



Conference »Program

[🔗](#)**2025 SBMO/IEEE MTT-S International Microwave and Optoelectronics Conference (IMOC) Program**

Time (Fortaleza)	Ball Room 1	Ball Room 2	Ball Room 3	Auditorium	Saguão Lateral	Saguão Principal
Sunday, November 9						
08:00-09:00						
09:00-10:40	<u>Short Course 1 - Part 1</u> Revealing the VNA: Near-DC to THz Instructor	<u>Short Course 2 - Part 1</u> Introduction to Electromagnetic Simulation				
11:00-12:40	<u>Short Course 1 - Part 2</u> Materials Characterization: Types and Techniques	<u>Short Course 2 - Part 2</u> Hands-On Antenna Modeling and Analysis				Registration
14:00-17:00	<u>Short Course 3</u> Private Networks for Smart	<u>Short Course 4</u> Optimizing EVM Measurements				
17:00-17:40	Factories and Smart Garo	and Noise Reduction Techniques				

Time (Fortaleza)	Ball Room 1	Ball Room 2	Ball Room 3	Auditorium	Saguão Lateral	Saguão Principal
Monday, November 10						
08:40-10:40				Invited Speaker 1		
11:00-12:30	Oral Technical Session 1 Antennas and Antenna Arrays I	Oral Technical Session 2 Propagation I	Oral Technical Session 3 Electromagnetic Compatibility and Interference	Oral Technical Session 4 Optical Amplifiers and Network I		
14:30-16:00	Oral Technical Session 5 Antennas and Antenna Arrays II	Oral Technical Session 6 Propagation II	Oral Technical Session 7 FSS and Intelligent Reflecting Surfaces	Oral Technical Session 8 Optical Amplifiers and Network II		
16:20-18:00					Poster Session 1	

Time (Fortaleza)	Ball Room 1	Ball Room 2	Ball Room 3	Auditorium	Saguão Lateral	Saguão Principal
Tuesday, November 11						
08:40-10:40				Invited Speaker 2		
11:00-12:30	Invited Technical Session Quantum Communications and Technologies	Oral Technical Session 9 Optical Sensors and Devices I	Oral Technical Session 10 Optical Devices and Circuits			
14:30-16:00	Invited Technical Session Quantum Communications and Technologies	Oral Technical Session 11 Optical Sensors and Devices II	Oral Technical Session 12 Radio over Fiber and Microwave Photonics			
16:20-18:00					Poster Session 2	

Time (Fortaleza)	Ball Room 1	Ball Room 2	Ball Room 3	Auditorium	Saguão Lateral	Saguão Principal
Wednesday, November 12						
08:40-10:40				Invited Speaker 3		
11:00-12:30	Oral Technical Session 13 Antennas and Antenna Arrays III	Oral Technical Session 14 Coherent Optical Communications	Oral Technical Session 16 Mobile Communication Systems	Oral Technical Session 15 Microwave Devices and Circuits I		
14:30-16:00	Oral Technical Session 17 Antennas and Antenna Arrays IV	Oral Technical Session 18 Applied Signal Processing	Oral Technical Session 20 Microwave Devices and Circuits III	Oral Technical Session 19 Microwave Devices and Circuits II		

Sunday, November 9

Sunday, November 9 8:00 - 17:00

Registration ↗

Room: Saguão Principal

Sunday, November 9 9:00 - 10:40

Short Course 1 - Part 1 ↗

Revealing the VNA: Near-DC to THz Instructor
Arno Pettai

Ball Room 1

Short Course 2 - Part 1 ↗

Introduction to Electromagnetic Simulation
Gabriel Bastos de Moraes

Ball Room 2

Sunday, November 9 11:00 - 12:40

Short Course 1 - Part 2 ↗

Materials Characterization: Types and Techniques
Dr. Cynthia Junqueira

Ball Room 1

Short Course 2 - Part 2 ↗

Hands-On Antenna Modeling and Analysis
Gabriel Bastos de Moraes

Ball Room 2

Sunday, November 9 14:00 - 17:40

Short Course 3 ↗

Private Networks for Smart Factories and Smart Agro
Ricardo Alfredo M. Sanchez

Ball Room 1

Short Course 4 ↗

Optimizing EVM Measurements and Noise Reduction Techniques
Bruno Duarte

Ball Room 2

Monday, November 10

Monday, November 10 8:40 - 10:40

Invited Speaker 1 ↗

Room: Auditorium

Chair: Arismar Cerqueira Sodré Junior (INATEL, Brazil)

8:40 - 9:20 The Challenge of Military Communications and the Importance of Research - The Dual-Use of Innovation (General Jacy Barbosa Junior - Commander of Army Communications and Electronic Warfare)

9:20 - 10:00 Quality and Performance in Mobile Networks: Innovative Solutions from Rohde & Schwarz for a Connected World (Ricardo Alfredo M. Sanchez Telecommunications and Electronics Engineer R&S)

10:00 - 10:40 Additive manufacturing technologies for novel sensors, antennas and electromagnetic devices (Simone Genovesi - University of Pisa)

Monday, November 10 11:00 - 12:30

Oral Technical Session 1 ↗

Antennas and Antenna Arrays I

Ball Room 1

Chair: Marcos V. T. Heckler (Universidade Federal do Pampa, Brazil)

11:00 *A Millimeter-Wave Fan-Beam Slot Antenna with Wide-Angle Beam Flat-Top Radiation Patterns*

Evandro Cesar Vilas Boas (Instituto Nacional de Telecomunicações, Brazil); Felipe Augusto Pereira de Figueiredo (INATEL, Brazil)

11:15 *T-Shaped Resonant Cell Filtenna Enhanced with CSRR*

Leonardo Oliveira de Sousa (Universidade Federal Rural do Semi-Árido - UFERSA, Brazil); Jorge A. I. Araujo and Mirelli Soares da Silva (Universidade Federal Rural do Semi-Árido, Brazil); Samanta de Holanda (Federal Rural University of Semi-Arid, Brazil); Lucas Abrantes Sarmiento, Sr (Universidade Federal Rural do Semi-Árido, Brazil); Ignacio Llamas (CTTC, Spain); Isaac B. T. da Silva (Federal Rural University of Semi-Arid, Brazil)

11:30 *Frequency-Reconfigurable Cylindrical Dielectric Resonator Antenna Using PIN Diode*

Gabriel P Paulena (Instituto Tecnológico de Aeronáutica (ITA), Brazil); Juner M Vieira, Edson R. Schlosser and Marcos V. T. Heckler (Universidade Federal do Pampa, Brazil)

11:45 *Reflectarray Design with Low Cross-Polarization in X-Band*

Suyane Paulo Campos, Marcos V. T. Heckler and Edson R. Schlosser (Universidade Federal do Pampa, Brazil)

12:00 *Design of Wideband Multilayered Dielectric Resonator Antenna*

Sofia Balerini de Vasconcellos (INATEL, Brazil); Kleber Zuza (Universidade Federal do Ceará, Brazil); Pei Xiao (University of Surrey, United Kingdom (Great Britain)); Arismar Cerqueira Sodré Junior (INATEL, Brazil)

Oral Technical Session 2 ↗

Propagation I

Ball Room 2

Chair: Marcos Tavares Melo (Federal University of Pernambuco, Brazil)

11:00 *Beamforming and Beam Steering Optimization for a Yagi-Uda Three-Antenna Array by Genetic Algorithm*

Renan G M Santos (Universidade Federal de Pernambuco, Brazil); Lauro RODRIGO GOMES DA SILVA LOURENÇO Novo (Universidade Federal de Pernambuco, Brazil); Marcos Tavares Melo (Federal University of Pernambuco, Brazil); Flávio De Paiva Lopes (Universidade Federal de Pernambuco, Brazil); Bruno G. M. de Oliveira (Instituto Federal de Pernambuco - IFPE, Brazil); Elias Marques Ferreira de Oliveira (Universidade Federal Rural de Pernambuco & Universidade Federal de Pernambuco, Brazil)

11:15 *Deep Learning-Based Detection of Cracks in Concrete Pavement Using Simulated UWB Horn Antenna GPR Signals*

Grigório Ribeiro Soares Neto (University of Minho, Portugal & ISISE, ARISE, Portugal); Vinicius Magno Uchoa Lima Oliveira (University of Aveiro & IT - Instituto de Telecomunicações, Portugal); Simona Fontul (Laboratorio Nacional de Engenharia Civil, Portugal); Francisco Manuel Carvalho Pinto Fernandes (University of Lusíada Norte, Portugal); Jorge Carvalho Pais (University of Minho & ISISE, ARISE, Portugal)

11:30 *Transmission Channel Characterization Using LoRa Device in an Industrial Environment*

Maria Carolina Vilar Lessa and Vinicius Nunes Henrique Silva (Universidade Federal Fluminense, Brazil); Maurício Weber (Universidade Federal Fluminense, Brazil & Instituto Federal de Educação, Ciência e Tecnologia de São Paulo, Brazil); Pedro Gonzalez Castellanos (Federal Fluminense University, Brazil); Tadeu N Ferreira (Fluminense Federal University, Brazil)

11:45 *Coverage Analysis for FR3 Spectrum Based on Throughput Performance*

Stephanie M Soares (Sidia Institute of Science and Technology, Brazil); Iran Mesquita Braga Junior (SIDIA, Brazil); Bárbara Regina Xavier Ribeiro Faria (Sidia Institute of Science and Technology, Brazil); Dércio M. Mate (SIDIA Institute of Science and Technology, Brazil)

12:00 *Efficient Neural Network Modeling of Nonlinear Pulse Propagation Using Single-Pulse Prediction*

Pedro Henrique De Oliveira Soares (Federal University of Espírito Santo, Brazil); Luís Cicero Bezerra da Silva (Federal University of Espírito Santo, Brazil); [Carlos Eduardo Schmidt Castellani](#) (UFES, Brazil); Marcelo Segatto (Federal University of Espírito Santo, Brazil); Helder Rocha (UFES, Brazil)

12:15 *Geolocation of Irregular Emissions Carried Out by TVWS Networks to Support Anatel*

Laert Calil Junior (Federal University of Itajubá - UNIFEI, Brazil); [Danilo Spadoti](#) (Universidade Federal de Itajubá - UNIFEI, Brazil)

Oral Technical Session 3 ↗

Electromagnetic Compatibility and Interference

Ball Room 3

11:00 *Naval Radar Co-Site EMI Mitigation with a Novel Absorber Metamaterial*

Mário D. A. Tavares (Fluminense Federal University & Brazilian Navy, Brazil); Maurício Weber (Universidade Federal Fluminense, Brazil & Instituto Federal de Educação, Ciência e Tecnologia de São Paulo, Brazil); [Roberto B. Di Renna](#) and Vinicius Nunes Henrique Silva (Universidade Federal Fluminense, Brazil)

11:15 *Joint Power Control and Beam Steering for NGSO-to-GSO Interference Mitigation in Ku Band*

[Luciana Rabelo Novato Ferreira](#) (Universidade de Brasília & Agência Nacional de Telecomunicações, Brazil); Higo T. P. Silva (UFCG, Brazil); Hugerles S. Silva (University of Brasília, Brazil); Paulo Henrique Portela de Carvalho (Universidade de Brasília - UnB, Brazil)

11:30 *Development of a Pre-Compliance High Voltage LISN for Conducted Emission Testing of Automotive Electronic Components Under CISPR 25*

[Gustavo Ferreira Vicentine](#) (Unicamp, Brazil); Gabriel Clemente (University of Campinas (UNICAMP), Brazil); Caio Trevisani Ganselli and Luis Henrique Rossan (Eldorado Research Institute, Brazil); Caio Carrasco (Robert Bosch Ltda, Brazil); Gustavo Morais (Instituto de Pesquisas Eldorado, Brazil)

11:45 *Assessment of Electromagnetic Interference in Clinical Devices: Experimental Results and Perspectives for VLC-Based Communication*

[Eylen Jhuliana Mercado Ontiveros](#) (National Institute of Telecommunications (INATEL), Brazil); Felipe Batista Faro Pinto (National Institute of Telecommunications (Inatel), Brazil); [Arismar Cerqueira Sodré Junior](#) (INATEL, Brazil)

12:00 *Study of the Point Matching Method for Modeling Hollow Waveguides with Arbitrary Cross-Sections and Impedance Boundary Termination*

Lucas L. V. Jannuzzi and Pedro L. V. Jannuzzi (Pontifícia Universidade Católica do Rio de Janeiro (PUC-Rio), Brazil); Jose R Bergmann (PUC-Rio, Brazil); Rafael Abrantes Penchel (São Paulo State University (Unesp), Brazil); [Guilherme Simon da Rosa](#) (São Paulo State University, Brazil)

12:15 *Study of the Point Matching Method for Modeling Electromagnetic Wave Propagation in Curved Waveguides with Rectangular Cross-Section*

Pedro L. V. Jannuzzi and Lucas L. V. Jannuzzi (Pontifícia Universidade Católica do Rio de Janeiro (PUC-Rio), Brazil); Jose R Bergmann (PUC-Rio, Brazil); Rafael Abrantes Penchel (São Paulo State University (Unesp), Brazil); [Guilherme Simon da Rosa](#) (São Paulo State University, Brazil)

Oral Technical Session 4 ↗

Optical Amplifiers and Network I

Room: Auditorium

Chair: Carmelo Bastos-Filho (Universidade de Pernambuco, Brazil)

11:00 *High-Gain Pattern-Reconfigurable Dual-Band Microstrip Antenna Using FSS*

Thayuan Rolim de Sousa (UFGD, Brazil); [Deisy Mamedes](#) (National Research Council Canada, Canada); Juliete da Silva Souza (Universidade Federal de Campina Grande, UFCG., Brazil); Valdemir Praxedes da Silva Neto (Federal University of Rio Grande do Norte, Brazil)

11:15 *Near-Zero and Flat Dispersion Single-Mode Porous-Core PCF for the Next-Generation of THz Communication Systems*

[Gabriel Catabriga Bastida](#), João Paulo Lebarck Pizzaia and Marcelo Segatto (Federal University of Espírito Santo, Brazil); Elizandra Coelho (Federal University of Espírito Santo, Brazil); Arnaldo Leal, Jr. (Federal University of Espírito Santo, Brazil); Carlos Eduardo Schmidt Castellani (UFES, Brazil)

11:30 *Spectral Optimization of Broadband Absorber Metasurfaces Based on Different Metaheuristics*

Felipe de Rossi Audibert (Universidade Federal Do Espírito Santo, Brazil); João Paulo Lebarck Pizzaia and Helder Rocha (UFES, Brazil); Marcelo Segatto (Federal University of Espírito Santo, Brazil); [Carlos Eduardo Schmidt Castellani](#) (UFES, Brazil)

11:45 *The Role of Topological Features in Routing and Spectrum Assignment Prioritization: a Decision Tree Analysis for Elastic Optical Networks*

[Renan V B Carvalho](#) (University of Pernambuco, Brazil); Diego Pinheiro and Henrique Alves Dinarte Da Silva (Universidade de Pernambuco, Brazil); Raul C. Almeida Jr (Federal University of Pernambuco (UFPE), Brazil); Carmelo Bastos-Filho (Universidade de

Pernambuco, Brazil)

12:00 A Strategy for Resource Allocation in Elastic Optical Networks Aiming to Reduce Physical Layer Impairments and Spectral Fragmentation

Sergio Amaral da Silva (Federal Institute of Bahia, Brazil); [Carmelo Bastos-Filho](#) (Universidade de Pernambuco, Brazil); Danilo R. B. Araújo (Federal Rural University of Pernambuco, Brazil); Raul C. Almeida Jr (Federal University of Pernambuco (UFPE), Brazil); Joaquim F. Martins-Filho (Federal University of Pernambuco, Brazil)

12:15 Parametric Sensitivity Analysis of EDFA Gain Ripple Using a Datadriven Machine Learning Model

[Leonardo Muñoz Rosel](#), Cristobal Melo and Gabriel Saavedra (Universidad de Concepción, Chile)

Monday, November 10 14:30 - 16:00

Oral Technical Session 5 ↗

Antennas and Antenna Arrays II

Ball Room 1

14:30 Comparison of Three Different Antennas Applied to Ka-Band Satellite Communications

Luiza Frigi Scalão and Maria Eduarda Batú dos Santos (UNIPAMPA, Brazil); Nathani Borondi dos Santos (Universidade Federal Do Pampa, Brazil); [Marcos V. T. Heckler](#) and Edson R. Schlosser (Universidade Federal do Pampa, Brazil)

14:45 Design of a Compact UWB Circular Printed Monopole Antenna-Based Sensor for Partial Discharge Detection

[Evandro Cesar Vilas Boas](#) (Instituto Nacional de Telecomunicações, Brazil); George Xavier (Universidade Federal de Sergipe, Brazil); Felipe Augusto Pereira de Figueiredo (INATEL, Brazil); Ugo Dias and Hugerles S. Silva (University of Brasilia, Brazil)

15:00 GNSS Reception System for the L1-Band Applicable to Maritime Navigation Environments

[Pedro H. A. Everling](#) (Universidade Federal do Pampa, Brazil); Herick R. da Silva Rodrigues (UNIPAMPA, Brazil); Daniel B. dos Santos, Edson R. Schlosser and [Marcos V. T. Heckler](#) (Universidade Federal do Pampa, Brazil)

15:15 Evaluation of the Impact of 3D-Printed Surface Roughness on the Radiation Efficiency of a Coaxial Horn Antenna Operating at the Ka-Band

[Eligia Simionato](#) (São Paulo State University (UNESP), Brazil); Guilherme Simon da Rosa (São Paulo State University, Brazil); Ivan A. Aldaya (São Paulo State University, Brazil & Unesp, Brazil); Everton C Medeiros (Instituto SENAI de Inovação em Manufatura Avançada e Microfabricação, Brazil); [Rafael Abrantes Penchel](#) (São Paulo State University (Unesp), Brazil)

15:30 Comparative Study of CSRR and Partial Ground DGS in Multiband Microstrip Antennas for 5G mmWave Applications

[Suely Silva Oliveira](#) and Fernanda Silva (Universidade Federal de Itajubá, Brazil)

15:45 Super-Wideband Cardioid Printed Monopole Antenna

Stéfano Albino Vilela Rezende (Universidade de São Paulo, Brazil); [Fatima S. Correra](#) (University of São Paulo, Brazil); Murilo Hiroaki Seko (University of Sao Paulo, Brazil); Guilherme N. Kawassaki (National Institute for Space Research, Brazil)

Oral Technical Session 6 ↗

Propagation II

Ball Room 2

Chair: Cássio Rego (Federal University of Minas Gerais, Brazil)

14:30 High-Performance Circular Phased Array Microstrip Antenna for WiFi, Bluetooth, and Ultra-Wideband Applications

Henry S Mayorga, Sr, Maria Cristina Diaz Gonzalez and [Ronny Fabricio Toctaquiza Piedra](#) (Escuela Superior Politecnica de Chimborazo, Ecuador)

14:45 A Wavelet-Based Reformulation of the Split-Step PE Method for Accurate Radio Coverage Estimation

[Alexandre Alves da Rocha](#) (Federal University of Minas Gerais, Brazil); Diego Parada Rozo (Federal University of Lavras, Brazil); Diego Tami (Federal University of Itajubá, Brazil); Adriana Aparecida Lemos Torres (Federal University of Minas Gerais, Brazil); Dinael Guevara (Francisco de Paula Santander University, Colombia); [Cássio Rego](#) (Federal University of Minas Gerais, Brazil)

15:00 MIMO System Performance for Digital TV in Complex Urban Environments: Preliminary Results Based on Field Measurements

Anderson Ribeiro, Amanda Beatriz Cunha dos Santos and Leonardo Henrique Gonsioroski (Universidade Estadual do Maranhão, Brazil); [Roberto B. Di Renna](#) (Universidade Federal Fluminense, Brazil); Victor Fernandes (Fluminense Federal University, Brazil); Natalia Fernandes (Universidade Federal Fluminense & Midiacom, Brazil)

15:15 Design and Evaluation of an s/X-Band Communication Architecture for the BiomeSat CubeSat

[Jognes Panasiewicz](#) (INPE - Instituto Nacional de Pesquisas Espaciais, Brazil); Juner M Vieira (Universidade Federal Do Pampa (Unipampa), Brazil)

15:30 Sensitivity Analysis for the Irregular Terrain Propagation Model: A Case Study

F. Rodrigo P Cavalcanti (Federal University of Ceará & GTEL - Wireless Telecom Research Group, Brazil); Carlos Filipe Moreira e Silva (Federal University of Ceará, Brazil); Alistair Braden (White Fractal, United Kingdom (Great Britain))

15:45 X-Band Dielectric Properties of Composite Materials for Radome Applications: Effect of Fiber Orientation on Electromagnetic Performance

Vivian Barreiros Cosenza (Instituto de Pesquisas da Marinha, Brazil); Filipe de Oliveira Andrade (Brazilian Navy Research Institute, Brazil & Universidade Federal Fluminense, Brazil); Marcos Chi Lim Siu (Instituto de Pesquisas da Marinha, Brazil); Roberto da Costa Lima (Instituto de Pesquisas da Marinha - IPqM, Brazil); Rodolfo A A Lima (IPqM - Instituto de Pesquisas da Marinha & Brazilian Navy Research Institute, Brazil)

Oral Technical Session 7 ↗

FSS and Intelligent Reflecting Surfaces

Ball Room 3

Chairs: Isaac B. T. da Silva (Federal Rural University of Semi-Arid, Brazil), Guilherme Simon da Rosa (São Paulo State University, Brazil)

14:30 Modeling Transmission Lines and Waveguides Using the Method of Fundamental Solutions for Laplace and Helmholtz Equations

Bruno B. Santos (Sao Paulo State University, Brazil); Guilherme Simon da Rosa (São Paulo State University, Brazil); Rafael Abrantes Penchel and Raul Oliveira Ribeiro (São Paulo State University (Unesp), Brazil); Fernando Teixeira (The Ohio State University, USA)

14:45 Graphene-Based Quadrature Hybrid Coupler for Terahertz Region

Wagner Castro (Federal Rural University of Amazonia - (UFRA), Brazil); Geraldo Melo (Federal Rural University of Para, Brazil); Cristiano Oliveira (Federal Institute of Science and Technology of Roraima, Brazil); Francisco Diego Nobre (Federal University of Roraima, Brazil); Manuel Vieira (Universidade Federal de Roraima, Brazil)

15:00 Concept of a 1-Bit Reconfigurable Intelligent Surface for Future Applications: Design, Optimization, and Array Size Impact Analysis

Felipe Henrique de Souza da Fonseca (UNICAMP, Brazil & Eldorado, Brazil); Gustavo Ferreira Vicentine (Unicamp, Brazil); Gustavo Moraes (Instituto de Pesquisas Eldorado, Brazil); Gabriel Clemente (University of Campinas (UNICAMP), Brazil); Luis Henrique Rossan (Eldorado Research Institute, Brazil); Cesar J. B. Pagan (University of Campinas, Brazil)

15:15 Triple Square Loops Frequency Selective Surfaces and Their Equivalent Circuit

Tulio José Costa Silva (Federal University of Rio Grande do Norte, Brazil); Nickson S Oliveira, Lopes (Universidade Federal Rural Do Semi-Árido, Brazil); Sebastião Ferreira Baracho Neto (Federal University of Rio Grande do Norte, Brazil); José Patrocínio da Silva (Universidade Federal do Rio Grande do Norte, Brazil); Antonio Campos (Federal University of Rio Grande Do Norte, Brazil & Universidade Federal do Rio Grande do Norte, Brazil)

15:30 Frequency Selective Surfaces Analysis Using Different Machine Learning Algorithms

Lucas Abrantes Sarmiento, Sr (Universidade Federal Rural do Semi-Árido, Brazil); Leonardo Oliveira de Sousa (Universidade Federal Rural Do Semi-Árido - UFERSA, Brazil); Mirelli Soares da Silva (Universidade Federal Rural do Semi-Árido, Brazil); Samanta de Holanda (Federal Rural University of Semi-Arid, Brazil); Jorge A. I. Araujo (Universidade Federal Rural do Semi-Árido, Brazil); Antonio Campos (Federal University of Rio Grande Do Norte, Brazil & Universidade Federal do Rio Grande do Norte, Brazil); Isaac B. T. da Silva (Federal Rural University of Semi-Arid, Brazil)

15:45 Analog-Digital Phase Shifter with Wide Continuously Adjustable Phase Delay and Low Insertion Loss

Gabriel Bedutti Leoncini, Candice Muller, Fernando de Castro, David Peixoto, Luís Henrique Farias Schneider dos Santos and Muriel Altmann (Universidade Federal de Santa Maria, Brazil)

Oral Technical Session 8 ↗

Optical Amplifiers and Network II

Room: Auditorium

14:30 Modeling of L-Band Erbium-Doped Fiber Amplifiers Using Artificial Neural Networks

Luis Gustavo Maciel Riveros (CPQD, Brazil & University of Campinas, Brazil); Marcionilo José da Silva (CPQD- Telecom R&D, Brazil & CPQD, Brazil); Marcelo Pereira Nogueira (CPQD, Brazil); Tiago Sutili (CPQD, Brazil & University of Campinas, Brazil); Rafael C. Figueiredo (CPQD, Brazil); Evandro Conforti (University of Campinas - UNICAMP, Brazil)

14:45 Optimizing L-Band EDFA Pumping Schemes via Recurrent Neural Networks and Water Cycle Algorithm

Marcelo Pereira Nogueira (CPQD, Brazil); Luis Gustavo Maciel Riveros (CPQD, Brazil & University of Campinas, Brazil); Marcionilo José da Silva (CPQD- Telecom R&D, Brazil & CPQD, Brazil); Tiago Sutili (CPQD, Brazil & University of Campinas, Brazil); Rafael C. Figueiredo (CPQD, Brazil); Evandro Conforti (University of Campinas - UNICAMP, Brazil)

15:00 Optimized-Pump Profile Design of a Second-Order Few-Mode Distributed Fiber Raman Amplifier with Low DMG and DSG

Agustín Espinoza (Universidad Técnica Federico Santa María, Chile); Astrid Lozada (Universidad de Santiago de Chile, Chile); Ricardo Olivares (Universidad Tecnica Federico Santa Maria, Chile); Bárbara P Dumas Feris (Pontificia Universidad Católica de Valparaíso,

Chile & École Nationale d'Ingénieurs de Brest, France); Nicolás Jara (Universidad Técnica Federico Santa María, Chile); Ariel Leiva (Pontificia Universidad Católica de Valparaíso, Chile)

15:15 Inference and Prediction of Quality of Transmission in Fully-Loaded Elastic Optical Networks

Matheus L. Santos (Universidade Federal de Pernambuco, Brazil); Leonardo S. C. Miranda (Universidade Federal de Pernambuco, Brazil & UFPE, Brazil); Laryssa C Silva (Universidade Federal de Alagoas, Brazil); André Xavier (Universidade Federal de Pernambuco, Brazil); Joaquim F. Martins-Filho (Federal University of Pernambuco, Brazil); Leonardo Didier Coelho (Universidade Federal de Pernambuco, Brazil); Raul C. Almeida Jr (Federal University of Pernambuco (UFPE), Brazil)

15:30 Analysis of Spectrum Defragmentation in QoT-Constrained Elastic Optical Networks

Talles Magalhães (Universidade Federal do Pará, Brazil); Carlos Natalino (Chalmers University of Technology, Sweden); Fabrício Lobato (Federal University of Pará, Brazil); Paolo Monti (Chalmers University of Technology, Sweden); Joao Weyl Costa (Universidade Federal do Pará - UFPA, Brazil)

15:45 Analytical Determination of Phase Weights in a Time-Delayed Photonic Neural Network for Dispersion Compensation

Arnaldo Paterline Togneri (Federal University of Espírito Santo, Brazil & Federal Institute of Espírito Santo, Brazil); Marcelo E. Vieira Segatto (Federal University of Espírito Santo, Brazil); Reginaldo Barbosa Nunes (Federal Institute of Espírito Santo & Federal University of Espírito Santo, Brazil)

Monday, November 10 16:20 - 18:00

Poster Session 1 ↑

Room: Saguão Lateral

Chair: Antonio Campos (Federal University of Rio Grande Do Norte, Brazil & Universidade Federal do Rio Grande do Norte, Brazil)

Spectral Photon-Counting System for Ultra-Weak Luminescence in Chemical and Biological Samples

Cristiano M Gallep (FT-Unicamp, Brazil); João Viana (Unicamp, Brazil); Michal Cifra (Institute of Photonics and Electronics of the Czech Academy of Sciences, Czech Republic); Michaela Poplová (Czech Academy of Sciences, Czech Republic); Gilliard N. Malheiros Silveira (Universidade Estadual de Campinas (UNICAMP), Brazil)

Analysis of Wi-Fi and 5G Network Performance in Indoor Scenarios: a Study at CEFET-MG

Graziele Rodrigues Souza (CEFET-MG, Brazil); Ursula Resende (Federal Center for Technological Education of Minas Gerais, Brazil); Sandro Trindade Mordente Gonçalves (CEFET-MG, Brazil)

Characterization of Graphene Films Deposited on Glass and Their Application in Patch Antennas

Daniel Augusto da Costa Oliveira, Igor Oliveira Souza and Lucas Silva Lima (CEFET-MG, Brazil); Ursula Resende (Federal Center for Technological Education of Minas Gerais, Brazil); Rúbia Fernandes De Andrade (CEFET-MG, Brazil); Camilla Caroline Moro Carmo (CEFET MG, Brazil)

Impact of Receiver Coil Displacement and Orientation on the Efficiency of Resonant WPT Systems

Maurício D Almeida (Centro Federal de Educação Tecnológica de Minas Gerais - CEFT-MG, Brazil); Ursula Resende and Silvia C Albuquerque (Federal Center for Technological Education of Minas Gerais, Brazil)

Design of a Dual-Band MIMO Rectenna with Class-E Rectifier for Wireless Power Transfer

Fagner Fernandes Santos Ramalho (CEFET-MG, Brazil); Ursula Resende and Silvia C Albuquerque (Federal Center for Technological Education of Minas Gerais, Brazil); Lucas Silva Lima, Igor Oliveira Souza and Daniel Augusto da Costa Oliveira (CEFET-MG, Brazil)

Design and Experimental Validation of a Buffered Voltage Doubler Rectifier for Rectenna Applications

William Araújo Oliveira Araújo Oliveira (CEFET-MG, Brazil); Ursula Resende (Federal Center for Technological Education of Minas Gerais, Brazil); Lucas Silva Lima (CEFET-MG, Brazil); Tulio Carvalho (Federal Center for Technological Education of Minas Gerais, Brazil); Daniel Augusto da Costa Oliveira and Igor Oliveira Souza (CEFET-MG, Brazil)

A Transmission Line-Based Approach for Material Identification

Ursula Resende (Federal Center for Technological Education of Minas Gerais, Brazil); Jennifer Bento Vieira (CEFET-MG, Brazil); Ulysses R. C. Vitor and Lucas D. Coelho (Universidade Federal de Juiz de Fora, Brazil)

Design and Implementation of a Microstrip Patch Antenna Array with Displaced Radiation Beam

Ursula Resende (Federal Center for Technological Education of Minas Gerais, Brazil); Alexandre Labossiere A Muzzi (CEFET-MG, Brazil); Ulysses R. C. Vitor and Lucas D. Coelho (Universidade Federal de Juiz de Fora, Brazil)

Real-Time Monitoring System for Flooding in Urban Areas

Caio Martins da Silva and Thiago Quintal da Silva (Universidade Federal Fluminense, Brazil); Andrés Pablo López Barbero (UFF, Brazil); Claudia Barucke Marcondes (CEFET-RJ, Brazil); Vinicius Nunes Henrique Silva (Universidade Federal Fluminense, Brazil)

Radar Systems in the Context of Electronic Warfare: Electronic Countermeasures in the Modern Theater of Operations

Reilian S. Macilon (Federal University of Rio Grande do Norte, Brazil); André M Filho, Sr. (UFRN, Brazil); Valdemir Praxedes da Silva Neto and Adaildo G D'Assunção (Federal University of Rio Grande do Norte, Brazil)

Channel Modeling and Characterization at 18 GHz in Outdoor Corridor Scenarios

Jorge A Celades-Martínez and José García (Pontificia Universidad Católica de Valparaíso, Chile); Melissa E Diago-Mosquera (Universidad Técnica Federico Santa María, Chile)

Compact Meandered Loop Monopole Antenna with Metasurface for 5G FR2 Band

Flávio R. Simões and Evandro Cesar Vilas Boas (Instituto Nacional de Telecomunicações, Brazil); Felipe Augusto Pereira de Figueiredo (INATEL, Brazil); William O. F. Carvalho (National Institute of Telecommunications, Brazil)

50 ns - Fast Bias Switching Broadband TX/RX Amplifier in Low SWaP LTCC SiP

Daniel Mendes Adelino and João R. Moreira Neto (Unicamp, Brazil); Edson C. Reis (Radaz S.A., Brazil); Hugo Enrique Hernandez-Figueroa (Unicamp, Brazil)

Compatibility Study Between 6G (IMT-2030) and Fixed-Satellite Service (Earth-to-Space) in Mid-Band

Juliana Garçon dos Santos and Samuel Rodrigues dos Santos (University of Brasília, Brazil); Adoniran Judson Braga (Universidade de Brasília, Brazil); Paulo Henrique Portela de Carvalho (Universidade de Brasília - UnB, Brazil); Achilles AF Fontana da Mota (Universidade de Brasília, Brazil); Frederico Neves (Anatel, Brazil)

Measurements of Dielectric Properties of Biological Phantoms and Tissues for Biomedical Imaging

Abid Raza (Federal University of Pernambuco, Brazil); Ghulam Nabi and Sumbal Yousaf (University of Okara, Pakistan); Muhammad Yasir (University of Sao Paulo, Brazil); Maryam Liaqat (University of Okara, Punjab & Federal University of Pernambuco, Recife Brazil, Pakistan); Marcos Tavares Melo (Federal University of Pernambuco, Brazil)

Numerical Analysis of SPR SPCE Sensor with Graphene Applied in the Detection of Markers in Power Transformer Oil

Karlo Queiroz Costa (Federal University of Para, Brazil); Maikon S da Costa (Univercidade Federal do Para - UFPA, Brazil)

Performance Analysis of a Hetero-Core MNM Fiber-Optic Sensor for Monitoring the Electrolyte Density of Lead-Acid Batteries

Luciano Gomes Bezerra Junior, Adler S Moura, Thales H. Castro de Barros, Jehan Fonsêca do Nascimento and Joaquim F. Martins-Filho (Federal University of Pernambuco, Brazil)

LMAC-2: a Multichannel CSMA-Based Protocol for High Throughput LoRaWAN

Ivan Roberto Santana Casella (Federal University of ABC, Brazil); Fernando S Sousa (Universidade Federal do ABC, Brazil); Carlos Eduardo Capovilla (UFABC, Brazil)

Smart Meter Communication System Using Power Domain Non-Orthogonal Multiple Access via Software Defined Radio Concept

Walter Silva Oliveira (Federal University of ABC, Brazil); Renan Diniz (UFABC, Brazil); Lucas Alves Margonato (Federal University of ABC, Brazil); Carlos Eduardo Capovilla (UFABC, Brazil); Ivan Roberto Santana Casella (Federal University of ABC, Brazil)

Compact Circularly Polarized MIMO Antenna for Cubesat Application

Nickson S Oliveira, Lopes (Universidade Federal Rural Do Semi-Árido, Brazil); Arthur M da Silva (Universidade Federal Rural do Semi-Árido, Brazil); Antonio Campos (Federal University of Rio Grande Do Norte, Brazil & Universidade Federal do Rio Grande do Norte, Brazil); Raclenir L Galvão, Jr (Universidade Federal Rural Do Semi-Árido, Brazil); Antônio Sombra (Universidade Federal do Ceará, Brazil); Humberto Dionísio de Andrade, Sr (UFERSA, Brazil & DET, UFERSA, Brazil)

Development of a 3.4-GHz Oscillator Based on a Complementary Split Ring Resonator

Henrique Orlando Régis de Castro (National Insitute for Space Research, Brazil); Jose O Rossi (National Institute for Space Research, Brazil); Lauro Paulo da Silva Neto (Institute of Science and Technology, Brazil); Joaquim José Barroso (National Insitute for Space Research, Brazil); Joaquim Leite Neto (INPE, Brazil); Edl Schamiloglu (University of New Mexico, USA)

Design and Characterization of a Tubular LED Lamp-Based VLC Transmitter for IEEE 802.15.7 Applications

Beatriz Moreira Cunha and Maria Luiza Jaszczerski (Federal University of Technology - Paraná (UTFPR), Brazil); Juan Camilo Castellanos Rodriguez (Federal University of Technology - Paraná, Brazil); Paulo de Tarso Neves, Jr. and Alexandre de Almeida Prado Pohl (Federal University of Technology - Parana (UTFPR), Brazil)

Concise Analysis of the Influence of Metal Width on the Performance of Surface Plasmon Resonance D-Shaped Photonic Crystal Fiber Sensors

Allana C Oliveira and Jhennifer O Monteiro (Universidade Federal do Pará, Brazil); Amanda F Romeiro (Federal University of Pará, Brazil & Laboratório de Eletromagnetismo Aplicado, Brazil); Anderson Oliveira Silva (CEFET-RJ, Brazil); Joao Weyl Costa (Universidade Federal do Pará - UFPA, Brazil); Maria Thereza Giralaldi (Military Institute of Engineering, Brazil); Ariel Guerreiro (University of Porto, Portugal); José Luís Santos (Universidade do Porto, Portugal)

Double-Layered First Fractal Proposal for Miniaturization in Circular Patch Antennas

Mirelli Soares da Silva (Universidade Federal Rural do Semi-Árido, Brazil); Alyson L. M. de Araújo (Federal Rural University of Semi-Arid (UFERSA), Brazil); Leonardo Oliveira de Sousa (Universidade Federal Rural Do Semi-Árido - UFERSA, Brazil); Samanta de Holanda (Federal Rural University of Semi-Arid, Brazil); Lucas Abrantes Sarmento, Sr and Jorge A. I. Araujo (Universidade Federal Rural do Semi-Árido, Brazil); Gabriel G. Machado (Ulster University, United Kingdom (Great Britain)); Isaac B. T. da Silva (Federal Rural University of Semi-Arid, Brazil)

Influence of Humidity Variation on Textile Substrates for Microstrip Antennas

Alexandre Chaves (Federal Rural University of the Semi-Arid, Brazil); Isaac B. T. da Silva and Samanta de Holanda (Federal Rural University of Semi-Arid, Brazil); Humberto Dionísio de Andrade, Sr (UFERSA, Brazil & DET, UFERSA, Brazil); Idalmir de Souza Queiroz Junior (Federal Rural University of the Semi-Arid, Brazil); Leonardo Oliveira de Sousa (UFERSA, Brazil)

Low-Cost DGS Sensor for Non-Invasive Glucose Level Monitoring

Felipe L Medeiros, Georgina Karla de Freitas Serres and Alexandre JR Serres (UFCG, Brazil)

Radiation Performance of Circular Patch Antenna Modified by Double-Layered Firat Fractal

Mirelli Soares da Silva (Universidade Federal Rural do Semi-Árido, Brazil); Alyson L. M. de Araújo (Federal Rural University of Semi-Arid (UFERSA), Brazil); Leonardo Oliveira de Sousa (Universidade Federal Rural Do Semi-Árido - UFERSA, Brazil); Samanta de Holanda (Federal Rural University of Semi-Arid, Brazil); Lucas Abrantes Sarmento, Sr and Jorge A. I. Araujo (Universidade Federal Rural do Semi-Árido, Brazil); Ignacio Llamas (CTTC, Spain); Isaac B. T. da Silva (Federal Rural University of Semi-Arid, Brazil)

Tuesday, November 11

Tuesday, November 11 8:40 - 10:40

Invited Speaker 2 ↗

Room: Auditorium

8:40 - 9:20 RFID, a bridge between the physical and cyber worlds (Smail Tedjini, Emeritus Professor, Université Grenoble-Alpes, Valence, France. CRFID Distinguish Lecturer)

9:20 - 10:00 Electrodynamics of Space-filling Curves and their Antenna and Metamaterial Applications (Ahmad Hoorfar, Villanova University, USA, IEEE APS DL)

10:00 - 10:40 Keysight

Tuesday, November 11 11:00 - 12:30

Invited Technical Session ↗

Quantum Communications and Technologies

Ball Room 1

Chair: Tiago Sutili (CPQD, Brazil & University of Campinas, Brazil)

11:00 Quantum Sensing: A Perspective

Cicero Martelli (Federal University of Technology, Brazil); Marco Jose Da Silva (Johannes Kepler University Linz, Austria); Daniel Rodrigues Pipa and Jean Carlos Cardozo da Silva (Universidade Tecnológica Federal do Paraná, Brazil); Guilherme Heim Weber (Federal University of Technology - PR, Brazil)

11:30 From Classical to Quantum-Safe Security: The Transformative Role of Quantum Technologies

Eduardo Mobilon (CPQD Telecom R&D Center, Brazil); Joao B Rosolem (CPQD - Research and Development Center in Telecommunications, Brazil); Marvyn Inga (CPQD, Brazil); Luis Gustavo Maciel Riveros and Tiago Sutili (CPQD, Brazil & University of Campinas, Brazil); Ana Consuelo Portilho Paixão, Alexandre Melo Braga and Rafael C. Figueiredo (CPQD, Brazil)

12:00 Continuous vs. Discrete Variables in QKD

Valeria L da Silva (SENAI CIMATEC & Senai Cimatec, Brazil); Alexandre B Tacla (Senai Cimatec, Brazil); Nelson Alves Ferreira Neto, Davi Juvêncio Gomes de Sousa and Vitor L.O. Sena (SENAI CIMATEC, Brazil)

Oral Technical Session 9 ↗

Optical Sensors and Devices I

Ball Room 2

Chair: Cristiano M Gallep (FT-Unicamp, Brazil)

11:00 Directional Emission Enhancement of NV Centers in Diamond via Bullseye Nanoantenna Design

Leonardo R Ramos, Henrique W. Moscoso and Achilles AF Fontana da Mota (Universidade de Brasília, Brazil); Vinicius M Pepino (University of Sao Paulo, Brazil); Ben-Hur V Borges (Universidade de São Paulo & Escola de Engenharia de São Carlos, Brazil)

11:15 Delayed Luminescence of Algae Under Silver Stress

Thuany M B de Castro (UNICAMP, Brazil); Julya CM Tavares (FT - UNICAMP, Brazil); Cristiano M Gallep (FT-Unicamp, Brazil); Evandro Conforti (University of Campinas - UNICAMP, Brazil)

11:30 Simulation and Experiment of a SMF-NCF-SMF Hetero-Core Fiber Refractive Index Sensor with Discrete Interrogation

Leonardo S. C. Miranda (Universidade Federal de Pernambuco, Brazil & UFPE, Brazil); Thales H. Castro de Barros, Adler S Moura and Joaquim F. Martins-Filho (Federal University of Pernambuco, Brazil)

11:45 Analytical Modeling of a D-Shaped Single-Mode Optical Fiber SPR Sensor with Variable Curvature for Chemical and Mechanical Sensing

Neilanny Fatima Nascimento Bastos and Luciano Gomes Bezerra Junior (Federal University of Pernambuco, Brazil); Helder A. Pereira (Federal University of Campina Grande, Brazil); Allamys Allan Dias da Silva (Universidade Federal de Pernambuco, Brazil); Marianne Stely Peixoto e Silva and Jehan Fonsêca do Nascimento (Federal University of Pernambuco, Brazil)

12:00 Thermal Capacitance Optical Fiber Packaging for DTGS Fast Transient Measurement Error Correction

Danilo Fernandes Gomes (Federal University of Technology - Paraná, Brazil); Beatriz Brusamarello (Universidade Tecnológica Federal Do Paraná, Brazil); Eduardo Henrique Dureck (Universidade Tecnológica Federal do Paraná, Brazil); Guilherme Heim Weber (Federal University of Technology - PR, Brazil); Daniel Rodrigues Pipa and Jean Carlos Cardozo da Silva (Universidade Tecnológica Federal do Paraná, Brazil); Feliciano Silva (Petróleo Brasileiro S.A. (Petrobras), Brazil); Sergio Taveira de Camargo Junior (Petrobras, Brazil); Cicero Martelli (Federal University of Technology, Brazil)

12:15 Muscle Activity Detection Using Photoplethysmography and Machine Learning Algorithms: a Preliminary Study

Victor Hugo M Dias (Federal University of Espírito Santo, Brazil); Laura V De Arco Barraza, Jair Adriano Lima Silva and Camilo A. R. Diaz (Federal University of Espirito Santo, Brazil)

Oral Technical Session 10 ↗

Optical Devices and Circuits

Ball Room 3

Chair: Leiva Casemiro Oliveira (Universidade Federal Rural do Semi-Árido, Brazil & VIRTUS-CC, Brazil)

11:00 Photonic Lens Based on a Quasi-Periodic Metamaterial with Sixfold Repetition for Advanced Optical Manipulation

João Rafael Costa (Federal University of Rio Grande do Norte, Brazil); José Patrocínio da Silva (Universidade Federal do Rio Grande do Norte, Brazil); Vitor Lorenzo S. T. Catão (Federal University of Rio Grande do Norte, Brazil); Cosme Eustaquio Rubio Mercedes (University of Mato Grosso do Sul, Brazil); Nilson H. O. Cunha (Federal University of Rio Grande do Norte, Brazil)

11:15 CNN and k-NN Methods for Image-Response Recognition in Surface Plasmon Resonance Sensors

Mateus V.I. Lopes (Universidade Federal Rural do Semi-Árido, Brazil); Leiva Casemiro Oliveira (Universidade Federal Rural do Semi-Árido, Brazil & VIRTUS-CC, Brazil); Antonio M. N. Lima (Universidade Federal de Campina Grande & VIRTUS-CC, Brazil)

11:30 Numerical Analysis of RF Filters Based on Photonic Technology

Jose G Sanchez (Instituto Nacional de Telecomunicações, Brazil); Kleber Zuza (Universidade Federal do Ceará, Brazil); Luiz Augusto Melo Pereira (CRR, Brazil & National Institute of Telecommunication, Brazil); Arismar Cerqueira Sodré Junior (INATEL, Brazil)

11:45 Project of a Surface Plasmon Resonance Sensor for Green Hydrogen (H₂V) Monitoring at Generation Line

Marcio Leandro da Silva Ribeiro (Universidade Federal Rural do Semi-Árido, Brazil); Leiva Casemiro Oliveira (Universidade Federal Rural do Semi-Árido, Brazil & VIRTUS-CC, Brazil)

12:00 Photonic Spatial Switching Techniques Using Semiconductor Optical Amplifiers

Pedro A Bessa Leão (Unicamp, Brazil); Jonathan Aguiar Soares (University of Campinas, Brazil); Tiago Sutili (CPQD, Brazil & University of Campinas, Brazil); Arismar Cerqueira Sodré Junior (INATEL, Brazil); Evandro Conforti (University of Campinas - UNICAMP, Brazil)

12:15 Robustness of Liquid Neural Networks to Noise: A Comparative Study with Convolutional Neural Networks

Willian Pacheco Silva (Universidade Federal do Espírito Santo, Brazil); Arnaldo Leal, Jr. (Federal University of Espírito Santo, Brazil); Marcelo E. Vieira Segatto and Maria José Pontes (Federal University of Espirito Santo, Brazil); Helder Rocha (UFES, Brazil)

Tuesday, November 11 14:30 - 16:00

Invited Technical Session ↗

Quantum Communications and Technologies

Ball Room 1

Chairs: Rafael C. Figueiredo (CPQD, Brazil), Eduardo Mobilon (CPQD Telecom R&D Center, Brazil)

14:30 Side-Channel Attacks to QKD Systems and Mitigation Techniques

Guilherme Temporão (Pontifical Catholic University of Rio de Janeiro, Brazil); Christiano Moreira De Sá Do Nascimento (QuILN - SENAI CIMATEC, Brazil)

15:00 Towards the Implementation of a Quantum Internet in Recife

Leonardo Didier Coelho (Universidade Federal de Pernambuco, Brazil); Joaquim F. Martins-Filho (Federal University of Pernambuco, Brazil); Daniel Felinto (Universidade Federal de Pernambuco, Brazil)

Oral Technical Session 11 ↗

Optical Sensors and Devices II

Ball Room 2

Chair: Jean Carlos Cardozo da Silva (Universidade Tecnológica Federal do Paraná, Brazil)

14:30 *Influence of Seismic Source Azimuth on the Dispersion Curve Using Optical Distributed Acoustic Sensing*

Beatriz Brusamarello (Universidade Tecnológica Federal Do Paraná, Brazil); João Bazzo (UTFPR, Brazil); Guilherme Heim Weber (Federal University of Technology - PR, Brazil); Gustavo Macioski (Federal University of Technology - Paraná, Brazil); Larissa Wierzynski Kulik (UTFPR, Brazil); Daniel Rodrigues Pipa (Universidade Tecnológica Federal do Paraná, Brazil); Gilson Brunetto (CPFL Energia Brasil, Brazil); Luis Fernando Melegari (CPFL Geração, Brazil); Jean Carlos Cardozo da Silva (Universidade Tecnológica Federal do Paraná, Brazil); Cicero Martelli (Federal University of Technology, Brazil); Uilian José Dreyer (Universidade Tecnológica Federal do Paraná, Brazil)

14:45 *Influence of Curvature Radius on Curved Plastic Optical Fiber Sensors*

Thales H. Castro de Barros (Federal University of Pernambuco, Brazil); Henrique Patriota Alves (Federal Rural University of Pernambuco, Brazil); Arnaldo C. Dantas dos S. Andrade and Rodolfo P Melo (Universidade Federal de Pernambuco, Brazil); Leonardo S. C. Miranda (Universidade Federal de Pernambuco, Brazil & UFPE, Brazil); Joaquim F. Martins-Filho (Federal University of Pernambuco, Brazil)

15:00 *Diagnosis of Broken Bar Fault in Three-Phase Induction Motors Using Fibre Bragg Grating Strain Sensors Assisted by an Algorithm*

Rafael Cavalcanti, Uilian José Dreyer, Everton Luiz Aguiar and Jean Carlos Cardozo da Silva (Universidade Tecnológica Federal do Paraná, Brazil); Kleiton Morais Sousa (Federal University of Technology - Paraná, Brazil); Andre C. Mendes (Military Institute of Engineering, Brazil)

15:15 *Integration of Directly Modulated Analog Radio-over-Fiber with 2x2 MIMO Systems*

Luiz Augusto Melo Pereira (CRR, Brazil & National Institute of Telecommunication, Brazil); Matheus Seda Borsato Cunha (Inatel, Brazil); Felipe Batista Faro Pinto (National Institute of Telecommunications (Inatel), Brazil); Juliano Silveira Ferreira and Luciano Leonel Mendes (Inatel, Brazil); Arismar Cerqueira Sodré Junior (INATEL, Brazil)

15:30 *Simultaneous Power and Data Transmission Using a Single Hybrid Optical Cable Towards B5G Systems*

Felipe Batista Faro Pinto (National Institute of Telecommunications (Inatel), Brazil); Sofia Balerini de Vasconcellos (INATEL, Brazil); Eduardo Lima (Inatel, Brazil); Evandro Lee Anderson (MPT Cable, Brazil); Arismar Cerqueira Sodré Junior (INATEL, Brazil)

15:45 *Photonic True-Time Delay Beamforming Applied to Dielectric Resonator Antennas*

Sofia Balerini de Vasconcellos (INATEL, Brazil); Eduardo Lima (Inatel, Brazil); Kleber Zuza (Universidade Federal do Ceará, Brazil); Pei Xiao (University of Surrey, United Kingdom (Great Britain)); Arismar Cerqueira Sodré Junior (INATEL, Brazil)

Oral Technical Session 12 ↖

Radio over Fiber and Microwave Photonics

Ball Room 3

Chairs: Evandro Conforti (University of Campinas - UNICAMP, Brazil), Arismar Cerqueira Sodré Junior (INATEL, Brazil)

14:30 *Performance Vs Complexity Analysis of Neural Network and Memory Polynomial-Based DPD for a-RoF Fronthaul*

Carlos Daniel Fontes da Silva (Federal University of Campina Grande, Brazil & Virtus, Brazil); Edson Porto da Silva (Federal University of Campina Grande (UFCG), Brazil)

14:45 *Radio- and Power-over-Fiber Transmission Using a Hybrid Optical Cable for Scalable B5G Networks*

Paulo Kiohara (INATEL, Brazil); Felipe Batista Faro Pinto (National Institute of Telecommunications (Inatel), Brazil); Eduardo Lima (Inatel, Brazil); Arismar Cerqueira Sodré Junior (INATEL, Brazil)

15:00 *Analysis of a Thermo-Optic Phase Shifter for Photonic Switching Applications*

Fernando Ferreira de Lima (UFCG, Brazil & VIRTUS-CC, Brazil); Ítalo Albuquerque Araújo (Federal University of Campina Grande, Brazil); Murilo A Romero (University of Sao Paulo, Brazil); Adolfo Fernandes Herbster (Federal University of Campina Grande, Brazil)

15:15 *Integrated Photonic Enabling Massive Data Transfer: a Short Review*

Pablo Rafael Neves Marciano (Universidade Federal do Espírito Santo, Brazil); Mateus Souza Coelho (UFES, Brazil); Maxwell E. Monteiro (Federal Institute of Espírito Santo - IFES & Federal University of Espírito Santo - UFES, Brazil); Maria Jose Pontes (UFES, Brazil); Marcelo E. Vieira Segatto (Federal University of Espírito Santo, Brazil); Evandro Conforti (University of Campinas - UNICAMP, Brazil)

15:30 *High Speed Processing Using a Complex Photonic Perceptron Based on Tunable MZIs*

[Caio Rodrigues Oliveira](#) and Ítalo Albuquerque Araújo (Federal University of Campina Grande, Brazil); Murilo A Romero (University of Sao Paulo, Brazil); Adolfo Fernandes Herbster (Federal University of Campina Grande, Brazil)

15:45 InP Photonic Integrated Frequency Comb for Tunable mmWave Generation in 5G Optical-Wireless Xhaul Networks

[Eduardo Lima](#) (Inatel, Brazil); [Arismar Cerqueira Sodré Junior](#) (INATEL, Brazil)

Tuesday, November 11 16:20 - 18:00

Poster Session 2 ↗

Room: Saguão Lateral

Towards the All-Digital C-RAN: Centralization of DPD Using All-Digital Receivers and Neural Networks for Dynamic Nonlinear PA Behavior

[José Duarte Domingues](#) (Universidade de Aveiro - DETI / Instituto de Telecomunicações - Aveiro, Portugal); Samuel Pereira (Instituto de Telecomunicações, IT, Portugal); Luís Almeida (Instituto de Telecomunicações, Portugal); Hugerles Silva (Instituto de Telecomunicações, IT, Brazil); Arnaldo Oliveira (Universidade de Aveiro - DETI / Instituto de Telecomunicações - Aveiro, Portugal); Nuno Borges Carvalho (Universidade de Aveiro, Portugal & InstitutodeTelecomunicacoes, Portugal)

Use of Silicon (Si) and Gallium Arsenide (GaAs) Doping in Microstrip Antenna Substrate Inspired by EBG-2D Geometry

Francisco Monteiro, Sobrinho and Arthur M da Silva (Universidade Federal Rural do Semi-Árido, Brazil); Raclenir L Galvão, Jr and Nickson S Oliveira, Lopes (Universidade Federal Rural Do Semi-Árido, Brazil); José Magno (Federal University of Rio Grande do Norte, Brazil); [Humberto Dionísio de Andrade, Sr](#) (UFERSA, Brazil & DET, UFERSA, Brazil)

RF Rectifier with Temperature Range Trimming for Sub-6 GHz 5G Applications

Renan Diniz (UFABC, Brazil); Walter Silva Oliveira, Lucas Alves Margonato and Ivan Roberto Santana Casella (Federal University of ABC, Brazil); [Carlos Eduardo Capovilla](#) (UFABC, Brazil)

Integration of a 3.5 GHz Circularly Polarized Antenna with Silicon Solar Cells for Hybrid Energy Harvesting Applications

[Lucas Alves Margonato](#) (Federal University of ABC, Brazil); Renan Diniz (UFABC, Brazil); Walter Silva Oliveira and Ivan Roberto Santana Casella (Federal University of ABC, Brazil); Carlos Eduardo Capovilla (UFABC, Brazil)

Low Profile Antenna Flexible Meander Line Antenna Array for Wearable Technology Applications

[Arthur M da Silva](#) and Elison Wediley dos Reis Silva (Universidade Federal Rural do Semi-Árido, Brazil); Humberto Dionísio de Andrade, Sr (UFERSA, Brazil & DET, UFERSA, Brazil); Caiky Breno Santiago Chaves and Pedro Arthur Freitas da Silva (UFERSA, Brazil); Carlos Albert Maia Filgueira (Universidade Federal Rural do Semi-Árido, Brasil, Brazil)

Wearable FSS and Machine Learning: Development and Validation of a Convolutional Neural Network for Recognition of Brazilian Sign Language (Libras)

Amanda M. D. Oliveira (Federal University of Rio Grande do Norte, Brazil); [João Guilherme Domingos de Oliveira](#) (Universidade Federal Do Rio Grande Do Norte, Brazil); Valdemir PRAXEDES Neto and Adaildo G D'Assunção (Federal University of Rio Grande do Norte, Brazil)

Best Efficiency Point of Electrical Submersible Pump Monitoring Using Distributed Optical Fiber Sensing

Maria Cristina Praczun, Gabriel Torelli and Jhoan Miguel Cubas Cubas (Universidade Tecnológica Federal do Paraná, Brazil); Jesse Pelegrin (Federal University of Technology - Paraná, Brazil); Gabriel Alves Romero, Luiz Carlos Tosta Da Silva and Jurandir Antonio Gomes Da Silva (PETROBRAS, Brazil); Henrique Stel De Azevedo (Universidade Tecnológica Federal do Paraná, Brazil); Rigoberto Morales (UTFPR, Brazil); Jean Carlos Cardozo da Silva and [Uilian José Dreyer](#) (Universidade Tecnológica Federal do Paraná, Brazil)

Inset-Fed 5.8 GHz Rectenna for Wireless Power Transfer Applications

[Apolo Silva](#), Erik Farias da Silva and Kesia Santos (Instituto Federal de Educação, Ciência e Tecnologia da Paraíba, Brazil)

Experimental Evaluation of a Low-Power Radio-over-Fiber System for IoT Sensing with LoRaWAN Transmission

Hugo V Sousa, Vichor F. Fernandes da Silva and [Leonardo Didier Coelho](#) (Universidade Federal de Pernambuco, Brazil); Joaquim F. Martins-Filho (Federal University of Pernambuco, Brazil); Vladimir Diego Rojas Albuquerque (Um Telecom, Brazil)

Optical System for Identifying the State of Medium Voltage Disconnect Switches

[Alex Sandro Ivankio](#) (Universidade Tecnológica Federal do Paraná, Brazil); Juan Camilo Castellanos Rodriguez (Federal University of Technology - Paraná, Brazil); Marcos Vinicio Haas Rambo (Universidade Federal do Paraná (UFPR)); Uilian José Dreyer (Universidade Tecnológica Federal do Paraná, Brazil)

Design and Implementation of an FSS-Based Data Glove for Hand Gesture Recognition

[João Guilherme Domingos de Oliveira](#) (Universidade Federal Do Rio Grande Do Norte, Brazil); Amanda M. D. Oliveira, Adaildo G D'Assunção and Valdemir PRAXEDES Neto (Federal University of Rio Grande do Norte, Brazil)

Investigation of the Use of Microwave Sensing in Checking the Brix Degree of Melon (*Cucumis Melo L.*)

[Alan P Vasconcelos Martins](#) (Federal University of the Semi-Arid Region, Brazil); Arthur M da Silva (Universidade Federal Rural do Semi-Árido, Brazil); Nickson S Oliveira, Lopes (Universidade Federal Rural Do Semi-Árido, Brazil); Glauber Henrique De Sousa Nunes

(Federal Rural University of the Semi-Arid, Brazil); [Humberto Dionísio de Andrade, Sr](#) (UFERSA, Brazil & DET, UFERSA, Brazil); José Magno (Federal University of Rio Grande do Norte, Brazil)

Design and Characterization of a Band-Pass FSS an Operation Band from 3 GHz to 9 GHz

[Marina de Oliveira Alencar](#) (UFPE, Brazil); Alfrêdo Gomes Neto (Federal Institute of Paraíba & Grupo de Telecomunicações e Eletromagnetismo Aplicado - GTEMA, Brazil); Marcos Tavares Melo (Federal University of Pernambuco, Brazil); Vitor Matheus De Assis Lima (Universidade federal de Pernambuco, Brazil)

Analysis of Microstrip Antenna with Application of Quasi-Periodic Structure Based on Penrose Tile

[Sebastião Ferreira Baracho Neto](#) (Federal University of Rio Grande do Norte, Brazil); José Patrocínio da Silva (Universidade Federal do Rio Grande do Norte, Brazil); Adaildo G D'Assunção (Federal University of Rio Grande do Norte, Brazil); Idalmir de Souza Queiroz Junior (Federal Rural University of the Semi-Arid, Brazil)

DAS Low Frequency Characterization for Structural Health Monitoring

[Emmanuel Scolimoski Torres Silva](#) (UTFPR, Brazil); Beatriz Brusamarello (Universidade Tecnológica Federal Do Paraná, Brazil); Eduardo Henrique Dureck (Universidade Tecnológica Federal do Paraná, Brazil); Guilherme Heim Weber (Federal University of Technology - PR, Brazil); Danilo Fernandes Gomes (Federal University of Technology - Paraná, Brazil); Jean Carlos Cardozo da Silva (Universidade Tecnológica Federal do Paraná, Brazil); Cicero Martelli (Federal University of Technology, Brazil)

Assessment of Plantar Pressure Distribution Using FBG Sensors Integrated into a Dual-Layer EVA Platform

Samilly Correa Morau, Eliton Morais and Janine Camargos (Federal University of Espírito Santo, Brazil); Arnaldo Leal, Jr. (Federal University of Espírito Santo, Brazil); Camilo A. R. Diaz (Federal University of Espírito Santo, Brazil)

MIMO Communications Through the Deep Physical Layer Model

[Luso de Jesus Torres](#) (University of Brasília, Brazil); Sébastien Roland Marie Joseph Rondineau (University of Brasília, Brazil)

Methodologies for Recognition of Magnetic Field Signatures for Broken Bar Fault Detection in Induction Motors

Miguel A. Saavedra Lozano, Sr (Universidade Federal de Rio de Janeiro, Brazil); Juan D. L. Vargas (Federal University of Rio de Janeiro, Brazil); Paulo Henrique S Pinto (Universidade Federal do Rio de Janeiro, Brazil); Regina Allil (Universidade Federal Do Rio de Janeiro, Brazil); Marcelo M Werneck (Laboratório de Instrumentação e Fotônica & Universidade Federal do Rio de Janeiro, Brazil)

A Dynamic GPF Scheduler for 5G HetNets Aided by Neural Networks and Differential Evolution

[Getúlio M Resende](#) and Gabriel A Queiroz (Federal University of Uberlândia - UFU, Brazil); André L. A. Costa (Federal University of Uberlândia, Brazil); Éderson R. da Silva (Federal University of Uberlândia - UFU, Brazil)

Empowering Hands-on Engineering Education with a Low-Cost IoT Hub Featuring Natural Language Support on Modified TV Boxes

Cláudio R M Silva (Federal University of Rio Grande Do Norte (UFRN), Brazil); João Paulo N. Santos (Grupo de Estudos em Regulação e Direito das Telecomunicações (GEDIRT), Brazil); [Feliipe Augusto C. Silva](#) (Grupo de Estudos em Regulação e Direito das Telecomunicações (GEDIRT), Brazil)

Over-the-Air Performance Evaluation of Real and Complex Neural Networks for Joint Channel Estimation and Equalization in QAM Systems

[Fábio D. L. Coutinho](#) (Universidade de Aveiro, Portugal); Jonathan Aguiar Soares and Kayol S. Mayer (University of Campinas, Brazil); Hugerles Silva (Instituto de Telecomunicações, IT, Brazil); Arnaldo Oliveira (Universidade de Aveiro - DETI / Instituto de Telecomunicações - Aveiro, Portugal); Dalton Arantes (University of Campinas, Brazil)

The Graduate Curriculum on Computational Electromagnetics of CETUC: A Final Boundary Condition That Will Never Fade

[Guilherme Simon da Rosa](#) (São Paulo State University, Brazil); Rafael Abrantes Penchel (São Paulo State University (Unesp), Brazil); Maiquel S Canabarro (Federal University of Pelotas, Brazil)

SAR Study on Antennas with Textile Substrate Modified with the Insertion of Metallic Filaments

João Vitor Macedo de Oliveira Silva (Universidade Federal Rural Do Semi-Árido, Brazil); Leonardo Oliveira de Sousa (Universidade Federal Rural Do Semi-Árido - UFERSA, Brazil); Humberto Dionísio de Andrade, Sr (UFERSA, Brazil & DET, UFERSA, Brazil); Isaac B. T. da Silva (Federal Rural University of Semi-Arid, Brazil); Idalmir de Souza Queiroz Junior and [Emerson Nunes dos Santos](#) (Federal Rural University of the Semi-Arid, Brazil); Nathan B Gurgel (Federal University of Campina Grande, Brazil); Samanta de Holanda (Federal Rural University of Semi-Arid, Brazil)

Analysis of the Transverse and Longitudinal Insertion of Conductive Filaments in Microstrip Antenna Substrates

[João Vitor Macedo de Oliveira Silva](#) (Universidade Federal Rural Do Semi-Árido, Brazil); Leonardo Oliveira de Sousa (Universidade Federal Rural Do Semi-Árido - UFERSA, Brazil); Humberto Dionísio de Andrade, Sr (UFERSA, Brazil & DET, UFERSA, Brazil); Isaac B. T. da Silva (Federal Rural University of Semi-Arid, Brazil); Idalmir de Souza Queiroz Junior and Emerson Nunes dos Santos (Federal Rural University of the Semi-Arid, Brazil); Mirelli Soares da Silva (Universidade Federal Rural do Semi-Árido, Brazil); Samanta de Holanda (Federal Rural University of Semi-Arid, Brazil)

Microwave-Based Device for Detecting Ethanol Content in Gasoline

Júlia Silva Neves (Universidade Federal de Campina Grande, Brazil); Alexandre JR Serres (UFCG, Brazil); [Pedro Rodrigues Maia](#) (Universidade Federal de Campina Grande, Brazil); Marcus Marinho Bezerra (Federal University of Campina Grande, Brazil)

Electrolyte Level Sensor Based on Plastic Optical Fiber for Lead-Acid Batteries Applications

Pedro Siqueira Neto (Federal Rural University of Pernambuco, Brazil); Thales H. Castro de Barros and Joaquim F. Martins-Filho (Federal University of Pernambuco, Brazil); Henrique Patriota Alves (Federal Rural University of Pernambuco, Brazil)

Miniaturization Behavior of Microstrip Patch Antenna Modified by Firat-Based Circular Fractal

Mirelli Soares da Silva (Universidade Federal Rural do Semi-Árido, Brazil); Alyson L. M. de Araújo (Federal Rural University of Semi-Arid (UFERSA), Brazil); Leonardo Oliveira de Sousa (Universidade Federal Rural Do Semi-Árido - UFERSA, Brazil); Lucas Abrantes Sarmiento, Sr and Jorge A. I. Araujo (Universidade Federal Rural do Semi-Árido, Brazil); Samanta de Holanda (Federal Rural University of Semi-Arid, Brazil); Gabriel G. Machado (Ulster University, United Kingdom (Great Britain)); Isaac B. T. da Silva (Federal Rural University of Semi-Arid, Brazil)

Wednesday, November 12

Wednesday, November 12 8:40 - 10:40

Invited Speaker 3 ↗

Room: Auditorium

8:40 - 9:20 New Waveform Design for Integrated Sensing and Communications (Pei Xiao, University of Surrey, UK)

9:20 - 10:00 (Anthony Ghiotto, IMS Research Center, Bordeaux INP)

10:00 - 10:40 (Anristu)

Wednesday, November 12 11:00 - 12:30

Oral Technical Session 13 ↗

Antennas and Antenna Arrays III

Ball Room 1

Chair: Edmar Candeia Gurjão (UFCG, Brazil)

11:00 T-Shaped Microstrip Patch Antenna Design with Defected Ground Structure for Radio Frequency Identification (RFID) and Modern Wireless Communications

Maryam Liaqat (University of Okara, Punjab & Federal University of Pernambuco, Recife Brazil, Pakistan); Ali Raza (University of São Paulo, Brazil); Maklayne Barros De Pontes Santiago (Federal University of Pernambuco, Brazil); Matheus Henrique Barros da Silva (Federal University of Pernambuco, Recife Brazil, Brazil); Frederico Nunes (UFPE, Brazil); Antonino Celso Dantas Antonino (Federal University of Pernambuco, Brazil)

11:15 GAM Antenna Arrays for B5G Systems

Gustavo Ferreira Vicentine (Unicamp, Brazil); Pei Xiao (University of Surrey, United Kingdom (Great Britain)); Evandro Conforti (University of Campinas - UNICAMP, Brazil); Arismar Cerqueira Sodré Junior (INATEL, Brazil)

11:30 Characteristic Mode Analysis of a New OAM Circular-Polarized Fractal Antenna

Tales Augusto Carvalho Barros (Universidade Federal de Campina Grande, Brazil); Glauco Fontgalland (University of Mount Union, USA); Fernando Teixeira (The Ohio State University, USA); Anna Carollyne Dantas de Lima, João Mercus Queiroz Farias and Gabriel do Nascimento Lima (Federal University of Campina Grande, Brazil); Tagleorge Marques Silveira (Instituto de Telecomunicações - IT & Universidade de Aveiro, Portugal)

11:45 Uirapuru Horn Antenna: Integrated System for Radio Frequency Monitoring and Receiver Component Evaluation

Lucas De Freitas Santana, Bruno Ribeiro De Almeida and Alisson Teles Cavalcanti (Federal University of Campina Grande, Brazil); Edmar Candeia Gurjão and Alexandre JR Serres (UFCG, Brazil); Rafael Alves Batista (Federal University of Campina Grande, Brazil); Amílcar Queiroz (Universidade Federal de Campina Grande, Brazil); Jordany Vieira De Melo (University of São Paulo USP, Brazil)

12:00 Compact Semicircular Antennas for Harmonic RFID Tags in Agriculture 4.0

Vinicius Magno Uchoa Lima Oliveira (University of Aveiro & IT - Instituto de Telecomunicações, Portugal); Amit Kumar Baghel (Universidade de Aveiro, Portugal & IT AVEIRO, Portugal); Nuno Borges Carvalho (Universidade de Aveiro, Portugal & Instituto de Telecomunicações, Portugal)

12:15 Polarization-Reconfigurable Loop Antenna for Remote Sensing Radar Systems

Pedro A Bessa Leão (Unicamp, Brazil); Igor da Costa (ESSS, Brazil); Arismar Cerqueira Sodré Junior (INATEL, Brazil)

Oral Technical Session 14 ↗

Coherent Optical Communications

Ball Room 2

Chair: Arismar Cerqueira Sodré Junior (INATEL, Brazil)

11:00 A Practical Approach to Design Lattice Filters on Silicon PhotonicsLeonardo P. B. Lacerda (UFCG, Brazil & Virtus CC, Brazil); Ítalo Albuquerque Araújo (Federal University of Campina Grande, Brazil); Murilo A Romero (University of Sao Paulo, Brazil); Adolfo Fernandes Herbster (Federal University of Campina Grande, Brazil)**11:15 Electro-Optical Front-End and DSP Requirements for High-Capacity and Extended-Reach Coherent Passive Optical Networks**Eduardo Rosa (CPqD - Centro de Pesquisa e Desenvolvimento em Telecomunicações, Brazil); Júlia Aline Sousa Maciel (CPQD, Brazil); Edson Porto da Silva (Federal University of Campina Grande (UFCG), Brazil); Tiago Sutili (CPQD, Brazil & University of Campinas, Brazil); Rafael C. Figueiredo (CPQD, Brazil)**11:30 DSP Techniques from Coherent Optical Communication Applied to CV-QKD: A Systematic Review**Davi Juvêncio Gomes de Sousa and Nelson Alves Ferreira Neto (SENAI CIMATEC, Brazil)**11:45 Application of DAS in the Detection of Anomalies in High-Voltage Insulated Cables**Rafael Terplak Bee (UTFPR & Copel Geração e Transmissão S.A, Brazil); Beatriz Brusamarello (Universidade Tecnológica Federal do Paraná, Brazil); Eduardo Henrique Dureck (Universidade Tecnológica Federal do Paraná, Brazil); Danilo Fernandes Gomes (Federal University of Technology - Paraná, Brazil); Cicero Martelli (Federal University of Technology, Brazil); Uilian José Dreyer and Jean Carlos Cardozo da Silva (Universidade Tecnológica Federal do Paraná, Brazil)**12:00 Estimating the Experimental Half-Wave Voltage from Fringe Pattern Using Webcam**Luis Miguel Quispe-Valencia (São Paulo State University (UNESP), Brazil); Claudio Kitano (UNESP, Brazil)**12:15 On the Interplay of Congestion and OSNR Degradation for TCP over Optical Networks**Pedro Paulo Pecolo, Filho (Federal University of Espírito Santo, Brazil & Federal Institute of Espírito Santo, Brazil); Moises R. N. Ribeiro (Federal University of Espírito Santo, Brazil); Everson Scherrer Borges (UFES - Federal University of Espírito Santo, Brazil); Magnos Martinello (Federal University of Espírito Santo, Brazil)

Oral Technical Session 16 ↗

Mobile Communication Systems

Ball Room 3

Chair: Valdemir Praxedes da Silva Neto (Federal University of Rio Grande do Norte, Brazil)

11:00 Power Optimization in User-Centric Distributed Massive MIMO with Flower Pollination AlgorithmMarx Miguel Miranda de Freitas (University of Cassino and Southern Lazio, Italy); Jasmine Priscyla Leite de Araújo (Federal University of Pará, Brazil); Daynara Dias Souza (Lappeenranta-Lahti University of Technology, Finland & Federal University of Pará, Brazil); André Fernandes (Federal University of Para, Brazil); Hugo Pereira Kuribayashi (Federal University of Southern and Southeastern Pará, Brazil); Andre Mendes Cavalcante (Ericsson, Brazil & Ericsson Research, Brazil); Maria Marquezini (Ericsson, Brazil); Carlos Renato Francês (Universidade Feral do Para, Brazil); Joao Weyl Costa (Universidade Federal do Pará - UFPA, Brazil)**11:15 Characterization of Power-Domain NOMA Versus MIMO in 6G OFDM Networks**Fabbryccio A. Cardoso (CPqD, Brazil); Francisco Raimundo Albuquerque Parente (CPqD & Universidade Estadual de Campinas - UNICAMP, Brazil); Maykon Silva (CPQD, Brazil)**11:30 Adaptive Inter-Symbol and Multi-User Interference Cancellation for OTFS in LEO SATCOM**Felipe F Souto (Universidade Federal Fluminense, Brazil); Victor Fernandes (Fluminense Federal University, Brazil); Vinicius Nunes Henrique Silva and Roberto B. Di Renna (Universidade Federal Fluminense, Brazil)**11:45 User Admission Based on Deep Reinforcement Learning in Mobile Networks with Network Slicing and Different Numerologies**Hudson Henrique de Souza Lopes (University of Goiás & UFG, Brazil); Flavio Vieira (School of Electrical, Mechanical, and Computer Engineering, Brazil)**12:00 Planar Microwave Sensor for Phosphate and Nitrate Detection in Rivers and Lakes Using Machine Learning Techniques**Bruno Matias de Sousa (Federal University of Rio Grande Do Norte, Brazil); Valdemir Praxedes da Silva Neto (Federal University of Rio Grande do Norte, Brazil)**12:15 FPGA-Based Dataflow Neural Network Accelerators for Intelligent Edge Signal Processing**Fábio D. L. Coutinho (Universidade de Aveiro, Portugal); Arnaldo Oliveira (Universidade de Aveiro - DETI / Instituto de Telecomunicações - Aveiro, Portugal)

Oral Technical Session 15 ↗

Microwave Devices and Circuits I

Room: Auditorium

Chair: Alfrêdo Gomes Neto (Federal Institute of Paraíba & Grupo de Telecomunicações e Eletromagnetismo Aplicado - GTEMA, Brazil)

11:00 Theoretical Analysis of Transverse Mode Instability Induced by the Quantum Defect in High-Power YDCFLs

Elbis S Cardoso (University of Sao Paulo, Brazil); Ricardo E. Samad (IPEN/CNEN, Brazil); Claudio C. Motta (University of Sao Paulo, Brazil)

11:15 Design of a Planar Dual-Band Bandstop Filter with Matryoshka Resonators and Defected Ground Structure

Marcus Estêvão Sousa Lopes and Valdemir Praxedes da Silva Neto (Federal University of Rio Grande do Norte, Brazil)

11:30 A 4-12 GHz Hybrid LNA with Cryogenic Operation for Radio-Astronomy Receivers

Deisy Mamedes (National Research Council Canada, Canada); Nianhua Jiang (National Research Council of Canada (NRC) & Department of Electrical and Computer Engineering at University of Victoria, Canada); Dominic Garcia (National Research Council Canada, Canada); Adam Densmore (National Research Council (NRC-CNRC), Canada & National Research Council, Canada)

11:45 A Compact Microstrip Lowpass Filter with Wide Rejection Band and Sharp Roll-off

Gleidson Jose Ataíde De Carvalho (Federal Institute of Paraíba (IFPB), Brazil); Marcus Vinicius Rocha Cohen (Federal Institute of Paraíba, Brazil); Bianca Da Silva Ferreira (Federal Institute of Paraíba (IFPB), Brazil); Igor Karsten Barbosa De Medeiros (Federal Institute of Paraíba - IFPB, Brazil); Jefferson Costa Silva (Instituto Federal da Paraíba & IFPB, Brazil); Alfrêdo Gomes Neto (Federal Institute of Paraíba & Grupo de Telecomunicações e Eletromagnetismo Aplicado - GTEMA, Brazil)

12:00 6-Bit Active Vector-Sum Phase Shifter in SiGe BiCMOS for mm-Wave AESA

Elmo Sette (SAFRAN Data Systems, France); Julien Lintignat (XLIM UMR 7252 Université de Limoges/CNRS, France); Anael Lohou (Safran Data Systems, France); Bruno Barelaud (Université de Limoges, CNRS, XLIM, France); Clement Hallepee (Xlim Laboratory, France); Bernard Jarry (XLIM - University of Limoges, France)

12:15 A W-Band 130-nm BiCMOS Bidirectional PALNA Design Based on SPST Integrated Matching Network

Choayb Boudjeriou (University of Limoges, France); Bruno Barelaud (Université de Limoges, CNRS, XLIM, France); Julien Lintignat (XLIM UMR 7252 Université de Limoges/CNRS, France)

Wednesday, November 12 14:30 - 16:00

Oral Technical Session 17 ↗

Antennas and Antenna Arrays IV

Ball Room 1

14:30 Low-Cost 3D-Printed Lens Antennas for Millimeter-Wave Systems

Jose-Manuel Poyanco (Universidad Técnica Federico Santa María, Chile); Francisco Pizarro (Pontificia Universidad Católica de Valparaíso, Chile); Eva Rajo-Iglesias (University Carlos III of Madrid, Spain)

14:45 Development and Performance Investigation of 3D Printed Horn Antenna

Rubiane H. Oliveira (INATEL (Instituto Nacional de Telecomunicações), Brazil & Laboratório WOCA (Wireless and Optical Convergent Access Laboratory), Brazil); Miguel C Twardowski (Instituto nacional de telecomunicações, Brazil); Eduardo Lima (Inatel, Brazil); Arismar Cerqueira Sodré Junior (INATEL, Brazil)

15:00 A Bioinspired Antenna Based on Acer Macrophyllum Leaf for Partial Discharge Detection in High Voltage Equipment

Djalma Dantas Pinheiro Neto and George Xavier (Universidade Federal de Sergipe, Brazil); Hugerles S. Silva (University of Brasília, Brazil)

15:15 Near Field Flexible Patch Antenna for Low-Cost Microwave Breast Cancer Detection Applications Validated on Realistic Phantoms

Charles A. S. Carmo (Federal University of the Semi-Arid Region - UFERSA, Brazil); Francisco de Assis Brito-Filho (Federal University of Semiarid Region - UFERSA, Brazil)

15:30 Python Integration with HFSS to Design Vivaldi Antipodal Antennas via Genetic Algorithm

Priscilla Kadja Pontes de Melo Carneiro (Federal Institute of Paraíba, IFPB, Brazil); Wendell Pereira de Farias (Federal Institute of Paraíba, IFPB & Material Behavior Simulation Group - GSCMat, Brazil); Georgina Karla de Freitas Serres (UFCG, Brazil); Alfrêdo Gomes Neto (Federal Institute of Paraíba & Grupo de Telecomunicações e Eletromagnetismo Aplicado - GTEMA, Brazil); Adolfo Fernandes Herbster (Federal University of Campina Grande, Brazil); Alexandre JR Serres (UFCG, Brazil)

15:45 Textile Broadband U-Slot Rectangular Patch Antenna

Marcus Grilo (School of Informatics and Administration & FIAP, Brazil); Fatima S. Correra (University of São Paulo, Brazil)

Oral Technical Session 18 ↗

Applied Signal Processing

Ball Room 2

Chair: Pei Xiao (University of Surrey, United Kingdom (Great Britain))

14:30 Feasibility of a Hybrid FMG-sEMG Sensor for Prosthetic Training in a Serious Game Environment

Felipe Ramirez Cortes, [Laura V De Arco Barraza](#) and Gustavo Nunes Lopes (Federal University of Espirito Santo, Brazil); Carlos A. Cifuentes (University of the West of England, United Kingdom (Great Britain)); Marcelo E. Vieira Segatto and Camilo A. R. Diaz (Federal University of Espirito Santo, Brazil)

14:45 Evaluation of Force Localization in a FBG-Based Forearm Sensor by Feature Extraction and Clustering

[Carlos Arturo Narvaez](#), Luis J. Arciniegas-Mayag and Patrick Silva (Federal University of Espirito Santo, Brazil); Carlos A. Cifuentes (University of the West of England, United Kingdom (Great Britain)); Moises R. N. Ribeiro (Federal University of Espirito Santo, Brazil); Camilo A. R. Diaz (Federal University of Espirito Santo, Brazil)

15:00 Feasibility Analysis of Using POF Sensors for Finger Movement in a Soft Hand Exoskeleton

Juan C. Maldonado-Mejia (Federal University of Espirito Santo, Brazil); [Carlos Arturo Narvaez](#) (Federal University of Espirito Santo, Brazil); Carlos A. Cifuentes (University of the West of England, United Kingdom (Great Britain)); Marcelo E. Vieira Segatto and Camilo A. R. Diaz (Federal University of Espirito Santo, Brazil)

15:15 Impact of Wavelet-Based Denoising on the Robustness of SVM Classification of Partial Discharge Signals

[Whesdey G. S. Santos](#) and [George Victor Rocha Xavier](#) (Federal University of Sergipe, Brazil); [Almir Carlos dos Santos, Júnior](#) (Federal University of Rondônia, Brazil & Federal University of Campina Grande, Brazil); [Alexandre JR Serres](#) (UFCG, Brazil); [Hugerles S. Silva](#) (University of Brasília, Brazil)

15:30 Classification of UHF Partial Discharges Sources Through Envelope: Feature Selection and Dimensionality Reduction

[Boaventura O. Viana Filho](#), [José Mascarenhas Lima Neto](#) and [George Victor Rocha Xavier](#) (Federal University of Sergipe, Brazil); [Almir Carlos dos Santos, Júnior](#) (Federal University of Rondônia, Brazil & Federal University of Campina Grande, Brazil); [Alexandre JR Serres](#) (UFCG, Brazil); [Hugerles S. Silva](#) (University of Brasília, Brazil)

15:45 Screen-to-Camera Visible Light Communication on Smartphones Using CSK Modulation and Cell-Based Encoding

[Amanda Rühlemann Barreira](#) and Hypolito J. Kalinowski (Universidade Federal Fluminense, Brazil); Gonçalo Figueiredo (Instituto Superior Técnico, Portugal); Paulo S André (Instituto de Telecomunicações, Portugal)

Oral Technical Session 20 ↗

Microwave Devices and Circuits III

Ball Room 3

Chair: Deisy Mamedes (National Research Council Canada, Canada)

14:30 Design and Cryogenic Evaluation of a 130 nm Cryo-CMOS Up-Converter for Quantum Computing Applications

[Joerdson Tiago Silva](#) (Universidade Federal Rural do Semi-Árido, Brazil); [Francisco de Assis Brito-Filho](#) (Federal University of Semi-arid Region - UFERSA, Brazil)

14:45 Comparative Performance and Enhancement of Water pH Microwave Sensor

[Leonardo Oliveira de Sousa](#) (Universidade Federal Rural Do Semi-Árido - UFERSA, Brazil); Lucas Abrantes Sarmento, Sr and Mirelli Soares da Silva (Universidade Federal Rural do Semi-Árido, Brazil); Samanta de Holanda (Federal Rural University of Semi-Arid, Brazil); Jorge A. I. Araujo (Universidade Federal Rural do Semi-Árido, Brazil); Gabriel G. Machado (Ulster University, United Kingdom (Great Britain)); Isaac B. T. da Silva (Federal Rural University of Semi-Arid, Brazil)

15:00 Microstrip Quadrature Coupler with Virtual Grounding for 2-4 GHz Applications

[Filipe Carvalho de Andrade](#) (Federal University of Minas Gerais, Brazil); Ricarte D Ferreira, Jr (Federal University of Itajubá, Brazil & Universidade Federal de Itajubá, Brazil); Reinaldo J Velásquez Gómez (Universidad Francisco de Paula Santander, Colombia); Cássio Rego (Federal University of Minas Gerais, Brazil); Jhonattan Cordoba Ramirez (Universidade Federal de Minas Gerais & Escola de Engenharia, Brazil); Gilberto Medeiros Ribeiro (Universidade Federal de Minas Gerais, Brazil); Diego Tami (Federal University of Itajubá, Brazil)

15:15 A Proposed Microwave Resonator Sensor for Measuring Soil Water Content

[Isaú de Sousa Silva Junior](#) (Federal University of Rio Grande do Norte, Brazil); Ruann Lira (Federal Rural University of the Semi-Arid, Brazil); Isaac B. T. da Silva (Federal Rural University of Semi-Arid, Brazil); Antonio Campos (Federal University of Rio Grande Do Norte, Brazil & Universidade Federal do Rio Grande do Norte, Brazil)

15:30 An RF Sensor for Monitoring the Moisture Content of Bean Grains

Maura Lúcia Rodríguez Alexandre and Anderson Oliveira De Sousa (Federal Institute of Paraíba (IFPB), Brazil); [Marcus Vinicius Rocha Cohen](#) (Federal Institute of Paraíba, Brazil); Jefferson Costa Silva (Instituto Federal da Paraíba & IFPB, Brazil); Joabson Carvalho (IFPB - Federal Institute of Paraíba, Brazil); Alfrêdo Gomes Neto (Federal Institute of Paraíba & Grupo de Telecomunicações e Eletromagnetismo Aplicado - GTEMA, Brazil)

15:45 Sub-6 GHz Microwave Sensor Targeting Microplastic Detection

Glenerson Vieira Da Silva Santos (Federal University of Paraiba, Brazil); Miguel Cezar Vieira (Federal University of Paraiba, Brazil & UFPB, Brazil); Antonio Souza and Carlos Alberto De Souza Filho (Federal University of Paraiba, Brazil); Antonio M. N. Lima (Universidade Federal de Campina Grande & VIRTUS-CC, Brazil)

Oral Technical Session 19 ↗

Microwave Devices and Circuits II

Room: Auditorium

14:30 Experimental Characterization of Commercial Reduced Graphene Oxide Nanoplatelets for RF and Microwave Device Applications

Luís Henrique Farias Schneider dos Santos, Candice Muller, Fernando de Castro and Ricardo da Silva (Universidade Federal de Santa Maria, Brazil)

14:45 D-Band Transdirectional Coupler Employing an Interdigital Capacitor Structure in 55-nm BiCMOS

Elígia Simionato (São Paulo State University (UNESP), Brazil); Ariana Serrano (University of São Paulo, Brazil); Gustavo P. Rehder (University of São Paulo & Universidade de São Paulo, Brazil); Guilherme Simon da Rosa (São Paulo State University, Brazil); Rafael Abrantes Penchel (São Paulo State University (Unesp), Brazil); Philippe Ferrari (University Grenoble Alpes, RFIC LAB, France)

15:00 Demonstration of a 3-10 GHz PCM-Based Wideband Impedance Tuner

Kariny Nunes Maia (XLIM - University of Limoges, France); Hind Amaarour (XLIM, University of Limoges, France); Audrey Martin (XLIM, France); Pierre Blondy (XLIM - University of Limoges, France)

15:15 Quantitative Error-Budget Analysis of a Software-Defined Radio-Based Vector Network Analyzer for Microwave Imaging

Édneý Matheus Viana Freitas and Bruno Cavalcante de Souza Sanches (University of Sao Paulo (USP), Brazil); Alexandre De Jesus Aragão (Federal Institute of Education, Science and Technology (IFSP), Brazil); Felipe Costa (University of Sao Paulo (USP), Brazil); Wilhelmus Van Noije (University of São Paulo, Brazil)

15:30 Three-Port Microstrip T-Resonator for Relative Permittivity Characterization of PCB Substrates

Lucas D. Coelho (Universidade Federal de Juiz de Fora, Brazil); Marcelo E. V. Segatto (UFES, Brazil); Alvaro A. Machado de Medeiros (UFJF, Brazil); Ursula Resende (Federal Center for Technological Education of Minas Gerais, Brazil); Ulysses R. C. Vitor (Universidade Federal de Juiz de Fora, Brazil)

15:45 3D Interdigital Capacitors Based on the MnM Interposer for mm-Wave Applications

Robert Gavidia, Gabriel Griep and Leonardo Gomes (Universidade de São Paulo, Brazil); Gustavo P. Rehder (University of São Paulo & Universidade de São Paulo, Brazil); Ariana Serrano (University of São Paulo, Brazil)

EDAS at golf (Fri, 31 Oct 2025, 16:40:42 -0300 -03) [User 2091335 aQUQtYYw5YyFih-ajvZeXgAAABw] [Request help](#)