

The Artificial Intelligence SIG**'AI in an earbud?'**17th May 2018**Hosted and sponsored by Qualcomm Technologies International**

The Artificial Intelligence SIG is championed by Laurent Brisedoux of **Amazon**, James Chapman of **Qualcomm**, Phil Claridge of **Mandrel Systems**, Gunter Haberkorn of **Magna International** and Peter Whale of **Vision Formers**

Venue address: Qualcomm, Churchill House - Cambridge Business Park, Cowley Road, Cambridge CB4 0WZ

AGENDA

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| 17:30 | Registration |
| 18:00 | Introduction to Artificial Intelligence SIG, Bob Driver, CEO, CW (Cambridge Wireless) |
| 18:05 | Welcome from event host, James Chapman, VP Product Management, Qualcomm |
| 18:10 | Session chaired by Artificial Intelligence SIG Champion, James Chapman
'AI in an earbud?'
Ramji Srinivasan, Senior Engineer, Qualcomm Technologies International
AI technology is expanding rapidly. The number of ultra-small constrained devices is too. Can these two trends be reconciled? This talk will examine keyword detection in earbuds, a real-world example of bringing AI technology to bear in a highly constrained platform. We will ask why doing so is beneficial and discuss some of the challenges encountered. We will take the audience through the stages involved in building a neural network-based detection system, including worked examples. We aim to raise awareness of the increasing need for collaborative neural networks that operate across the wider ecosystem to unlock the full potential of end-point devices. |
| 19:10 | Q & A |
| 19:25 | Wrap-up by Artificial Intelligence SIG Champion, James Chapman |
| 19:30 | End of session followed by networking. Beer, pizza and soft drinks kindly provided by Qualcomm |
| 20:30 | Event closes |

Profile of organisers**Cambridge Wireless (CW) @[cambwireless](#)**

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 host and sponsor

Qualcomm

For more than 30 years, Qualcomm's ideas and inventions have driven the evolution of wireless communications, connecting people more closely to information, entertainment and each other. These technologies now power the convergence of mobile communications and consumer electronics, making wireless devices and services more personal, affordable and accessible to all. A world leader in smart mobile technologies, QCT offers complete solutions that enable continuous innovation for today's smart connected devices. Our vast expertise in wireless technology, combined with our unique systems approach to developing solutions, puts QCT at the forefront of the rapidly expanding mobile industry. QCT offers solutions for CDMA, UMTS, GSM and LTE technologies, providing support for both 3G and 4G networks and devices. Qualcomm also offers a broad portfolio of additional wired and wireless technologies for the mobile, networking, computing and consumer electronics product segments. Our combined portfolio now features an expanded array of high-performance, end-to-end solutions ranging from Wi-Fi, GPS, Bluetooth, FM and Ethernet to HomePlug Powerline and passive optical network (PON) technologies. All of our solutions and products are elegantly engineered for optimal performance and power consumption. And our system-on-chip solutions like Snapdragon bring together CPU, GPU, connectivity, multimedia and GPS technologies in a way that is redefining mobile possibilities for people everywhere. Because of its unsurpassed performance and capabilities, Snapdragon is enhancing the mobile experience and fuelling an ever-expanding array of new connected device categories, ranging from smartphones to tablets to e-readers and beyond. www.qualcomm.com

Profile of Artificial Intelligence SIG Champions

Laurent Brisedoux, Amazon

Laurent Brisedoux has been heading the Amazon R&D team in Cambridge, part of the Lab126 organisation, since its creation in 2014. His group is responsible for developing application, device and cloud software for Amazon's consumer electronic devices such as Kindle, Fire tablets, Fire TV, Dash, Echo and many more innovative products to come. Prior to that, Laurent was in charge of the development and productisation of imaging technologies at Broadcom, managing a group of 50 people across multiple locations worldwide. He joined the Broadcom Mobile Multimedia group in 2004 with the acquisition of Alphamosaic, one the Silicon Fen 'success stories'. Laurent is also a junior angel investor and working with several technology start-ups in the Cambridge area. www.amazon.com

James Chapman, Qualcomm

James is Qualcomm's VP responsible for its roadmap of Voice & Music products. Before joining Qualcomm as part of the acquisition of CSR, he was responsible for CSR's connectivity product line. Prior to CSR James has held senior software management roles at Broadcom; he was also the Head of Research for TTP Communications. James' 20 years in the high-tech industry started with a degree and PhD in theoretical Condensed Matter Physics from the University of Oxford. www.qualcomm.com

Phil Claridge, Mandrel Systems @MandrelSystems

Phil Claridge is a 'virtual CTO' for hire within Mandrel Systems covering end-to-end systems. Currently having fun and helping others with large-scale AI systems integration, country-wide large scale big-data processing, hands-on IoT technology (from sensor hardware design, through LoRa integration to back end systems), and advanced city information modelling. Supporting companies with M&A 'exit readiness', due-diligence and on advisory boards. Past roles include: CTO, Chief Architect, Labs Director, and Technical Evangelist for Geneva/Convergys (telco), Arieso/Viavi (geolocation), and Madge (networking). Phil's early career was in electronics, and still finds it irresistible to swap from Powerpoint to a soldering iron and a compiler to produce proof-of-concepts when required. www.mandrel.com

Gunter Haberkorn, Magna

Profile to follow. www.magna.com

Peter Whale, Peter Whale Consulting @Peter_Whale

Peter is founder of Vision Formers, a specialist consultancy that helps visionary technology businesses get product to market and turn their ideas into reality. Peter has a long track record of conceiving, developing and marketing successful technology-based solutions, deployed at scale, globally. Innovative products Peter has brought to market

in digital, cloud, AI, consumer electronics and telecommunications have been used by countless millions of people on a daily basis globally, badged by the world's leading digital and technology brands. Peter is a board member of CW (Cambridge Wireless) and co-leads its Artificial Intelligence special interest group. www.visionformers.com

Profile of speakers

Ramji Srinivasan, Senior Engineer, Qualcomm Technologies International

Ramji has worked in the general area of audio, speech and acoustic signal processing for around 15 years. At Qualcomm, Ramji works in Advanced Algorithms group, where he is currently engaged in developing machine learning algorithms for the earbud. Before joining Qualcomm, he was a research staff at Queen's University Belfast developing machine learning algorithms for different speech applications. He has 2 granted patents to his credit and authored several articles in international journals and conferences. www.qualcomm.com