25-28 JANUARY 2017
EXCEL LONDON

bett

STEAM village

CPD CERTIFIED
The CPD Certification Service

Day 1 - Wednesday 25th January 2017

11.00-11.30	**A true story of an artist's entry into the world of STEAM and his life changing invention** *Richard Kirk's career has taken him from selling paintings in Paris to being celebrated as an entrepreneur for his invention which helps prevent and treats sight loss for diabetics. His knowledge and understanding of light inspired him to develop something incredible. Noctura 400 is an eye mask worn while sleeping that treats Diabetic Retinopathy. Diabetic retinopathy, a consequence of diabetes, is one of the most common causes of sight loss in working age people in the western world. Richard is a real example of what art can bring to the world of STEAM.* **Richard Kirk**, CEO, **PolyPhotonix**
11.30-12.00	**BAFTA's YGD Game Design Workshop** *Come and learn more about how to get young people involved in Game Design. Speak to our BAFTA YGD team, industry developers and get top tips on what resources are out there to use in your lesson plans. Both sessions will be lead by our YGD Mentor award winners, Ray Chambers (Wednesday) and Michael Warburton (Friday).* **Ray Chambers**, YGD Mentor and award winner, **Bafta**
12.00-12.45	**Creative physical programming at school with Makeblock Mbot 1.1** *Coding with robots provides kids a fantastic way to learn programming as well as developing their creative thinking. Makeblock worked with Intel on integrating the Genuino 101 board on a new version of their mBot robot. This new kit along with its dedicated educational content for kids and teachers will facilitate bringing physical coding programs to the classrooms.* *Come and join us to learn more about this kit and all documentation available to provide kids with a great learning experience. The session will include demo of the product, scratch visual programming and insight into the educational content.* **Yorick Schetgen**, Director, IOT Generation, **Makeblock**
12.50-13.20	**Coding and Making with the micro:bit** *Learn about some practical projects using the micro:bit that you can use in your classroom to engage all students in the creative design process while teaching core computational principles.* **Jacqueline Russell**, Microsoft Developer Tools Division, **Microsoft** **Peli de Halleux**, Microsoft Research and AI, **Microsoft**

13.25-13.55	**Pioneers: Engaging teenagers in digital making, project based learning and STEAM**
	All over the world, young people are using digital technologies to make cool stuff, solve problems they care about and are having lots of fun in the process. In this session, hear from Raspberry Pi Foundation's Senior Programme Manager Olympia Brown about the project engaging teens to develop new ideas and share them with the world.
	Olympia Brown, Senior Programme Manager, **Raspberry Pi Foundation**
14.00-14.45	**The Edtech Podcast LIVE: Sticking up for the ARTS in STEAM**
	Join The Edtech Podcast for a LIVE recording on the subject of protecting the arts, during the focus on STEM. Discussing issues such as why creativity matters, digital art, literacy and coding, and gender representation across STEAM. It's going to be loud, raucous (We are in EXCEL) and RECORDED! Live voting will conclude whether we are making any sense at all, as voted for by YOU! Then tune in via @podcastedtech in the future weeks to listen back and pick up on all those bits you missed.
	Asking the questions: Sophie Bailey, Founder, **The Edtech Podcast** **Saying all the clever bits: Sophie Deen**, Creator, **Detective Dot** **Jess Wade**, Faculty of Natural Sciences, **Department of Physics, Visiting Researcher, Imperial College London** **Jennifer Gratton**, Former Lead Collaborator, **Project Ember**
14.50-15.20	**STEAM Integrated Education: An Overview of Why and How**
	STEAM is research-backed to show the deeper connection between the fields of S-T-E-M and the liberal arts fields clustered into Languages, Social Studies, Fine Arts, Music and Physical Education. Each 'silo' is moving towards integration and clusters of silos have formed allegiances to support each other. The STEAM framework shows how all subjects inter-connect and help provides a venue to navigate the intersections of research and business developments with the business world and communities. When the concept of project-based learning is combined with this methodology, reality-based learning becomes an engaging and dynamic way to excite students, educators and society's capabilities.
	Georgette Yakman, CEO, **STEAM Education**
15.25-15.55	**Introducing and exploring the BBC micro:bit and its ecosystem**
	Following the BBC's roll-out to early secondary students across the UK in 2016 the Microbit Foundation – a not-for –profit set up by partners in the original project – are making this award winning device and its comprehensive ecosystem available to all age groups across the globe. The micro:bit is a true STEAM device, having applications in science, computing, maths, D&T and a range of other curriculum and extra-curriculum areas. It is extremely cheap, small and versatile, packed with sensors and outputs. The ever-growing user experience includes tech support,

	projects, tutorials, multiple programing platforms, teacher training, lesson materials, accessories and much more. Come and learn more from the Foundation and some of its partners. **The Microbit Foundation and partners**
16.00-16.30	**Creating a Connected World with the BBC micro:bit and Bluetooth** *The next generation of innovators will pioneer new applications of technology to create "the Internet of Things" (IoT). It's estimated that by 2020, 28 billion devices will be connected to the internet. The BBC micro:bit supports a number of technologies that let it be connected to other things, including Bluetooth. Over three billion devices which use Bluetooth shipped last year and it's been identified as one of the key wireless technologies for the IoT. In this session, you'll be introduced to some of the things Bluetooth makes possible with the micro:bit. You'll be all set at the end of the session to start planning inspiring and valuable educational activities and projects which exploit the power of Bluetooth wireless communication.* **Martin Woolley**, Bluetooth SIG Technical Program Manager, **Bluetooth**
16.35-17.05	**How one teacher is using SOLE in the classroom** *After Sugatra Mitra's inspiring TED talk on Self-Organised Learning Environments in 2013, SOLE has caused a revolution in education. The concept behind it is to change the roles of the Teacher and Students. In his vision the Teacher takes a step back to facilitate the class rather than lead while the students organise themselves to form groups, discuss topics and discover the answers for themselves. Sarah Leonard talks about the positive impact this has had on her students and how she has managed to put it into practise in her classrooms.* **Chair: Suzy Smart**, Headteacher, **Masham CE Primary School, North Yorkshire** **Sarah Leonard**, Teacher, **Masham CE Primary School, North Yorkshire**
17.10-17.40	**Case Study of a Junior school and their pioneering gSTEM adventure** *Gomer Junior School - Mrs Digby and Mrs Toone are conducting action research to inform a report for the Royal Academy of Engineering, alongside Professor Bill Lucas, Dr Janet Hanson and Professor Guy Claxton from the Centre for Real-World Learning. Professor Adrian Oldknow and David Hill (Portsmouth University) who have helped drive our pioneering gSTEM adventure.* **Mrs Digby**, SEND Leader, **Gomer Junior School** **Mrs Toone**, Teacher, **Gomer Junior School**
18.00	SHOW CLOSE

Day 2 – Thursday 26th January 2017

11.20-11.50	**Cogmation Robotics**

	Learning, competing, and having fun around the world with digital robots. **Tim Shea**, Cogmation team leader international sales, **Microsoft**
11.55-12.25	**Learning through Making and Teacher Support through Practice-based Learning Analytics: the case of PELARS** *The EU-funded PELARS project (http://pelars.eu/) has designed and developed technologies (ESLOV the amazing new IoT invention kit from Arduino, electronics systems, and sensor systems in the classroom) and furniture (by NCAD & PERCH) that encourage STEAM scenarios and support teachers and learners reflect on their activities. Researchers from the UCL Knowledge Lab and other project partners will present the design principles of the kits and furniture, and how they have worked with students and teachers to bridge the qualitative (human experience) and quantitative (sensor tracking and machine learning) to get a better understanding of learning and making in practice-based scenarios.* **Professor Rose Luckin**, Professor of Learner Centred Design, **UCL Knowledge Lab** **Dr Mutlu Cucurova**, Research Associate, **UCL Knowledge Lab** **Dr Manolis Mavrikis**, Reader in Learning Technologies, **UCL Knowledge Lab** **David Cuartielles**, Co-founder, **ARDUINO** **Simon Dennehy**, CEO, **PERCH**
12.30-13.00	**A Digital Making Curriculum: Bridging the STEM skills gap through creativity and project-based learning** *Resolving complex challenges and creating practical solutions are key skills required in a 21st century workforce. This session lead by STEM in education thought leader from Raspberry Pi Foundation will explore the advantages and practicalities of design thinking strategies for innovation, and project based learning.* **Carrie Anne Philbin**, Director of Education, **Raspberry Pi Foundation**
13.05-13.35	**Introducing and exploring the BBC micro:bit and its ecosystem** *Following the BBC's roll-out to early secondary students across the UK in 2016 the Microbit Foundation – a not-for –profit set up by partners in the original project – are making this award winning device and its comprehensive ecosystem available to all age groups across the globe. The micro:bit is a true STEAM device, having applications in science, computing, maths, D&T and a range of other curriculum and extra-curriculum areas. It is extremely cheap, small and versatile, packed with sensors and outputs. The ever-growing user experience includes tech support, projects, tutorials, multiple programing platforms, teacher training, lesson materials, accessories and much more. Come and learn more from the Foundation and some of its partners.* **The Microbit Foundation and partners**
13.40-14.10	**Creating a Connected World with the BBC micro:bit and Bluetooth**

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14.15-14.45	**Molecules & Me: Driving curiosity through creative approaches to understanding the invisible scientific world** *Alongside the team from Interactive Scientific we will go on a journey from familiar every day surroundings to the abstract world of atoms and molecules. In this interactive session the audience will be guided through the digital and creative methods we use to bring science to life for upper KS2 students, KS3, GCSE, A-level and beyond. Special offer downloads of our teaser app, Molecules & Me, will be available to those who attend this session. Storytelling, visualisation, simulation and interactivity are all vital components that we use to immerse students into the scientific world so they can connect more deeply with science learning. Come to this session to understand how to put molecules into the hands of your students, to enhance their learning and blow their minds!* **Dr Becky Sage**, CEO, **Interactive Scientific** **Becky Davies**, Science Content Producer, **Interactive Scientific**
14.45-15.30	**A Hands-on Circuit Petting Zoo with the Arduino 101** *Making with code and electronics is one of the best ways to embed concepts of mathematics, motion, computational thinking, computer science, and engineering into your STEM program. SparkFun has partnered with Intel to bring you the SparkFun Inventor's Kit for the Arduino 101. Come join us in a hands-on circuit petting zoo where you can experience a glimpse into what your classroom could be through integrating electronics and computer science using the Arduino 101 Inventor's Kit. The workshop will include a basic introduction to programming the Arduino 101 and project demonstrations that you can take back to your classroom.* **Derek Runberg**, Educational Technologist**, SparkFun Electronics**
15.30-16.00	**A Decade of STEAMing Up Global Education: Global Who and Where Developments** *STEAM is research-backed to show the deeper connection between the fields of S-T-E-M and the liberal arts fields clustered into Languages, Social Studies, Fine Arts, Music and Physical Education. Each 'silo' is moving towards integration and clusters of silos have formed allegiances to support each other. The STEAM*

	framework shows how all subjects inter-connect and help provides a venue to navigate the intersections of research and business developments with the business world and communities. When the concept of project-based learning is combined with this methodology, reality-based learning becomes an engaging and dynamic way to excite students, educators and society's capabilities. **Georgette Yakman**, CEO, **STEAM Education**
16.05-16.50	**Great Expectations – Getting More Girls Into STEAM** *As we look at the most influential people in STEAM it is sad to see there are still so few women particularly in the top jobs. What can be done to encourage girls to take an interest in STEAM and to help them to make a career in the sector?* **Grant Hosford**, CEO, **Codespark** **Amy King**, Owner and Founder, **GlamSci** *Speakers to be announced check the app for details*
18.00	SHOW CLOSE

Day 3 – Friday 27th January 2017

10.40-11.10	**Coding and Making with Circuit Playground** *Flashing lights, buzzer, buttons, oh my! Come see why the new Circuit Playground is a great physical computing device for the classroom.* **Jacqueline Russell**, Microsoft Developer Tools Division, **Microsoft** **Peli de Halleux**, Microsoft Research and AI, **Microsoft**
11.20-11.50	**BAFTA's YGD Game Design Workshop** *Come and learn more about how to get young people involved in Game Design. Speak to our BAFTA YGD team, industry developers and get top tips on what resources are out there to use in your lesson plans. Both sessions will be lead by our YGD Mentor award winners, Ray Chambers (Wednesday) and Michael Warburton (Friday).* **Michael Warburton**, YGD Mentor and award winner, **Bafta**
13.00-13.30	**Mahatma Gandhi in Croydon - How interactive, digital stories about amazing people of the past can support our amazing people of the future** *Discover how a new, innovative digital resource is bringing students face to face with amazing people such as Marie Curie, Mahatma Gandhi, Albert Einstein, Ada Lovelace and Harriett Tubman and supporting raised aspirations, Character Education, positive behaviour and cross-curricular learning in secondary schools.* *Staff and students from Meridian High School Croydon have been working with Amazing People Schools for over a year and will be be sharing their insights and*

	experiences as part of this session. Opportunity @ BETT - interested schools are invited to join this exciting national pilot at no cost. **Selena Whitehead, Amazing People Schools** **Frances Corcoran**, **Amazing People Schools** **Liz Bone**, Senior Deputy Head, **Meridian High School, Croydon**
13.40-14.25	**A Hands-on Look at Creating in the Classroom 101 (CTC 101) Kit** *Developed by the founders of Arduino*, the CTC 101 program is designed to engage students in a collaborative learning process centered around hands-on experiments that include programming, mechanics and electronics. Easy to incorporate into your existing STEM/STEAM curriculum, the kit comprises of a curriculum package that includes more than 20 hands-on and easily assembled electronic projects, professional support and online course materials. Join David Cuartielles at this workshop to learn more about this exciting offering and experience first-hand some of the projects.* **David Cuartielles**, Co-founder, **Arduino LLC (Intel)**
15.30-16.00	**Getting Girls to Code** *At the moment women account for less than one fifth of the UK's ICT workforce. 57% of women who enter careers in technology end up quitting. With the focus on Coding in primary schools, we have to ensure we provide an inclusive and inspirational Coding focus for everyone.* **James Massey**, Educational Consultant, **Discovery Education**
16.10-16.40	**These ARE the droids we're looking for: How the robotics revolution is inspiring a generation of STEAM makers.** *Short lightning presentations by robotics educational specialists and a robot parade! This session provides a dynamic overview of the top robotics initiatives and case studies that schools have adopted and integrated.* **Dr Lucy Rogers**, **Raspberry Pi**
16.50-17.35	**Do school ICT programmes need an upgrade?** *Coding, Computational Thinking, Digital Literacy, IT Skills; at which point should we be teaching students about IT and with so much to learn which are the most important things that need to find a way into the national curriculum. Our panel of experts discuss the meanings of all these IT Buzzwords and debate which aspects of IT are crucial for kids today.* **Maria Quevedo**, Director, **Code Club** **Naimish Gohil**, Chairman, **CEO & Founder, Show My Homework**

Day 4 – Saturday 28th January 2017

11.20-11.50	**Code in Space: Engaging students in computer science** *Last year the Raspberry Pi Foundation joined forces with the UK Space Agency, ESA and the UK Space Trade Association to run a competition called Astro Pi that gave school-age students in the UK the chance to devise computer science experiments for British ESA Astronaut Tim Peake to run aboard the ISS. This competition is now running across all ESA member states. Project lead, Dave Honess, will discuss the Astro Pi project in more detail and explain how Tim's mission is inspiring a generation of school children into STEM.* **Dave Honess**, Astro Pi Programme Manager, **Raspberry Pi Foundation**
12.50-13.20	**Makeblock's Mbot powered by Azure** *See how Azure is changing how we interact with our Mbot* **Tony Zheng**, Makeblock Europe Team Lead, **Microsoft**
14.20-14.50	**Coding and Making with the micro:bit** *Learn about some practical projects using the micro:bit that you can use in your classroom to engage all students in the creative design process while teaching core computational principles.* **Jacqueline Russell**, Microsoft Developer Tools Division, **Microsoft** **Peli de Halleux**, Microsoft Research and AI, **Microsoft**
16.00	**SHOW CLOSE**