

# EXIST

Exeter Initiative for Science & Technology

## insight

A focus on science,  
technology & innovation  
for the business community

Plus - for this month only a  
feature on new science and  
tech spaces for Exeter

FEB 17 **ISSUE 03**



**Exeter Chamber**  
of Commerce & Industry

A DAY IN THE LIFE OF SCIENTIST

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*BIOSYSTEMS TECHNOLOGY*

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# ABOUT EXIST AND INSIGHT

The Exeter Initiative for Science and Technology (ExIST) is a sub-group of Exeter Chamber of Commerce and Industry. The group was founded in June 2011 by a group of business leaders in Exeter and the sub-region. The group's aims to optimise interaction between science and technology businesses trading in the area, to increase awareness of Exeter as a centre of science and technology, to build relationships between education at all levels and business, and to encourage investment in the STEM industries in the region.

ExIST Insight is the newest project from the group and aims to raise recognition of the STEM organisations and its community within Exeter and the local region. The quarterly newsletter enables us to share information within the network and for external promotion to encourage increased visibility of Exeter as a science city.

Find out more  
[www.existexeter.co.uk](http://www.existexeter.co.uk)

 **ExIST\_Exeter**

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## ISSUE 03

### WELCOME TO ISSUE 3 OF EXIST INSIGHT

We are really proud to bring you this, our third issue of Insight.

As well as stories from science and technology businesses within the city, we are pleased to include an interview with Dr Olivia Champion, who works at the forefront of business and biology, at her own start-up, Biosystems Technology, a University of Exeter spin-out company. Following on from the theme of our last Quarterly Meeting, we also hear from industry champion, Julie Hawker, who talks about the digital skills gap on p10.

In this Issue we have increased the number of pages so we could look at some of the new science and tech spaces opening in Exeter – including the Living Systems Institute and the Digital Humanities building, both on Streatham Campus of the University of Exeter, an exciting extension of the Technology Centre of Exeter College and, not least, the new HPC building at the Met Office – home to Europe's largest operational supercomputer, for its first public event, the next ExIST Quarterly



Robert McIlwraith with Robin Jackson, co-founder and steering group member of ExIST

Meeting – see p6 for more detail.

The eagle-eyed will have noticed that Exeter's two leading education establishments continue to invest in the sciences with the creation of these fantastic new centres – on the back cover we look at the numbers of students currently undertaking STEM courses in both organisations and how they compare nationally.

Finally, I would like to thank all of ExIST's sponsors and supporters – those that have been with us long-term as well as those joining very recently: Exeter City Council, Exeter University, Bitpod, and Innovation Exeter – you can read more about all of them on p11.



Robert McIlwraith.



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of Commerce & Industry

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visit [www.exeterchamber.co.uk/success](http://www.exeterchamber.co.uk/success)

## AFRICA FOUNDED SOFTWARE SPECIALIST RELOCATES TO EXETER

Following five successful years in Malawi, Africa, software development specialist Revel Innovation has relocated its head office to the Exeter Science Park Centre. Founded in 2011 by electrical engineer John Cass, Revel Innovation specialises in the development of bespoke software and cloud based business applications. John explained: "We made the decision to move back but we didn't want to live in London again. We wanted to live near the countryside where our kids could benefit from everything it has to offer, but I also really wanted to be near a forward-thinking city where I could continue to grow my business and find the right employees to help build our product portfolio. He continued: "We decided on Exeter and almost straight away I came across the Science Park. Initially, whilst going through the transition from being based in Malawi to basing ourselves back here I worked in the hot-desking space, but we opened our head office as soon as we could." John and his team worked closely with the people in Malawi to develop two software solutions that have significantly improved educational and working conditions.

[www.revel.org.uk](http://www.revel.org.uk)

## EXETER SCIENCE PARK CENTRE ANNOUNCED AS BCO AWARD FINALIST

The Exeter Science Park Centre, designed by LHC Architecture + Urbanism, has been named as a finalist in the prestigious 2017 British Council of Offices (BCO) Awards for the South of England and South Wales, in the Commercial Workplace category. Opened in late 2015, the 30,000 sq. ft. Centre sits at the heart of Exeter Science Park and is home to high-growth businesses in the science, technology, and research and development (R&D) sectors. With a contemporary exterior, flexible working spaces, sustainable features, and high-quality finish, the building is a catalyst for investment in the city. The team behind the building, which includes LHC, Aecom, Kier Construction, and Exeter Science Park, is hoping that the Centre impresses the BCO judges when they visit in March in advance of the award ceremony in Bristol on 4 May. Chairman of LHC, John Baulch said: "The essence of the building is collaboration - bringing people together and giving them the opportunity to innovate - and we designed each aspect of the building with this in mind. "The Centre is a prime location for successful science-based businesses and we wanted to give them a space that inspired creativity and development, allowed the building to adapt to its tenants' requirements, as well as being a beautiful place to work. We are really pleased that the building has been recognised as a finalist, and we expect stiff competition from many other impressive projects." [www.exetersciencepark.co.uk](http://www.exetersciencepark.co.uk)

## EXETER CITY FUTURES & EXETER COLLEGE CRUNCH THE NUMBERS

Exeter City Futures is working with students to help them to create lasting change and a sustainable future. Starting in January, Exeter City Futures is working with Exeter College,

analysing data with students based at the Maths and Science Centre. The 15-week data analytics pilot programme is aimed at A Level Maths, Computer Science and BTEC Enterprise students. It is one of two education challenges that Exeter City Futures is currently running. The aim is for students to learn how to engage with real problems and build their analytical skills. In doing this they will show that young people are capable of creating change in the Exeter region. Students will be using data to work on projects within the college and will solve real-world problems for students within the Exeter region. Improving the college and the students' experience is just beginning. Exeter City Futures is also helping students to upskill and gain enhanced knowledge in data analysis, so that they can identify problems and create change for all. Exeter City Futures was founded in November 2015 with the aim of making Exeter and the surrounding region sustainable for the future. Its vision is to make Exeter and the region congestion free and energy independent by 2025. The 15-week course at the Maths and Science Centre is the first in a series of education programmes that Exeter City Futures is delivering throughout 2017.

[www.exetercityfutures.com](http://www.exetercityfutures.com) | [www.exe-coll.ac.uk](http://www.exe-coll.ac.uk)

## EXETER'S DASHBOARD HOPES TO BLAZE TO AWARD SUCCESS

Innovative Exeter-based infrastructure monitoring provider, Dashboard, has been shortlisted for an 'Internet of Things' Trailblazers Award.

Founded in 2015, Dashboard has quickly secured its reputation as a leading Internet of Things (IoT) infrastructure monitoring expert. Starting out in the oil and gas industry, the firm has now diversified into a vast range of sectors, including energy, infrastructure, mining and utilities. Based at the Exeter Science Park Centre, the Dashboard team has grown rapidly over the past year as the team of experts have been reaching out to companies across the world to trial its new IoT monitoring technology. The Tech Trailblazer Awards showcase new and exciting tech products, solutions and software for enterprises based anywhere in the world. The awards recognise small businesses and start-ups, under five years old, across a range of technology categories from big data and virtualisation, to security and storage. Designed to support business growth, the prizes include exclusive coaching, mentoring and development. The winners are chosen by a public vote, which people can vote for at: [www.techtrailblazers.com/internet-of-things-shortlist/](http://www.techtrailblazers.com/internet-of-things-shortlist/)

## BITPOD PRODUCES FILM OF EXIST DIGITAL SKILLS EVENT

Bitpod have released a film showcasing the last quarterly event, held in November 2016 to promote ExIST and show people who haven't been before, what goes on at such meetings. The last event focused on the digital skills gap. Speakers included Doniya Soni of techUK, Ben Neild from The Impact Lab, and Julie Hawker, CEO of Cosmic. As recent sponsors of ExIST, Bitpod will be creating more event films as well and looking into live streaming of events, helping ExIST to expand its audience and interact with more businesses interested in innovation, science and technology. Bitpod will also be putting together a film that will encourage investment and expand on the existing aims and objectives of the group with the hope of maintaining existing members as well as enticing new businesses and employees to join ExIST. [www.bitpod.co.uk](http://www.bitpod.co.uk)



# A DAY IN THE LIFE

## DR OLIVIA CHAMPION BUSINESS, CAREER & THE FUTURE



INSIGHT ASKED OLIVIA ABOUT  
HER BUSINESS, HER CAREER,  
AND THE FUTURE

### THE BUSINESS?

“Over the past year or so I have been working towards commercialising some of my research and this has led to the establishment of the University of Exeter spin-out company, BioSystems Technology. In vivo models form an essential component to research in the life science and healthcare sectors. However, these models often lack predictive capability and have proven expensive, time consuming, and ethically contentious, being based on mammalian, primarily rodent, systems.

BioSystems Technology provides a non-mammalian based alternative system called TruLarv™, which is able to address scientific need whilst minimising the regulatory burden and ethical issues concerning the use of mammals. The TruLarv™ larvae are much cheaper to use and produce quicker results than comparable experiments using mammalian models. They are capable of providing

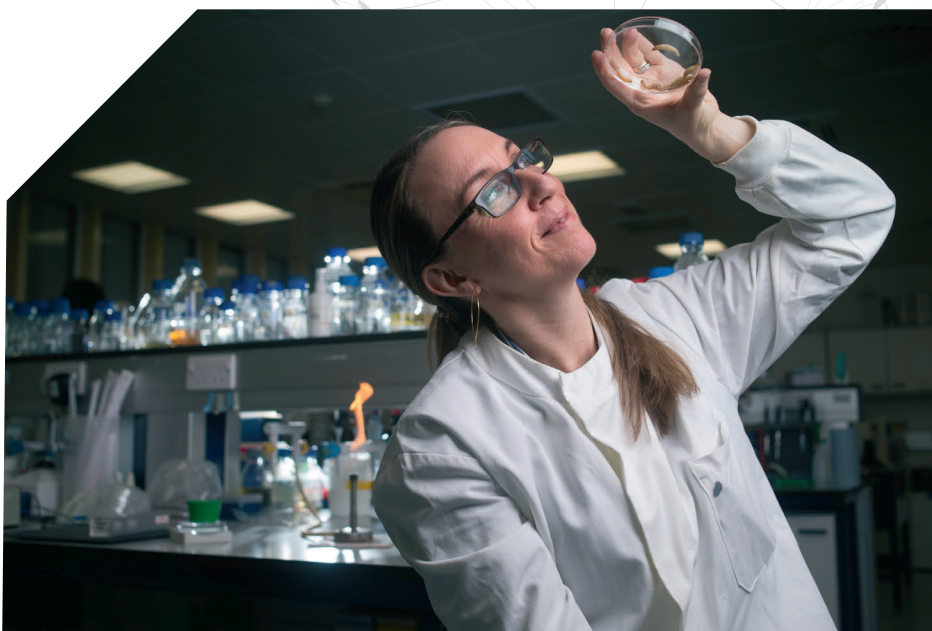
Dr Olivia Champion is co-founder and CEO of BioSystems Technology Ltd, a company that provides low cost, ethical alternatives to animal testing. The team, (two staff and four advisers) operate out of a lab and office on the University of Exeter Streatham campus, providing alternative solutions for animal testing. The Company's main markets are primarily in the UK and Europe, though significant interest from the US is also coming through.

statistically more robust data and results correlate strongly with those obtained in mammals.

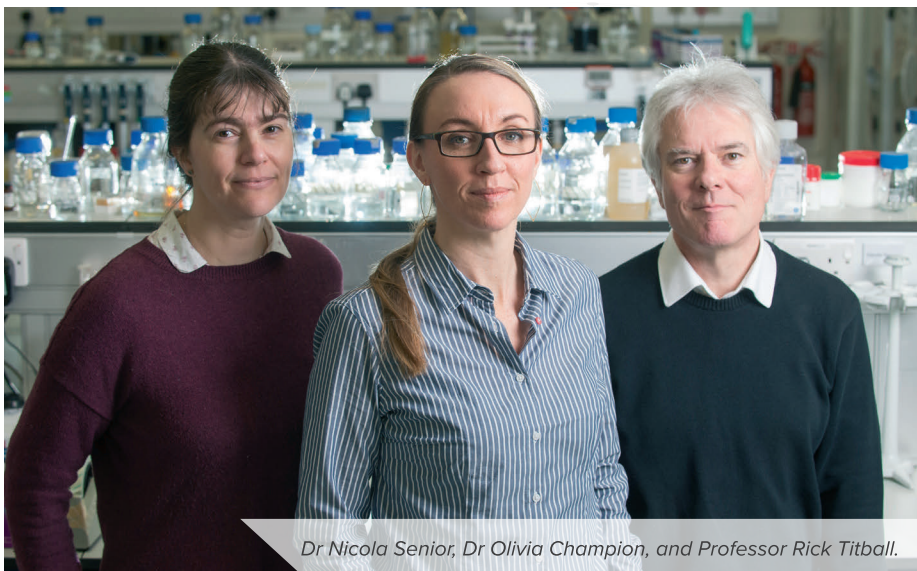
It's been a very steep learning curve, moving out of the laboratory, where I have been focused exclusively on research for over a decade, to become co-founder and CEO of a start-up company. However, my business idea was picked up early on by the Research Knowledge Transfer group at the University of Exeter through which I was introduced to a business mentor, Dr Paul Sheppard - a leading member of the ExIST group. Paul guided me through the challenges of entrepreneurship and I have also been supported by the business incubator SETSquared.

During the summer we wrote and won two grants from NC3Rs. The

funding has now been awarded and is being used to support two research projects with Industry. The first project is with a major contract research organisation which is testing TruLarv™ as an acute toxicity model that can be used for the assessment of the safety of chemicals. The second grant is being used to support the integration of TruLarv™ into early stage discovery of novel antibiotics into industry pipelines. These projects are now underway and I am involved in project management to ensure we meet the deliverables on time and also data analysis, interpretation and dissemination of the results at relevant meetings and conferences.”







*Dr Nicola Senior, Dr Olivia Champion, and Professor Rick Titball.*



## CAREER PATH?

Having originally intended to follow her father and grandfather into optometry, Olivia changed her mind when the mother of a family she was staying with in Nepal fell desperately ill from Typhoid fever: "I remember thinking how ridiculous it was that people were still dying from drinking dirty water." It was this experience which changed the course of Olivia's career – she switched her course to Applied Biology at Cardiff University, and gained valuable experience at the World Health Organisation in Geneva, at Public Health England, and at North Middlesex Hospital's Microbiology lab, at the same time as studying for an M.Sc. in Clinical Microbiology at Queen Mary and Westfield University, and then a PhD at the London School of Hygiene and Tropical Medicine (LSHTM). Since achieving her PhD, Olivia has worked at both the University of British Columbia in Vancouver and at the University of Exeter.

While Olivia's varied career has seen her work at prestigious organisations across the world, her career highlight to date, was pitching for and winning private investment to launch BioSystems Technology:

"I work in a very male-dominated world of science and business and I feel frustrated about the gender imbalance in these areas that is due, in part, to sexism. I believe I was the only female pitching at the investor

event and it felt good to make a strong business case and connect with the investors in the audience in such a positive way. Having three children, two girls and a boy, I am very conscious of the opportunity I have to be a strong female role model and I often participate in outreach events aimed at encouraging young people into careers in science. The advice I would give to a young person considering a career in science would be work hard, network lots, don't give up or beat yourself up when things go wrong but learn from your mistakes. Just do your best and keep a sense of humour about it; don't take yourself too seriously."

## AND THE FUTURE?

"I love creating new knowledge. Creating knowledge is the main aim of a researcher. Now that I have moved into business I'm still interested in the R&D and I like the fact that BioSystems Technology develops products that can help create new knowledge that could have huge real world impact, such as the discovery of new antibiotics."

## THERE IS A REAL BUZZ IN EXETER

My wish is for the city to become a hub for science, business, and

innovation similar to the digital and creative hub that has sprung up in Bristol. The fundamental elements are in place: the Science park, the University, the Met Office, graduates and a skilled workforce. I would say that the University, Met Office and local businesses and entrepreneurs should aim to interact more to build partnerships that can drive and support innovation and business."

[www.biosystemstechnology.com](http://www.biosystemstechnology.com)



# FEATURE : NEW BUILDINGS

## DIGITISING THE ARTS AND HUMANITIES

Summer 2017 will see the opening of the University of Exeter's eagerly awaited Digital Humanities Laboratory, based on their Exeter Streatham Campus. We went to find out more about this exciting new project.

Aligning a connection between digital technologies and global antiquity may not be the first thing you think of when you consider the world of digital, but that is exactly what the University of Exeter's Digital Humanities Lab does. The field of Digital Humanities includes a vast array of digital techniques that engage with humanities research in new and exciting ways, from the 3D digitisation of important historical, literary and visual artefacts, to text-encoding for analysing and publishing globally renowned literary works.

The £1.2million investment represents the University's interests and



Photographing manuscripts in situ using a conservation-grade portable cradle and Phase One camera, to produce high resolution images for preservation, access and detailed research

commitment to this growing field of academic enquiry and will confirm the University of Exeter's position at the forefront of international research into historical and cultural artefacts. The lab will allow researchers to use specialised digital equipment to find out more about our cultural heritage and creative past and share their discoveries with the public.

In the new space, researchers will have the opportunity to curate digital exhibitions, carry out 2D and 3D digitisation, and create professional quality video and audio recordings. They will be able to create

digital facsimiles of rare and often vulnerable objects, allowing them to be handled and understood in a virtual space around the globe, protecting the original artefacts for future generations. Researchers will be able to carry out high-resolution photography of manuscripts and other visual materials, and to record podcasts and videos for broadcasting to interpret and encourage interest in the objects.

For more information on the University of Exeter's Digital Humanities Lab, please visit

<http://humanities.exeter.ac.uk/research/digital/>



## EXETER COLLEGE

**Multi-million pound, state-of-the-art centre of excellence in robotics and engineering at Exeter College**

Exeter College is creating a world-class multi-million pound centre of excellence with cutting edge robotics and engineering technology.

The state-of-the-art building is being built as a 780 square metre extension to the landmark Exeter College Technology

Centre, on the edge of Exeter. The next generation of engineers will be trained at the centre, a UK-leading facility in Further Education.

This £3 million ambitious project is part funded by the Heart of the South West Local Enterprise Partnership (HotSW LEP) from its Growth Deal with Government, to develop projects that benefit the local area and economy. The project is part of the college's long-term commitment to develop STEM (Science, Technology, Engineering, and Maths) subjects.

The extension is required to support an expansion in the college's broad range of courses in engineering, aerospace and automotive; providing industry-led teaching spaces, workshops and laboratories for both practical and academic learning.

Under the plans, there will be new workshops and laboratories which will be used for engineering, robotics, automated manufacturing, rapid prototyping and 3D printing. There will also be a state-of-the-art virtual welding facility.

The college offers a broad range of STEM subjects, ranging from A Levels, professional and technical qualifications, to foundation degree qualifications in aircraft engineering.

[www.exe-coll.ac.uk](http://www.exe-coll.ac.uk)





## LIVING SYSTEMS INSTITUTE

TO PIONEER NOVEL APPROACHES TO DISEASE AND DIAGNOSIS

**The new Living Systems Institute (LSI) will pioneer novel approaches to understanding diseases and how they can be better diagnosed.**

This will inform more effective treatment strategies for some of the most severe diseases facing humanity, spanning a broad spectrum, from chronic neurodegenerative diseases to the animal and plant diseases that threaten food security. The state-of-the-art Living Systems Building will house world-class facilities and bring together around 200 cell and molecular biologists, mathematicians, physicists, biomedical scientists and engineers. This will foster innovative, interdisciplinary research practices, and form an integrated team of scientists with complementary expertise investigating the fundamental cellular processes underlying human, animal and plant disease; translating this knowledge of 'living systems' into wider diagnostic and treatment applications. The Living Systems Institute will be tightly embedded in a scientific environment that is application oriented, and imbued with a sense of responsibility to translate scientific discovery into social and economic applications. It will develop novel disease treatments and additionally inform policy makers.

The new, seven-storey, 7,500m<sup>2</sup> LSI building has been designed to

embed inter-disciplinary research practice and will house 29 research groups with complementary expertise in biosciences, medicine, physics, engineering, mathematics and computer science. High-quality research laboratories, bio-imaging facilities, physics and engineering spaces, and high-performance computing will enable the Institute to be a hub for the analysis of the precise operation of living systems.

The building includes flexible lab spaces, where cell and molecular biology research will be carried out, specialist technical facilities to visualise and manipulate living cells, computational analysis of large data sets generated by genome sequencing, transcriptional profiling, proteomics, high-throughput cell biological screens, a Biological Services Unit providing state-of-the-art approved facilities for disease-related research, three instrument rooms and one large equipment room per floor, as well as staff and research offices, meeting rooms, seminar and informal meeting spaces. On 5-6 July the LSI will hold its opening symposium event, where two Nobel Laureates will deliver keynote speeches:

Sir Paul, Nurse FRS a former president of the Royal Society and now Chief Executive of the Francis Crick Institute, was awarded the Nobel Prize

for Physiology or Medicine in 2001 for his part in the discovery of protein molecules that control cell division.

German biologist Prof Christiane Nüsslein-Volhard, Emeritus Director of the Max Planck Institute for Entwicklungsbiologie, was awarded her Nobel Prize for Physiology or Medicine in 1995 for her discovery of the genes that control the development of animal embryos.

The founding director of the LSI, Professor Phillip Ingham FRS would like to invite the South West business community to attend the opening symposium on 5-6 July 2017. The event will be hosted by Professor Ingham and will provide a unique opportunity for distinguished guests to visit the £52 million new research facility, as well as meet the world-leading scientists who have joined the LSI. Registration for the event is now open

[www.exeter.ac.uk/livingsystems/opening/symposium/](http://www.exeter.ac.uk/livingsystems/opening/symposium/)





# FEATURE : NEW BUILDINGS

## MET OFFICE



**In December 2016 the Met Office completed the third and final phase of its supercomputer implementation, more than three months early.**

This supercomputer is some fifteen times larger than its predecessor and will enable a step change in the pull through of weather and climate science. The Supercomputer, constructed by Willmott Dixon, is housed over two sites, with approximately 30% being based at the Met Office HQ and the remaining 70% in a new purpose built IT hall on Exeter Science Park.

*The Met Office supercomputer is now the largest operational supercomputer in Europe, when at full capacity it will be able to do more than 20,000,000,000,000,000 calculations per second. That is 2 million calculations for every man, woman and child on the planet per second.*

Benefits from the first two phases are already being seen, with the Met Office having made the largest improvement to its global model in a decade and increased the domain size of its UK model, to enable earlier visibility of

convective storms. Improvements in weather and climate science enabled by the HPC will continue over the next 5 years providing benefits to the UK public, government and industries.

Dave Underwood, Deputy Director of the HPC Programme said "This is a very significant capability and it's likely that for the next couple of years this will be the largest computer in the world dedicated to weather and climate prediction." That's a huge opportunity not only for the Met Office and the UK more widely, but also for the South West region." [www.metoffice.gov.uk](http://www.metoffice.gov.uk)

## EXIST EVENTS

### EXIST EXPLORES BUSINESS OPPORTUNITIES AND CLIMATE CHANGE AT FIRST EVENT OF 2017

On the 9th March, the Exeter Initiative for Science and Technology (ExIST) will be looking into climate change and the opportunities that lie within this for business community. The event will be held at the new HPC Complex which is part of the new Met Office Supercomputer building, finished in 2016.

The Met Office, with contractors Willmott Dixon, built a specialist IT Hall to house part of the supercomputer and a Collaboration Space to enable scientific and technical advancements through collaborations and partnerships. Speakers for the first event of 2017 will include Vicky Pope from the Met Office, Glenn Woodcock of Exeter City Futures and Laurence Oakes-Ash from City Science.

Vicky will be highlighting how organisations can make use of Met Office data, products and services to develop innovative applications, helping manage weather related risks and opportunities so that businesses can operate safely, efficiently and profitably.

Glenn Woodcock will be presenting Exeter City Futures, roadmap to energy independence, looking into the challenges and opportunities to reduce Exeter's consumption, increase efficiency and adopt better energy sources.

Laurence Oakes-Ash of City Science will be showing delegates how City Science, an ambitious, young technology company, is creating next generation products and services that capture, analyse and interpret city data to optimise transport.

Simon Notley, Principal Consultant at Dynniq will be helping delegates discover how the company contributes to the transformation of cities into Smart Cities. Dynniq delivers innovative and value-driven technology-based products, systems and services which enable the effective and efficient movement of people, data and goods.

**For more information on this event including booking details, please visit [www.exeterchamber.co.uk](http://www.exeterchamber.co.uk)**

## CLIMATE WEEK IN SIDMOUTH

### SATURDAY 18TH - SATURDAY 25TH MARCH 2017

The Vision Group for Sidmouth (VGS) has recognised that Sidmouth as a coastal town is one of the areas of the UK most likely to be affected by climate change, due to sea-level rise and increased intensity of storms. Sea level rises and storms are expected to increase the risk of flooding along the coast and the rate of cliff erosion in East Devon.

Rather than just being reactive, the VGS is organising a series of events this March, highlighting these risks and what residents can do to reduce these. This year's events follow on from similar successful Climate Week events last year.

Events will include: displays with information and leaflets at Sidmouth library and in the town centre; talks from a Professor of Renewable Energy Economics who will discuss costs of low carbon electricity; an evening highlighting how local food producers are affected by climate change; and a talk by a provider of solar panels and domestic battery storage systems.

During the week Sid Vale residents will, amongst other things, be encouraged to save money and energy with more efficient lighting, insulate their houses, switch to electricity suppliers who generate electricity from renewable sources, such as solar or wind, reduce waste and switch to lower carbon lifestyles by choosing local products and services.

**[www.sidmouthsciencefestival.org](http://www.sidmouthsciencefestival.org) @sidmouthscience**

## SPONSORSHIP OPPORTUNITIES FOR THE BIG BANG FAIR SOUTH WEST 2017

Building on the incredible success of last year, The Big Bang Fair South West, organised by CSW Group, will be returning to the University of Exeter on the 21st June 2017 with a Big Bang like you've never experienced before!

Sponsoring the event would offer you a fantastic opportunity to raise awareness of your business and advertise your career opportunities to 1800 students from across the southwest region. You will meet with some of the most talented and enthusiastic young scientists and engineers looking to work in a STEM related industry.

We offer a number of different sponsorship packages which can be tailored to your requirements. As a sponsor you will benefit from free exhibition space, inclusion on the website, show guide, social media marketing and a VIP lunch.

**If you would like to book your place or want to find out more please see the details on [ebp-sw.org/big-bang](http://ebp-sw.org/big-bang) or email [bigbang@ebp-sw.org](mailto:bigbang@ebp-sw.org).**

## UPCOMING EVENTS

### MARCH

**ExIST Quarterly Event - Business Opportunities and Climate Change -**  
Thursday 9th March 2017

**The General Data Protection Regulation: what does it mean for you? - Michelmores, Woodwater House, Exeter -**  
Thursday 16th March 2017

**Climate Week 2017 in Sidmouth**  
20th - 25th March 2017

**Recruiting for STEM Ambassadors - Careers SW, 37/39 Queen St. -**  
Tuesday 21st March

**Climate Week Library Display -**  
Monday 20th to Saturday, 25 March

**Cafe Scientifique- Celler bar, Kennaway House Sidmouth -**  
Tuesday, 21 March

**The impact of climate change on food production locally and globally- Woodlands Hotel, Kennaway, Sidmouth -**  
Thursday, 23 March

**Economics of Renewables - Talk by Professor R Green - The Promenade, Sidmouth -**  
Saturday, 25 March

### APRIL

**Big Data Seminar with Bishop Fleming - The Met Office -**  
Thursday 6th April 2017

**NASA's Space Apps Challenge -**  
29 April 2017 to 30 April 2017



# JULIE HAWKER

## DISCUSSES...

# DIGITAL SKILLS IN EXETER



Julie is joint Chief Executive at Cosmic and an industry champion for digital technology in the South West. She is passionate that social objectives remain high on the agenda - for businesses, community organisations and individuals alike, and especially for young people. Julie is a keen follower of Information and Communications Technology (ICT) and its effect on society, and has been involved in many projects aiming to improve digital inclusion.

**Businesses in the Exeter area are becoming increasingly aware of the issues ahead in trying to employ talented people.**

Added to this then, is the growing level of concern about the lack of digital skills in our economy – not just locally but nationally. Recent headlines have included – “£63 billion at risk of being lost every year due to digital skills gap”. Then there are others which herald the changes in workforce – “35% of jobs to be automated in the next 20 years”. So the challenge facing businesses as we work on our strategies to survive and success in the uncertain years ahead, is how do we attract more digital talent in the short-term; and then re-train, upskill and re-deploy our existing workforce in the long-term.

Digital technologies are now everywhere – in our lives, in our businesses and in our communities. We go about our everyday lives with an ever-increasing level of engagement with digital too – we order coffee on an app, similarly plan our public transport journeys, we track our activity and fitness on our wrist-devices, we shop and bank on our smartphones, our businesses store and deploy major levels of day-to-day data in cloud solutions, and even in farming there is a fast-growing level of digital being used for everyday monitoring – livestock as well as machine performance.

Many of the major digital businesses globally employ a workforce with average ages of between 28 – 39. Lots of businesses are focussing their plans on how to attract top digital talent, and encourage the ‘millennials’. Soon many larger businesses will be employing not just a 3 generation workforce, but 4 generations, from baby-boomers all the way through to millennials and the next generation too. The ageing population challenge also means ageing an workforce of course.

**GOVERNMENT HAS RESPONDED STRONGLY TO THE CHALLENGES AHEAD, USING LEGISLATION (DIGITAL ECONOMY BILL) ALONGSIDE CAMPAIGNS AND STRATEGIES TO BRING ABOUT FAST-PACED CHANGES FOR BUSINESSES. SOME ASPECTS OF THIS PUSH IS VERY FOCUSED ON KEY GROWTH AREAS, INCLUDING £1.9 BILLION INVESTMENT IN THE CYBER SECURITY STRATEGY.**

Not unnaturally, the government's efforts have taken on a new urgency since the Brexit vote, with digital being one of the strongest dimensions of a post-Brexit UK economy. Industry has responded well too. Facebook and

Snap have both announced investment in their UK workforce. Google Garage offers all small businesses the chance to learn online. Microsoft recently announced it's going to train 30,000 public sector workers. AWS (Amazon Web Services) launched re:Start a programme in partnership with the Prince's Trust and the Military Covenant to offer young people and ex-military personnel the chance to enhance digital skills and their employability; whilst the Do IT Digital campaign aims to support 1 million SMEs to get online and improve their business successes through digital.

There is another dimension to the digital skills opportunities which isn't being so well covered in the media though, either nationally or locally; and that is its relationship with social mobility. If we reflect on the opportunities ahead and the gaps in our workforce, then there is a clear opportunity here to invest in developing new digital skills in people who are currently unemployed or in jobs which are not utilising their potential fully. If we can invest in their skills, move them up in wages, and increase the number of people gaining new skills and better jobs in the local area. .... Win-win! Jobs in digital of the future will be in every business, in every sector, and we have a responsibility to show both businesses and individuals what this might look like for them. Inspiring the changes in attitudes as well as business plans. Digital jobs at all levels, from apprenticeships to senior decision-makers will no longer focus on marketing, but on all levels – operations, productivity, manufacture, finance, quality control, etc.

[www.cosmic.org.uk](http://www.cosmic.org.uk)





## SOUTH WEST COMMUNICATION GROUP

South West Communication Group, known as swcomms, has more than 30 years' experience in the business communications market. We deliver and maintain a range of converged, innovative solutions incorporating a range of connectivity, cloud and voice services to businesses and public sector organisations across the South West and beyond.



**Exeter**  
City Council

## EXETER CITY COUNCIL

Exeter has an estimated population of 127,300 with a travel to work area of over 470,000 residents. Exeter City Council encourages investment and business growth in the city. Our many success stories, featuring large and small businesses, all contribute to the thriving Exeter economy. Initiatives like Exist enable like-minded people to network and exchange ideas.



## EXETER UNIVERSITY

The University of Exeter is a Russell Group university that combines world-class research with very high levels of student satisfaction. Exeter has over 21,000 students and is in the top one per cent of universities worldwide. In the 2014 Research Excellence Framework (REF), the University ranked 16th nationally, with 98% of its research rated as being of international quality.



## INNOVATION CENTRE

The Innovation Centre and the Science Park Centre offer flexible office and laboratory solutions for Science, Technology and Research based businesses alongside direct links to academics at the University of Exeter and a wealth of business support and facilities. The centres also boast state of the art conference facilities.



## MICHELMORES

Founded 130 years ago, Michelmores is a Top 100 law firm headquartered in Exeter. The firm supports clients in the UK and internationally across all areas of the law, with expertise in technology, media and communications, corporate finance and investment, real estate and private wealth.



## EXETER COLLEGE

Exeter College is an award winning, thriving and dynamic multi-site college. We offer a wide range of academic and vocational programmes as well as apprenticeships and higher education to young people and adults across the Devon and Exeter community.



## MET OFFICE

The Met Office is the UK's National Weather Service, providing 24x7 world-renowned scientific excellence in weather, climate and environmental forecasts and severe weather warnings for the protection of life and property. We combine the latest science with ground breaking advances in technology and local understanding to deliver services to our customers in the UK and abroad.



## SANTANDER CORPORATE & COMMERCIAL

We are fully committed to supporting manufacturers and we appreciate you are looking for something different from your bank. The complex nature of your business requires support from a bank that understands your industry, will deliver on its promises and believes in building long-term relationships.



## BITPOD

Bitpod are specialists in online video marketing, working with a wide variety of clients to produce the perfect video solution. Versatile and adaptable, the Company has achieved excellent results with promotional and informational projects for both commercial customers & the public sector.



## BISHOP FLEMING

Bishop Fleming is an energetic and proactive firm of Chartered Accountants rooted in the West and South West and working with businesses and individuals throughout the UK. These clients range from small local businesses through to international groups, and individual tax returns to complex family estates.



## INNOVATION EXETER

A programme committed to establishing the Greater Exeter region as one of the UK's leading knowledge economies foremost in the areas of high performance computing, data analytics and applied environmental science. The aim is to attract significant investment, create sustainable high quality employment and raise income levels.



## EAGLE ONE

The Eagle One group of companies is an Exeter based private property company set up in 1984. The group with offices in Exeter and Bristol has a property based asset portfolio of investments and development land of well in excess of £160 million spread across the wider South West. Eagle One is actively seeking to expand the portfolio through its development activities and the acquisition of further investment and development properties.

ExIST relies on the involvement of its sponsors and supporters, to whom we are hugely grateful, not only for their financial support but also for their genuine enthusiasm for ExIST and its activities. Please don't hesitate to speak with our sponsors and supporters at our events – they all bring expert knowledge and professionalism for each of their spheres, whether they are directly involved in science and technology itself or are part of a science and technology focused department or specialism within a legal, accounting, marketing, or services firm.

# STEMM STUDENTS

Exeter's Russell Group University and Exeter College, in 2016 winners of both City & Guilds Centre of the Year 2016 and Winner TES FE Awards 2-16 - Apprenticeship Programme of the Year look at the numbers of students studying STEMM disciplines.

## UNIVERSITY OF EXETER

1,737

UNDER GRADUATE

+

452

POST GRADUATE  
TAUGHT

+

216

POST GRADUATE  
RESEARCH

=



2,404



- BIOSCIENCES
- COMPUTER SCIENCE
- GENERAL ENGINEERING
- HUMAN GEOGRAPHY
- MATHEMATICS
- MEDICAL IMAGING (RADIOGRAPHY)
- MEDICAL SCIENCES

- MEDICINE
- MINING AND MINERALS
- NATURAL SCIENCES
- PHYSICAL GEOGRAPHY
- PSYCHOLOGY
- SPORTS AND HEALTH SCIENCES

## EXETER COLLEGE

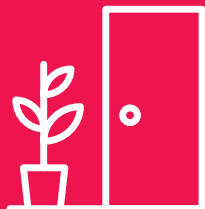


4,111 QUALIFIED AT ALL LEVELS

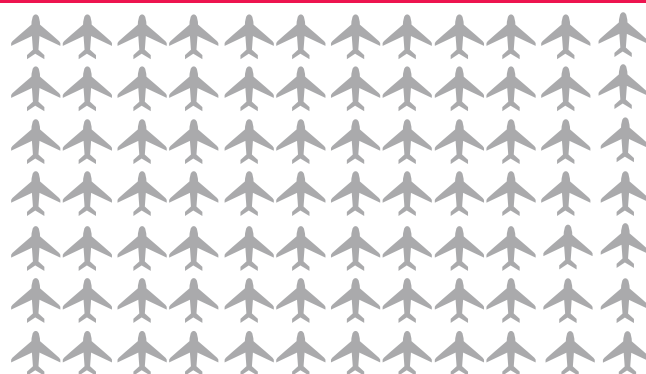
## FACULTIES

- Maths and Science
- Engineering, Aerospace and Automotive
- Construction and the Built Environment
- Business, Information Technology and Aplus Training

THAT'S 6,515 EDUCATED, QUALIFIED  
PEOPLE WHO MAY BE LOOKING FOR  
JOBS IN STEMM SOON, RIGHT ON  
EXETER'S DOORSTEP



THAT'S AROUND ABOUT THE  
SIZE OF CREDITON



OR 84 FULL  
FLYBE BOMBARDIER Q-400 PLANES!

A focus on science, technology  
& innovation for the business community

VISIT [WWW.EXISTEXETER.CO.UK/INSIGHT](http://WWW.EXISTEXETER.CO.UK/INSIGHT)

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insight