9th IEEE RADIO International Conference
Hilton Resort & Spa, Flic-en-Flac, Mauritius
27th to 30th October 2025

VIKASS MONEBHURRUN

General Chair

Welcomes you to IEEE RADIO 2025 in Mauritius!


















Invited Session on Monday 27th October 2025:

Current Waves in IEEE AP-S

IEEE AP-S
Antennas and Propagation Society

IEEE

Advancing Technology for Humanity

IEEE AP-S COPE & SIGHT Event
Tuesday 28th October 2025
16H00-18H00

Engaging the IEEE AP-S members in humanitarian and STEM activities

IEEE AP-S

Antennas and Propagation Society

Tutorial

Wednesday 29th October 2025

16H00-18H00

Eric Mokole

Naval Research Lab

Retired

A Brief Incomplete History of Radar

IEEE AP-S

Antennas and Propagation Society

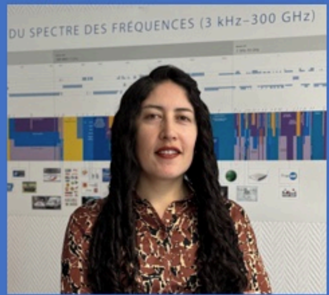
ICTA
INFORMATION & COMMUNICATION TECHNOLOGIES AUTHORITY

Sponsored by:
Information and Communication Technologies Authority of Mauritius

Workshop

Thursday 30th October 2025 13H00-16H00

Paolo de Matthaeis
IEEE GRSS FARS TC
Past Chair



Andrea Mora
CEPT
FM61 Chair

Guido R. Hiertz
Ericsson
Principal Researcher

Eric Mokole
Naval Research Lab
Retired

Johan Havenga
SARAO
RFI Engineer

RFI & Spectrum Sharing

IEEE AP-S
Antennas and Propagation Society

IEEE GRSS
Geoscience and Remote Sensing Society

Organized by:
IEEE Antennas & Propagation Standards Committee
IEEE GRSS Frequency Allocations in Remote Sensing TC

Monday 27/10/2025
08:00 – 09:00 Registration
09:00 – 09:30 Opening Ceremony
09:30 – 10:00 Coffee Break
10:00 – 12:00 Invited - Current Waves in IEEE AP-S (Antennas for Next-Generation Wireless Systems (5G/6G))
Co-Chairs: Prof. Christophe Fumeaux and Dr. C. J. Reddy
1. (836) From modes to beams: Hemispherical coverage with a single multi-port antenna : Christophe Fumeaux
2. (744) Ultra-Wideband Tightly-Coupled Phased Array Antennas for 6G Wireless Networks: State-of-the-art Development and Future Challenges : Steven Gao
3. (807) Inverse Design of Metasurface Antennas : Stefano Maci
4. (781) Beam Steering Antennas using Risley Prisms at San Diego State University: An Overview : Satish Sharma
5. (813) Enabling Next Generation Wireless Communication through mm-Wave Reconfigurable Intelligent Surface : Atif Shamim
6. (784) Absorptive and Highly Selective Band-Pass Polarization-Selective Surface : Zhongxiang Shen
12:00 – 13:00 LUNCH
13:00 – 15:20 Invited - Current Waves in IEEE AP-S (Advanced Computational Methods in Electromagnetics)
Co-Chairs: Prof. Christophe Fumeaux and Dr. C. J. Reddy
1. (762) Study of the Brain Tissue Ohmic Losses and Specific Absorption Rate in an Inductive Wireless Power Transfer System : Sima Noghanian
2. (816) Adjoint-Based Error Estimation, Adaptive hp-Refinement, and Uncertainty Quantification for Numerical Methods in Electromagnetics : Branislav Notaros
3. (801) Bayesian Neural Network-Based Uncertainty Quantification Algorithm for Specific Absorption Rate Calculations : Vikass Monebhurrun
4. (826) Toward a New Class of High-Frequency Fast Direct Solvers Via Operator Filtering: Preliminary Results on Convex and Non-Convex Geometries : Francesco Andriulli
5. (828) Analysis of Electromagnetic Diffraction Phenomena in Arbitrary Linear Media via a Spectral-Domain Technique based on the Wiener-Hopf Method : Guido Lombardi
6. (771) Pyramid Elements for Finite Methods: Shape Functions, Interpolatory Vector Bases and Hierarchical Vector Bases : Roberto Graglia
7. (833) Advanced Computational EM Solver Techniques for Airborne Antennas : CJ Reddy
Coffee Break 15:20 – 15:40
15:40 – 17:20 Invited - Current Waves in IEEE AP-S (RF Components and Cross-Domain Applications)
Co-Chairs: Prof. Christophe Fumeaux and Dr. C. J. Reddy
1. (741) Design of a Wideband High Isolation Rat-Race Ring for In-Band Full-Duplex : Danilo Erricolo
2. (802) Challenges and Solutions in Car Roof Glass Antenna Design : Buon Kion Lau
3. (832) Long Slot Array in PCB Technology for SatCom Applications : Mauro Ettorre
4. (803) Ultra-Wideband Software-Defined Radar Mounted on a UAV for Subsurface Applications : Mahta Moghaddam
5. (810) Educating the Next Generation of Metamaterial Engineers: The M3 Postgraduate Program: Giacomo Oliveri

Tuesday 28/10/2025
08:00 – 10:20 Special Session : Metasurface Engineering for Advanced Wave Control and Nonreciprocity
Chair: Dr. Stanislav Glybovski
1. (747) Synthesis of Isotropic Impedance Plane : Tatiana Privalova
2. (748) Pancharatnam-Barry Phase of Backscattering From Cylindrical Metasurfaces : Yury Yukhanov
3. (777) Multi-state Reconfigurable Dual-Band FSS : Wayne Rowe
4. (830) Time Modulated Metasurface for Nonreciprocal Near-Field Coupling : Ana Cristina Escobar (student paper)
5. (751) Simulation and Analysis of a Stacked Intelligent Metasurface (SIM) Architecture in a Real-World Scenario for 2D DFT Implementation : Andrea Abrardo
6. (786) Honeycomb-based Pancharatnam-Berry Metasurfaces for Broadband Wide-Angle Scattering Reduction : Yury Yukhanov
7. (814) Direct Analytical Solution for Perfect Anomalous Reflection from Nonlocal Metasurfaces : Stanislav Glybovski
10:20 – 10:40 Coffee Break
10:40 – 12:00 Advanced Radar and Antenna Techniques for Remote Sensing
Chair: Prof. Steven Gao
1. (750) Dual-Polar Filtering Antennas with Wideband De-scattering and De-coupling for Synthetic Aperture Radar : Steven Gao
2. (797) Channel Modeling and Target Identification for FMCW MIMO Radar Using DDM and CFA4 : Mohammad Abdul Hannan
3. (815) Modified MUSIC Algorithm for Direction of Arrival Estimation in Planar Array : Gopi Ram
4. (796) Experimental GPR Water Leakage Detection Using Modified Vivaldi Antennas : Philip Arthur (student paper & YSA)
12:00 – 13:00 LUNCH
13:00 – 14:20 Novel Antenna Design and Signal Processing for Radar Systems
Chair: Prof. Marlene Harter
1. (793) Development of a GNU Radio-Based Ground Station Simulator for 813 Arab LEO Environmental Satellite : Mohammed Abdel-Hafez
2. (764) Utilizing SPAISE3 for Maritime Monitoring over the Indian Ocean and Neighboring Regions : Daichi Hirahara
3. (799) Terahertz Surveillance of Insects and Parasites: A Digital Twin Approach : Fawad Sheikh
4. (737) Bus CONTROLS - Capturing Operationally Needed Trip data via Remote On-Line Sensors : Vikash Oree
14:30 – 15:30 - Advanced Sensors and Energy-Efficient Radio Protocols for IoT
Chair: Prof. Alexandre Douyère
1. (817) Energy Balance on LEACH-C Based Protocol for Wireless Sensor Network : Rivo Randriatsiferana
2. (774) Leaky-Waves as a Sensor - A Use Case Study of Antennas as a New Real-Time Monitoring System for Road Traffic Management : Aakash Bansal
3. (820) Energy Quantification of Machine learning for Dynamic Spectrum Access in LoRaWAN Device : Rivo Randriatsiferana
15:30 – 16:00 Coffee Break
16:00 – 18:00 - IEEE Antennas & Propagation Society COPE & SIGHT Event
Chair: Prof. Christophe Fumeaux
1. Presentation of IEEE Antennas & Propagation Society : Christophe Fumeaux
2. Overview of IEEE AP-S COPE & SIGHT Activities : Vikass Monebhurrun
3. A Smart Wearable for Neuro-Rehabilitattion and Humanitarian Healthcare : Preeta Sharan
4. IEEE SIGHT Indian Ocean ACTION Weather Station Project : Alexandre Douyère
5. IEEE AP-S Mauritius Chapter STEM HARVEST Competition : Shailendra Oree

Wednesday 29/10/2025
08:20 – 10:00 Novel Architectures in RF Devices and High-Frequency Systems
Chair: Dr. Eric Mokole
1. (734) Gyrotrons: Same principles. Same mission. New models : Mikhail Glyavin
2. (753) Efficient Drone Charging by Utilizing Complementary Transverse and Longitudinal Pickup Coil Structures : Ashwani Sharma
3. (754) Performance Analysis of Digital Beamforming mmWave MIMO with Low-Resolution DACs/ADCS : Faruk Pasic
4. (785) Design and Experimental Validation of a Multi-Stage Cascaded Limiter for Receiver Protection : Yongxia Liu
5. (818) Design of Bandpass Reflectionless Amplifier at 412 MHz : Arun Gande
10:00 – 10:20 Coffee Break
10:20 – 12:00 Innovations for Broadband and Next-Gen Systems
Chair: Prof. Christophe Fumeaux
1. (789) A Super Wideband Printed Antenna for Microwave and Millimeter Wave Wireless Technologies : Preeti Kundu
2. (770) Compact Multibeam High-Gain Ka-Band Polyethylene Lens Antenna Design for SmallSat Applications : Bazilah Binti Baharom (YSA)
3. (788) Development and Characterization of a Compact MIFA Antenna for BLE Applications at 2.45 GHz : Telmo R. Fernandes
4. (787) Spectral Efficiency Optimization for Fluid Antennas via Averaged-DQN : Zhiwei Zhang
5. (760) Hexagonal Geometry-Based Super-Wideband Antenna for Emerging Wireless Technologies : Preeti Kundu (student paper & YSA)
12:00 – 13:00 LUNCH
13:00 – 14:40 Advanced Channel Characterization and Modeling for 5G/6G
Chair: Prof. Rafael Caldeirinha
1. (736) High-Frequency Electromagnetic Wave Scattering Analysis by a Multi-Story Building with Windows : Hiroshi Shirai
2. (767) Lens-Based Approach for Bespoke Contour Beam Generation with Single Feed Source for Satellite Applications : Aakash Bansal (YSA)
3. (804) Grid-less CS-MUSIC DOA Estimation for Correlated Signals Using a Uniform Semicircular Array : Njoroge Njoroge (student paper)
4. (746) Statistical Analysis of Beam Dynamics in 5G Networks Using Drive-Test Measurements : Mariam Musssbah (student paper)
5. (795) Experimental Evaluation of a Reconfigurable Polarimetric Radio Channel Sounder for 24 – 28 GHz Propagation Characterization : Rafael Caldeirinha
14:40 – 15:00 Coffee Break
15:00 – 16:00 Antennas for Advanced Wireless Communication
Chair: Dr. Shailendra Oree
1. (758) A Quad -Port Planar Compact Triple-Band MIMO Antenna with Isolation Improvement : Dheeraj Pandey (student paper & YSA)
2. (756) A Sixteenth Mode Circular SIW-Based Eight Port MIMO Antenna for 5G Applications : Sourav Nandi
3. (759) A Compact Quad-Port MIMO Antenna with Isolation Augmentation for n77/n78 Band Applications : Dheeraj Pandey
16:00 – 18:00 - Tutorial
A Brief Incomplete History of Radar : Eric Mokole
19:00 - 23:00 Gala Dinner

Thursday 30/10/2025
08:00 – 10:00 Biomedical and Safety-Related EM Application
Chair: Dr. Divitha Seetharamdoo
1. (735) Zone-Specific Pathloss Analysis for Enhanced Wireless Capsule Endoscopy Localization : Mohammed Abdel-Hafez
2. (805) RF Antenna Design and Integration for Neuromorphic Devices : Romain Alcesilas (YSA)
3. (835) Development of Homogeneous and Skin Body Models at MBAN Band : Dinesh Rano
4. (740) Deep Learning for Pulsed Electric Field Treatments in Cardiology and Oncology : Luciano Tarricone
5. (808) Assessment of EMF Exposure from Inductive 50kW-Wireless Power Transfer System for Electric Vehicles : Divitha Seetharamdoo
6. (773) Dosage effects of 2.45 GHz radiofrequency on the antimicrobial resistance and growth of Human Skin's bacterium Staphylococcus epidermidis : Anuj Kumar Tomar (student paper & YSA)
10:00 – 10:20 Coffee Break
10:20 – 12:00 Radio Astronomy System Design and Field Performance
Chair: Dr. Paolo de Matthaeis
1. (791) High Dynamic Range LPF integrated Narrow band LNA to suppress out of band Radio Frequency Interference to uGMRT : Vilas Bhalerao
2. (755) Verification of Predicted Signal Strengths and Anomaly Identification for the SKA Mobile Radio System : Riaan Wolhuter
3. (775) Enhancement of Sensitivity and Dynamic Range of 550-850 MHz Upgraded GMRT Receiver System : Imran Khan
4. (765) Study of Ionospheric Effects at Low Frequencies and Radio Frequency Signal Mitigation : Anistah Udhin
5. (739) Design and development of the MSA L-Band interferometer : Albert Kuntu Forson (student paper)
12:00 – 13:00 LUNCH
13:00 – 16:00 Workshop : RFI & Spectrum Sharing
Prof. Vikass Monebhurrun
1. Some U.S. RF-Spectrum Activities Since 1995 From a Radar Perpsective (Is RF Spectral Harmony Achievable?) : Eric Mokole
2. European Spectrum Regulation and Harmonized Market of the European Union - an Overview : Guido R. Hiertz
3. CEPT Current Work on Higher Power WAS/RLAN in the 6 GHZ Lower Band using a Dynamic Spectrum Access Coordination Function : Andrea Mora
4. Radio Frequency Spectrum for Passive Microwave Remote Sensing and Radio Astronomy: Basic Needs and Compatibility with Commercial Telecommunication Services : Paolo de Matthaeis
5. Protecting the Karoo RQZ While Building SKA-Mid : Johan Havenga
16:00 – 16:20 Coffee Break
16:20 - 16:30 Awards Ceremony
16:30 - 16:45 Closing Ceremony