

# IST

## The Institute of Science & Technology One-day Technical Conference 2017



Supporting technical staff in science,  
technology, engineering, arts, media and IT

## 14th SEPTEMBER 2017

### Mercure Grand Hotel

Granby Street | Leicester | LE1 6ES

Key Sponsor



- 09:30-10:00 Registration  
Refreshments and time to visit the sponsors' exhibition
- 10:00-10:15 Welcome and opening remarks  
Presenter: Terry Croft, MBE  
CEO and Chairman of IST
- 10:15-10:45 Keynote 1 - Dr Turi King, Reader in Genetics and Archaeology at the University of Leicester, will be enthraling us about her work leading 'The King's DNA analysis in the Richard III identification project.
- 10:50-11:35 Workshop 1 - Room TBC  
Workshop 2 - Room TBC  
Workshop 3 - Room TBC  
Workshop 4 - Room TBC  
Workshop 5 - Room TBC
- 11:35-12:05 Refreshment break and time to visit the sponsors' exhibition and view the posters submitted by delegates.
- 12:05-12:50 Workshop 6 - Room TBC  
Workshop 7 - Room TBC  
Workshop 8 - Room TBC  
Workshop 9 - Room TBC  
Workshop 10 - Room TBC
- 13:00-14:00 Lunch - time to visit the sponsor exhibition and view the competition posters
- 14:00-14:30 Keynote 2 - Professor Anu Ojha, OBE, Director of the UK's National Space Academy programme and a Director of the National Space Centre - the UK's largest visitor centre for space science and astronomy.
- 14:35-15:20 Workshop 11 - Room TBC  
Workshop 12 - Room TBC  
Workshop 13 - Room TBC  
Workshop 14 - Room TBC  
Workshop 15 - Room TBC
- 15:25-15:45 Refreshment break - and time to visit the sponsors' exhibition and view the submitted posters
- 15:45-16:00 Announcement of the winners of the conference poster awards
- 16:00 Close of Day

### Welcome note:

Room TBC

#### Terry Croft, MBE

CEO and Chairman of IST,  
Director of the National Centre  
for Technical Development and  
Modernisation.



### Keynote 1:

Room TBC

#### Dr Turi King

Reader in Genetics and  
Archaeology at the University  
of Leicester, will be enthraling  
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### Keynote 2:

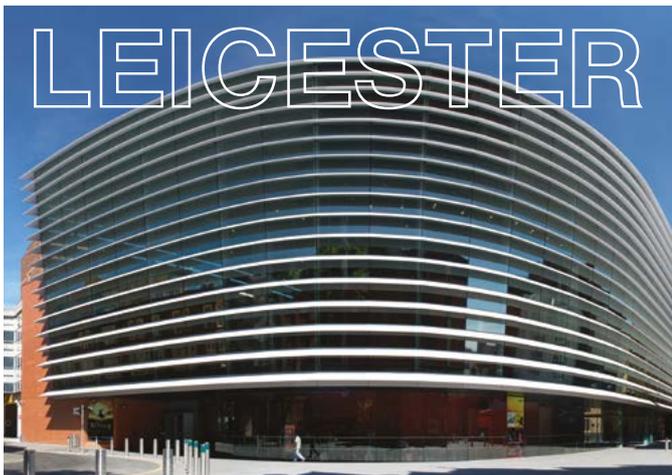
Room TBC

#### Professor Anu Ojha, OBE

Director of the UK's National  
Space Academy programme  
and a Director of the National  
Space Centre - the UK's largest  
visitor centre for space science  
and astronomy.



Mercure Grand Hotel



Curve Theatre



National Space Centre



Clock Tower

# LEICESTER

### Workshop 1: Presenting....the Facts

Kevin Oxley  
University of Sheffield



Not everyone enjoys giving a presentation, either at work, as part of a job interview or speaking at an event such as an external seminar, conference or even a wedding. I am going to give you some tips and tricks and sprinkle some general magic to help you present with confidence and style. Some people are natural speakers, for most of us though it is daunting, although really, it just takes practice, practice, practice to build up your confidence and presenting style.

You need to make people care about what you are saying in your presentation, which goes hand in hand with understanding your audience, both who they are and what they know about your subject.

Confidence - what it is and how to boost it, both before giving a presentation and by projecting it through your body language whilst you are giving a presentation.

I will cover key points such as structuring and designing your presentation, as well as how to engage your audience and be enthusiastic.

### Workshop 2: Sex, Drugs, and Rock & Roll

David Martin  
Evaporations and  
Separations UK Product  
Manager, BUCHI UK Ltd



Offbeat applications from the BUCHI world. From flash bars and posh restaurants to Bull's semen; we take a look at some of the more unusual science that we have been asked to help with.

### Workshop 3: Lab Coats in Hollywood: Scientists' Impact on Cinema, Cinema's Influence on Science

David A Kirby  
Lecturer in Science  
Communication Studies  
at the University of  
Manchester



We are now in a golden age for science in popular culture. Academy Award winning films such as Gravity and The Theory of Everything, and television ratings titans like The Big Bang Theory have proven that science-based popular cultural products can be both critically acclaimed and financially successful. But the scientific community has long standing concerns about cinema's impact on public attitudes towards science.

Anxiety over Hollywood science has led many scientists to become consultants for movie productions in order to influence how stories about science are told through this medium. In this talk I elaborate on the backstage role scientific experts play in negotiating information transfer between the scientific community and the entertainment industry. I will also discuss the constraints filmmakers face when attempting to incorporate science into their film texts. In addition, I will explore the ways that movies made with the help of scientists have influenced science itself including how movies promote research agendas, stimulate technological development, and impact the cultural meanings of science.

### Workshop 4: CPD is a good thing!

Ms P Nobbs  
Education Officer and Chair  
of Education Board  
Institute of Science &  
Technology



What kind of activities may provide CPD, how to identify benefits and how to use reflective practice.

This session is aimed at Science Council Registrants at all levels and people who are required to do CPD for other registers.

### Workshop 5: Lonza Flash Gel System

Katy Bridge  
Scientific Labs



Fast electrophoresis is here! The FlashGel™ System gets straight to your results. Simply load samples, watch bands migrate and get data in as little as 2 minutes. Say goodbye to gel preparation, band excision, purification, and UV light. Complete separation, recovery and documentation safely, at the bench, in minutes.

- 5 minute separation and recovery
- See bands in as little as 2 minutes
- Recover samples directly, without UV light, band excision or purification
- Real-time separation and documentation
- Watch band migration as it happens
- Photograph gels at the bench, without DNA damaging UV light
- Outstanding sensitivity and resolution

**Workshop 6:  
Social Media & Marketing:  
Evolution or revolution?**

**John-Paul Ashton &  
Lizzy Gifford**  
Institute of Science &  
Technology



For many of us social media is a huge part of our lives, and for others it may seem too complex, as there is so much information out there!

This session will explore how social media has changed over the years and will give you an insight on how you could use social media optimization to fit into your workplace to provide an effective social marketing strategy.

**Workshop 7:  
From Molecular Biology to  
Synthetic Biology – what's  
new?**

**Sandra Taylor**  
Manchester Institute of  
Biotechnology



In the eighties molecular biology allowed us to gain a handle on how genes, and mutations in genes, affected an organism's development via expression or altered expression. In the 90s the first whole genome was sequenced (Escherichia coli K-12) and the development of big data programming tools began. Meanwhile, chemists have increasingly used micro-organisms to express metabolic pathways or part pathways of interest since some reactions are easier to achieve via living cells than by traditional chemical methods.

These disciplines are now being combined to deliver a new model of "design, build, test, learn" where computational scientists use big data to design useful pathways, a combination of wet lab scientists and robots build, express and purify these pathways, then a team of chemists test the produced molecules. These results then contribute to "machine learning" and subsequent rounds aim to optimise the processes until a commercially useful yield is produced.

Synthetic Biology Centres such as SYNBIOCHEM look to harness this new way of interdisciplinary working, which brings its own challenges.

**Workshop 8:  
Defining the future of the  
IST**

**Helen Sharman, OBE**  
President of the Institute of  
Science & Technology

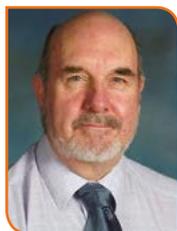


The IST is the professional body for specialist, technical and managerial staff. We have been serving the technical community for more than 60 years and it is our mission to continue to move forward and expand to meet the demands of the ever changing landscape in which we all reside. The world of science and technology moves forward at an incredible rate. This modern technology driven world has opened up many new and exciting fields of science over the past few decades. Increasingly, the multi-disciplined approach towards developing new and innovative solutions is changing the face of industry, research and education. In order to fulfil a service for today's membership we are continually seeking the input of all our members so that we can deliver an up to date and exciting membership package for today's technician. We need to find better ways of working together to become more effective as well as seek to explore a diverse range of signposting to technical career opportunities fit for today's technical community and science professionals of the future.

In this interactive session we will explore ways in which we can use novel and modernistic methods to increase engagement with potential new members and to deliver the service that best suits YOU. The IST is your professional body, make it work for you.

**Workshop 9:  
Champions for Professional  
Registration**

**John Dwyer**  
University of Lancaster



Are you interested in being an IST Professional Registration Champion at your institution? I will explain how you can help foster interested in professional registration and further raise the profile of the IST within your institution. Working with fellow technicians and senior management to help develop technical forums and networks across your institution.

I will also explain how you might be able to obtain funding from your staff development department to register with HEaTED for their courses, and to attend HEaTED regional meetings and IST events such as the IST conference.

I will include the opportunity for an open discussion with current Champions wishing to contribute from their experiences within their own institutions, on any of the items above, or others who are active in promoting professional registration but are not part of the Champion group.

**Workshop 10:  
Water Purification Systems**

**Amanda Cove**  
Veolia



Veolia Water Technologies UK is a subsidiary of Veolia. With over 75 years' experience in water we have worked within nearly every industry sector. We offer a full range of solutions for water purification and sustainable water recovery for industry, science and research. With a wide range of process water treatment systems that range from bench-top water purifiers to centralised pure water delivery systems, we are confident that we can meet your water treatment requirements

I am going to talk to you about helping Science and Saving Resources by Better Understanding of Laboratory Water Requirements from the perspective of a new build.

How do we determine the best solution for your needs? Why are water impurities an issue for science? How do we determine the water quality and the quantity? With these questions answered we then take the needs of the scientist and together determine the best solution.

I will talk about the tried and tested technologies we use and the many different ways in which we can provide pure water for your new laboratory

**Workshop 11:  
Developing Design  
Consultants of the Future:  
Embedding Virtual &  
Augmented Reality into the  
Urban Design Curriculum**

**Dr Bobby Nisha**  
University of Sheffield

**Bryony Olney**  
University of Sheffield



Aimed at Teachers / Technologists interested in the applications of virtual and augmented reality in the classroom and managing the process.

At the Department of Urban Studies & Planning, University of Sheffield our HEFCE Catalyst funded “Developing Design Consultants of the Future: Embedding Augmented & Virtual Reality in learning & teaching” project has introduced some of the basic concepts and considerations, posed by new technological developments in line with emerging applications of it in industry, into the classroom. Historically students have created 3D models as part of their study, but have been assessed on their 2D presentations of these artefacts. The project set about to turn this assessment process on its head through embedded skills development during design teaching; students’ models are brought to life through the use of both virtual reality (through head mounted displays such as the HTC Vive) and augmented reality, to view designs in their intended 1:1 scale where volume and space can be interpreted and understood in ways never available to us before. Immersive viewing offers the potential for engagement with students’ work– from small augmented models to immersively experiencing a student’s urban design plan as a full VR experience – in new ways to create new meaning. Postgraduate students on our MA in Urban Design & Planning programme have been supported to develop their skills in appreciating both the benefits and limitations of immersive visualisation as a tool for design and communication. Delegates will join us for our workshop which will provide an update on our research findings to date, and give attendees the opportunity to experience hands on, some of our students’ work through the use of Google Cardboard, augmented reality and the HTC Vive (facilities permitting) and to hear first-hand from our students about their experience of our project.

**Workshop 12:  
Flavour and Seasoning  
Creation and Application**

**Geoff Passmore**  
Master Flavourist



Geoff’s workshop will let you know how flavours are created, and how seasonings are created and explain the differences between flavours and seasonings. He will show you the formulations and will bring some of the actual flavour compounds used and also the completed flavours themselves, smelling strips and examples of products will allow the delegates to interact.

**Workshop 13:  
Recognition and succession  
planning for the technical  
workforce**

**Sue Churm**  
Membership & Networks  
Manager, HEaTED



Helping individuals and teams identify where skills and knowledge gaps exist in meeting the changing needs of their roles. Accessing purposeful CPD and gaining recognition for the technical workforce.

The session is aimed at technicians, technical managers and staff development colleagues.

**Workshop 14:  
Delivering impact through  
public engagement. What  
method is best for you?**

**Nathan Adams**  
University of Sheffield



Academia and industry recognize the social responsibility to deliver impact from their work. Public engagement with research is a recognized method of delivering impact - but there are a multitude of methods to achieve this. This session will be an introduction to delivering a public engagement event, looking at methods of engagement, types of audience, evaluation and obtaining extra funding, as well as some of the logistics and timescales involved in delivering a successful event. This session will be mainly based on case studies - including avoiding where it all goes wrong.

**Workshop 15:  
Apprenticeships**

**Chris Turgoose**  
Co-Project Manager for the  
HEFCE National Centre for  
Technical Development and  
Modernisation



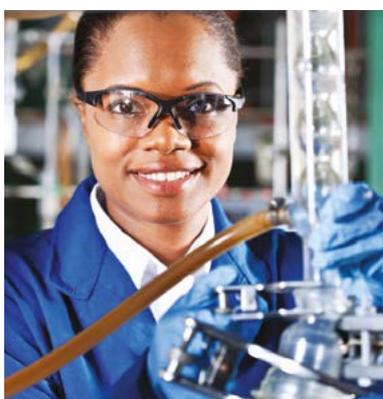
The introduction of the Apprenticeship Levy and the changes to the current apprenticeship scheme can be utilised to support a more strategic and effective approach to technician development. In her workshop Chris will focus on the role apprenticeships can play to support effective succession planning, knowledge exchange and career pathways

The session is aimed at technicians, technical managers and staff development colleagues.



There will be an IST professional registration desk open all day, with IST staff available to help with your application or provide advice, should you need it, please drop in.

Because there is a limit on the size of some of the technical talks/workshops we will ask you to choose your 3 talks/workshops (one from each session) before you attend on the day, full details will be sent one month before the event for all delegates. Please reply promptly to secure a place on a workshop. We cannot guarantee a place will be available on the day without pre-booking.



For professionally registered delegates (RSciTech, RSci, CSci), and also those delegates considering applying for professional registration, the conference and its workshops will contribute significantly to your professional and personal development (PPD). The programme includes 2 highly motivational talks from keynote speakers, plus 3 technical workshops (chosen from the 15 available) throughout the day. The Conference also provides opportunities to participate through poster presentations, networking, and supplier/maker stands. All these will add considerably to your personal development, annual PPD score, and enhance your CV.

## SPONSORS



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