

# IST

## The Institute of Science & Technology One-day Technical Conference 2018



The Professional Body for Technicians by Technicians  
Supporting technical staff in Science, technology, engineering, arts, media and IT

**20th September 2018**  
**Crowne Plaza Hotel**

Stephenson Quarter | Newcastle | NE1 3SA

# SPEAKER BIOGRAPHIES



**Mark Ariaans**  
Lead Resource Technician at the University of Sheffield

Mark is the lead resource technician in the Department of Infection, Immunity & Cardiovascular Disease (University of Sheffield). As a PhD student and as a research technician Mark has been active in the field of laboratory animal research for over fifteen years. Having completed his PhD using poultry models of infection, he has since switched to supporting mouse research projects. With the University of Sheffield being a signatory on the national Concordat on greater openness about animal research, Mark has been involved in various outreach activities aimed at increasing the understanding of animal research among the general public. Animal welfare and the “three R’s” guidelines are central to these activities.



**Charlotte Ashley-Roberts**  
Transitions Coach for Women in Business and Leadership

Charlie is a careers and transitions coach and owner of *Your Time To Grow*. After being made redundant in 2009 from the pharmaceutical industry a career in careers advice beckoned working for the Royal Society of Chemistry. After almost 8 years and supporting over 4000 people find their passion and create career strategies which work for them, an opportunity to make a change to her own career arose. The catalyst was two children and an insight into the challenges women face within their careers. So in 2015 Charlie formally qualified as a coach and set up her coaching business. Her passion is to collaborate with women to help them realise that they already have the skills, values and qualities they need.



**Andy Connelly**  
Technician and Laboratory Manager at the University of Leeds  
Assistant Editor of the Journal at the Institute of Science & Technology

Andy Connelly is a technician and laboratory manager in the School of Earth and Environment at the University of Leeds. He is also an active member of the University’s Technicians’ Network, a member of the Institute of Science and Technology (IST) and assistant editor of The Journal. Alongside his day jobs, Andy has been writing and publishing both academic papers and popular science articles since 2007. His articles have appeared in *Physics World*, *Physics and Chemistry Review*, and on *Guardian.co.uk*. More recently, he has been writing about the lives of technicians, current and historic, for *The Journal* and for his blog *#TechnicianJourney*. Through doing this he hopes to raise the awareness of the importance of technicians in the history of science.



**Terry Croft**  
Chair and CEO of the Institute of Science & Technology

Terry is chairman of the IST; the professional body that represents specialist, technical and managerial staff both nationally and internationally, and across all sectors including the HE sector. Terry’s passion and commitment to the technical community resulted in his new role at the University of Sheffield as Director of the National Technician Development Centre. His wealth of knowledge and wide experience led him to be awarded a three year Catalyst Grant by HEFCE where he was Director of the Department of Technical Development and Modernisation at the University of Sheffield. The project entitled “Development & Embedding of Career Pathways for Technicians across the Higher Education Sector” has a number of work streams covering a variety of issues that are currently effecting the HE institutions. These include awareness of the professional technician as a career choice, the various pipelines to enter the profession, skills shortages, succession planning, professional registration, career pathways, and future proofing.



**Richard Cutting**  
Senior Project Manager at the University of Manchester, Manchester Engineering Campus Development and Henry Royce Institute

Since completing a PhD in Physical Chemistry and several post-doctoral research positions, Richard has held a series of Health and Safety and Technical Services Management roles at the University of Manchester, including Technical Services Manager in both the Schools of Earth and Environmental Sciences and Physics and Astronomy. In 2015, Richard took up his current post of Senior Project Manager and currently leads the design and development of all research and technical spaces in both the Manchester Engineering Campus Development and Henry Royce Institute (among others). He has developed an excellent practical and theoretical knowledge regarding the formation and operation of TRAC-listed facilities and the links to a sustainable business model for technical services. Richard is a member of the Faculty of Science and Engineering Equipment Working Group and University of Manchester Steering Group that is tasked with devising, implementing and overseeing a facilities structure, underpinned by appropriate costing, pricing and operational models.

More recently, Richard has become interested in the development of a holistic, integrated approach to the delivery of technical services both in HEIs and industry, and focused on the significance of this more broadly in terms of benefit to UK-PLC. This includes the development of high-level business strategies to ensure the delivery of flexible/adaptable technical spaces and the development, modernisation and funding of technical teams and equipment. Richard is currently researching and liaising with senior technical leaders both nationally and internationally in order to develop a more detailed understanding of the current issues facing technical services and the efforts and successes of others in addressing these. It is this recent activity that has led him to seek the support of the IST to form a group aimed primarily at senior technical leaders. The overall aim of this group is to provide a forum and national network for the sharing best-practice, lessons-learned and to determine appropriate routes to work with and influence both funders and government. The purpose of seeking to influence in this manner is to ensure alignment of technical services (including technical spaces constructed by HEIs) with the broader needs of society and the post-Brexit UK economy.



**Robert Driver**  
Brunel Motorsport Technician at Brunel University

Robert runs the Brunel Motorsport Centre at the Brunel School of Engineering within Brunel University. The University has undergraduate and post graduate training in Motorsport Engineering. We have two Formula Student Racing Teams each building a new race car every season. Also an Isle of Man TT Zero electric motorcycle is prepared and raced at the TT. The Motorsport Centre has a machine shop, a rolling road dynamometer and an engine dynamometer and all manner of test and manufacturing equipment related to Motorsport. He assists students in all manner of projects from performance engine building to engine mapping (Bosch and Motec) and race prepping the vehicles as well as taking them to the different events i.e. Silverstone, Hockenheim, Isle of Man etc. Robert has also taken on a position to assist the University of Nottingham with their two electric powered superbikes and to assist them in delivering a 4wd Formula Student racing car.



**Frank Fletcher**  
Technical Support Services Team Leader at the University of Sheffield

Frank leads the Technical Support Services Team in the Department of Materials Science and Engineering at the University of Sheffield. He came to the University after leaving De La Salle College in Sheffield a few days after he had taken GCE 'O' Level exams and has remained there to this day. While his early studies were focused on Chemistry, Frank developed specialist skills in electronics and has had a keen interest in electrical safety. Frank was late discovering Professional Registration and since being awarded RSci, he has had the privilege of being invited to deliver presentations at Universities in the north of England where he has been able to share thoughts about the benefits of Professional Registration, regardless of age.



**Miguel Gimeno-Fabra**  
Assistant Professor in Mechanical and Electrical Engineering at the University of Nottingham

Dr Miquel Gimeno-Fabra is a researcher at The University of Nottingham. Starting his career as a chemist, Miquel naturally drifted to engineering as it was an area he had always been passionate about. He comments, "As a child I was always drawn to Lego and putting things together...moving to engineering seemed like the right decision, especially as some of the most successful research is interdisciplinary". Once a PhD student studying the continuous synthesis of nano-materials, Miquel is now a researcher within the Faculty of Engineering, a Research Fellow in the Centre for Innovative Manufacturing in Medical Devices (MeDe) and is also involved in several other projects.

One of his most recent challenges has been working with the Power Electronics, Machines and Control Research Group (PEMC) on their electric superbike. After a successful 2014 season racing an electric motorbike donated by Agni Motors, PEMC decided to buy a more powerful motor for 2015. With concerns over what modifications the old frame would need to accommodate the new motor, they reached out to colleagues within the faculty for somebody to help. Upon joining the team, Miquel's role expanded to start from scratch the mechanical design of the new bike. His main responsibilities involved making sure the bike was mechanically finished on time. He sourced the correct gear for such a high spec bike, made contact with racing suppliers and companies who could deliver, and his efforts paid off as the team made it to the start line. Miquel also takes care of all the mechanics of the bike and as modifications continue, he will be making sure the frame and additional components are all to the best specification.



**Jonathan Harvey**  
Plastics and Sustainability Team, Environment Agency

Jon began his career in waste and sustainability as an environmental consultant in Guangzhou, China. Tasked with developing a commercial and operational model for a new plasma gasification plant in Guangzhou, he developed novel waste arising and feedstock models, learned mandarin, and worked closely with China Homeland and international partners. Jon then applied his first class honours in Environmental Biology (BSc & MSc) at the Environment Agency (environmental monitoring officer). The role involved project management of investigative monitoring of quarries and agriculture using remote sensing technology, and ecological sampling to establish ecological harm. As marine lead, he was called upon to deliver the marine monitoring programme for the South West ranging from fish surveys, to benthic invertebrates and seagrass surveys. Recently Jon has joined the new Plastics and Sustainability team, where he is establishing working groups, engaging local communities, and enacting internal process change. A large part of work so far has been sharing best practice in industry, and applying his background in monitoring towards tackling the plastic tide.



**Karen Henderson**  
Director of Technical Services at the University of Reading

Karen started her career as a postdoctoral researcher in the field of enzymology of antigen processing at University College London. Then, she moved into the field of intestinal stem cell differentiation for the next ten years at the Imperial Cancer Research Fund prior to its amalgamation with the Cancer Research Campaign to form Cancer Research UK.

A period of eight years in the private sector followed and included experience in large-scale monoclonal antibody production and in managing teams involved in radiopharmaceutical production and in drug selection for Diagnostic Imaging agents at Amersham International plc - before the latter became GE Healthcare in 2004. Within these roles, Karen has been a classified radiation worker, Radiological Protection Supervisor, Biological Safety Officer and Designated Individual for a Research HTA Licence.

From 2008 she has worked at the University of Reading as Head of Technical Services in the School of Biological Sciences and more recently, from 2015, as Director of Technical Services. This role involves managing and coordinating core technical support across the University.

**Jon Kelly**

Laboratory Manager at the Institute for Sport, PE & Health Sciences, University of Edinburgh

Jon manages Edinburgh University's sport science laboratory facilities, which include resources for both physiological and biomechanical measurement of human activity. He has provided innovative technical solutions to meet research requirements including developing an underwater camera system used for research on the biomechanics of swimming and developing software to conduct EMG analysis. He is a member of the Technical Services Steering Group, which is charged with developing the University's plan for the delivery of the Technician Commitment. His own competitive cycling background led him into sport science and ultimately a PhD at University of Edinburgh on the effects of fatigue on the biomechanics of cycling. It has also seen him taking on previous roles including providing the sport science support to the Scottish cycling squads and managing Coach Education for Scottish Cycling.

**Sarah McCafferty**

Research Technician at the University of Edinburgh

Sarah McCafferty is a member of the University of Edinburgh Technicians Support Steering group; and a research technician at the University, working in the Edinburgh Clinical Research Facility Genetics Core. Having joined the genetics core in 2013 as a recent graduate, she has become a vital member of the team; having played an instrumental role in setting up the ECRF genetics core in-house RNA extraction service; and being regularly involved with training new members of the team, and visiting students. Working as part of the ECRF's sustainability committee Sarah has taken the lead on the genetics core submission for the University of Edinburgh sustainability awards, resulting in the awarding of both Bronze (2015) & Silver (2016) accreditation. She is passionate about science communication laboratory sustainability and the development of technical staff.

**Mark McDonagh**

Technical Services Manager at the Staffordshire University

Mark is a Technical Services Manager at Staffordshire University. He has worked in higher education across a broad range of disciplines at multiple levels and has 18 years management experience. He currently manages technical staff supporting the School of Art and Engineering. Mark has particular interests in team cohesion and team building.

**Kia Nazarpour**

Reader in Biomedical Engineering at Newcastle University

Kia Nazarpour (PhD, Cardiff University, 2008) is currently a Reader in Biomedical Engineering at School of Engineering, Newcastle University. His research is motivated by the potential of prosthetics to restore function to individuals with sensorimotor deficit, by transforming thought into action and artificial nerve stimulation into perception. Since 2010, he has generated more than £3M research funding from the EPSRC, Leverhulme Trust, the Wellcome Trust and the Royal Society as Principal Investigator. Dr Nazarpour and his multi-disciplinary team develop data analysis techniques and neural engineering methods to enhance the control of prosthetic hands and test these innovations in experiments involving people with limb difference. Prior to joining Newcastle, he worked as a Senior Algorithm Engineer at Touch Bionics, UK, which is a market leading manufacturer of multi-functional prosthetic hands. At Touch Bionics, he led a Technology Strategy Board project on the development of robust algorithms for prosthesis control.

**Raymond Veness**

CERN Senior Engineer and Section Leader

Ray Veness is a senior engineer and section leader at CERN in Geneva, Switzerland. He is currently responsible for the mechanical engineering of all instrumentation used for monitoring particle beams in all of CERN's accelerators. He has previously been responsible for the design and implementation of many major parts of the Large Hadron Collider and physics experiments such as ATLAS and CMS. He has a Doctorate in mechanical engineering for the University of Leicester and spent his early career working for the UK Atomic Energy Authority at Culham.

**Peter Rignall**

Territory Manager at Eppendorf

Peter is the Eppendorf Territory manager for the Midlands. He handles the sales, technical information and training within his region. Peter has previously worked in sales roles at Andritz and Russell Finex, and before that he was a technical officer at VWR.

**Marie Slater**

Technical Team Leader for Pattern Technology, CAD and Textiles at Manchester Metropolitan University

Marie Slater has been Technical Team Leader for Pattern Technology, Anthropometrics, CAD and Textiles at Manchester Metropolitan University since 2005. Marie coordinates a team of twelve technicians, but directly manages five with various multi-specialisms in the Manchester Fashion Institute. This team provides support for undergraduate and postgraduate courses, as well as Enterprise and researchers within the Institute. Marie was previously a children's wear fashion designer for twenty years, designing for Mothercare and Marks and Spencer. She travelled globally to the far East and Europe, interpreting fashion and fabric trends.



**Kate Soper**  
Technology Enhanced Learning Advisor at Manchester Metropolitan University

Kate Soper is a Technology Enhanced Learning Advisor at Manchester Metropolitan University. She has worked in e-learning for the past ten years, both in educational institutions and in private companies. Kate's current role is to provide support and guidance around the use of technology to support teaching and learning within the University. By working collaboratively with academics, technicians and researchers Kate has supported the implementation of many digital projects across Manchester Met. Kate has a particular interest in the use of mobile technologies and augmented reality for learning and teaching.



**James Trout**  
Industry Liaison Advisor at the Institute of Science & Technology

James is the Laboratory manager for the National Laboratory Site at Starcross in Devon. The NLS is a national service of the Environment Agency and provides analytical data for a range of sample types. The NLS has four sites in Nottingham, Leeds, Caversham and Starcross each with their own specialism. As Laboratory Manager James is part of the team who run the NLS and set the vision and strategy for the business. He is responsible for around 90 members of staff and the delivery of sample data to customer agreed targets and to ISO17025 quality standards. James is a Chartered Manager and Registered Scientist and a Director of Newton Abbot University Technical College. He will be helping the IST develop industrial links and promoting frameworks for professionalising science/technical staff working in that sector.



**Professor Sir Doug Turnbull**  
Professor of Neurology at the University of Newcastle upon Tyne

Sir Doug is Professor of Neurology at the University of Newcastle upon Tyne and Honorary Consultant Neurologist at Newcastle upon Tyne Hospitals NHS Foundation Trust in Newcastle upon Tyne. He is also the Director of the Wellcome Centre for Mitochondrial Research and Director RCUK Centre for Ageing and Vitality. Doug is the National lead of the National Highly Specialised Services for Rare Mitochondrial Diseases of Children and Adults. This involves three centres (Newcastle, London and Oxford) and provides diagnostic and specialist clinical services for patients with mitochondrial diseases.

Sir Doug continues to develop his clinical and molecular studies of mitochondrial disease. One of the great strengths of working in the UK is the ability to link clinical studies to basic research and this is the focus of the Wellcome Centre for Mitochondrial Research.



**Jemma Walker**  
Pre-registrant Clinical Scientist at Birmingham Women's Hospital

Since reading Developmental and Cell Biology at The University of Sheffield, Jemma has worked in technical roles in academic and clinical research for almost 10 years now. During her time as a research assistant Jemma perused professional registration with the Science Council through the Institute of Science and Technology, achieving RSci status in 2013. Currently training as a pre-registrant clinical scientist at Birmingham Women's Hospital, Jemma is also finalising her PhD in developmental stem cell biology at The University of Plymouth.



**Paul Walsh**  
Learning and Development Specialist at Manchester Metropolitan University

Paul is a Learning & Development Specialist at Manchester Metropolitan University. He has worked in development roles for twenty years across the travel industry, civil service and higher education. He currently coaches colleagues, managers and leadership teams around developing their own performance and that of the people they work with. He has a particular interest in supporting individuals facing career change and in helping leadership teams to make difficult decisions.



**Sarah Wright**  
Territory Manager at Eppendorf

Sarah is the Eppendorf territory manager for the north east of England. She handles the sales, technical information and training within her region. Sarah was previously technical sales support in the UK head office for Eppendorf, and before that did a PhD in Geochemistry at the University of Southampton.

The Institute of Science & Technology is very grateful for the support from our professional speakers, who truly do make the day a brilliant success.

The thoughts, opinions and expertise are their own and they put a great amount of detail into the workshops to give delegates new and interesting insights, into their own work or into something they are particularly interested in.

Fancy being involved with our Conference in 2019?

We would love to hear from you if you are interested in delivering a workshop in 2019. Please contact us on the details at the bottom of the page.



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# IST

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