# CW CAMBRIDGE WIRELESS

## A CW Connected Devices SIG event supported by CW AI SIG
## 'Feeding AI'
13th December 2018

The **Connected Devices SIG** is championed by Paul Green of Iotic Labs, Nick Hunn of WiFore, and Tim Whittaker of Cambridge Consultants. The **AI SIG** is championed by Laurent Brisedoux, Amazon, Phil Claridge, Mandrel Systems, Gunter Haberkorn, Magna International, Vaiva Kalnikaitė of Dovetailed, Vicky Schneider, Amazon and Peter Whale, Vision Formers

**Venue: Bateman Auditorium, Gonville & Caius College, Trinity College, Cambridge, CB2 1TA**

| AGENDA | |
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| **13:30** | Registration and networking over refreshments |
| **14:10** | Introduction to the CW from Simon Mead, CEO, Cambridge Wireless. |
| **14:15** | Introduction to the event by Connected Devices SIG Champions, Paul Green Iotic Labs |
| **14:20** | **'Life at the edge of the IoT'** <br> **Nick Hunn, CTO, WiFore Consulting** <br> As the debate over connectivity settles down, the next big question is where AI lives in the IoT value chain? Just because we can transmit data, doesn't mean we need to. Nick sets the scene for a discussion about edge and autonomy over cloud. |
| **14:45** | Q&A |
| **14:50** | **'Democratising AI: The Android Opportunities'** <br> **Hoi Lam, Lead Developer Advocate, Google** <br> How should we think about the opportunities of on-device machine learning? Hoi will present a framework of how developers could think about machine learning in a holistic way - from UX and model training to inference and deployment. The tools available to developers today and the latest update / direction that Google / Android is heading. The talk will focus mostly on on-device / edge inference. |
| **15:15** | Q&A |
| **15:25** | **Refreshment break** |
| **16:00** | Session chaired by Connected Devices SIG Champion, Tim Whittaker, Cambridge Consultants <br> **'An Engineer's ML Toolbox'** <br> **James Westley, Mechanical Systems Expert, and James Peet, Silicon Design Engineer, Cambridge Consultants** <br> AI cannot live only in the cloud - cost, power and privacy mean that edge inference has an important role in delivering AI in the IoT age. James and James will take us through some real world implementations of AI applications, including the machine learning tools at an engineer's disposal and how AI hardware can be optimised to meet the tight cost and power requirements of IoT devices. |
| **16:25** | Q&A |
| **16:30** | **'Bridging the gap between the centre and the edge'** <br> **Amy Cameron, Senior Analyst and Matt Pooley STL Partners** <br> Telecoms operators are both users and enablers of AI. Within their own networks, they are beginning to use machine learning to make more efficient use of their assets. At the same time, they are exploring how to leverage their networks to deliver edge computing and bridge the gap between centralised and on-device AI. Amy and Matt will discuss how telcos are using AI within their networks and their role in the edge computing value chain. |
| **16:55** | Q&A |
| **17:05** | **Open Forum with all speakers chaired by AI SIG Champion, Peter Whale, Vision Formers** |
| **17:35** | Closing remarks & event concludes |
| **17:40** | **Delegates are then invited to the networking drinks reception of the CW Founder Dinner.** |

**With the permission of the speakers, presentations will be loaded to the CW website on the day following the event**

**Cambridge Wireless (CW)**
CW is the leading international community for companies involved in the research, development and application of wireless and mobile, internet, semiconductor and software technologies. With over 400 members from major network operators and device manufacturers to innovative start-ups and universities, CW stimulates debate and collaboration, harnesses and shares knowledge, and helps to build connections between academia and industry. CW's 20 Special Interest Groups (SIGs) provide its members with a dynamic forum where they can network with their peers, track the latest technology trends and business developments and position their organisations in key market sectors. CW also organises major conferences and start-up competitions along with other high-quality industry networking events and dinners. With headquarters at the heart of Cambridge, UK, CW partners with other international industry clusters and organisations to extend its reach and remain at the forefront of global developments and business opportunities. **www.cambridgewireless.co.uk**

**Profile of speakers**

**Amy Cameron, Senior Analyst at STL Partners -** @amycameronSTL
Amy leads STL Partners' research into telcos' adoption of AI and automation, looking at how they should prioritise initiatives and organise themselves to make the most of these technologies. Other areas of interest include the intersection of blockchain and digital healthcare with telecoms. Before joining STL in 2017, Amy was Head of ICT Research at BMI Research, where she also covered telecoms markets in the Middle East and Africa. Amy speaks fluent French and intermediate level Mandarin and holds an MSc in Chinese Politics from the School of Oriental and African Studies. **https://stlpartners.com**

**Nick Hunn, CTO, WiFore Consulting**
For the past thirty years Nick has been closely involved with short range wireless and communications, designing technology that helps to bring mobility to products, particularly in the areas of telematics, M2M, IoT, wearables, smart energy and mobile health. He is closely involved with the Bluetooth SIG, the Continua Alliance and other medical and wireless standards bodies. He is the author of 'The Essentials of Short Range Wireless' - a book attempting to explain the application of wireless technology to product developers. **www.wifore.com**

**Hoi Lam, Lead Developer Advocate, Google - @hoitab**
Hoi is the Head of Developer Relations for Android Machine Learning and also a sector executive for the Institution of Engineering and Technology (IET). He was part of the launch team for Wear OS by Google (previously, Android Wear), Chromecast, Google Glass Enterprise Edition, and the Google Beacon Platform. Prior to Google, he founded Exahive to disrupt the mobile commerce market place. Hoi was an Equity Research VP at Deutsche Bank and Citigroup covering technology companies. Before banking, he was a product manager / application architect at Accenture. Hoi holds a Master and Bachelor degree in Space Engineering from the University of Cambridge.

**James Peet, Silicon Design Engineer, Cambridge Consultants**
James is an ASIC designer at Cambridge Consultants. His expertise is in making chips for real-time video processing, including hardware acceleration for low power image classification.

**James Westley, Cambridge Consultants**
James is a mechanical and fluids systems expert at Cambridge Consultants. He has led and delivered projects across a wide range of sectors and disciplines, from sore throat sprays to automated maggot farms.

As a global centre of excellence for product and system design, Cambridge Consultants has developed a series of world firsts in a wide range of technologies. Many products that you have used will have some component of our work inside. Project examples range from ultra-low cost consumer radios to high value satellite handsets. The company thrives on complex system design, getting it right first time. Our global team of over 720 engineers, designers, scientists and consultants creates and delivers market-leading products and systems for clients around the world. **www.cambridgeconsultants.com**

**Matt Pooley, STL Partners -** @pooley_matt
Matt leads STL Partners' work on new telecoms business opportunities, particularly around data, automation, NFV/SDN and digitisation. His interest is in unpicking reality from hype, and finding practical ways to succeed with new technology. MA in Modern Languages, Cambridge. **https://stlpartners.com**

## Profile of SIG Champions

**Paul Green, Creative Director, Iotic Labs**

Paul originated Arkessa in 2006 - the business that provides remote internet services to multitudes of machines. He is currently creating the services Arkessa will offer in five year's time. His professional life combined engineering and science has taken him through a variety of roles, including design and production engineering, business planning, marketing and corporate sales, mainly in the telecommunications sector. Interestingly, the first product he introduced to manufacture is now is in the Science Museum in London. A passionate and committed Christian, Paul is as excited about materials science and quantum physics as he is interested in railways, walking, skiing and the natural world. **www.iotic-labs.com**

**Nick Hunn, CTO, WiFore Consulting**

See bio above.

**Tim Whittaker, Wireless Audio/Visual & DECT systems, Cambridge Consultants**

Cambridge Consultants was started in 1960 to pioneer the delivery of independent design and development services in electronic, mechanical and product engineering: we are one of the founder companies of the high-technology Cambridge phenomenon. Our history of world-class services is augmented by our development of intellectual property in telecommunications, software, silicon and medical devices, and by more than 20 successful spin-out ventures. Today Cambridge Consultants employs 350 engineers, scientists, project managers and technicians with offices in Cambridge, UK and Cambridge, MA in the USA; we provide the full range of services for excellent product design to a worldwide client base in the wireless, consumer, industrial and medical markets. Tim Whittaker is a System Architect in the Wireless business unit, where he has taken the technical lead in projects using radio standards like Bluetooth, ZigBee, DECT, and in the creation of specialist communications schemes for new applications, or to use new spectrum allocations. **www.cambridgeconsultants.com**

**Panel Session chaired by AI SIG Champion Peter Whale, Vision Formers @Peter_Whale**

Peter is a technologist and business leader, with a long track record of conceiving, developing and marketing successful technology-based solutions, which have touched the lives of many millions of people. Currently exploring transformative possibilities in AI, IoT and future connected devices. Peter is co-author of the 'Essentials of Mobile Handset Design', published by Cambridge University Press. Peter is a board member of Cambridge Wireless, and is a champion of the CW Artificial Intelligence SIG. **www.visionformers.com**