY QUALIFIED TEACHERS' CONFERENCE

Outstanding teachers continuously reflect, and in the early stages of your science teaching career it is important to reflect with your peers and identify areas of subject knowledge and pedagogy where you will need further support.
- See website for details and information

www.slcs.ac.uk/RP214

ONLINE

MANAGING BEHAVIOUR FOR LEARNING

Learn how to positively influence the behaviour of your students through small shifts in your own behaviour.
- Start date: 02 Nov 2015
- Activity Fee: Free

www.slcs.ac.uk/behaviour-management

ASSESSMENT FOR LEARNING

Improve your understanding and use of assessment for learning, a term that is widely used in education, but applied in ways that are variable in their e ffectiveness.
- Start date: 22 Feb 2016
- Activity Fee: Free

www.slcs.ac.uk/assessment-for-learning

CPD designed by technicians, for technicians

We have created an academic year planner to highlight when our technician CPD will be running during 2015-16, all of which have been created to enhance the effective delivery of technical support in schools and colleges.

You can download it at: www.slcs.ac.uk/mf/technicians

Teacher and Support Staff Recognition Scheme

Recognising the impact of professional development

Our FREE to enter Teacher and Support Staff Recognition Scheme allows you to demonstrate your commitment to professional learning and the impact it has on students, colleagues and the wider profession. In a world of accountability and performance related pay progression, it provides evidence against the Teacher Professional Standards.

You may win an ENTHUSE Celebration Award for your work and be invited to the ENTHUSE Celebration Awards in London.

We are now taking applications from teachers and support staff working in any UK school or college, teaching pupils aged 4-19, in one of three categories.

- Effective STEM Teacher or Support Staff
- Leading STEM Teacher or Support Staff
- National Expert STEM Teacher or Support Staff

Find out more about how to enter at www.slcs.ac.uk/mf/recognise

Bespoke CPD tailored to your needs

Our comprehensive range of support can be requested as a bespoke offer for your department, school, college or network. We can make the CPD more effective and tailored to the specific challenges and needs your school or college faces.

Our consultants have a proven track record of highly evaluated, impactful professional development and a wealth of experience in supporting teachers, technicians and support staff in all aspects of STEM education.

www.slcs.ac.uk/mf/bespoke

Welcome to the HEaTED CPD listing

Are you a technician working in post-16 education? HEaTED could be the key to kick starting your career. HEaTED is a membership organisation dedicated to supporting professional development of technical staff from all disciplines and specialisms in post-16 education.

HEaTED provides access to quality training, free regional networking events and online community groups to share knowledge and experiences.

"It is encouraging that such an organisation exists and an excellent platform for networking issues that affect technicians" Craig Hopper, Technician, from Newcastle University

HEaTED
SUPPORTING PROFESSIONAL DEVELOPMENT OF THE TECHNICAL WORKFORCE

Become a member

We offer both individual and institution memberships. If your institution is already a member, then all technical staff are automatically enrolled. This opens the door for staff to access a range of member benefits specifically aimed at meeting their specialist training and development needs.

■ **Visit www.heated.ac.uk for more information.**

ACHIEVING RESULTS THROUGH OTHERS

Have you ever done something yourself rather than delegate because you are worried they will do it wrong? This interactive workshop will help you gain an understanding of how to motivate and influence people.
- Available on demand
- Members fee: £210 (ex VAT)
- Non-members fee: £285 (ex VAT)

■ **www.heated.ac.uk/courses/HC382**

ASSERTIVENESS

This workshop will explore the spectrum of assertiveness, from the basic principles and theories to the application of these methods in your workplace.
- Available on demand
- Members fee: £45 (ex VAT)
- Non-members fee: £50 (ex VAT)

■ **www.heated.ac.uk/courses/HC450**

CONTROLLING THE SUCCESS OF YOUR CAREER

Organisational change can provoke a great amount of uncertainty and anxiety. Through interactive exercises and discussion this you will explore how change affects our working lives, and how we cope with change both mentally and physically.
- Available on demand
- Members fee: £45 (ex VAT)
- Non-members fee: £50 (ex VAT)

■ **www.heated.ac.uk/courses/HC451**

OFF-SITE SAFETY MANAGEMENT

Developed with the Royal Geographical Society this course is designed to enhance your awareness in the planning of off-site activities.
- Available on demand at Plymouth University
- Members fee: £150 (ex VAT)
- Non-members fee: £195 (ex VAT)

■ **www.heated.ac.uk/courses/HC369**

TIME MANAGEMENT

Discover a wide range of personal effectiveness techniques to help you meet the demands on your time.
- Available on demand
- Members fee: £45 (ex VAT)
- Non-members fee: £50 (ex VAT)

■ **www.heated.ac.uk/courses/HC452**

CHEMISTRY

BASIC CHEMISTRY

This short course can be customised to suit your organisation's needs and aims to cover the underpinning chemical principles of solution-based and instrumental analytical science.
- Available on demand
- Members fee: POA
- Non-members fee: POA

■ **www.heated.ac.uk/courses/HC422**

BASIC LABORATORY SKILLS

The purpose of this course is to introduce or reinforce the basic laboratory skills that analysts utilise on a daily basis.
- Available on demand
- Members fee: POA
- Non-members fee: POA

■ **www.heated.ac.uk/courses/HC421**

FUNDAMENTAL ICP-MS

This course introduces you to the fundamental concepts and principles associated with inductively coupled plasma mass spectrometry, and allows you to gain a useful insight into the operating principles of the instrument.
- Available on demand
- Members fee: £178 (ex VAT)
- Non-members fee: £194 (ex VAT)

■ **www.heated.ac.uk/courses/HC285**

INTRODUCTION TO ANALYTICAL VALIDATION

Covering all the basics required to produce an analytical development protocol, implement validation studies and report to regulatory guidelines.
- Available on demand
- Members fee: £178 (ex VAT)
- Non-members fee: £194 (ex VAT)

■ **www.heated.ac.uk/courses/HC282**

LC-MS FOR THE CHROMATOGRAPHER

This exciting and interactive course contains critical knowledge of liquid chromatography (LC) and mass spectrometry (MS) applications and instrumentation.
- 10 Nov 2015 Glasgow Caledonian University
- Members fee: £178 (ex VAT)
- Non-members fee: £194 (ex VAT)

■ **www.heated.ac.uk/courses/HC290A03**

LC-MS SPECTRAL INTERPRETATION

Explore the importance of isotope patterns and their relative signal responses and how common fragmentation series are produced through electronic effects for sample identification.
- 11 Nov 2015 Glasgow Caledonian University
- Members fee: £178 (ex VAT)
- Non-members fee: £194 (ex VAT)

■ **www.heated.ac.uk/courses/HC291A03**

PRACTICAL FAST GAS CHROMOTOGRAPHY

With a mix of theory, simulation and practical laboratory the sessions allow the student to quickly gain knowledge on the theory, practice and limitations of the common approaches to speeding up gas chromatography analysis.
- Available on demand
- Members fee: £680 (ex VAT)
- Non-members fee: £744 (ex VAT)

■ **www.heated.ac.uk/courses/HC417**

PRACTICAL FAST HPLC

Learn to speed up existing separations or to develop novel fast HPLC or UHPLC separations.
- Available on demand
- Members fee: £680 (ex VAT)
- Non-members fee: £744 (ex VAT)

■ **www.heated.ac.uk/courses/HC292**

PRACTICAL HPLC METHOD DEVELOPMENT

For the experienced chromatographer, this course provides a step-by-step approach to method development.
- 03 Nov 2015 King's College London
- Members fee: £680.74 (ex VAT)
- Non-members fee: £744 (ex VAT)

■ **www.heated.ac.uk/courses/HC296F02**

STATISTICS FOR SCIENTISTS - ADVANCED

Comprehensively understand how to use analysis of variance, randomisation and manipulation of controllable variables to reduce variability, time and cost of design and development.
- 17 Nov 2015 King's College London
- Members fee: £269 (ex VAT)
- Non-members fee: £294 (ex VAT)

■ **www.heated.ac.uk/courses/HC424F01**

STATISTICS FOR SCIENTISTS - INTRODUCTION

Learn how to use analysis of variance, randomisation and manipulation of controllable variables to reduce variability, time and cost of design and development.
- 18 Nov 2015 King's College London
- Members fee: £269 (ex VAT)
- Non-members fee: £294 (ex VAT)

■ **www.heated.ac.uk/courses/HC423F01**

DESIGN AND TECHNOLOGY

INTRODUCTION TO LASER PROFILING AND ENGRAVING

This course is designed to give you fundamental knowledge and operating skills to laser profile and engrave a range of materials.
- Available on demand at Durham University
- Members fee: £120 (ex VAT)
- Non-members fee: £180 (ex VAT)

■ **www.heated.ac.uk/courses/HC246**

RAPID PROTOTYPING (3D PRINTING)

A practical, one-to-one course that provides candidates with hands on experience in fundamental 3D Printing.
- Available on demand at Durham University
- Members fee: £120 (ex VAT)
- Non-members fee: £180 (ex VAT)

■ **www.heated.ac.uk/courses/HC132**

ENGINEERING

ABRASIVE WHEELS

A practical introdcution to the use of work equipment as well as relevant legislation and responsibilities under the Health and Safety at Work Act.
- Available on demand
- Members fee: £156 (ex VAT)
- Non-members fee: £234 (ex VAT)

■ **www.heated.ac.uk/courses/HC151**

ASBESTOS AWARENESS UKATA

Obtain a clear understanding of how to recognise and deal with asbestos at work. Following the course you will be able to recognise situations that may cause injury or ill health and identify possible hazards.
- Available on demand
- Members fee: £944.50 (ex VAT)
- Non-members fee: £1,180.50 (ex VAT)

■ **www.heated.ac.uk/courses/HC442**

BASIC PRACTICAL ELECTRONICS

Learn how to recognise and use basic electronics components and test equipment. The emphasis will be on practical skills, although some appropriate theory will be covered.
- 18 Nov 2015 City and Islington College, Angel campus
- Members fee: £144 (ex VAT)
- Non-members fee: £180 (ex VAT)

■ **www.heated.ac.uk/courses/HC387F03**

HIGH PRECISION GNSS USING POST-PROCESSING

Explore the various GNSS error sources that inhibit precise coordinate determination and examine ways of mitigating these errors using additional data and methods available in post-processing mode.
- 22 Oct 2015 Newcastle University
- Members fee: £560.50 (ex VAT)
- Non-members fee: £590 (ex VAT)

■ **www.heated.ac.uk/courses/HC449B02**

INTERMEDIATE GIS USING ARCGIS

You know the basics of GIS, but there is so much more functionality which could enhance your work. This course will provide you with the additional knowledge to be able to use the more advanced features of GIS software.
- Available on demand at Newcastle University
- Members fee: £522.50 (ex VAT)
- Non-members fee: £550 (ex VAT)

■ **www.heated.ac.uk/courses/HC480**

INTRODUCTORY CNC MILLING - PROTRAK CONTROL

A practical, one-to-one course, providing you with experience in fundamental CNC milling.
- Available on demand at Durham University
- Members fee: £120 (ex VAT)
- Non-members fee: £180 (ex VAT)

■ **www.heated.ac.uk/courses/HC130**

INTRODUCTORY TIG WELDING

A practical, one-to-one course designed to be an introduction to TIG welding. The course will offer you training and instruction on welding mild steel, stainless steel and aluminium.
- Available on demand at Durham University
- Members fee: £120 (ex VAT)
- Non-members fee: £180 (ex VAT)

■ **www.heated.ac.uk/courses/HC131**

IOSH WORKING SAFELY COURSE

Introducing the essentials of health and safety to provide an understanding safe working practice.
- Available on demand
- Members fee: £944.40 (ex VAT)
- Non-members fee: £1,180.50 (ex VAT)

■ **www.heated.ac.uk/courses/HC443**

LIDAR DATA IN ARCGIS

This course will investigate the complete workflow, from data collection to conversion to modelling to analysis in 2 and 3D to allow you to utilise the full power of Lidar data in an efficient way.
- Available on demand at Newcastle University
- Members fee: £294.50 (ex VAT)
- Non-members fee: £310 (ex VAT)

■ **www.heated.ac.uk/courses/HC478**

MEWP SCISSOR LIFT-AERIAL PLATFORM-(1 MACHINE)

Learn to drive MEWP Scissor Lift-Aerial Platforms safely and manoeuvre them as required. You will learn to carry out operations correctly and appropriately both inside and outside buildings.
- Available on demand
- Members fee: £1,197.60 (ex VAT)
- Non-members fee: £1497 (ex VAT)

■ **www.heated.ac.uk/courses/HC445**

MEWP SCISSOR LIFT-AERIAL PLATFORM-(2 MACHINES)

Learn to drive MEWP Scissor Lift-Aerial Platforms safely and manoeuvre them as required. You will learn to carry out operations correctly and appropriately both inside and outside buildings.
- Available on demand
- Members fee: £1,197.60 (ex VAT)
- Non-members fee: £1498 (ex VAT)

www.heated.ac.uk/courses/HC446

MOBILE GIS

Efficiency is key to most organisations and what better way of becoming more efficient than capturing and uploading GIS data in the field.
- Available on demand at Newcastle University
- Members fee: £294.5 (ex VAT)
- Non-members fee: £310 (ex VAT)

www.heated.ac.uk/courses/HC481

MOBILE TOWER SCAFFOLD

Gain classroom tuition, practical sessions and assessment on: the safe erection; dismantling; and use of mobile alloy and fibreglass access towers.
- Available on demand
- Members fee: £1,377.60 (ex VAT)
- Non-members fee: £1722 (ex VAT)

www.heated.ac.uk/courses/HC448

POWER PRESS TRAINING COURSE FOR TOOLSETTERS, SUPERVISORS AND MAINTENANCE

Gain an understanding of regulations and guidance as well as safe methods of work, and tool setting for safe and efficient production.
- Available on demand
- Members fee: £944.40 (ex VAT)
- Non-members fee: £1,180.50 (ex VAT)

www.heated.ac.uk/courses/HC444

SAFE USE OF WORK EQUIPMENT - WOOD WORKING

This course covers the Statutory Requirements laid down by the Provision and Use of Work Equipment Regulations 1998 as they apply to wood and metal working equipment.
- Available on demand
- Members fee: £944 (ex VAT)
- Non-members fee: £944 (ex VAT)

www.heated.ac.uk/courses/HC467

HEALTH AND SAFETY

ACCIDENT, INCIDENT AND OCCUPATIONAL DISEASE TRAINING WORKSHOP

In everyday life it is inevitable that someone in your workplace will have an accident. Aimed at providing an overview of accident and incident management, including how to deal with and report accidents, incidents and occupational diseases.
- Available on demand
- Members fee: £75 (ex VAT)
- Non-members fee: £110 (ex VAT)

www.heated.ac.uk/courses/HC374

CARRIAGE OF DANGEROUS GOODS BY AIR CERTIFICATION

Fully approved by the Civil Aviation Authority this course covers key aspects of the transport of dangerous goods by air.
- Available on demand
- Members fee: £455 (ex VAT)
- Non-members fee: £682.50 (ex VAT)

www.heated.ac.uk/courses/HC154

CARRIAGE OF DANGEROUS GOODS BY ROAD

With input from dangerous goods safety advisers, this course covers key aspects of the transport of dangerous goods by air.
- Available on demand
- Members fee: £380 (ex VAT)
- Non-members fee: £565 (ex VAT)

www.heated.ac.uk/courses/HC155

COSHH AWARENESS TRAINING WORKSHOP

Hazardous substances are defined under the COSHH Regulations and this course is aimed at providing straight forward guidance on understanding these regulations.
- Available on demand
- Members fee: £75 (ex VAT)
- Non-members fee: £110 (ex VAT)

www.heated.ac.uk/courses/HC376

COSHH FOR CHEMICALS IN A TECHNICAL WORKPLACE (FULL COURSE)

Thoroughly covering the background information, skills and knowledge around COSHH and enabling these skills to be put into practice in a workplace that uses chemicals.
- Available on demand
- Members fee: £105 (ex VAT)
- Non-members fee: £160 (ex VAT)

www.heated.ac.uk/courses/HC171

COSHH FOR CHEMICALS IN A TECHNICAL WORKPLACE (INTRODUCTION)

Introducing the background information, skills and knowledge around COSHH and enabling these skills to be put into practice in a workplace that uses chemicals.
- Available on demand
- Members fee: £75 (ex VAT)
- Non-members fee: £115 (ex VAT)

www.heated.ac.uk/courses/HC172

CRYOGENIC GAS USER WORKSHOP

Cryogenic liquids are particularly hazardous; their high liquid to gas ratios present a genuinely serious risk of asphyxiation. This course concentrates on the key safety issues involved in the handling, storage or use of cryogenic gases.
- Available on demand
- Members fee: £1,125 for ten learners (ex VAT)
- Non-members fee: £1,250 for ten learners (ex VAT)

www.heated.ac.uk/courses/HC157

FIELDWORK FIRST AID COURSE (OUTDOORS)

Delivered by outdoor professionals who are members of mountain rescue, this session will help you apply first aid principles to real life situations in the outdoors.
- 05 Nov 2015 Selside, Yorkshire Dales Outdoor Centre
- Members fee: £115 (ex VAT)
- Non-members fee: £130 (ex VAT)

www.heated.ac.uk/courses/HC354C01

FIRE AND EMERGENCY EVACUATION TRAINING WORKSHOP

All organisations within the UK have a duty to provide fire and emergency support to ensure safety. This course is aimed at providing straight-forward guidance on the law in relation to fire and emergency management in the workplace.
- Available on demand
- Members fee: £75 (ex VAT)
- Non-members fee: £110 (ex VAT)

www.heated.ac.uk/courses/HC377

INTRODUCTION TO RISK ASSESSMENT

For those unfamiliar with the process of risk assessment this course will give you all you need to confidently approach the risk assessment process.
- 09 Nov 2015 University of Leeds
- Members fee: £55 (ex VAT)
- Non-members fee: £70 (ex VAT)

www.heated.ac.uk/courses/HC357C13

LABORATORY GAS USER WORKSHOP

The utilisation of gases in the potentially hazardous laboratory environment presents a unique set of risks. This course provides comprehensive safety training in the safe management and use of all gases. Classroom and practical training as standard.
- Available on demand
- Members fee: £1,305 (ex VAT)
- Non-members fee: £1,450 (ex VAT)

www.heated.ac.uk/courses/HC159

LIFTING AND SLINGING TRAINING WORKSHOP

Every year many workers are killed or seriously injured whilst using lifting equipment. This training workshop is designed to provide practical, simple guidance to anyone involved in lifting operations.
- Available on demand
- Members fee: £75 (ex VAT)
- Non-members fee: £110 (ex VAT)

www.heated.ac.uk/courses/HC378

MANUAL HANDLING TRAINING WORKSHOP

Gain a good understanding of the regulations related to manual handling, risk assessment and best practice in manual handling techniques.
- 04 Nov 2015 Stanmore College
- Members fee: £75 (ex VAT)
- Non-members fee: £110 (ex VAT)

www.heated.ac.uk/courses/HC373F01

NOISE IN THE WORKPLACE TRAINING WORKSHOP

Get a straight-forward overview of regulations associated with noise in the workplace and how to minimize the effect of exposure to excessive levels of noise.
- Available on demand
- Members fee: £75 (ex VAT)
- Non-members fee: £110 (ex VAT)

www.heated.ac.uk/courses/HC379

OCCUPATIONAL HEALTH AND SOCIAL CARE TRAINING WORKSHOP

Covering best practice, this course will in encourage you to feel competent and confident when carrying out their duties in a wide range of health and social care settings.
- Available on demand
- Members fee: £75 (ex VAT)
- Non-members fee: £110 (ex VAT)

www.heated.ac.uk/courses/HC462

OPEN WORKSHOP - COMPRESSED AND CRYOGENIC GAS USER WORKSHOP

Using gases in the laboratory environment can present a unique set of risks. This comprehensive course will cover classroom and practical training, including: flammable gases; toxic and special gases; regulator fitting and before use checks; and leak chec
- 26 Nov 2015 Northwich, Cheshire
- Members fee: £216 (ex VAT)
- Non-members fee: £240 (ex VAT)

www.heated.ac.uk/courses/HC365K08

OPEN WORKSHOP - OXY-ACETYLENE/OXY-PROPANE GAS USER WORKSHOP

Understand the potential hazards and safety procedures when using oxy-fuel.
- 10 Dec 2015 Northwich, Cheshire
- Members fee: £175.50 (ex VAT)
- Non-members fee: £195 (ex VAT)

www.heated.ac.uk/courses/HC366K10

PAT TRAINING - SAFETY AWARENESS

At the end of the course you will be aware of your legal responsibilities and procedures for testing portable electrical appliances.
- Available on demand
- Members fee: £120 (ex VAT)
- Non-members fee: £150 (ex VAT)

www.heated.ac.uk/courses/HC173

PPE AWARENESS TRAINING WORKSHOP

Get a straightforward overview of the use of Personal Protective Equipment (PPE) including how to select the correct PPE, and correct safety classification.
- Available on demand
- Members fee: £75 (ex VAT)
- Non-members fee: £110 (ex VAT)

www.heated.ac.uk/courses/HC380

RISK ASSESSMENT WORKSHOP: FIELDWORK ACTIVITIES

Do you have to prepare risk assessments for fieldwork activities? This course will equip you with all the skills you need to approach the task with confidence.
- 25 Nov 2015 University of Leeds
- Members fee: £55 (ex VAT)
- Non-members fee: £70 (ex VAT)

www.heated.ac.uk/courses/HC356C09

UKATA CAT A ASBESTOS AWARENESS TRAINING WORKSHOP

In 1999 the use of asbestos was finally banned in the UK. Training on the devastating, long-term effects that exposure to asbestos can have, is critical.
- Available on demand
- Members fee: £75 (ex VAT)
- Non-members fee: £110 (ex VAT)

www.heated.ac.uk/courses/HC459

WORK AT HEIGHT

Discover the key requirements and control measures you need to know when working at height.
- Available on demand
- Members fee: £75 (ex VAT)
- Non-members fee: £110 (ex VAT)

www.heated.ac.uk/courses/HC461

SCIENCE

DEVELOPING AN APPRENTICESHIP PROGRAMME

Be empowered to develop a cost effective apprenticeship scheme that will address your future technical skill shortages.
- Available on demand
- Members fee: £225 (ex VAT)
- Non-members fee: £275 (ex VAT)

www.heated.ac.uk/courses/HC006

COUNTER TERRORISM AWARENESS

A large part of the terrorist threat in the UK involves the use of common everyday chemicals. Raise your awareness and understand the role that individuals and their employers have in helping towards the counter terrorism effort.
- Available on demand in Manchester
- Members fee: £0
- Non-members fee: £25 (ex VAT)

www.heated.ac.uk/courses/HC145

NATIONAL WATER SAFETY MANAGEMENT PROGRAMME - LEVEL ONE AND TWO

This course has been developed by the Royal Lifesaving Society for those undertaking outdoor teaching and lecturing.
- Available on demand at Plymouth University
- Members fee: £230 (ex VAT)
- Non-members fee: £299 (ex VAT)

www.heated.ac.uk/courses/HC367

OUTDOOR FIRST AID

Be ready for anything with this practical course on dealing with medical emergencies in remote areas.
- Available on demand at Plymouth University
- Members fee: £150 (ex VAT)
- Non-members fee: £195 (ex VAT)

www.heated.ac.uk/courses/HC368

SERVICING AND MAINTAINING ROUTINE OPTICAL MICROSCOPES (FULL DAY COURSE)

Learn how to get the best results from your equipment by properly maintenaning your microscopes.
- Available on demand
- Members fee: POA
- Non-members fee: POA

www.heated.ac.uk/courses/HC439

SERVICING AND MAINTAINING ROUTINE OPTICAL MICROSCOPES (HALF DAY COURSE)

Learn how to get the best results from your equipment by properly maintenaning your microscopes.
- Available on demand
- Members fee: POA
- Non-members fee: POA

www.heated.ac.uk/courses/HC440

Our new website is almost here...

We're launching a new website merging the current National Science Learning Network, National STEM Centre and ESERO-UK websites.

Pulling together all of our classroom resources, CPD activities, news, blogs, groups and much more.

COMING IN DECEMBER 2015