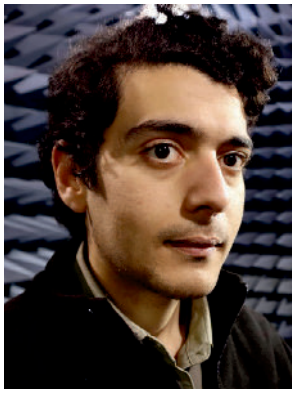
IEEE Journal of Microwaves Best Paper Award

Recognizes, on an annual basis, the most significant contribution in a paper published in the IEEE Journal of Microwaves.

Mohmoud Wagih, Leonardo Balocchi, Francesca Benassi, Nuno Borges Carvalho, Jung-Chih Chiao, Ricardo Correira, Alessandra Costanzo, Yepu Cui, Dimitra Georgiadou, Carolina Gouveia, Jasmin Grosinger, John S. Ho, Kexin Hu, Abidun Komolafe, Sam Lemey, Caroline Loss, Gaetano Marrocco, Paul Mitcheson, Valentina Palazzi, Nicoletta Panunzio, Giacomo Paolini, Pedro Pinho, Josef Preishuber- Pflügl, Yasser Qaragoez, Hamed Rahmani, Hendrik Rogier, Jose Romero Lopera, Luca Roselli, Dominique Schreurs, Manos Tentzeris, Xi Tian, Russel Torah, Ricardo Torres, Patrick van Torre, Dieff Vital and Steve Beeby — "Microwave-Enabled Wearables: Underpinning Technologies, Integration Platforms, and Next-Generation Roadmap," *IEEE Journal of Microwaves*, vol. 3, no. 1, pp. 193-226, January 2023



Mahmoud Wagih

Mahmoud Wagih received his B.Eng. (Hons.) in September 2018, and his award-winning Ph.D. on rectenna design in April 2021, both in Electrical and Electronic Engineering from the University of Southampton. He is currently at the University of Glasgow leading the Green RF-Enabled Electronics Lab. He has published 120 journal and conference publications and 3 patents, and has been principal/co-investigator on over £15M research projects. He is also the Founder and Director of RX WaTT Ltd. a wireless power spin-off company.

Dr. Wagih is a Member of and a Speakers' Bureau speaker for the IEEE Microwave Theory & Techniques Technical Committees TC-26, RFID, IoT, and Wireless Sensors. He received 20+ awards including multiple IEEE Best Paper/Presentation (IMS, WPTC,PowerMEMSx2), the EurAAP Per-Simon Kildal Best PhD in Europe in Antennas and Propagation, 2 URSI Young Scientist Award and was listed in Forbes 30 Under 30. He is a Topic Editor for the IEEE Journal of Microwaves, and an Associate Editor for Royal Society Open Science.

IEEE Journal of Microwaves Best Paper Award

– CONTINUED –

Francesca Benassi

Francesca Benassi (Member, IEEE) received the Ph.D. degree (cum laude) in Electronics, Telecommunications and Information Technologies Engineering from the University of Bologna, Bologna, Italy, in 2022. She is currently working as junior assistant professor at the Department of Electrical, Electronic and Information Engineering (DEI) “Guglielmo Marconi.” Her main research interests involve the design of wearable rectennas for Wireless Power Transfer applications both at microwave and at millimeter waves. Dr. Benassi has been awarded with the MTT-S Graduate Fellowship Award and the EuMA Internship Award in 2021.

Nuno Borges Carvalho

Nuno Borges Carvalho (S’97–M’00–SM’05-F’15) was born in Luanda, Angola, in 1972. He received his Diploma and Doctoral degrees in electronics and telecommunications engineering from the University of Aveiro, Aveiro, Portugal, in 1995 and 2000, respectively.

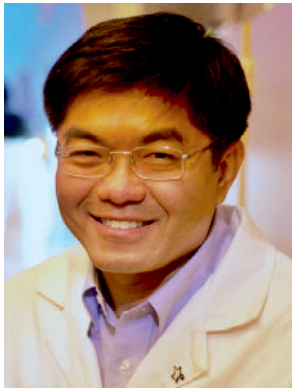
He is currently a Full Professor and a Senior Research Scientist with the Institute of Telecommunications, University of Aveiro, the director of the Department of Electronics, Telecommunications and Informatics at UA, and an IEEE Fellow. He coauthored Intermodulation in Microwave and Wireless Circuits (Artech House, 2003), Microwave and Wireless Measurement Techniques (Cambridge University Press, 2013), White Space Communication Technologies (Cambridge University Press, 2014) and Wireless Power Transmission for Sustainable Electronics (Wiley, 2020). He has been a reviewer and author of over 400 papers in magazines and conferences. He is the Editor in Chief of the Cambridge Wireless Power Transfer Journal, an associate editor of the IEEE Microwave Magazine, and former associate editor of the IEEE Transactions on Microwave Theory and Techniques and IET Microwaves Antennas and Propagation Journal.

He is the co-inventor of six patents. His main research interests include software-defined radio front-ends, backscatter

communications, wireless power transmission, nonlinear distortion analysis, and measurements in microwave/wireless circuits and systems. He has been involved in the design of dedicated radios and systems for newly emerging wireless technologies.

Dr. Borges Carvalho is a member of the IEEE MTT ADCOM, the past chair of the IEEE Portuguese Section, TC-20 and TC-11, and also belongs to the technical committees, TC-25 and TC-26. He is also the Chair of the URSI Commission A (Metrology Group). He was the recipient of the 1995 University of Aveiro and the Portuguese Engineering Association Prize for the best 1995 student at the University of Aveiro, the 1998 Student Paper Competition (Third Place) of the IEEE Microwave Theory and Techniques Society (IEEE MTT-S) International Microwave Symposium (IMS), and the 2000 IEE Measurement Prize.

He is a Distinguished Lecturer for the RFID Council and was a previous Distinguished Microwave Lecturer for the IEEE Microwave Theory and Techniques Society. In 2023 he was the IEEE-MTT President.



Jung-Chih Chiao

J.-C. CHIAO (M'04-SM'11-F'20) received his B.S. degree in the Electrical Engineering Department, National Taiwan University, M.S. and Ph.D. degrees in Electrical Engineering at California Institute of Technology. He was a Research Scientist in the Optical Networking Systems and Testbeds Group at Bell Communications Research; Assistant Professor of Electrical Engineering at University of Hawaii, Manoa; and Product Line Manager and Senior Technology Advisor with Chorum Technologies. Dr. Chiao was Janet and Mike Greene endowed Professor and Jenkins Garrett Professor of Electrical Engineering at the University of Texas – Arlington from 2002 to 2018. He is currently Mary and Richard Templeton Centennial Chair professor in Electrical and Computer Engineering at Southern Methodist University (SMU).

Dr. Chiao has been the chair of several international conferences including 2018 IEEE International Microwave Biomedical Conference (IMBioC), 2022 IEEE Sensors Conference, and 2024 IEEE Internet of Things Summit; and the technical program chair of 2019 IEEE International Wireless Symposium and 2021 IEEE Wireless Power Transfer Conference. He

IEEE Journal of Microwaves Best Paper Award

– CONTINUED –

was the chair of the IEEE MTT-S Technical Committee 10 “Biological Effect and Medical Applications of RF and Microwave”, and associate editor for IEEE Transactions on Microwave Theory and Techniques. He was the founding Editor-in-Chief for the IEEE Journal of Electromagnetics, RF, and Microwaves in Medicine and Biology. Currently, he is with the Editorial Board of IEEE Access, and Track Editor for IEEE Journal of Microwaves and IEEE Journal of Selected Areas in Sensors. Dr. Chiao has published and edited numerous peer-reviewed technical journal and conference papers, book chapters, proceedings and books. He holds 24 U.S. patents. His research works have been covered by media extensively including Forbes, National Geographic magazine, National Public Radio and CBS Henry Ford Innovation Nation.

Dr. Chiao was the recipient of Lockheed Martin Aeronautics Company Excellence in Engineering Teaching Award; Tech Titans Technology Innovator Award; Research in Medicine award in the Heroes of Healthcare; IEEE Region 5 Outstanding Engineering Educator award; IEEE Region 5 Excellent Performance award; IEEE MTT Distinguished Microwave Lecturer; IEEE Sensors Council Distinguished Lecturer; Pan Wen-Yuan Foundation Excellence in Research Award; and the Edith and Peter O’Donnell Award in Engineering by The Academy of Medicine, Engineering and Science of Texas. Dr. Chiao is a Fellow of IET, SPIE, IEEE, AIMBE and NAI.

Ricardo Correia

Ricardo Correia obtained his M.Sc. degree in Electronics and Telecommunications Engineering and the PhD in Electrical Engineering at University of Aveiro in 2009 and 2019, respectively. He worked during almost five years as R&D Project Coordinator and also RF engineer on satellite communications at Sinuta SA. - Estarreja, Aveiro. Currently he is a researcher at STAR Institute and Professor at Instituto Politécnico de Viseu of embedded systems and computer architecture systems. His research interests include Industrial Internet of Things, embedded systems, wireless power transfer, energy harvesting, wireless passive sensors, low power communications, artificial intelligence applied in the industry. He is also senior collaborating researcher at the Radio Systems Group of Instituto de Telecomunicações (IT) de Aveiro and collaborating researcher at Centro de Investigação em Serviços Digitais (CISeD) of Instituto Politécnico de Viseu.

IEEE Journal of Microwaves Best Paper Award

– CONTINUED –

Alessandra Costanzo

Alessandra Costanzo is a Full Professor at the University of Bologna and an IEEE Fellow, recognized for her work in nonlinear electromagnetic co-design for RF and microwave circuits. Her research spans RF front-end design, active antenna systems, energy-autonomous wireless systems, RF energy harvesting, and wireless power transmission. She holds three international patents and has published over 300 peer-reviewed papers. Prof. Costanzo co-founded the EU COST Action IC1301 WiPE, chaired major conferences including EuMC 2022 and IMBioC 2024, and has held leadership roles within the IEEE. She serves on the Boards of Rai Way S.p.A. and EuMA.

Carolina Gouveia

Carolina Gouveia received her BSc degree in Health Equipment Technologies, in 2011, from the Polytechnical Institute of Leiria, Portugal. Thereafter, she received her MSc degree in Electronics and Telecommunication Engineering, in 2017, from the University of Aveiro, Portugal. In 2023, she obtained her PhD in Electrical Engineering at the University of Aveiro, Portugal, focused on non-contact vital signs acquisition using radar systems. Her research work led to fifteen journal articles, twelve conference papers, and eight awards. Currently, she is a researcher and project leader at Colab AlmaScience, with research focus on radio-frequency systems applied to sustainable materials and signal processing.

IEEE Journal of Microwaves Best Paper Award

– CONTINUED –

Jasmin Grosinger

Jasmin Grosinger is an Associate Professor at the Institute of Microwave and Photonic Engineering at Graz University of Technology in Austria, where her research focuses on sustainable wireless electronics and radio-frequency systems. From 2023 to 2025, she served as a Visiting Associate Professor at the Graduate School of Engineering, Tohoku University, Japan. As a senior member of IEEE, Jasmin has co-authored numerous peer-reviewed publications, book chapters, and invention disclosures. For her PhD work, she received the first prize from the Jubilee Foundation of the Industrial Union of the Austrian Automotive Industry. In 2021, she was honored with the Mind the Gap— Diversity Award from the Graz University of Technology. From 2019 to 2024, she served as Associate Editor for IEEE Microwave and Technology Letters and is currently the inaugural Editor-in-Chief of the IEEE Journal on Wireless Power Technologies. Jasmin is an active member of the IEEE Microwave Theory and Technology Society (MTT-S), where she contributes to Technical Committees 25 (Wireless Power Transfer and Energy Conversion) and 26 (RFID, Wireless Sensors, and IoT). Recognized as a Distinguished Microwave Lecturer by MTT-S, she is also an Elected Voting Member of its Administrative Committee, chairing the Meetings and Symposia Committee since 2024.

Caroline Loss

Dr. Loss is an Assistant Professor at the Arts Department at UBI, where she teaches across the 3 Cycles of Studies in Fashion Design. Currently, she is a Course Director of the Masters in Branding and Fashion Design. As a Researcher at the CIAUD.UBI and AEROG-LAETA, her focus includes the Intersections of Fashion Design and Technology, encompassing wearable technology, smart and functional clothing with embedded electronic systems, and Digital Manufacturing methods. She has authored/co-authored 4 book chapters and over 40 papers for international journals and conferences. In recognition of her research work, she received 4 international distinctions, including the Techtextil Innovation Award.

IEEE Journal of Microwaves Best Paper Award

– CONTINUED –

Gaetano Marrocco

Gaetano Marrocco is Full Professor of Electromagnetics Engineering at the University of Roma Tor Vergata.

Since 2002, he has been a pioneer in Radiofrequency Identification and Sensing. His current research focuses on wireless-activated sensors, Wearable and Epidermal Electronics, antennas for sensorized skins, smart prostheses, finger augmentation devices for Tactile Internet, physical security, graphene and emerging materials.

He currently serves as track Editor of the IEEE Journal of Flexible Electronics and chair of the Italian Section of URSI Commission D Electronics and Photonics. He was the general co-chair of the 2024 IEEE FLEPS in Tampere.

He is co-founder and president of the University spin-off RADIO6ENSE involved in short-range electromagnetic sensing for Industrial Internet of Things, Smart Manufacturing, Automotive, and Digital Health.

He is listed in the PLOS 2023 ranking of the Top 2 % Scientists Worldwide.

Valentina Palazzi

Valentina Palazzi is an Assistant professor at the Department of Engineering, University of Perugia, Perugia, Italy.

She has co-authored more than 90 articles, and holds 3 patents. Her research interests include wireless sensors, radar front ends, wireless power transfer technologies, beamforming networks, additive manufacturing processes, and conformal electronics.

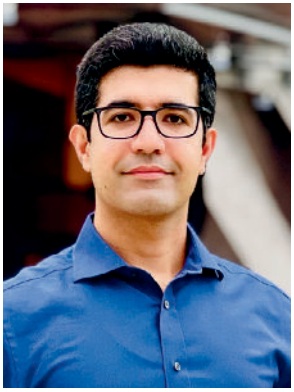
Dr. Palazzi is an elected member of the IEEE MTT-S Administrative Committee. She is the past chair (term 2022-2023) of the IEEE MTT-S Technical Committee- 26 “RFID, Wireless Sensor and IoT”, and Early Career Representative of the URSI Commission D “Electronics and Photonics”.

IEEE Journal of Microwaves Best Paper Award

– CONTINUED –

Giacomo Paolini

Giacomo Paolini received the M.Sc. Degree in Biomedical Engineering and the Ph.D. Degree in Electronics, Telecommunications, and Information Technologies Engineering from the University of Bologna, Italy, in 2016 and 2021, respectively. He joined the Interdepartmental Center for Industrial ICT Research of the University of Bologna as a research fellow in 2016. He is currently working as assistant professor at the Department of Electrical, Electronic and Information Engineering of the University of Bologna. His research interests include microwave radar systems for biomedical applications, indoor positioning exploiting RFID technologies, far-field wireless power transfer, and simultaneous wireless information and power transfer systems.



Hamed Rahmani

Hamed Rahmani is an Assistant Professor of Electrical and Computer Engineering at New York University (NYU). He received a Ph.D. degree from the University of California Los Angeles (UCLA), an M.Sc. degree from Rice University, Houston, TX, and a B.Sc. degree from Sharif University of Technology, Tehran, Iran, all in Electrical and Computer Engineering.

Before joining NYU, he held multiple industry and research positions. As a research scientist, he worked with IBM T. J. Watson Research Center in Yorktown Heights on high-speed electrical/optical interconnects. He was an Adjunct Professor at Columbia University in New York, NY, and a visiting lecturer at Princeton University, where he offered graduate-level courses in analog and RF circuit design. He was also a senior RFIC design engineer at Qualcomm Inc., where he focused on advanced 5G transmitters for cellular applications and RF front-end designs.

He is also the recipient of several prestigious awards and fellowships including the IEEE MTT-S Graduate Fellowship for medical applications and the Texas Instruments Distinguished Fellowship. He has been a member of the Custome

IEEE Journal of Microwaves Best Paper Award

– CONTINUED –

Integrated Circuits Conference (CICC) Technical Program Committee (TPC) since 2024 and the International Microwave Symposium (IMS) since 2021. Also, he is a member of “MTT-26: RFID, Wireless Sensors and IoT” and an affiliate member of ”MTT-25: wireless power transfer and energy conversion” technical committees of the IEEE Microwave Theory and Techniques Society.

Hendrik Rogier

Hendrik Rogier (SM’06) received the M.Sc. and Ph.D. degrees in electrical engineering from Ghent University, Ghent, Belgium, in 1994 and 1999, respectively. From 2003 to 2004, he was a Visiting Scientist with the Mobile Communications Group, Vienna University of Technology, Vienna, Austria. He is currently a Senior Full Professor with the Department of Information Technology, Ghent University and a Guest Professor with the Interuniversity Microelectronics Centre, Ghent. He has authored or co-authored over 210 papers in international journals and over 240 contributions in conference proceedings. His current research interests include antenna systems, radio wave propagation, body-centric communication, numerical electromagnetics, electromagnetic compatibility, and power/signal integrity.

Dr. Rogier is a member of the MTT TC-26 RFID, Wireless Sensor and IoT Committee, of AP-S TC-11 Health & Medicine, and he acts as the URSI Commission B representative for Belgium. From 2017 until 2019, he was an Associate Editor of IEEE Transactions on Microwave Theory and Techniques. Currently, he is an Associate Editor of IET Electronics Letters and of IET Microwaves, Antennas and Propagation.

IEEE Journal of Microwaves Best Paper Award

– CONTINUED –

Dominique Schreurs

Dominique Schreurs (Fellow, IEEE) received the M.Sc. and Ph.D. degrees in electronic engineering from KU Leuven, Belgium, where she is now a Full Professor. Her research interests include microwave/mmwave characterization and modeling of transistors, nonlinear circuits, and biological liquid samples, next to design for wireless power technologies and microwave biomedical applications.

Prof. Schreurs served as President of the IEEE Microwave Theory and Techniques Society (2018-2019). She was an Editor-in-Chief of the IEEE Transactions on Microwave Theory and Techniques, and also an MTT-S Distinguished Microwave Lecturer. She is a former President of the ARFTG organization and organizer of multiple ARFTG conferences.

Manos Tentzeris

Professor Manos Tentzeris is currently Ed and Pat Joy Chair Professor. From 2016-2023, he served as Ken Byers Professor in the area of flexible electronics with the School of ECE, Georgia Tech and he has published more than 850 papers in refereed Journals and Conference Proceedings, 5 books and 25 book chapters. He is a Fellow of IEEE and a Fellow of the Electromagnetics Academy. He has been the Founder and the inaugural Chair of multiple IEEE Technical Committees. He is one of the IEEE EPS Distinguished Lecturers and he has served as an IEEE CRFID Distinguished Lecturer and as an IEEE MTT-Distinguished Microwave Lecturers (DML).

IEEE Journal of Microwaves Best Paper Award

– CONTINUED –

Ricardo Torres

Ricardo Torres obtained his Master's degree in Electronics and Telecommunications Engineering from the University of Aveiro, Portugal, in 2020, where he is currently pursuing a Ph.D. in the same field. His research focuses on the design, simulation, and testing of radio frequency electronic circuits, with particular emphasis on low-cost and low-power communication systems, complemented by Software Defined Radio technologies.

He was a researcher at the Instituto de Telecomunicações and, since 2023, has been part of the research team at AlmaScience. There, he develops radio frequency and electronic applications on sustainable materials, as well as innovative communication systems. His work has been particularly dedicated to the design, simulation, and implementation of RFID systems using sustainable materials, as well as other electronic circuits and communication technologies.

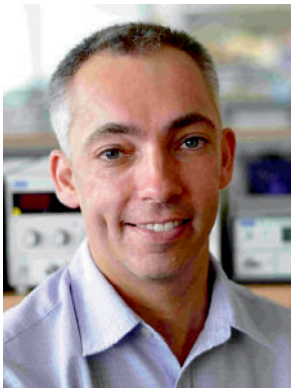
He has received several international awards, including the Outstanding Student Design Demonstrator Award at WPTCE 2024, the Best Paper Award from the IEEE Journal of Microwaves 2023, and the prestigious 2025 IEEE Journal of Microwaves Best Paper Award, granted by the IEEE Microwave Theory and Technology Society (MTT-S)

Dieff Vital

Dr. Dieff Vital is an Assistant Professor of Electrical and Computer Engineering at the University of Illinois Chicago (UIC). He specializes in textile-based RF systems, wireless power transfer, and smart dressing solutions. His research includes developing smart bandages for wound tracking and wearables for wireless power harvesting. Dr. Vital earned his Ph.D. from Florida International University in 2021, securing multiple patents in RF wearable technologies. Recognized with awards like the McKnight Dissertation Fellowship and IEEE RFID-TA Best Paper Award. His work advances IoMT and sustainable wearable healthcare technologies.

IEEE Journal of Microwaves Best Paper Award

– CONTINUED –



Stephen Beeby

Stephen P. Beeby (Fellow, IEEE) received the B.Eng. (Hons.) degree in mechanical engineering from the University of Portsmouth in 1992 and the Ph.D. from the University of Southampton in 1998.

He is currently the Director of the Centre for Flexible Electronics and E-Textiles, University of Southampton. He is a cofounder of Perpetuum, Ltd., Smart Fabric Inks, Ltd., and D4 Technology, Ltd. His current research interests include energy harvesting, e-textiles, and the use of energy harvesting in wearable applications. He was the recipient of two EPSRC Research Fellowships to investigate the combination of screen-printed active materials with micromachined structures and textiles for energy harvesting. He has most recently been awarded a prestigious RAEng Chair in Emerging Technologies in E-textile Engineering.

Prof. Beeby is a Fellow of the Institute of Engineering and Technology, a Fellow of the Institute of Physics, a Chartered Engineer and a Chartered Physicist.

L. Balocchi, Y. Cui, D. Georgiadou, J.S. Ho, K. Hu, A. Komolafe, S. Lemey, P. Mitcheson, N. Panunzio, P. Pinho, J. Preishuber-Pflügl, Y. Qaragoez, J. Romero Lopera, L. Roselli, X. Tian, R. Torahs, P. van Torre

No photo or bio available at time of publication.