



November 18-19, 2021



Full Program

General Program



Day 1 – November 18, 2021

Power Systems

Schedule	Event
08:20 - 08:50 AM	Opening Session
09:00 - 09:50 AM	Lecture PS1
10:00 - 11:00 AM	Session PS1
11:10 - 12:00 AM	Lecture PS2
01:30 - 02:20 PM	Lecture PS3
02:30 - 03:30 PM	Session PS2
03:40 - 04:30 PM	Lecture PS4
04:40 - 05:40 PM	Session PS3

Day 2 – November 19, 2021

Communication Networks

Schedule	Event
08:00 - 09:00 AM	Session CN1
09:10 - 10:00 AM	Lecture CN1
10:10 - 11:10 AM	Session CN2
11:20 - 12:10 AM	Lecture CN2
01:30 - 02:20 PM	Lecture CN3
02:30 - 03:30 PM	Session CN4
03:40 - 04:30 PM	Lecture CN4
04:40 - 05:00 PM	Closing Session

The program schedule is based on the GMT-3 time zone (Brasilia time)

Day 1 – November 18, 2021

Power Systems

November 18, 2021 – Power Systems



Schedule	Event
08:20 - 08:50 AM	Opening Session
09:00 - 09:50 AM	Lecture PS1 – Communication Infrastructure Enabled and Data-driven Monitoring, Protection and Control of Future Power/Energy Systems <i>Plenary Speaker: Prof. Dr. Vladimir Terzija (Skoltech - Russia)</i> <i>Chair: Prof. Dr. Kleber Silva (UnB)</i>
10:00 - 11:00 AM	Session PS1 – Power Systems Protection and Fault Location <i>Chair: Prof. Dr. Fernanda Trindade (UNICAMP)</i>
11:10 - 12:00 AM	Lecture PS2 – MERGE - Microgrids for efficient, reliable and greener energy <i>Plenary Speaker: Prof. Dr. Luiz Carlos (Unicamp - Brazil)</i> <i>Chair: Prof. Dr. Fernando Melo (UnB)</i>
01:30 - 02:20 PM	Lecture PS3 – Big Data Analytics for Predicting, Managing and Mitigating Outages <i>Plenary Speaker: Prof. Dr. Mladen Kezunovic (Texas A&M - US)</i> <i>Chair: Prof. Dr. Kleber Silva (UnB)</i>
02:30 - 03:30 PM	Session PS2 – Power Systems Modeling <i>Chair: Prof. Dr. Amauri Gutierrez (UnB)</i>
03:40 - 04:30 PM	Lecture PS4 – Distribution System Resilience: Modeling and Optimization <i>Plenary Speaker: Prof. Dr. Anamika Dubey (WSU - US)</i> <i>Chair: Prof. Dr. Leandro Araújo (UFJF)</i>
04:40 - 05:40 PM	Session PS3 – Power System Analysis and Renewables Integration <i>Chair: Prof. Dr. Felipe Lopes (UFPB)</i>

November 18, 2021 – Power Systems



• Session PS1 – Power Systems Protection and Fault Location

Chair: Prof. Dr. Fernanda Trindade (UNICAMP)

Schedule	ID	Paper
10:00 - 10:10 AM	24	Comparison Between Two-Level and Modular Multilevel Converters in High Voltage Direct Current Systems Under Fault Conditions <i>Mikaela Barra, Maxwell Santos, Victor Souza, Flávio Costa, Luciano Barros and Yunting Liu</i>
10:10 - 10:20 AM	44	Time-Domain-Based Relay Model to Assess Line Protection Nearby HVDC Systems <i>Eduardo Ribeiro, Kleber Silva, Felipe Lopes and Amauri Martins-Britto</i>
10:20 - 10:30 AM	53	Past, Present, and Future of Traveling Wave-Based Fault Location Solutions <i>Felipe Lopes, Raphael Reis, Kleber Melo E Silva, Amauri Gutierrez Martins-Britto, Eduardo Passos, Caio Moraes and Marco Macciola</i>
10:30 - 10:40 AM	9	Probabilistic Analysis of DG Anti-Islanding Protection Security Against Momentary Short-Circuits in Distribution Grids <i>Rodrigo de Barros Iscuissati, Daniel Motter and José Carlos Melo Vieira</i>
10:40 - 10:50 AM	11	Analysis of Source and Load-side High Impedance Faults Using Stockwell Transform <i>Marco A. S. Nozela, Gabriela N. Lopes, Luiz H. P. C. Trondoli and José Carlos M. Vieira</i>
10:50 - 11:00 AM		Q&A

November 18, 2021 – Power Systems



• Session PS2 – Power System Modeling

Chair: Prof. Dr. Amauri Gutierrez (UnB)

Schedule	ID	Paper
02:30 - 02:40 PM	42	On the Effects of EMI and the Soil Structure on Transmission Line Parameters — Part I: Theoretical Model <i>Caio Moraes, Amauri Martins-Britto, Felipe Lopes, Eduardo Ribeiro, Marco Rodrigues and Kleber Silva</i>
02:40 - 02:50 PM	43	On the Effects of EMI and the Soil Structure on Transmission Line Parameters — Part II: Impacts on Fault Locators <i>Caio Moraes, Amauri Martins-Britto, Felipe Lopes, Eduardo Ribeiro, Marco Rodrigues and Kleber Silva</i>
02:50 - 03:00 PM	16	Computation of Transient Voltages on Wind Turbines on Frequency-Dependent Soil Caused by Lightning Strikes <i>Walter Luiz Manzi de Azevedo, Anderson Ricardo J. de Araújo, Wagner Costa da Silva and José Pissolato Filho</i>
03:00 - 03:10 PM	6	Transient Responses on Transmission Lines Located Above Frequency-Dependent Soil with Variable Water Content <i>Tainá F. G. Pascoalato, Anderson R. J. de Araújo, Sérgio Kurokawa and José Pissolato Filho</i>
03:10 - 03:20 PM	54	Modeling and Control of Isolated Modular Hydrokinetic Energy Systems <i>Cleber Barbosa Albuquerque and Francis Arody Moreno Vasquez</i>
03:20 - 03:30 PM		Q&A

November 18, 2021 – Power Systems



• Session PS3 – Power System Analysis and Renewables Integration

Chair: Prof. Dr. Felipe Lopes (UFPB)

Schedule	ID	Paper
04:40 - 04:50 PM	15	Computational Impacts and Benefits of the Freezing of the Jacobian Matrix in the HKW Method <i>Laice Neves de Oliveira and Francisco Damasceno Freitas</i>
04:50 - 05:00 PM	14	Investigation Study on the Voltage Stability Status of a Power Flow Problem Solution <i>Alisson Lima Silva and Francisco Damasceno Freitas</i>
05:00 - 05:10 PM	7	A Review on Techniques to Increase Hosting Capacity of Distribution Systems to DERs <i>Vinicius C. Moro and Fernanda C. L. Trindade</i>
05:10 - 05:20 PM	18	Evaluation of Energy Losses Using Smart Meter Data <i>Tailan Garcia, Felipe Bayma Barbosa Rolim, Ricardo Torquato, Gabriel Torrezan, Fabio Gaino, Auro Machado and Fernanda Trindade</i>
05:20 - 05:30 PM	29	Techno-economic assessment of photovoltaic plants with and without tracking systems in Brazil <i>Arthur de Brito Dias, Fernanda Madeiro de Carvalho, Nataniel Anderson Rangel Pinto, Túlio André Pereira de Oliveira, Anésio de Leles Ferreira Filho and Elder Geraldo Domingues</i>
05:30 - 05:40 PM	Q&A	

Day 2 – November 19, 2021

Communication Networks

November 19, 2021 – Communication Networks



Schedule	Event
08:00 - 09:00 AM	Session CN1 – Cyber Security <i>Chair: Prof. Dr. Rafael Timóteo (UnB)</i>
09:10 - 10:00 AM	Lecture CN1 – Datasets and Standardized Artificial Intelligence for 5G and 6G with Applications in MIMO Beamforming, Sensing and Smart Grids <i>Plenary Speaker: Prof. Dr. Aldebaro Klautau (UFPA - Brazil)</i> <i>Chair: Prof. Dr. André Almeida (UFC)</i>
10:10 - 11:10 AM	Session CN2 – Communications and Circuits <i>Chair: Prof. Dr. Daniel Orquiza (UnB)</i>
11:20 - 12:10 AM	Lecture CN2 – A Walkthrough MTC evolution toward 6G: key drivers, requirements, and use-cases <i>Plenary Speaker: Prof. Dr. Hirley Alve (University of Oulu - Finland)</i> <i>Chair: Prof. Dr. Tarcisio Maciel (UFC)</i>
01:30 - 02:20 PM	Lecture CN3 – Spectrum access evolution to enable next mobile networks generations <i>Plenary Speaker: Fabiano Chaves (Nokia - US)</i> <i>Chair: Prof. Dr. Yuri Silva (UnB)</i>
02:30 - 03:30 PM	Session CN3 – Digital Signal Processing <i>Chair: Prof. Dr. Diego Aguiar Sousa (UFC)</i>
03:40 - 04:30 PM	Lecture CN4 – Power Savings at High-Speed Data Transmission - Beyond 100Gb/s <i>Plenary Speaker: Dr. Júlio César Rodrigues (Idea - Brazil)</i> <i>Chair: Prof. Dr. Sébastien Rondineau (UnB)</i>
04:40 - 05:00 PM	Closing Session

November 19, 2021 – Communication Networks



- Session CN1 – Cyber Security

Chair: Prof. Dr. Rafael Timóteo (UnB)

Schedule	ID	Paper
08:00 - 08:10 AM	31	Preventing APT attacks on LAN networks with connected IoT devices using a zero trust based security model <i>Bruno Rocha, Laerte Melo and Rafael de Sousa Jr.</i>
08:10 - 08:20 AM	50	Hybrid Architecture for Intrusion Prevention and Detection in IoT Networks <i>Rafael Zerbini Alves da Mata, Francisco Lopes de Caldas Filho, Fabio L. L. Mendonça, Awatef A. Y. R. Fares and Rafael Timóteo de Sousa Jr</i>
08:20 - 08:30 AM	25	ADS-B Vulnerabilities Test Platform <i>Diego Fernandes Marques and Daniel Chaves Café</i>
08:30 - 08:40 AM	22	NERD: a Network Exfiltration Rootkit Detector based on a Multi-agent Artificial Immune System <i>Mateus B. S. Terra and João J. C. Gondim</i>
08:40 - 08:50 AM	23	Integrating Zero Trust in the cyber supply chain security <i>Thiago Amaral and João Gondim</i>
08:50 - 09:00 AM		Q&A

November 19, 2021 – Communication Networks



- Session CN2 – Communications and Circuits

Chair: Prof. Dr. Daniel Orquiza (UnB)

Schedule	ID	Paper
10:10 - 10:20 AM	35	Preventing APT attacks on LAN networks with connected IoT devices using a zero trust based security model <i>Yuri Sales Ribeiro, Francisco Hugo Costa Neto and André L. F. de Almeida</i>
10:20 - 10:30 AM	39	Channel Estimation and Performance Evaluation of Multi-IRS Aided MIMO Communication System <i>Kenneth Brenner dos Anjos Benicio, Bruno Sokal and André Lima Férrer de Almeida</i>
10:30 - 10:40 AM	38	Design of a Low Noise Amplifier for Through-The-Earth Communication <i>Adolfo de Souza Serique and Wellington Avelino Do Amaral</i>
10:40 - 10:50 AM	30	RF SP4T FET Switch at Ku-band for Satellite Communication <i>Vinicius Do Nascimento, Daniel de Sousa and Sébastien Rondineau</i>
10:50 - 11:00 AM	37	Technical Feasibility Study of the Current Carbon Nanotube Field Effect Transistor Technology in a Zigbee Transceiver Design <i>Ciro Barbosa Costa and Wellington Avelino Do Amaral</i>
11:00 - 11:10 AM	Q&A	

November 19, 2021 – Communication Networks



• Session CN3 – Digital Signal Processing

Chair: Prof. Dr. Diego Aguiar Sousa (UFC)

Schedule	ID	Paper
02:30 - 02:40 PM	41	A Collaborative Weightless Neural Network <i>Iago P. da Silva, Jorge G. dos Santos and Alexandre S. Nery</i>
02:40 - 02:50 PM	26	Source Extraction based on Binary Masking and Machine Learning <i>Mateus S. Moura, Alexandre M. Lucena, Ricardo Suyama and Kenji N. Filho</i>
02:50 - 03:00 PM	49	Student Dropout Prediction in MOOC using Machine Learning Algorithms <i>Elias Bernardo Magalhães, Giovanni Santos, Francisco Carlos Molina Duarte Júnior, Joao Paulo J. da Costa and Rafael Timóteo De Sousa Júnior</i>
03:00 - 03:10 PM	52	Radio Frequency Signature based Implicit Object Movement Detection in an Indoor Environment <i>Seungnam Han and Euseok Hwang</i>
03:10 - 03:20 PM	59	Solid waste management and monitoring system for smart cities: development of a low-cost sustainable IoT architecture using GPRS/GSM <i>Matheus S. Monteiro, Francisco L. Caldas Filho, Pedro O. M. Souza, Vinícius S. Costa, Gustavo P. C. P. da Luz, Luís Felipe de O. Carvalho and Rafael Timóteo de Sousa Jr</i>
03:20 - 03:30 PM	Q&A	

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