

STARTING 2023

Happy New Year! *IEEE Wireless Communications* continues to strive for excellence in the field of wireless communications. In 2022, it achieved the highest bibliometric level because of its inauguration with an impact factor of 12.777, Eigenfactor of 0.01708, article influence score of 3.063, and CiteScore of 22. Kudos to our readers, authors, reviewers, editors, and the publication staff! In 2022, we published a total of 114 articles, of which 51 were derived from nine special issues (SI) and feature topics, covering topics in network slicing, 6G, enhanced fronthaul, security, protocols and algorithms, blockchain, emergency communications, artificial intelligence, and coexistence of drone and terrestrial networks. Thanks to our column editors, we were able to enlighten readers via column articles in Spectrum Policy and Regulatory Issues, Industry Perspectives, Book Reviews, and Scanning the Literature.

In the first issue of 2023, we are pleased to present two timely feature topics: a collection of six articles in “Integrated Sensing and Communications for 6G,” organized by guest editors C. Masouros, J. A. Zhang, F. Liu, L. Zheng, H. Wymeersch, and M. Di Renzo and a collection of seven articles in “AI-Powered Telco Network Automation: 5G Evolution and 6G,” organized by guest editors Y. Xin, K. Yang, C.-L. I, S. Shamsunder, X. Lin, and L. Lai. Both guest editorial teams did an excellent job in organizing these feature topics via a rigorous selection process. Please refer to the guest editorials and individual articles for more details.

We are also able to include seven articles from open call, including topics such as reconfigurable intelligent surfaces (RIS) (also known as intelligent reflecting surfaces (IRS)) and semantic communications to AI-enabled communications. The first article, “Interplay Between Reconfigurable Intelligent Surfaces and Spatial Modulation: New Application Paradigms,” by Q. Li *et al.*, explores several communications scenarios by leveraging RIS and spatial modulation to enhance spectral efficiency and energy efficiency. The second article, “Secure Beamforming for IRS-Enhanced NOMA Networks,” by W. Wang *et al.*, hardens non-orthogonal multiple access (NOMA) networks against eavesdropping by leveraging IRS. The third article, “Terahertz-Band Non-Orthogonal Multiple Access: System- and Link-Level Considerations,” by A. Magbool *et al.*, investigates the prospects and challenges of leveraging wider bandwidths at higher frequencies, particularly in the terahertz (THz) band, for NOMA communications from both the system level and link level.

Driven by the vision of “intelligent connection of everything” toward 6G, P. Zhang *et al.* In the fourth article, “Toward Intelligent and Efficient 6G Networks: JCSC Enabled On-purpose Machine Communications,” it proposes an on-purpose machine communication framework enabled by joint communication, sensing, and computation (JCSC) technology, which employs machine semantics as the interactive information flow. In the fifth article, “Rethinking Modern



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Communication from Semantic Coding to Semantic Communication,” K. Lu *et al.* advocates a new semantics-aware communication framework by incorporating both semantic encoding and semantic communication.

The resurgence of artificial intelligence (AI) has permeated all fields. *IEEE Wireless Communications* has likewise received many submissions on this topic for SIs as well as from open call. In the sixth article, “Ubiquitous Control Over Heterogeneous Vehicles: A Digital Twin Empowered Edge AI Approach,” B. Fan *et al.* proposes a digital twin empowered AI framework to realize ubiquitous control over heterogeneous vehicles with different automation levels; they also highlight future research directions. In the seventh article, “Leveraging Deep Neural Networks for Massive MIMO Data Detection,” L. Nguyen *et al.* provides insights into how deep neural networks can be leveraged to provision efficient massive multiple-input multiple-output (MIMO) signal detection.

I hope you enjoy reading these articles as well as other column articles.

Last but not least, on behalf of *IEEE Wireless Communications*, I would like to express our deep appreciation for Dr. Michael Marcus for generously offering his expertise, time, and effort in enriching our readers on Spectrum Policy and Regulatory Issues for more than a decade. Dr. Marcus expressed his desire to resign from this column editor role when I assumed the Editor-in-Chief last July. It was indeed a great challenge to find someone to fill such big shoes. However, I am delighted to announce that Professor Monisha Ghosh has graciously accepted my invitation to fill in the role of column editor on Spectrum Policy and Regulatory Issues. Below please find Professor Ghosh’s brief bio, and I am confident you would agree with our choice.

BIOGRAPHY

NIRWAN ANSARI [S’78, M’83, SM’94, F’09], Distinguished Professor of Electrical and Computer Engineering at the New Jersey Institute of Technology (NJIT), received his Ph.D. from Purdue University, his M.S.E.E. from the University of Michigan, and his B.S.E.E. (summa cum laude with a perfect GPA) from NJIT. He is also a Fellow of the National Academy of Inventors. He has published three books and (co-)authored 700 technical publications, over half published in widely cited journals/magazines. He has guest edited a number of Special Issues covering various emerging topics in communications and networking. He is the Editor-in-Chief of *IEEE Wireless Communications* and has served on the Editorial/Advisory Boards of over 10 journals. His current research focuses on green communications and networking, cloud computing, drone-assisted networking, and various aspects of broadband networks. He was elected to serve on the IEEE Communications Society (ComSoc) Board of Governors as a Member-at-Large, has chaired some ComSoc Technical and Steering Committees, is currently the Director of ComSoc’s Educational Services Board. He has served on many committees, such as the IEEE Fellow Committee, and has actively organized numerous IEEE international conferences/symposia/workshops. Some of his recognitions include several excellence in teaching awards, a few best paper awards, the NCE Excellence in Research Award, several ComSoc Technical Committee technical recognition awards, the NJ Inventors Hall of Fame Inventor of the Year Award, the Thomas Alva Edison Patent Award, the Purdue University Outstanding Electrical and Computer Engineering Award, the NCE 100 Medal, the NJIT Excellence in Research Prize and Medal, and designation as a ComSoc Distinguished Lecturer. He has also been granted more than 40 U.S. patents.

WELCOME MONISHA GHOSH



Monisha Ghosh [F] 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 (<https://www.spectrumx.org/>), the first NSF Center for Spectrum Innovation, and the co-chair of the FCC’s Technological Advisory Council (TAC) Working Group on Advanced Spectrum Sharing. Her research interests are in the development of next generation wireless systems:

cellular, Wi-Fi and IoT, with an emphasis on spectrum sharing, coexistence, and applications of machine learning to improve network performance. Prior to joining the University of Notre Dame in 2022, she was the Chief Technology Officer at the Federal Communications Commission, a Program Director at the National Science Foundation, Research Professor at the University of Chicago, and spent 24 years in industry research at Bell Labs, Philips Research and Interdigital working on a wide variety of wireless systems: HDTV, Wi-Fi, TV white spaces, and cellular. She obtained her B.Tech from IIT Kharagpur in 1986 and Ph.D. from USC in 1991.