Inter-Academy International Workshop on FUTURE & 606

24-25 JUNE 2024

HOSTED BY:



University of Strathclyde Glasgow

Technology and Innovation Centre University of Strathclyde, Glasgow, Scotland

Technology and Innovation Centre University of Strathclyde, Glasgow, Scotland

Programme at a Glance

Monday 24 June 2024

Tuesday 25 June 2024

9:00-10:00 Level 2 Foyer **Registration**

10:00-10:05 Auditorium A Opening Comments Tariq S Durrani, University of Strathclyde (UK) Mallik Tatipamula, Ericsson Silicon Valley (USA)

10:05-10:10 Auditorium A Welcome

Jim McDonald, *President*, *Royal Academy of Engineering, and Principal, University of Strathclyde (UK)*

Session 1: Welcome Comments from Academy Presidents

10:45-11:45 Auditorium A Session 2: UK Telecom Activities and Strategies for 6G

11:45-13:00 Auditorium A Session 3: International 6G Strategies and Use Cases

13:00-14:15 Level 3 Foyer Lunch and Exhibition

14:15-15:30 Auditorium A
Session 4: Industry Influencers Forum I

15:30-16:00 Level 3 Foyer **Refreshments**

16:00-17:15 Auditorium A Session 5: Future Policies Framework and Spectrum Requirements Panel

17:15-18:30 Level 3 Foyer Exhibitors' Drinks Reception

18:30-21:30 Glasgow City Chambers Speakers Banquet (by invitation only)

In the elegant Satinwood Suite of the City Chambers in the presence of Glasgow's Lord Provost Jacqueline McLaren.

Banquet Speaker: Martin Hendry, University of Glasgow (UK)

9:00-9:05 Auditorium A Opening Address Tom Arthur MSP, Minister for Employment and Investment. Scottish, Government (UK)

9:15-10:30 Auditorium A Session 6: Engineering Academic Influencers Panel

10:30-11:00 Level 3 Foyer **Refreshments**

11:00-12:15 Auditorium A Session 7: Standards Forum

12:15-13:00 Auditorium A
Session 8: Industry Influencers Forum II

13:00-14:00 Level 3 Foyer Lunch and Exhibition

Tuesday, 25 June 2024 14:00-15:30 Auditorium A Session 9: International Research Funding Agencies Panel

15:30-16:00 Level 3 Foyer **Refreshments**

16:00-16:30 Auditorium A Session 10: Wrap Up Roundtable on Potential Collaboration Areas International outlook (geopolitical realities/risks, investments in different regions); collaboration areas; Future Directions and Closing Remarks. Al P Pisano, UC San Diego (USA) Guru Madhavan, National Academy of Engineering (USA)

Preface

A very warm welcome to the Inter-Academy International Workshop on 'Future Communications and 6G'.

Telecommunications networks are the lifeline of global economies, and safeguarding their resilience and security in an evolving, interconnected world. In the pursuit of seamless evolution towards future communication networks, it is imperative to align technology, standards, policy, and funding roadmaps right from the outset. Driven by this vision, this workshop aims to bring together key stakeholders from industry, academia, and government to debate and discuss critical issues, address present day concerns, propose effective solutions and explore international collaboration.

The Workshop is organised in partnership with the following National Academies, representing engineering at their respective countries' highest levels; with the aim of discussing global telecommunications for next generation communications:

- US National Academy of Engineering
- Royal Academy of Engineering
- Canadian Academy of Engineering
- Royal Swedish Academy of Engineering Sciences
- Royal Society of Edinburgh
- Indian National Academy of Engineering
- National Academy of Engineering of Korea
- IEEE Future Networks

The objectives of the Workshop are:

- To identify future directions of growth in future wireless systems
- To explore new network architectures, protocols and technologies relevant to the next generation of mobile communication systems
- To document opportunities for international R&D collaboration.

To achieve its objectives, the Workshop is organised into focussed sessions that include keynote presentations, discussion forums and subject specific Panels. The Workshop Programme opens with warm messages of welcome by the Presidents of the International/National academies. We are grateful to them for their encouragement and their support.

We are enormously grateful to distinguished colleagues from leading industries, academic experts from keynote universities, and eminent policy makers from governments and agencies, who are coming to Glasgow to share with us their wisdom and experience.

To benefit from their presence, the Workshop Programme includes Sessions on:

- UK telecom activities and strategies for 6G,
- International 6G strategies and use cases,
- Industry Influencers' Forums,
- Future policies framework and spectrum requirements,
- Engineering academic influencers panel,
- Standards forum,
- International research funding agencies panel,
- Wrap up to record conclusions and chart future directions and initiatives.

We are enormously immensely thankful for the contributions of the members of the International Organising Committee for the Workshop, whose guidance, support and advice framed the Workshop Programme.

Several colleagues have helped us in putting together In particular the following deserve this event. special mention - James Irvine for oversight with Registration and the Workshop Handbook, Bob Operational Stewart with oversight, Luca Campanalonga for the Exhibitors and Sheila Forbes for Local Arrangements. We would like to thank Alan Williamson for managing the Workshop Website. This Workshop would not have been possible without the generous support of our sponsors. We are indebted to them. These include the Scottish Government, the Lord Provost of Glasgow, the Glasgow Convention Bureau, Ericsson, EPSRC, Scotland 5G Centre, the Universities of Glasgow and Strathclyde and Pulsant.

> Tariq S Durrani (Chair) Mallik Tatipamula (Vice Chair) June 2024

Local Organising Committee

Chair	Tariq S Durrani	University of Strathclyde (UK)
Co-Chair	Mallik Tatipamula	Member RAEng, Fellow RSE, CTO Ericsson Silicon Valley (USA)
	Muffy Calder	University of Glasgow (UK)
	Luca Campanalonga	Scotland 5G Centre (UK)
	Harald Haas	University of Cambridge (UK)
	Muhammad Imran	University of Glasgow (UK)
	James Irvine	University of Strathclyde (UK)
	Robert Stewart	University of Strathclyde (UK)
	Rahim Tafazolli	University of Surrey (UK)
	Gareth Wells	Scottish Government (UK)

International Members of the Organising Committee

Sunghyun Choi	Representative National Academy of Engineering of Korea
	and Samsung International (South Korea)
John Cioffi	International Fellow RAEng, Corres Fellow RSE, Member US NAE,
	Stanford University (USA)
Ashutosh Dutta	Fellow IEEE, Past Chair, IEEE Future Networks, Johns Hopkins
	University (USA)
Magnus Frodigh	Member IVA, VP and Head of Ericsson Research, Sweden)
Leon Garcia	Member Canadian Academy of Engineering, University of
	Toronto, Canada)
Guru Madhavan	Member US NAE (USA)
Muriel Medard	Member US NAE, MIT (USA)
Linda Olsson	The Royal Swedish Academy of Engineering Sciences IVA (Sweden)
Argoswami Paulraj	Member US NAE, Stanford University (USA)
Vince Poor	Corres. Fellow RSE, Member US NAE, Princeton University (USA)
Bhaskar Ramamoorti	Key architect Bharat 6G Vision 6G Initiative,
	Former Director, IIT Chennai (India)

Halim Yanikomeroglu Member Canadian Academy of Engineering, Carleton University (Canada)



5 University of Edinburgh - IDCOM 6 Craft Prospect Ltd 7 UWS - Digital Connectivity for Sustainable Futures8 Fraunhofer UK Research Ltd9 The Scotland 5G Centre

Sessions

10:00-10:05 Auditorium A **Opening Comments**

Tariq S Durrani, University of Strathclyde (UK) Mallik Tatipamula, Ericsson Silicon Valley (USA)

10:05-10:10 Auditorium A Welcome

Jim McDonald, President, Royal Academy of Engineering, and Principal, University of Strathclyde (UK)



Professor Sir Jim McDonald is Principal and Vice-Chancellor of the University of Strathclyde.

He was elected President of the Royal Academy of Engineering in September 2019. He currently holds several senior non-executive business appointments with organisations including the Weir Group and Scottish Power plc. He holds

the Rolls Royce Chair in Electrical Power Systems. In the Queen's Jubilee Birthday Honours List 2012, Professor McDonald was awarded a Knighthood for services to education, engineering and the economy.

In December 2023 he was appointed a Knight Grand Cross of the Order of the British Empire in the King's New Year's Honours list. The award is for his services to engineering, to education and to energy.

Monday, 24 June 2024 10:10-10:45 Auditorium A Session 1: Welcome Comments from Academy Presidents John Ball President, Royal Society of Edinburgh

John Anderson President, US National Academy of Engineering **Catherine Karakatsanis** President, Canadian Academy of Engineering Indranil Manna President, Indian National Academy of Engineering **Marcus Wallenberg** President, Royal Swedish Academy of Engineering Sciences **Tariq S Durrani** University of Strathclyde (UK)

Moderator:



Sir John Ball PRSE FRS is President of the Royal Society of Edinburgh, Scotland's National Academy, and Professor of Mathematics at Heriot-Watt University. From 1996-2018 he was the Sedleian Professor of Natural Philosophy at Oxford. He is an active research mathematician working on nonlinear partial differential equations, the calculus of variations and their applications to materials science, liquid crystals and

computer vision. He is a former President of the International Mathematical Union.



John L. Anderson is the president of the National Academy of Engineering since July 1, 2019. He served as president of the Illinois Institute of Technology and Distinguished Professor of Chemical Engineering from 2007 - 2015. Before that he was provost and executive vice president at Case Western Reserve University (2004–2007), following 28 years at Carnegie Mellon University. Dr.

Anderson was elected to the NAE in 1992 and as an NAE Councillor in 2015.

In addition to his NAE membership, Dr. Anderson is a fellow of the American Academy of Arts and Sciences and the American Association for the Advancement of Science. He was appointed to the National Science Board in 2014. He received the Acrivos Professional Progress Award from the American Institute of Chemical Engineers (AIChE) and he is listed on the Alumni Wall of Fame at the University of Delaware. In 2012 he received the National Engineering Award from the American Association of Engineering Societies.



Catherine Karakatsanis started out as a structural engineer and has had a progressive career in engineering and management and is the Chief Operating Officer of Morrison Hershfield now Stantec, a diversified consulting engineering firm overseeing over 1,000 professionals. Catherine has also had professional public leadership roles including being elected the chair of Engineers Canada. She is currently the

president of the Federation of International Consulting Engineers (FIDIC) representing over one million engineering professionals in about 100 countries worldwide; and is on the board of the Canadian Council of Academies (CAE). She has consistently been recognized including being inducted into the CAE as a Fellow; received the Gold Medal from Engineers Canada; inducted into Canada's Top 100 Most Powerful Women Hall of Fame; received an Honorary Doctorate from Western University and from the Metropolitan Toronto University; to name a few.



Professor Indranil Manna, the 14th President of INAE and Vice Chancellor of BIT Mesra, Ranchi, India is a distinguished academic and materials engineer with teaching and research interests in phase transformation, alloy development, nanometric solids, and laser materials processing. He received PhD from IIT Kharagpur in 1990. He visited and had fruitful collaborations with many renowned universities abroad.

He served as the Director of CSIR-CGCRI in Kolkata during 2010-2012 and of IIT Kanpur during 2012-2017. He is a Fellow of all the national academies in science in India and of TWAS. He is passionate about technology development through translational research, innovation, and entrepreneurship.



Marcus Wallenberg is the Chair of the Board of Directors of Skandinaviska Enskilda Banken (SEB). Marcus also chairs the board of Wallenberg Investments AB, Saab AB, FAM AB, and Patricia Industries. He serves on the boards of Investor AB, AstraZeneca Plc, EQT AB, and the Knut and Alice Wallenberg Foundation.

Marcus serves on several international advisory boards, including Temasek International Panel and Climate Leadership Coalition (CLC). He is also a member of Asia Business Council and Co-chair of Saudi Sweden Joint Business Council and India Sweden Joint Business Round Table.



Tariq Durrani is Research Professor at University of Strathclyde, Glasgow Scotland. From 2000-2006 he was Deputy Principal responsible for Staff Development, Hunter Centre for Entrepreneurship, Centre for Lifelong Learning and the University's IT and computing infrastructure.

His research covers Communications, Signal Processing, Artificial Intelligence

and Technology Management. He has authored over 400 publications; supervised 45 PhDs, and has held Visiting appointments at several Universities in the US and China. He is Fellow: IEEE, UK Royal Academy of Engineering, Royal Society of Edinburgh, IET, and The World Academy of Sciences; and an International Member of the US National Academy of Engineering and the Chinese Academy of Sciences.

Monday, 24 June 2024 10:45-11:45 Auditorium A Session 2: UK Telecom Activities and Strategies for 6G

Welcome:	Geoff Huggins	Director Digital Scotland Scottish Government (UK)
UK Telecoms	Harald Haas	Director of Platform Driving The Ultimate Connectivity (TITAN) -
Hubs:		Network of Networks University of Cambridge (UK)
	Dominic O'Brien	Director of Hub on All-Spectrum Connectivity (HASC), University of
		Oxford (UK)
	Muhammad Imran	Director of Communications Hub for Empowering Distributed Cloud
		Computing Applications and Research, University of Glasgow (UK)
	Rahim Tafazolli	Director Institute for Communications Systems, University of Surrey
		(UK)
Moderators:	Chris Johnson	Pro VC QUB and Chief Scientist Designate DSIT (UK)
	Jacqueline Redmond	Chair, CENSIS (UK)
To present currer	t developments and future	directions of communications in the UK.

Welcome To Scotland, Our Vision for a Digital Future Geoff Huggins

Director Digital Scotland Scottish Government (UK)



Geoff Huggins is Director for Digital at the Scottish Government. Previously he was Director of the NHS Education Scotland Digital Service working to create the NHS National Digital Platform. From 2013 to 2018 he was Director for Health and Social Care Integration and from 2017 to 2018 also Director for Digital Health and Social Care. Prior to that he was Head of Mental Health for nine years. From 1991 to 1998 he worked

for the Northern Ireland Office working on security and political development. He holds degrees in law and criminology from Queen's University, Belfast. He is a non-executive director of Cornerstone, Penumbra and the International Initiative for Mental Health Leadership. He runs a little, takes photographs and watches films.



Professor Harald Haas received his PhD degree from The University of Edinburgh in 2001. He is the Van Eck Professor of Engineering and the Director of the LiFi Research and Development Centre (LRDC) at the University of Cambridge. Prof Haas initiated and cofounded pureLiFi Ltd. and currently holds the position of Chief Scientific Officer (CSO). He leads one of three new

Telecoms Hubs on 'Network of Networks' in the UK, TITAN, which is a consortium of 16 universities. His main research interests are on optical wireless communications. Prof. Haas has

delivered two TED talks and one TEDx talk which have been watched online more than 5.5 million times. Prof Haas was awarded a Royal Society Wolfson Research Merit Award in 2017. In 2019 he received the IEEE Vehicular Society James Evans Avant Garde Award and the Enginuity The Connect Places Innovation Award in 2021, and a Humboldt Research Award in 2022.



Professor Dominic O'Brien is a Professor of Engineering Science at Oxford and leads the optical communications group. He leads the recently funded EPSRC Hub in All-Spectrum Connectivity, and is also Director of the UK National Hub in Quantum Computing and Simulation

The group has a wide range of experience in free space optical communications and

optical wireless, demonstrating integrated optical wireless transceivers, full room-scale systems at 300Mbit/s, integrated visible light communications systems, Tbit/s optical wireless links, retro-reflecting communications both indoors and outdoors, novel transmitters and receivers, and indoor quantum key distribution."



Prof. Muhammad Imran and his team, spearhead global advancements in the area of communication systems. His pioneering contributions in selforganized cellular networks and energyefficient communications are widely cited and adapted in industry. Leading a prominent transnational education initiative, he represents Scottish Higher Education internationally. Honoured as Fellow RSE, IET, RSA, EAI, AIIA, and HEA Senior Fellow, he guides a 100+ member research group in Scotland. With over 20 years of academic and industry expertise, he holds pivotal roles in technical bodies and multimillion-pound projects. Additionally, he consults for international projects and local firms on self-organized networks and 5G technology applications.



Rahim Tafazolli is the only Regius Professor in Electronic Engineering. He is Fellow of Royal Academy of Engineering (FREng), FIET, Fellow of WWRF a professor of Mobile and Satellite Communications, and is founder/director of the 5/6G Innovation Center since 2012. He is also Director of Institute for Communication Systems (ICS) at the University of Surrey. He has a good relationship with the UK

government and local council, and has cooperated with Huawei for many years to support the cooperation and technical research of Huawei and Surrey University in 5/6GIC in public.



Chris Johnson is Professor of Computing Science and Pro Vice Chancellor for Engineering and Physical Sciences at Queen's University, Belfast. From 29th July, he will serve as the first Chief Scientific Advisor in the UK Department for Science, Innovation and Technology. He brings international experience in the Science and Engineering of complex systems; with particular expertise in safety and security. He served as an expert witness to the Grenfell Tower Public Inquiry, is a founding member of the UK National Cyber Advisory Board within the National Security Secretariat and has supported the integration of commercial space operations into NASA's human spaceflight programme. Chris is an advocate of science and engineering as enablers for economic and social prosperity. In particular, he has pioneered the use of ethics to increase confidence in the use of Machine Learning for the highest-risk applications, including for the UK Ministry of Defence.



Jacqueline Redmond is a champion of sustainable innovation and delivering a just net zero transition. She currently chairs CENSIS, the SME Innovation Centre for sensing, imaging and IOT technologies. She is also on the Board of the Scottish National Investment Bank and chairs, it Risk and Conflicts Previously, she led Committee. Strathclyde University's PNDC industrialisation centre delivering

decarbonisation solutions through whole energy solutions. Her experience includes roles such as Chief Risk Officer at the Green Investment Bank and executive roles at Shell and Scottish Power. A Chartered Engineer, Jacqueline holds degrees from both Strathclyde University and Paisley College of Technology.

Monday, 24 June 2024 11:45-13:00 Auditorium A Session 3: International 6G Strategies and Use Cases Panelists: Kiran Kuchi IIT Hyderabad (India)

Halim Venki Magn Takeh Ashut Moderators: Al P P Murie

Kiran Kuchi Halim Yanikomeroglu Venki Ramaswamy Magnus Frodigh Takehiro Nakamura Ashutosh Dutta Al P Pisano Muriel Medard IIT Hyderabad (India) Carleton University (Canada) Chief Technologist for Next G, Mitre Corporation (USA) Vice President and Head of Research, Ericsson (Sweden) Chief Standardization Officer, DoCoMo (Japan) Past Chair, IEEE Future Networks, Johns Hopkins University (USA) UC San Diego (USA) MIT (USA)

Representatives will articulate their national strategies for communications and 6G developments.

Bharat 6G Alliance's Vision and Initiatitives for Transforative 6G Tedchnololgies in India Kiran Kuchi

IIT Hyderabad (India)



Professor Kiran Kuchi is a Professor in the Department of Electrical Engineering at the Indian Institute of Technology Hyderabad. He leads 5G-advanced and 6G research and standards development efforts at 3GPP (Third Generation Partnership Program), a global body that develops cellular communications specifications. Professor Kuchi is the author of more than 200 international patents, some of them are declared as 5G

standards essential patents (SEPs) to TSDSI and 3GPP. Prof. Kuchi founded WiSig Networks Pvt Ltd, at IITH technology incubator. IITH and WiSig jointly developed and commercialized 5G base station and user equipment (UE) IPs and NB-IoT SoC.

Canada's Future Networks Vision Halim Yanikomeroglu

Carleton University (Canada)



Dr. Halim Yanikomeroglu is a Chancellor's Professor in the Department of Systems and Computer Engineering at Carleton University, Canada. His research group has made substantial contributions to generations of wireless technologies; his group's current focus is the wireless access architecture of the future including non-terrestrial networks (NTN). His extensive collaboration with

industry resulted in 40 granted patents. He is a Fellow of CAE (Canadian Academy of Engineering), IEEE, EIC (Engineering Institute of Canada), AAIA (Asia-Pacific Artificial Intelligence Association), and a Distinguished Speaker for both IEEE Communications Society and IEEE Vehicular Technology Society. Dr. Yanikomeroglu received several awards for his research, teaching, and service.

US' Next 6G Initiatives Venki Ramaswamy

Chief Technologist for Next G, Mitre Corporation (USA)



Dr. Venkatesh "Venki" Ramaswamy is Distinguished Chief Technologist for NextG at MITRE Labs in Bedford, Massachusetts, where he currently leads technical innovation and R&D activities in 5G/6G technologies. He has more than 22 years of experience in the telecommunications industry and has held technical leadership positions at top technology companies, startups, and research labs. Currently he serves as one

of the active industry members of the ATIS/Next G Alliance Research Council, working on the development of a comprehensive North American 6G strategy. He is also an industry researcher at the NSF Edge AI Institute, where he explores synergies between networking and AI. He has published more than 50 peer-reviewed publications and holds numerous patents, served as a Technical Program Committee (TPC) member for various conferences, and participated in several technical panels. He received his PhD in Electrical Engineering in 2007.

Europe 6G Vision including the Position of the EU Flagship Project Hexa-X-I Magnus Frodigh

Vice President and Head of Research, Ericsson (Sweden)



Dr. Magnus Frodigh is Vice President and Head of Ericsson Research. In this role he leads Ericsson's long-term technology research organization, its close collaboration with academia and industry, and its contributions to the and Ericsson business product development. He holds a Master of Linköping Science degree from University of Technology, Sweden, and a Ph.D. in Radio Communication Systems

from the Royal Institute of Technology, where he is also adjunct Professor in Wireless Infrastructures. He is a Fellow of the Royal Swedish Academy of Engineering Sciences (IVA)

Magnus Frodigh joined Ericsson in 1994 and has over the past three decades held various key senior positions within Research & Development and Product Management, throughout the generations of mobile technology, from 2G all the way to current research on 6G technologies. He holds 29 patents.

5G Evolution and 6G Takehiro Nakamura

Chief Standardization Officer, DoCoMo (Japan)



Mr. Takehiro Nakamura joined NTT Laboratories in 1990. He is now Chief Standardization Officer in NTT DOCOMO, Inc. He has been engaged in R&D and the standardization activities for advanced radio and network technologies of W-CDMA, HSPA, LTE/LTE-Advanced, 5G and 6G, and engaged in strengthening inter-industry collaboration.

He has been contributing to standardization activities in ARIB, ITU and 3GPP since 1997, including as vice chair and chair of 3GPP TSG-RAN from 2005 to 2013. Currently, he plays important roles to promote and accelerate 5G and 6G in Japan and globally as the Acting Chairman of Strategy & Planning Committee and the leader of Millimeter wave Promotion Ad Hoc of 5G Mobile Communications Promotion Forum(5GMF), the leader of Cellular System Task Group of ITS Infocommunications Forum, the leader of White Paper Subcommittee in Beyond 5G Promotion Consortium in Japan and the Board member of 5G-ACIA.

IEEE 2030 Timeframe Ashutosh Dutta

Past Chair, IEEE Future Networks, Johns Hopkins University (USA)



Ashutosh Dutta is Chief 5G Strategist at Johns Hopkins University Applied Physics Labs. He serves as the Director of Doctor of Engineering at JHU and is past Chair of the Engineering Professional Program at JHU's ECE department. Earlier, he served as Director of Technology Security at AT&T, CTO of Wireless at NIKSUN, Senior Scientist in Telcordia Research, Director of Central Research Facility at Columbia

University, and Computer Engineer with TATA Motors. Ashutosh is a Distinguished Alumnus of NIT Rourkela with a BS in Electrical Engineering, an MS in Computer Science from NJIT, and a Ph.D. in EE from Columbia University. Ashutosh is an IEEE Fellow and founding co-chair for IEEE Future Networks.

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Monday, 24 June 2024 14:15-15:30 Auditorium A Session 4: Industry Influencers Forum I

Panelists:	Mallik Tatipamula
	Maria Cuevas
	Junyi Li
	Jeff White
	Victor Bahl
Moderators:	Magnus Frodigh
	Monisha Ghosh

CTO, Ericsson Silicon Valley (USA) Network Infrastructure Research Director BT (UK) VP Engineering and Qualcomm Fellow, Qualcomm (USA) CTO Edge, DELL Computers (USA) CTO Azure Microsoft (USA) Ericsson (Sweden) University of Notre Dame (USA)

Presentations by senior industrialists addressing emerging opportunities, technologies for 6G development and vehicles for greater industry engagement and international collaboration between industry, academe and government agencies.



Over 34 years of working in telecommunications, **Mallik Tatipamula** has made key contributions to advancing network transitions and addressing the digital divide in society. As Chief Technology Officer at Ericsson Silicon Valley, Mallik leads Ericsson's thought leadership in 5G and 6G technologies, leading efforts to bring together industry, academia, and government around the possibilities of future wireless systems.

He has held leadership positions at F5 networks, Juniper networks, Cisco, Motorola, Nortel, and IIT Madras. His work on transition to software-centric 5G networks for Industry 4.0 applications has resulted in landmark innovations such as network-slicing. Awards include CTO of the Year from Silicon Valley Business Journal and IET Chief Engineer of the Year. He is a fellow of the Royal Academy of Engineering, the Royal Society of Edinburgh and the Canadian Academy of Engineering.



Maria Cuevas leads the Networks Infrastructure Research unit in BT's Group's Research and Network Strategy and Research department. Her team's mission is to research and develop technologies to enhance BT's network infrastructure and connectivity services. Maria has worked in BT Group for 24 years, and has played multiple roles across design, architecture, technology strategy and research. During that time,

she has been involved in a number of key transformational programmes and projects including all-IP transformation, spectrum acquisition and platform procurement activities amongst many others. She has also played a key role in standards and industry bodies, including ETSI, GSMA, Wireless Broadband Alliance and the Telecom Infrastructure Project amongst others. She has authored over 30 inventions related to telecomms systems, which have generated over 100 granted patents so far. Maria was awarded the "Women in Telecoms" Award by the Institute of Telecoms Professionals in 2017.



Junyi Li is a Vice President of Engineering and Qualcomm Fellow at Qualcomm. Junyi was a key inventor of Flash-OFDM, the first commercially deployed OFDMA-based mobile broadband wireless communications system. He was a co-founder of Flarion Technologies, a startup acquired by Qualcomm in 2006. Prior to that, he was with Bell Labs research. Since joining Qualcomm, Junyi has spearheaded

research projects on D2D communications, V2V communications, and mmWave communications. He received a Qualcomm IP Excellence Award in 2020 and currently he holds more than 2,000 U.S. granted patents. He is a Fellow of the IEEE and co-authored the book, "OFDMA Mobile Broadband Communications," published by Cambridge University Press.



Jeff White is the CTO for Edge at Dell Technologies. Jeff's leads the research and development of Edge technologies for Dell's product and operations. His technology focus is on edge application execution characterization and management, edge scheduling/control algorithm design, edge data management, AI/ML edge operations, AI/ML drift detection and mitigation, edge networking optimization, and emerging

machine reasoning control for distributed platforms. He holds 10 patents in these areas. Jeff has also held senior roles at earlystage artificial intelligence/machine reasoning-based robotic process automation technology provider and served as CTO of Elefante Group, a stratospheric wireless communications platform. He also held senior positions at Hewlett Packard Enterprise, Ericsson and Alcatel-Lucent where he led technology initiatives, solutions development, business development and services delivery. Prior Jeff worked at Cingular Wireless and BellSouth in technology and operations roles.



Victor Bahl is a technical fellow and chief technology officer in Microsoft's strategic missions and technologies division. Previously, he was the founding director of the networking research group and he served on the leadership team of Microsoft Research. He is the original coinventor of edge computing and the architect of the strategy that led to the creation of Microsoft's Azure for Operators business. Dr. Bahl has

delivered numerous foundational technologies to Azure, XBOX and Windows. He has published over 140 papers with over 75,000 citations, he is the author/co-author of 200+ patents, and for unique research has received four lifetime achievement awards. He is a Fellow of ACM, IEEE, and AAAS.

Dr. Magnus Frodigh's bio appears on page 8.



Monisha Ghosh is a Professor of Electrical Engineering at the University of Notre Dame and a member of the Notre Dame Wireless Institute. She is also the Policy Outreach Director for SpectrumX, the first NSF Center for Spectrum Innovation and the co-chair of the FCC's Technological Advisory Council Working Group on Advanced Spectrum Sharing. Her research interests are in next generation wireless systems: cellular, Wi-

Fi and IoT, with an emphasis on spectrum sharing and coexistence. Prior to joining the University of Notre Dame in 2022, she was the Chief Technology Officer at the FCC, a Program Director at the NSF, Research Professor at the University of Chicago and spent 24 years in industry research at Bell Labs, Philips Research and Interdigital working on wireless systems. She obtained her B.Tech from IIT Kharagpur in 1986 and Ph.D. from USC in 1991. She is an IEEE Fellow.

Monday, 24 June 2024 16:00-17:15 Auditorium A Session 5: Future Policies Framework and Spectrum Requirements Panel

Panelists:	David Willis	Group Director for Spectrum OFCOM (UK)
	Robert Stewart	University of Strathclyde (UK)
	Monisha Ghosh	University of Notre Dame (USA), Former CTO FCC
	Mark Waddell	Lead R&D Engineer, BBC R&D (UK)
	David Lister	6G Research Lead Vodafone Group (UK)
	Ed Tiedemann Jr	Senior VP Engineering and Qualcomm Fellow,
		Qualcomm Technologies, Inc (USA)
Moderators:	Abhaya Sumanasena	UK Spectrum Policy Forum (UK)
	Ashutosh Dutta	Johns Hopkins University (USA)

In a Session organised by the UK Spectrum Policy Forum (SPF), the panelists will consider the spectrum requirements of 6G and consider some of the future policies and frameworks that could support the needs of this next generation. Although 6G will use many of the higher bands including mmWave, and THz and LiFi, the low and mid bands (from 450MHz to 6GHz) will also remain essential for wide area coverage in licensed and unlicensed bands. Further the evolution and growth of shared spectrum strategies will bring new opportunities and opportunities for international collaboration.



David Willis as over 30 years of experience in the telecom industry working in both the private and public sectors in a variety of executive and technical leadership positions, most recently as Group Director Spectrum at Ofcom, President of the Communications Research Centre (Canada), and Senior Director for Spectrum Engineering at Innovation Science and Economic

Development (Canada). Prior to that David held significant product leadership roles in BlackBerry's handset business and Nortel's Optical and Network Management business units.



Bob Stewart is a Professor at the University of Strathclyde in the Dept of Electronic Eng, where he leads the 'StrathSDR' team working on software defined radio (SDR) and next generation radio access networks using shared spectrum access. Bob is also a director of the University startup SDR company Neutral Wireless Ltd working on SDR enabled private 5G network solutions in a number countries for broadcast use cases.

Currently the StrathSDR team has strategic partnerships with key technology companies, including AMD, Cisco and BBC R&D. Over a 30 year Bob has published 4 books and more than 200 papers.

Monisha Ghosh's bio appears on page 9.



Mark Waddell is currently a Lead Engineer at BBC R&D specialising in wireless technologies. He has worked extensively on RF receiver and FPGA systems design, and more recently he has increasingly focussed on wireless systems and networks for live TV production. He chairs the Programme Making and Special Events (PMSE) group at the Digital Television Group (DTG) and is the Rapporteur for two

ETSI standardisation groups. He was involved in pioneering projects developing the first Digital Radio Cameras and diversity receivers at the BBC and has been working on 5G systems for programme making since 2020.

Ashutosh Dutta's bio appears on page 8.



David Lister is a research manager in Vodafone Group responsible for its 6G vision and strategy, and he co-leads NGMN's 6G strategic programme that sets out mobile operators' views and objectives on next generation technology. He joined Vodafone in 1992 and has worked on the introduction of 2G, 3G, 4G, and 5G technologies, including radio propagation, system performance evaluation and spectrum aspects. David

holds degrees in electrical engineering, renewable energy, is a Chartered Engineer and Member of the IET.



Dr. Edward G. Tiedemann, Jr. is an IEEE Fellow, a Qualcomm Fellow, and a Senior Vice President of Engineering of Qualcomm Technologies, Inc. He worldwide created Qualcomm's standardization and industry organization activities which he led until he recently stepped back to focus on technical issues. Dr. Tiedemann has been active in every G since his instrumental work in the design and development of the

TIA/EIA/IS-95 CDMA system. Dr. Tiedemann has almost 300 granted US patents and has participated in many papers, conference lectures, and industry panels. He is involved with multiple industry organizations. He is also a member of the Boards of Trustees of the Peabody Essex Museum and the Concord Museum. He has received numerous recognitions, including the Robert M. Walp Industry Humanitarian Award from the IEEE Communications Society. Dr. Tiedemann holds the Ph.D. degree from MIT, the MS degree from Purdue University, and the BS degree from Va Tech.



Dr. Abhaya Sumanasena is the Head of Policy and Regulation at Real Wireless, a member of the Ofcom Spectrum Advisory Board (OSAB) and Chairman of the UK Spectrum Policy Forum (UK SPF). Abhaya is a leader renowned for his strategic insight and hands-on expertise in addressing challenges related to policy, regulation spectrum and within national technology issues MNOs authorities, regulatory and

vendors. In his previous roles, Abhaya successfully delivered multi-million-pound strategic network capacity programs at Three UK and provided leadership in deploying the UK's first HSDPA network. Abhaya also played an influential role in maintaining UK propositions and developing spectrum policies at Ofcom.

Tuesday, 25 June 2024 9:15-10:30 Auditorium A Session 6: Engineering Academic Influencers Panel

Panelists:	Tommy Svensson	Chalmers University (Sweden)	
	Alberto Leon-Garcia	University of Toronto (Canada)	
	Radha Krishna Ganti	IIT Madras (India)	
	Muriel Medard	MIT (USA)	
	Dereje Agonafer	University of Texas, (Arlington, US)	
Moderators:	Muffy Calder	University of Glasgow (UK)	
	Harald Haas	University of Cambridge (UK)	

Panellists will outline their thoughts on key academic research questions for the next decade, why they have selected them, and which of them will require international collaboration and the nature of that collaboration. In light of this, the panel will reflect upon what societal needs might be met or current solutions enhanced and new applications enabled; what would represent big breakthroughs in these areas and are they likely to be achieved; and is there a risk of east/west (or other) divide, and what might be the implications. Finally, the panellists will consider how ground-breaking new research can be effectively translated.



Alberto Leon-Garcia is Professor in Electrical and Computer Engineering at the University of Toronto. He is a Fellow of the Royal Society of Canada, the Canadian Academy of Engineering, and a Life Fellow of the IEEE. He authored: Probability and Random Processes for Electrical Engineering, and Communication Networks: Fundamental Concepts and Key Architecture. He led the NSERC Strategic Network for Smart

Applications on Virtual Infrastructures (SAVI). SAVI designed and deployed a national testbed in Canada that converges cloud computing and software-defined networking. His research is focussed on intelligent automated management systems for large-scale infrastructures.



Radha Krishna Ganti is a Professor at the Indian Institute of Technology Madras, Chennai, India. He received his B. Tech. and M. Tech. in Electrical Engineering from the Indian Institute of Technology, Madras, and a Masters in Applied Mathematics and a Ph.D. in EE from the University of Notre Dame in 2009. His research interests include digital communications, convex

optimisation and building communication systems. He received the 2014 IEEE Stephen O. Rice prize, and the 2014 IEEE Leonard G. Abraham prize and the 2015 IEEE Communications society young author best paper award. He was also awarded the 2016-2017 Institute Research and Development Award (IRDA) by IIT Madras. In 2019, he was awarded the TSDSI fellow for technical excellence in standardisation activities and contribution to LMLC use case in ITU. He was the lead PI from IIT Madras involved in the development of 5G base stations for the 5G testbed project.



Muriel Médard is the NEC Professor of Software Science and Engineering in the Electrical Engineering and Computer Science Department at MIT and is Chief Scientist for Steinwurf, which she cofounded. She is a Member of the German National Academy of Sciences Leopoldina, the American Academy of Arts and Sciences, the US National Academy of Engineering. She was cowinner of the MIT 2004 Harold E. Edgerton Faculty Achievement Award and was named a Gilbreth Lecturer by the US National Academy of Engineering in 2007. Muriel received the 2017 IEEE Communications Society Edwin Howard Armstrong Achievement Award, the 2016 IEEE VTS James Evans Avant Garde Award and the 2022 IEEE Kobayashi Computers and Communications Award. She set up the Women in the Information Theory Society (WithITS) and Information Theory Society Mentoring Program, for which she was recognized with the 2017 IEEE Aaron Wyner Distinguished Service Award. Muriel has over eighty US and international patents awarded.



Dereje Agonafer, Presidential Distinguished Professor, MAE at UT ARLINGTON, is a Member of the National Academy of Engineering, Fellow of AAAS and NAI, and ASME Honorary Member. Funding sources include Google, Intel, META, Microsoft, NVIDIA, TI and government agencies. Awards including: 2020 SemiTherm Lifetime Achievement and 2019 Heat Transfer Memorial Award. Advised 260

graduate students (currently 15 PhDs). He and his wife Carolyn have a son, Dr. Damena Agonafer, Associate Professor & Clark Faculty Fellow, University of Maryland College Park, and a daughter, Dr. Senayet Agonafer, a Regional Chief Radiologist at Lennox Hill Radiology in New York City.



Dame Muffy Calder has been Vice-Principal and Head of College of Science and Engineering, University of Glasgow, since 2015, previously she was the Chief Scientific Adviser for Scotland. She is a computer scientist with research interests in modelling and automated reasoning for complex, interactive, and sensor-driven systems, responsible AI, and privacy intrusion and national security. She is a member of the Prime Minister's Council

for Science and Technology and was deputy chair of REF Main Panel B. Previously, she was a member of UKRI-EPSRC council, a Royal Society Leverhulme Research Senior Fellow, and a Suffrage Science award winner in Computing Science and Mathematics.

Harald Haas's bio appears on page 6.

Tuesday, 25 June 2024 11:00-12:15 Auditorium A Session 7: Standards Forum

Panelists:	Luis Jorge Romero	Director General, ETSI (France)
	Ed Tiedemann Jr	Senior VP Engineering and Qualcomm Fellow
		Qualcomm Technologies, Inc (USA)
	Kota Kodai	ITU-Telecom Standardization Bureau (Switzerland)
	Iain Sharp	ATIS (USA)
	Matthew Baker	Bell Labs Fellow, Nokia Standards (UK)
Moderators:	John Cioffi	Stanford University (USA)
	James Irvine	University of Strathclyde (UK)

The panel will address what are the major standards efforts in 6G and more generally wireless today and how do they match with infrastructure costs, efficiency, and the environment's sustainability. Can ubiquitous federated monitoring and measurement become a well-supported standards result that leads to vastly improved stable high-speed, low-latencywhere-necessary, and ubiquitous communication to all global interests. How well do we monitor the effectiveness of our standards output today?



Luis Jorge Romero, Director General of ETSI, has 30 years of experience in the telecommunications sector. At ETSI he has initiated a global standardization partnership for IoT communications, oneM2M. He has overseen the rapid development of ETSI's Industry Specification Groups accelerating market penetration of new technologies and has enabled the first Open Source group in ETSI, leading to the new Software Development Groups

initiated in 2022.

Previously he has held diverse Director positions in Spain, Morocco and Mexico, predominantly with Telefonica. As Global Director for International Roaming and Standards, and Director of Innovation and Standards, he oversaw Telefonica's participation in global standardization activities, and participated directly in the work of the Next Generation Mobile Networks (NGMN) Alliance and in the GSM Association (GSMA). Before joining ETSI in July 2011, he held the position of Director General of Innosoft and was also a partner and board member of the Madrid-based Innology Ventures.

Ed Tiedemann's bio appear on page 10.



Mr. Kota Kodai is Study Group Engineer of the Study Groups Department at the International Telecommunication Union Standardization Bureau in Geneva Switzerland from Oct 2023, where he is currently engaged in operating the International Numbering Resources and collaborations with other sectors in ITU and external SDOs.

Before joining ITU, he was with Nippon Telegraph and Telephone Corporation (NTT) Group for 16 years where he engaged in mobile network deployment (3G, 4G and 5G), radiocommunication standardization activities, and supporting the NTT Group's standardization activities. He received a B.E. in 2005, and a Master of Informatics in 2007 from Kyoto University, Japan.



Iain Sharp started his career in mobile standards by contributing to the definition of GSM Phase 1. Since then he has been involved with every generation and has served as Vice-Chair of 3GPP CT Plenary. Mr. Sharp is currently Principle Technologist at the North American 3GPP Organizational Partner ATIS and manages the interface between ATIS and 3GPP. Mr. Sharp has a degree in Electronics and Information Sciences

from the University of Cambridge.



Matthew Baker is a Nokia Bell Labs Fellow and leads a RAN standardization team at Nokia. Prior to starting to address 6G, he has contributed to the standardization of 3G, 4G, 5G and 5G-Advanced in 3GPP, where he held the posts of Chairman and Vice-Chairman of 3GPP TSG RAN WG1 between 2009 and 2017. He holds degrees in Engineering and Electrical and Information Sciences from the University of Cambridge, UK.

He is a Chartered Engineer and a Member of the Institution of Engineering and Technology, and has been a Visiting Professor at the University of Reading, UK. He is co-editor of the book "LTE - The UMTS Long Term Evolution: From Theory to Practice", has authored many papers and holds several hundred patents in the field of mobile communications.



John M. Cioffi - Illinois-BSEE: 1978, Stanford-PhDEE: 1984; Prof. EE, Stanford, 1986-present, now recalled emeritus. Bell Labs 1978-84; IBM Research 84-86. Founder Amati 1991 (1997 purchased by TI); Chairman and CEO ASSIA Inc., 2003-present. Cioffi's specific interests are in the area of highperformance digital transmission. Awards include The US National Medal of Technology (2023), presented by US President J. Biden, IEEE

AG Bell (2010), Kirchmayer (2014) and Millennium Medals; Member Internet (2014) and Consumer-Electronics (2018) Halls of Fame; Marconi Fellow (2006); Member, US National (2001) and UK Royal (2009) Engineering Academies; IEEE Kobayashi, Armstrong, and Women-In-Coms-Mentor Awards. Cioffi has served over a dozen boards of directors, presently PhyTunes (Chairman) and Marconi Society. 800+ papers and 150+ heavily licensed patents.



Dr James Irvine is a Reader at the University of Strathclyde in Glasgow. Currently working on security for 5G and CNI, in particular for energy network communications, he has been involved with wireless standards development since the early 1990s, and has testified as an expert witness in standards patent cases in the UK and Netherlands. A past President of the IEEE Vehicular Technology Society, he currently chairs

the volunteer committee responsible for overseeing the IEEE product portfolio. Prior to that, he chaired the IEEE Standards Education Committee, and helped develop IEEE standards training workshops which he has delivered in Europe, the US and South America. He is a co-author of two text books, 7 patents, and over 200 research papers.

Tuesday, 25 June 2024 12:15-13:00 Auditorium A Session 8: Industry Influencers Forum II

Panelists:	Ben Allen	Director, Eutelsat OneWeb (UK)
	Mo Zoualfaghari	Global Technology Lead, Amazon Wireless Services Telecom (UK)
	Dilip Krishnaswamy	Director Bangalore Centre for Development of Telematics C-DOT (India)
	Leon Lobo	Head National Timing Centre, National Physical Laboratory (UK)
	Yoshi Nakajima	Tokyo Institute of Technology, Engineering Academy of Japan (Japan)
Moderators:	Rahim Tafazolli	University of Surrey (UK)
	Toktam Mahmoodi	Kings College London (UK)

This session will focus on the roadmap to 6G in the view of industry experts, and from the perspective of different connectivity solutions (satellite, IoT, indoor, outdoor, fixed, and mobile wireless) as well as different services. The panel will delve into opportunities for global reach in emerging applications, the role AI would play in the roadmap to 6G, and how 6G could catalyse the AI revolution, among other topics.



Professor Ben Allen is Director of Communication Systems Engineering with Eutelsat-OneWeb and Visiting Professor at the University of Surrey. His career has focussed on telecommunications R&D, spanning academia and industry, including as a Royal Society Industry Fellow with the University of Oxford and Network Rail. He has led numerous R&D activities

relating to communications engineering, several of which exhibited state-of-the-art advances. Over the years he has published numerous papers, several books and filed several patents relating to telecommunications research developments. He is a Chartered Engineer, Fellow of the Institution of Engineering & Technology, Institute of Telecommunications Professionals, and the Higher Education Academy.

His current responsibilities include air interface definition for 'NextGen' and technical lead for the UK-Space Agency / European Space Agency "5G-piliot" project charged with demonstrating back-hauling of a 5G terrestrial mobile network over the Eutelsat-OneWeb LEO system.



Yoshikazu Nakajima is a professor and the director of Department of Biomedical Informatics, Institute of Biomaterials and Bioengineering, Tokyo Medical and Dental University, TMDU. TMDU will merge with Tokyo Institute of Technology and start a new university, Institute of Science Tokyo, October 2024. He received his PhD from Osaka University in 1997 and worked for

Mitsubishi Electric Corporation. He was then an assistant professor at Osaka University Medical School from 2000, and an associate professor at the University of Tokyo from 2005. He then joined to TMDU in 2017.

He is a member of the Engineering Academy of Japan and was a director board member from 2019 to 2022. He is a director board member at Japan Society of Computer Aided Surgery (JSCAS) from 2022. His research interest includes artificial intelligence for medicine, medical image processing, computer integrated surgery, surgical robotics, biomedical informatics and computer vision.



Prof Mohammad Zoualfaghari is the Worldwide Technology Leader for Telco at AWS, leading Telecom initiatives and innovations in 5G, IoT, and Generative AI. He also heads the TM Forum at Amazon and is a visiting professor at the University of Surrey's 5G/6G Innovation Centre. Named the UK's Engineer of the Year in 2021, he invented Zero Touch Onboarding technology. Previously, he was a research manager and IoT architect

at BT. Holding a PhD and MEng from the University of

Birmingham, he is an active IET and IEEE member with numerous patents and publications.



Dilip Krishnaswamy received a PhD degree in electrical engineering from the University of Illinois at Urbana-Champaign. He has worked as a Platform Architect at Intel, a Senior Staff Researcher in the Office of the Chief Scientist at Qualcomm, as a Senior Scientist at IBM Research, as a Vice President for New and Emerging Technologies R&D at Reliance Jio Platforms. He is an inventor on 70+

granted US patents and 70+ research publications. He is presently serving as the Director for the Center for Development of Telematics in Bangalore, India driving R&D related to 6G and advanced 5G networks, systems, and applications.



Focussed on developing and delivering national timing strategy and policy, Dr Leon Lobo is SRO & Head of the Timing (NTC) National Centre programme at the National Physical Laboratory (NPL), developing capability toward resiliency in timing for our expanding digital infrastructure. He led the development of NPLTime®, NPL's certified fibre-delivered time dissemination solution to the City of

London for high frequency trading systems and regulatory compliance. Dr Lobo convened and led a cross-government team developing the UK's first Timing Strategy and proposed the concept of the now developing National Timing Centre, recently embedded in UK PNT resilience policy as the source or 'heartbeat' of our critical national infrastructure.

Rahim Tafazolli's bio appears on page 7.



Toktam Mahmoodi is a Professor of Communication Engineering and Director of the Centre for Telecommunications Research (CTR) in King's College London. Toktam is vicechair of IEEE WICE and IEEE ComSoc Aerial Communication Emerging Tech initiative. Her research focuses on the areas of mobile and cloud networking, and includes network intelligence, edge

learning and networking, ultra-low latency networking, and network modelling and optimization. She has contributed to the ETSI, IETF and 3GPP standards, and has served on number of editorial boards, and the roles include the executive editor of Transactions on Emerging Telecommunications Technologies, series guest editor of JSAC series on network softwarization, area editor of IEEE Communications Standard Magazine, and editor of IEEE Communication Letters. Toktam served as technical committee chair and member of various IEEE ComSoc conferences.

Tuesday, 25 June 2024 14:00-15:30 Auditorium A Session 9: International Research Funding Agencies Panel

Panelists:	Abouzeid Alhussein	National Science Foundation (USA)
	Frédéric Pillot	Vinnova (Sweden)
	Janette Wark	EPSRC Head of Regional Engagement Scotland (UK)
	Tejas Patel	DARPA (USA)
	Pekka Rantala	Head of 6G Bridge Program, Business Finland (Finland)
Moderators:	Henrik Almeida	Ericsson (UK)
	Ellen Zegura	National Science Foundation (USA)
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Funding Agencies will discuss their roles and identify vehicles for international collaborations, encouraging cross national joint projects advancing 6G developments.



Dr. Alhussein Abouzeid is a Program Director in the Computer and Network Systems division, Computer and Information Science and Engineering directorate of the U.S. National Science Foundation. He is on leave from Rensselaer Polytechnic Institute, Troy, NY, where he is as a Professor of ECSE. He received his Ph.D. and M.S. degrees from University of Washington, Seattle,

in 2001 and 1999, respectively, and the B.S. degree from Cairo University, Cairo, Egypt, in 1993, all in electrical engineering. He helped create several NSF national and international research programs. His publications/awards are in the area of wireless networking and mobile computing.



Frédéric Pillot has over twenty-five years of international experience in the public and private sectors working as Manager and Engineer. For the last four years at Vinnova, he has led and managed funding programs for research and innovations within industrial development and international collaboration, mainly focusing on information and communication technologies, digital

transformation, and related societal challenges. Previously, he focused on business development processes and product solutions delivery projects to original equipment manufacturers and mobile network operators. Currently Frédéric is responsible for the 6G government assignment at Vinnova.



Dr Janette Wark is EPSRC Head of Regional Engagement for Scotland with responsibility for strengthening the EPSRC's relationships with local stakeholders including academic institutions, research and innovation organisations, local research-intensive industries, the Scottish Government and related bodies. Janette has over 25 years of experience in research and innovation

across Scotland, with a strong track record of building impactful collaborative research projects and partnerships with academia, civic partners and industry, including SMEs and global companies. Prior to this Janette completed her PhD in stochastic modelling of the River Clyde Catchment Area in 2000 whilst developing and commercialising a river mapping tool.



Mr. Tejas Patel joined DARPA as a program manager in August 2019 to develop, execute, and transition programs in cyberspace operations and other defense mission areas.

Prior to his position at DARPA, Patel served as a principal investigator for a DARPA I2O program. He also has served as a contractor supporting I2O's portfolio of cyber research and development (R&D) programs, as well as a software engineer in private industry focused on the automation of computer network operations. Patel's prior civil service includes over half a decade of experience in cyber operations, development, and planning within the Department of Defense.



Mr. Pekka Rantala is the Head of Business Finland's 6G Bridge Program. This 4-year national program started in January 2023 with a funding budget of 130 MEUR. The public launch event in February was greeted in-person by Mr. Thierry Breton, European Commissioner for Internal Market and Mr. Pekka Lundmark, CEO, Nokia. The 6G Bridge program focuses on ecosystem-driven

collaboration in research and innovation for 5GA/6G and building future business ecosystems in future connectivity. Pekka is also Business Finland's delegate for the European Space Agency's (ESA) Business Incubation Centre in Finland. Previously Pekka acted as National Contact Point for Horizon 2020/Horizon Europe (EU's crown jewel of funding programmes for research and innovation with budgets of \in 80/ \in 95.5 billion) in digital themes and clusters.



Dr. h.c. Henrik Almeida, Head of Ericsson Research UK, started working at Ericsson in 1990 and joined Ericsson Research in 1998, where he has held various research leader positions over the past 25 years. In 2010, he was awarded a technical honorary doctorate in Lund, for research in broadband access technologies. Initially leading the evolution of fixed broadband access

transceiver technologies, including GPON, VDSL2, and G.fast, which eventually led to the ITU-T standard G.9701. Later, into wireless access research, spearheading a new concept and architecture for Ericsson's indoor 'Radio Dot System' and contributing to advanced compression algorithms for the ORAN Low Layer Splits (LLS). In 2018, went on to secure, intelligent, and intent-based management solutions for Smart Industries (I4.0), while establishing a new Ericsson Research site in Istanbul. Since 2023, he started and is leading the new Ericsson Research.



Dr. Ellen Zegura is Regents and Fleming Chair Professor in the School of Computer Science at Georgia Tech. Since August 2023, she is on loan from Georgia Tech to the National Science Foundation serving as Division Director for Computer and Network Systems (CNS) within the Computer and Information Science and Engineering (CISE) Directorate. Her research interests lie in

computer networking, with an emphasis on mobile and wireless networks, and on ethics education in undergraduate computer science. She is a Fellow of the IEEE and a Fellow of the ACM.

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