

COMMISSION A

Microwave Sensing and Precision Metrology for Biomedical and Food Quality Applications

ILONA PIEKARZ (Senior Member, IEEE) received the M.Sc., Ph.D., and D.Sc. degrees in electrical engineering from AGH University of Science and Technology, Kraków, Poland, in 2013, 2018, and 2023, respectively. Her Ph.D. thesis, entitled “Analysis and Design of Differentially Fed Microwave Networks Composed of Coupled-Line Sections,” was defended with distinction and awarded first place in the 2019 National Competition for the Best Doctoral Thesis in Radiocommunication and Multimedia Techniques. Since 2011, she has been with the Microwave Technology and High-Frequency Electronics Research Group at the Institute of Electronics, AGH UST, where she has held the position of Associate Professor since 2023. In 2012, she was a visiting student at the Ilmenau University of Technology, Ilmenau, Germany. In 2017, she was a visiting researcher at Michigan State University, East Lansing, MI, USA. In 2019, she worked in the automotive industry as a systems engineer on ADAS mm-wave radar systems. In 2020–2021, she was a postdoctoral researcher at the University of Pavia, Pavia, Italy, where she also held short-term visiting positions in 2023 and 2025. In 2023, she was also a visiting postdoctoral researcher at the Autonomous University of Barcelona, Spain.

Her research interests focus on the development of microwave sensors and measurement systems based on transmission-line techniques, with applications in biomedical and agricultural domains. Her work involves both subtractive and additive fabrication technologies. She has co-authored nearly 100 publications in peer-reviewed journals and international conferences.

Prof. Piekarz is a member of the IEEE MTT-S Technical Committees MTT-4 and MTT-28. She also serves as Chair of URSI Poland Commission A. She has been a Technical Program Committee member for major conferences, including the European Microwave Conference (EuMC), International Microwave Symposium (IMS), and International Microwave and Radar Conference (MIKON). In addition, she serves as a reviewer for leading journals such as IEEE Transactions on Microwave Theory and Techniques, IEEE Sensors Journal, and IEEE Microwave and Wireless Technology Letters, among others.

ABSTRACT



ILONA PIEKARZ

AGH University of Krakow, Poland



COMMISSION B

Art and Challenges in Planar Antenna Design

Debatosh Guha is a Professor in Radio Physics and Electronics, University of Calcutta. He is a Fellow of IEEE and also a fellow of all four National Academies for Sciences and Engineering of his country. A former Abdul Kalam Technology Innovation National Fellow (2020–2025), he has also been awarded the prestigious J C Bose Grant by the Government of India in 2025. He has served IEEE Antennas and Propagation Society as a Distinguished Lecturer and Associate/Guest Editor for IEEE AP Transactions, IEEE AWP Letters, IEEE AP Magazine, and IEEE OJAP. He is the Chair of IEEE AP-S MGA standing committee and has been representing India in the URSI Commission B.

ABSTRACT



DEBATOSH GUHA

*Institute of Radio Physics and
Electronics, University of
Calcutta, India*

COMMISSION C

Polarimetric Weather Radar: Applications and Advances

Merhala Thurai is a research scientist at Colorado State University, USA. She received her BSc in Physics from Imperial College, London, in 1980 and her PhD from King's College, London, in 1985. She worked at Rutherford Appleton Laboratory, Oxon, UK, for 14 years, mostly on the evaluation of rain attenuation, rain scatter interference, and depolarization effects on earth-space and terrestrial systems. The work included the use of data from an S-band multi-parameter weather research radar for simulation studies as well as using radar data along operational links up to 30 GHz. She has been with Colorado State University (CSU) since 2004 primarily working on the effects of rain drop shapes and drop oscillations on polarimetric weather radar observations as well as characterization of rain drop size distributions. Her research also includes drop fall velocity distributions and their variation with turbulence parameters. Much of her work at CSU was done in collaboration with Professor V. N. Bringi. She co-edited the 3-volume book "Advances in Weather Radar" published by The IET in December-2023 (Editors: V.N. Bringi; Kumar Vijay Mishra; Merhala Thurai); Volume 1: Precipitation sensing platforms; Volume 2: Precipitation science, scattering and processing algorithms; Volume 3: Emerging applications.

ABSTRACT



MERHALA THURAI

*Colorado State University,
United States*

COMMISSION D

Wireless Power Transfer at Long Distances by Focusing Microwaves with Quasioptics

Ricardo A. M. Pereira graduated with a Ph.D. in Electrical Engineering from the University of Aveiro in 2025 and is currently a researcher at “Instituto de Telecomunicações”, Aveiro, Portugal. His main work is on wireless power transfer (WPT) at long distances, where he implemented a new approach to the beam propagation subsystem, increasing its efficiency through the theory of quasioptics. He authored and co-authored a book chapter on WPT, over 14 articles in renowned journals and 17 conference papers, giving him the opportunity to present his work at relevant international events. He proposed an original solar power satellite concept capable of supplying energy to the Moon, which won funding from ESA’s Call for Ideas 2021. His work has been recognized internationally by various awards.

Ricardo has been collaborating in several initiatives, having chaired the local IEEE MTT-s & AP-s student branch chapter, and contributing to the IEEE Wireless Power Transfer Initiative.



RICARDO PEREIRA

*Instituto de Telecomunicações,
Portugal*

ABSTRACT

COMMISSION E

The role of natural and artificial interference on modern radio instruments

Dr. Forte's interests are in the propagation of radio waves through ionospheric irregularities and their effects on satellite navigation systems. Over the years, these studies have focused on the measurement of ionospheric scintillation and of temporal fluctuations in Total Electron Content (TEC), the modelling of their impact on the receiver ability to track GNSS signals, the characterisation of their impact in GNSS positioning. Some of these studies were based on the combination of GNSS measurements with EISCAT incoherent scatter radars for the understanding and modelling of plasma density fluctuations inducing phase fluctuations in the auroral and polar ionospheres.

More recently, research interests expanded to include the modelling of radio wave scintillation as observed through modern radio telescopes, such as LOFAR, e-MERLIN, with regard to aspects such as the observation of different scattering regimes, the modelling of non-stationarity.

Dr. Forte contributes to various working groups, such as the SKAO Working Group on solar, heliospheric, and ionospheric physics, the ESA Space Weather Working Team. Dr Forte is the national representative for URSI UK.

ABSTRACT



BIAGIO FORTE

*University of Bath,
United Kingdom*



COMMISSION F

Channel Measurements and Models for THz Communications

Thomas Kürner (Fellow IEEE) received his Dipl.-Ing. degree in Electrical Engineering in 1990, and his Dr.-Ing. degree in 1993, both from University of Karlsruhe (Germany). From 1990 to 1994 he was with the Institut für Höchstfrequenztechnik und Elektronik (IHE) at the University of Karlsruhe working on wave propagation modelling, radio channel characterization and radio network planning. From 1994 to 2003, he was with the radio network planning department at the headquarters of the GSM 1800 and UMTS operator E-Plus Mobilfunk GmbH & Co KG, Düsseldorf, where he was team manager radio network planning support responsible for radio network planning tools, algorithms, processes and parameters from 1999 to 2003. Since 2003 he is Full University Professor for Mobile Radio Systems at the Technische Universität Braunschweig. In 2012 he was a guest lecturer at Dublin City University within the Telecommunications Graduate Initiative in Ireland. Currently he is chairing the IEEE 802.15 Standing Committee THz and the ETSI Industrial Specification Group THz. He was also the chair of IEEE 802.15.3d TG 100G, which developed the worldwide first wireless communications standard operating at 300 GHz. He is also the inaugural chair of the recently established IEEE AP/S TC Propagation. He was the project coordinator of the H2020-EU-Japan project ThoR (“TeraHertz end-to-end wireless systems supporting ultra-high data Rate applications”) and was Coordinator of the German DFG-Research Unit FOR 2863 Meteracom (“Metrology for THz Communications”). In 2019 and 2022 he received the Neal-Shephard Award of the IEEE Vehicular Technology Society (VTS) also in 2022 the Best Teacher Award of the European School on Antennas and Propagation (ESoA) in 2023 a publication prize of the German VDE-ITG and in 2026 the EurAAP Propagation Award.



THOMAS KÜRNER

*Technische Universität
Braunschweig, Germany*

ABSTRACT

COMMISSION G

Refraction versus Diffraction: A Multiscale Perspective on Ionospheric Scintillation

Luca Spogli holds an M.Sc. (2004) and a Ph.D. in Physics from Roma Tre University (Rome, Italy). He is a Senior Researcher at the Istituto Nazionale di Geofisica e Vulcanologia (INGV, Italy) and currently serve as the Head of the Upper Atmosphere Physics and Radiopropagation Unit. He is also serving as the President of the European Space Weather and Space Climate Association (E-SWAN). His research focuses on ionospheric physics and space weather, specifically the study and modelling of ionospheric irregularities and their impact on GNSS signal propagation.

ABSTRACT

 Kraków
Poland
August 15-22
URSI GASS 2026



LUCA SPOGLI

*Istituto Nazionale di Geofisica e
Vulcanologia, Rome, Italy*



COMMISSION H

Causes and consequences of temporal variability of wave-particle interactions in Earth's outer radiation belt

Prof. Watt graduated with an honours degree in Mathematics and Physics from the University of Aberdeen in 1998, before obtaining a PhD in space plasma physics from St Catharine's College, Cambridge in 2002, based on her work at the British Antarctic Survey. Moving to University of Alberta in Canada, she focussed on numerical modelling of auroral electrons. In 2013 she returned to the UK as a lecturer in Space Physics at the University of Reading, focussing on modelling of the Earth's radiation belts. Watt moved to Northumbria University in 2020, to take up the role of Professor of Space Physics.

Prof. Watt's primary research interest is kinetic plasma physics, particularly as applied to space environments. Her focus is on numerical modelling of wave-particle interactions which are central to the energisation or scattering of electrons in both the Earth's auroral regions and the radiation belts. She won the European Geosciences Union "Young Talent in Geosciences" Award in 2005, and the Royal Astronomical Society thesis award in 2002. She served as co-Chair and Chair of Division III (Magnetospheres) of the International Association of Geomagnetism and Aeronomy (IAGA, 2015-2019) and was the plasma physics expert on ESA's Physical Science Working Group for the Directorate of Human and Robotic Exploration (2019-2023). Elected vice-president of the Royal Astronomical Society in 2022, she also serves on the editorial boards of 'Scientific Reports' and 'RAS Techniques and Instruments' (since 2021).



CLARE WATT

***School of Engineering, Physics
and Mathematics, Northumbria
University, United Kingdom***

ABSTRACT

COMMISSION J

LOFAR: From Concept to Continental Observatory

Michiel van Haarlem is Executive Director of LOFAR ERIC (the Low Frequency Array European Research Infrastructure Consortium), a leading pan-European distributed radio astronomy facility. Appointed in August 2024, he is responsible for the overall leadership and strategic direction of LOFAR ERIC, representing the organisation to its stakeholders, ensuring the efficient joint operation of the LOFAR facilities across Europe, and currently overseeing the delivery of the ongoing LOFAR 2.0 upgrade.

He has played a central role in the development of both LOFAR and the Square Kilometre Array (SKA) since the mid-1990s. Within LOFAR, he progressed from Project Scientist to Managing Director of the LOFAR Foundation, where he was responsible for the construction of the telescope and the establishment of its international collaboration.

Dr. van Haarlem has also made major contributions to the SKA at strategic and organisational levels. He served as the first Director General of the SKA Organisation (2011–2012), guiding the project through a critical phase including organisational formation and the site selection process. He subsequently led the Netherlands' participation in the SKA until mid-2024 and has been closely involved in SKA governance and policy development.

A key focus of his work has been addressing the data and computing challenges of next-generation radio astronomy. He has played a leading role in the development of the SKA Regional Centre network, and many of the strategic issues identified there now directly inform the challenges posed by LOFAR 2.0 in areas such as data processing, storage, and accessibility.

Throughout his career, he has combined scientific expertise with extensive experience in project management, international collaboration, and research infrastructure leadership, helping to shape the evolution of large-scale radio astronomy facilities in Europe and beyond.



**MICHEL VAN
HAARLEM**

LOFAR ERIC, Netherlands

ABSTRACT

COMMISSION K

Single-cell Dielectrophoresis and Dielectric Spectroscopy

Dr. Elham Salimi received her Ph.D. in Electrical and Computer Engineering from the University of Manitoba in 2017. She is currently an Associate Professor and Principal Investigator of the Biosensors Research Laboratory in the Department of Electrical and Computer Engineering at the University of Manitoba.

Dr. Salimi's research lies at the intersection of microfluidics, biosensors, and electromagnetics, with a focus on microfluidic-based sensing technologies for single-cell analysis in medical and biopharmaceutical applications, as well as dielectric characterization and modeling of biological systems. Her work has been supported by the Natural Sciences and Engineering Research Council of Canada (NSERC), the Canada Biomedical Research Fund (CBRF), and the Canada Foundation for Innovation (CFI). Her research has been published in leading journals, including Lab on a Chip, Biotechnology and Bioengineering, and IEEE Transactions on Microwave Theory and Techniques. In recognition of her contributions, she has received several honors and awards, including the URSI Young Scientist Award and the James M. Flaherty Research Scholarship.

Dr. Salimi currently serves as Chair of Commission K (Electromagnetics in Biology and Medicine) of the Canadian National Committee of URSI. Her research aims to advance electrical and microfluidic sensing technologies that enable improved understanding, characterization, and monitoring of biological systems at the cellular level.



ELHAM SALIMI

University of Manitoba, Canada

ABSTRACT