CAMBRIDGE WIRELESS

UNIVERSITY OF LEEDS

Academic & Industry SIG

'Future Communications at the Edge'

Kindly hosted by University of Leeds

Wednesday 22nd April 2026

This SIG is championed by **Antonio Di Buono, National Nuclear Laboratory, Kevin Morris, University of Leeds, and Ian Wassell, University of Cambridge**

Venue: Keysight Technologies Lecture Theatre, School of Electronic and Electrical Engineering, Woodhouse Lane, University of Leeds, Leeds, LS2 9JT
Wi-Fi: Search for 'UoL-Guest' and follow the on-screen instructions

AGENDA

12:00	Registration & Networking Lunch
13:00	**Welcome from Cambridge Wireless** **Michaela Eschbach, CEO of Cambridge Wireless**
13:05	Welcome from our Host & Chair **Professor Kevin Morris, Professor of Radio Frequency Engineering, University of Leeds** and Cambridge Wireless SIG Champion
13:15	**'Cognizant Convergent Connectivity and the CHEDDAR Hub'** **Prof Julie McCann, Department of Computing, Faculty of Engineering, Imperial College London** By 2050, connectivity will be radically transformed, enabling applications far beyond today's imagination. Networks will become self-aware and autonomous, supporting interactions not only between machines but potentially between human brains through advanced neural interfaces. Cognizant connectivity will be the norm - the network will be fully self-aware of its behaviours, its physical embodiment, its environment and its purpose. Beyond the mere intelligence or autonomy, that we discuss today, it will evolve from simple data-transfer pipes into multifunctional substrates providing more than communication by providing sensing and physical computation. However, there are many challenges for the network to be able to survive all these requirements. This talk will provide an overview of what the CHEDDAR Hub is doing to address these challenges.
13:40	Q&A
13:45	**'Agentic AI Empowered 6G Wireless Networks'** **Dr Syed Ali Raza Zaidi, Associate Professor of Communication and Sensing, School of Electronic and Electrical Engineering, University of Leeds** The next generation of wireless systems, 6G, is set to unlock advanced Self-X capabilities through the seamless integration of an AI-plane into the network fabric. This AI-plane will enable networks to self-orchestrate and self-manage based on high-level user intents. Recent progress in Generative AI (GenAI) brings new opportunities for such intent-driven control, particularly by encoding multimodal information within a unified embedding space. This capability supports the creation of autonomous agents that can both interpret intent and manage network behaviour dynamically, before and after deployment. In this talk, we introduce a unified framework for multimodal agents empowered by large language models (LLMs) and foundation models, enabling the fluid conversion of user intent into concrete, adaptive network operations. This approach marks a significant step toward truly intelligent, self-evolving 6G networks.
14:10	Q&A
14:15	Refreshment break over University Research Poster Boards
14:45	Session Chaired by **Professor Kevin Morris, University of Leeds** & Cambridge Wireless SIG Champion
14:50	**'Whatever happened to the IoT?'** **Nick Hunn, CTO, WiFore Consulting** It's 44 years since the first connected device appeared, and almost 30 since we started calling it the IoT. Analysts predicted that we would have trillions of IoT devices by now, but despite the hype of Smart Homes, Smart Health and Smart Cities, deployments have been so low as to be almost invisible. In this talk, Nick looks at the reasons why what appeared to be such a good idea have foundered, and what needs to change if we are going to see the IoT succeed in the future.
15:15	Q&A

15:20	**Power-Efficient 6G Radio Unit Architectures** **Professor Tim O'Farrell, Department of Electronic and Electrical Engineering, University of Sheffield** Open RAN systems offer the flexibility to split the physical layer processing between a radio unit and a remotely located distribution unit. The University of Sheffield has developed a dual band sub 6-GHz Open RAN radio unit architecture. It enables two different network operators to share the radio unit hardware via a neutral host, simultaneously supporting both a public and a private 5G band or two distinct mobile operators' bands. This reduces the power consumption and cost of deployment by avoiding duplication of hardware for each frequency band. Direct sampling techniques are proposed to further reduce the receiver power consumption, demonstrated experimentally at 28 GHz. The EVM and BLER performance are validated at link level for sub-Nyquist sampling. A millimetre wave E-band receiver operating at 73 GHz is also designed and demonstrated experimentally using commercially available components. Future wideband communication links will be supported at sub-6 GHz, FR2, and E-band frequencies using these power-efficient radio unit architectures.
15:45	Q&A
15:50	Panel Session: Lab of the North **Chaired by Professor Kevin Morris, University of Leeds** and Cambridge Wireless SIG Champion With additional Panellist: • Prof David Grace, School of Physics, Engineering and Technology, University of York
16:25	**Closing remarks and Event concludes at 16:30**

With the permission of the speakers, presentations will be available upon request following the event

Profile of organiser

Cambridge Wireless (CW) - www.cambridgewireless.co.uk
Cambridge Wireless (CW) is a global not-for-profit membership organisation at the forefront of innovation in connectivity and digital technology. Since 2000, CW has united industry leaders across connected devices, networks, software, data analytics, telecoms, satellites, and more. CW exists to champion and connect the global connectivity and digital technology community. We bring our members together to foster innovation, enable collaboration, and provide opportunities for continuous learning and professional growth. From flagship conferences and Special Interest Groups (SIGs) to networking events, strategic innovation projects, and skills development, our programmes create valuable opportunities for members. 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.

Profile of Host

University of Leeds - www.leeds.ac.uk
Established in 1904, the University of Leeds is one of the largest universities in the UK. We're part of the Russell Group of research-intensive universities and are renowned globally for the quality of our research and teaching. Ranked in the top 75 universities in the world, our staff have been awarded 29 National Teaching Fellowships and we have more than 39,800 students are currently studying at the University.

CW Academic & Industry SIG Champions

The academic community has always been known for a stream of innovative, pioneering and exciting products, discoveries and inventions which have helped in paving the way for the wireless era. This SIG aims to promote further research through more effective interaction between the wireless industry and the academic research network. Help to match-up university departmental work in wireless technology to industry R&D needs and stimulate commercial incentives and enhance research activities. This group is championed by;

- **Dr Antonio Di Buono, Research Technologist, National Nuclear Laboratory - www.nnl.co.uk**
- **Professor Kevin Morris, Professor of Radio Frequency Engineering, University of Leeds - www.leeds.ac.uk**
- **Dr Ian Wassell, Senior Lecturer, Computer Laboratory, University of Cambridge - www.cst.cam.ac.uk**

Profile of speakers

Prof Julie McCann, Department of Computing, Faculty of Engineering, Imperial College London
www.imperial.ac.uk
Julie A. McCann is a Professor of Computer Systems with Imperial College London and is currently Co-Director of the School of Convergence Science in Space, Security and Telecoms and Director of the national CHEDDAR communications research hub. Formerly Vice Dean Research in the Faculty of Engineering, she has published extensively on decentralized and self-organizing scalable algorithms and protocols for Wireless/RF Sensor-based systems, Internet of Things, and Cyber-physical systems. She leads the Adaptive Emergent Systems Engineering Research (AESE) research group, and between 2015-2022 was the Deputy Director of PETRAS IoT Cybersecurity Hub, Critical Ecosystems Lead for the Alan Turing Institute, and Imperial PI on the EPSRC programme grant Science for Sensor Systems Software. She has a number of international research collaborations including Singapore NRF funded Eco-Cities (until March 2024 she had a sub-lab in Singapore with I2R and HDB), between 2012-2017 directed the Intel Collaborative Research Institute (ICRI) for Sustainable Cities, and NEC Japan on smart communications technologies, as well as other projects though EU FP7/H2020 programmes. McCann is an elected Member of the Council of Computer Science Professors and Heads of Computing and was elected to the membership committee of the UKCRC, she holds the 2018 UKRI Suffrage Science Award for Computing and Mathematics, President's Medal for Research Excellence 2020, and is a Fellow of the BCS and Chartered Engineer.

Dr Syed Ali Raza Zaidi, Associate Professor of Communication and Sensing, School of Electronic and Electrical Engineering, University of Leeds - www.leeds.ac.uk

Syed Ali Raza Zaidi Member, IEEE is an Associate Professor at the University of Leeds in the broad area of Communication and Sensing for Robotics and Autonomous Systems. He co-leads the UK's Department for Science, Innovation and Technology (DSIT) and UKRI-funded Future Communications Hub for Empowering Distributed Cloud Computing Applications and Research (CHEDDAR), which has received £16 million in research funding. He also leads the Emergent Compute Pillar within the CHEDDAR work programme, as well as DSIT- and AISI-funded initiatives on agentic AI for cloud-native telecommunications. Earlier, from 2013 to 2015, he was associated with the SPCOM research group, working on a US ARL-funded project in Network Science. From 2011 to 2013, he was a research associate at the International University of Rabat. He was also a visiting research scientist at Qatar Innovations and Mobility Centre from October to December 2013, where he worked on the QNRF-funded project QSON. He completed his doctoral degree at the School of Electronic and Electrical Engineering, where he was awarded the G. W. and F. W. Carter Prize for best thesis and best research paper. He has published over 90 papers in leading IEEE conferences and journals. From 2014 to 2015, he served as an editor of IEEE Communication Letters and as the lead guest editor for the IET Signal Processing Journal's Special Issue on Signal Processing for Large-Scale 5G Wireless Networks. He has also served as lead editor for the IEEE Communications Magazine Feature Topic on Communication Technologies for Robotics and Autonomous Systems and for the IEEE Journal on Selected Areas in Communications (JSAC) Special Issue on Design and Analysis of Communication Interfaces for Industry 4.0. He is also an editor for the IET Access, Fronthaul, and Backhaul book series, and is currently an Associate Technical Editor for IEEE Communications Magazine. He is also the Industrial Sponsorship and Programme Chair for ICC 2026. He has been awarded grants from COST IC0902, the Royal Academy of Engineering, EPSRC, Horizon Europe, and DAAD (totalling approximately £5.5 million) to promote his research outputs. He has also been an invited keynote speaker and panellist at various leading international conferences and workshops. His current research interests include Generative AI for cloud-native telecommunications, as well as the modelling, analysis, and design of large-scale connected intelligent systems.

Nick Hunn, CTO, WiFore Consulting - www.wifore.com

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.

https://www.linkedin.com/in/nickhunn/

Professor Tim O'Farrell, Department of Electronic and Electrical Engineering, University of Sheffield -
www.sheffield.ac.uk
I received my BSc degree in Electrical and Electronic Engineering from the University of Birmingham and my MSc and PhD degrees in Electrical and Electronic Engineering from the University of Manchester. I am the Chair Professor in Wireless Communication at the University of Sheffield and I am a Fellow of the Royal Academy of Engineering (FREng). In the field of wireless communications, I have made significant contributions to waveform and energy-efficiency design for radio access networks (RANs) and I have translated significant research into industry through

standards, products, and practices. My research is focused on wireless communications systems, specialising in radio systems engineering, physical layer signal processing, and energy-efficient (EE) wireless networking.

As Co-Founder and CTO of Supergold Communication Limited, I accomplished strategic breakthroughs in determining the IEEE802.11g Wi-Fi standard. Also, I have developed standardised practices for measuring EE in RANs and produced software-tools for modelling RAN performance.

I have led 27 major research projects with a total research spend of approximately £29M. I led the UK Research Strategy Community Organisation in Communications, Mobile Computing and Networking within the Engineering and Physical Sciences Research Council portfolio (CommNet II, EP/N007824/1) and currently, I am the director of the UKRI National 6G Radio Systems Facility (EP/X030016/1).

Additional Panellist: Prof David Grace, School of Physics, Engineering and Technology, University of York
www.york.ac.uk

David Grace received his PhD from University of York in 1999, with the subject of his thesis being 'Distributed Dynamic Channel Assignment for the Wireless Environment'. He has been a member of staff at the University since 1994 and he is now Professor (Research). He leads the Communication Technologies Discovery Theme and Challenging Environments Translational Theme within School of Physics, Engineering and Technology. He is also Director of the Centre for High Altitude Platform Applications and pillar lead for Advanced Communications within Institute for Safe Autonomy. Current research interests include non-terrestrial networks, aerial platform-based communications, application of artificial intelligence to wireless communications; 6G system architectures; dynamic spectrum access and interference management. He is currently leads the EPSRC HiQ project, developing quantum key distribution via high altitude platforms. He is a recent lead investigator on H2020 MCSA SPOTLIGHT, UK Government funded MANY, dealing with 5G trials in rural areas. He was technical lead on the 14-partner FP6 CAPANINA project that dealt with broadband communications from high altitude platforms. He is an author of over 280 papers, and author/editor of 2 books. He is the former chair of IEEE Technical Committee on Cognitive Networks for the period 2013/4. He is a founding member of the IEEE Technical Committee on Green Communications and Computing. From 2014-8 he was a non-executive director of Stratospheric Platforms Ltd. In 2000, he jointly founded SkyLARC Technologies Ltd, and was one of its directors.

Delegate List	
Name	**Organisation**
Ayesha Abdul Majeed	BT
Sarat Ahmad	University of Leeds
Shueb Ahmed	Virgin Media O2
Tariq Alhezzani	University of Leeds
Mubasher Ali	University of Sheffield
Anmar Alkarawi	University of Sheffield
Moldir Ashimova	University of Leeds
Adam Azmy	GoodSpot AI
Shehr Bano	University of Leeds
Damian Bevan	Real Wireless
Evelyse Carvalho Ribas	MoroAK and University of Leeds
Kartika Chendorain Tulusan	homehive.AI
Abol Chizari	Auriplex-Radioplex Ltd
Sam Darwish	VIAVI Solutions
Robert Edwards	MATRIXX Software
Jayaprasath Elumalai	University of Leeds
Michaela Eschbach	Cambridge Wireless

Yejing Fan	University of Leeds
Christian Farrow	Chronos Technology
Sina Fateri	Net Nexus
John Feather	SoloProtect Limited
Andy Fidler	BT
Leonardo Goncalves de Castro	Anritsu
Renato Goodfellow	Commercis
David Grace	University of York
Michael Green	OpenWEIGHTLESS C.I.C.
Alasdair Grunshaw	Virgin Media O2
George Haddad	Consulting
Ali Hamza	University of Huddersfield
Timothy Hill	University of Sheffield
Nick Hunn	WiFore Consulting
Chris Hunn	
Qihang Jiao	University of Leeds
Andrew Johnson	Space North Consulting Ltd
Deepika Kantu	Leeds Trinity University
Clare Kettle	Cambridge Wireless
Andi Kirk	Daiya Mondo
Assem Konyrkhanova	University of Leeds
Nabiha Kulsum	HomeHive
Zarina Kutpanova	University of Leeds
Ebrahim Laher	Manzil Studio Ltd
Ian Lever	Lever Technology Group
Mario Lizzio	Cambridge Wireless
Uso Lucky-Ikem	Keysight Technologies
Alistaire MacGregor	Leeds Today
Peter Maddigan	CGI
Jayakumar Mahesh	Goodspot AI Labs
Ramona Marfievici	Digital Catapult
Julie McCann	Imperial College London
Glenn McCauley	Space Hub Yorkshire
Thomas Measures	Appleyard Lees IP LLP
De Mi	StellarCube
Kevin Morris	University of Leeds
David Naseh	University of Leeds
Vijay Nellore	Vjcloudtech
Daniel Nowak	DPN Consultancy

Louise O'Donnell	Keysight Technologies
Tim O'Farrell	University of Sheffield
Raphael Olukoya	Prehood
Richard Ormson	Hutchison 3G UK
Anthony Page	Keysight Technologies
Ian Pannell	GSMA
Jashan Patel	Moonspring AI
Bernardi Pranggono	Anglia Ruskin University
Mohammed M. H. Qazzaz	University of Leeds
Abdelaziz Salama	University of Leeds
Mohammed Salih	University of Leeds
Altynbek Seitenov	University of Leeds
Rebecca Shutt	Department for Energy Security and Net Zero
Michael Thompson	VMO2
Victoria Thomson	Leeds Wellbeing Web
Alican Topcu	University of Leeds
Tahmina Sultana Trisha	Leeds beckett university
M Usman	University of Huddersfield
Tone Vaduthala	University of Leeds
Arnesh Vijay	Nokia
Siling Wang	University of Leeds
Ian Wassell	University of Cambridge
Dale Watson	dalec UK ltd
Volodymyr Zadvornyi	Trilight Security
Syed Ali Raza Zaidi	University of Leeds