



2017 ISGT Latin America Technical Program

Day 1: Wednesday, September 20, 2017

ROOM 1

10:00 AM	10:20 AM	Enterprise Architecture for the Utility of the Future: Case Study Ecuador	Patricio Erazo, Diego Morales and Patricio Pesantez
10:25 AM	10:45 AM	A Nodal Pricing Approach for Reactive Power in Distribution Networks	Marcel Chuma Cerbantes, Ricardo Fernández-Blanco, Miguel A Ortega-Vazquez and José Roberto Sanches Mantovani
10:50 AM	11:10 AM	Spatial-Temporal Model to Estimate the Load Curves of Charging Stations for Electric Vehicles	I. Morro-Mello, A. Padilha-Feltrin and J. D. Melo
11:15 AM	11:35 AM	Electrical Vehicles: Facing future challenges in Quito	Alex Valenzuela, Iván Montalvo and Carlos Barrera
11:40 AM	12:00 PM	Roles, Challenges, and Approaches of Droop Control Methods for Microgrids	Ruben Hidalgo-León, Carola Sánchez-Zurita, Pablo Jácome-Ruiz, Jinsong Wu and Yanira Muñoz-Jadan
4:00 PM	4:20 PM	Distributed Energy Management System for V2G Networked Microgrids	Paulo R C Mendes, Julio Normey-Rico and Carlos Bordons
4:25 PM	4:45 PM	Master of Power: A Power Plant Controller and Energy Management System Concept	Andrés Peña Asensio, Manuel García Plaza, Santiago Arnaltes Gómez, Joaquín Eloy-García Carrasco, Jose Luis Rodríguez Amenedo and Jaime Manuel Alonso-Martínez de Las Morenas
4:50 PM	5:10 PM	Optimal Distribution Feeder Reconfiguration for Integration of Electric Vehicles	Dante Fernando Recalde Melo, Walter Leguizamon, Tobias Massier and Hoay Beng Gooi
5:15 PM	5:35 PM	Novel Protection Schema for a Radial Microgrid System	Diego Pilaquinga and Marcelo Pozo



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ROOM 2

10:00 AM	10:20 AM	Aggregation Architecture for Data Reduction and Privacy in Advanced Metering Infrastructure	James Christopher Foreman and Franklin Efraín Pacheco Chiguano
10:25 AM	10:45 AM	Optimal Location of Sliding Mode Control and PSS in Order to Damp Electromechanical Oscillations Using the Residue	Carlos Gallardo, Marco Herrera, Merwin Ocaña, Edison Guanochanga, Oscar Camacho and Mauricio Cuichán
10:50 AM	11:10 AM	Optimum location and calibration of PSS devices considering multi-machine criteria and heuristic optimization algorithms	Carlos Gallardo, Jaime Cepeda and Hermogenes Flores
11:15 AM	11:35 AM	Pitfalls of implementing multi-vendor IEC 61850 Substation Automation Systems	Armando Portalanza, and Antonio Espinoza
11:40 AM	12:00 PM	Voltage Stability Assessment using Synchrophasor Measurements: Trends and Development	Jaime Dwaigh Pinzón Casallas and Delia Graciela Colomé
4:00 PM	4:20 PM	An Approach Based on Remedial Action Scheme to Increase Resiliency Under Failures in the Central American Power Grid	Wilfredo Flores, Javier Barrionuevo, Ezequiel Atlas and Santiago Torres
4:25 PM	4:45 PM	Time Response Laboratory Analysis for Residual Current Devices	John Morales, Edy Ayala, Cristian Espinoza, Fabricio Villavicencio, Joffre Cuzco and Jose Aguilar
4:50 PM	5:10 PM	Identification of Power System Oscillations by a Decentralized Methodology	Alejandro Zamora, Daniel Dotta, Joe H Chow, Juan M Ramirez and Mario R Arrieta
5:15 PM	5:35 PM	Dynamic state estimation of an electric power system	Gabriel Ortiz and Delia Colomé



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ROOM 3

10:00 AM	10:20 AM	Model order reduction by a statistical metric	Juan M Ramirez and Gerardo Garcia
10:25 AM	10:45 AM	Biogeography based Optimization Algorithms Applied to AC Transmission Expansion Planning	Santiago Torres, Jose Chillogalli and Carlos Castro
10:50 AM	11:10 AM	Failure Probability Metric by Machine Learning for Online Risk Assessment in Distribution Networks	Jonatas Leite, José Roberto Sanches Mantovani, Tatjana Dokic, Qin Yan, Po-Chen Chen and Mladen Kezunovic
11:15 AM	11:35 AM	Control and Protection of Active Distribution Systems Using a New Multiobjective Mathematical Model	Katiani Pereira Conceição, Benvindo R Pereira Junior, Edgar M Carreño Franco, Javier Contreras and José Roberto S Mantovani
11:40 AM	12:00 PM	Intervention Scheme Based Heuristic Optimizer for Online Reactive Power Management	Deesh Dileep, Jose Luis Rueda Torres and Rosanna Loor
4:00 PM	4:20 PM	Development of an ANN Model to Multi-Region Short-Term Load Forecasting based on Power Demand Patterns Recognition	Leonardo Nogueira Da Silva, Alzenira R Abaide, Iuri C Figueiró, Drean Martinuzzi and Jonas Rigodanzo
4:25 PM	4:45 PM	Minimax approaches to optimal transmission expansion planning considering non-probabilistic scenarios of market-based renewable generation capacity additions	Rafael Ferreira, Martha Carvalho, Jairo Terra, Carmen Borges and Luiz Barroso
4:50 PM	5:10 PM	Evaluation of the Impact of Different Neural Network Structure and Data Input on Fault Detection	Luciana Acacio, Paola Guaracy, Tamara Diniz, Débora Ribeiro Penido Araujo and Leandro Araujo
5:15 PM	5:35 PM	Load Estimation Based on Self-organizing Maps and Bayesian Networks for Microgrids Design in Rural Zones	Victor Caquilpan, Doris Saez, Roberto Hernandez, Jacqueline Llanos, Tomislav Roje and Alfredo Nunez



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ROOM 4

10:00 AM	10:20 AM	Concentrated Solar Power: Analysis of Economic Aspects in Brazil	Mariani Santos, Leonardo Leite and Adriana Reis
10:25 AM	10:45 AM	Risk allocation & economic incentives for the sharing of network facilities for the connection of renewables to the transmission grid	Rafael Ferreira, Jairo Terra and Martha Carvalho
10:50 AM	11:10 AM	Metaheuristic Approach for Online Optimal Reactive Power Management in Near-Shore Wind Power Plants	Jose L Rueda, Aimilia Theologi, Mario Ndreko, István Erlich and Peter Palensky
11:15 AM	11:35 AM	Battery Energy Storage System for a Hybrid Generation System Grid Connected using Fuzzy Controllers	Nataly Aracely Pozo Viera and Paul Marcelo Pozo Palma
11:40 AM	12:00 PM	Optimal Location and Size for Various Renewable Distributed Generators in Distribution Networks	Tuesman Castillo and Maarouf Saad
4:00 PM	4:20 PM	Voltage Regulators, Capacitor Banks and Distributed Resources Allocation in a Distribution Network System	Israel Casillas, Nelson Kagan, Juan Carlos Cebrian and Mentor Poveda
4:25 PM	4:45 PM	Control of Mechanical Loads in Wind Turbines Using an Integrated Aeroelastic Model	Luis Ismael Minchala, Diego Cardenas-Fuentes and Oliver Probst
4:50 PM	5:10 PM	Modeling, Simulation and Construction of the D-ICAZA-A1 wind turbine destined for the rural areas of Ecuador	Daniel Icaza
5:15 PM	5:35 PM	Grid Parity Analysis for Low Power Photovoltaic Systems in Santa Fe (Argentina)	Emmanuel Sangoi, Mauricio Samper and Jorge Vega



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Day 2: Thursday, September 21, 2017

ROOM 1

10:00 AM	10:20 AM	A Tariff System for EV Smart Charging to Increase Renewable Energy Sources use	Jean-Michel Clairand, Javier Rodríguez García, Carlos Alvarez Bel and Patricio Pesántez Sarmiento
10:25 AM	10:45 AM	Public Policies Proposals for the Deployment of Electric Vehicles in Ecuador	Juan Fernando Vera, Jean-Michel Clairand and Carlos Alvarez Bel
10:50 AM	11:10 AM	Spatial-Temporal Model for Demand Estimation Due to Appliances with High Energy Consumption	Mario Andres Mejia Alzate, Joel David Melo Trujillo, Sergio Zambrano Asanza and Antonio Padilha Feltrin
11:15 AM	11:35 AM	Smart grids: A multi-scale framework of analysis	Juan L Espinoza, Esteban Samaniego, Jose Jara-Alvear and Diego Ochoa
11:40 AM	12:00 PM	Smart Charging of PEVs to Reduce the Power Transformer Loss of Life	Angel Manuel Sanchez, Andrés Arturo Romero, Giuseppe Rattá and Sergio Rivera
4:00 PM	4:20 PM	Electrical Load Curve Reconstruction required for Demand Response using Compressed Sensing Techniques	Juan Inga-Ortega, Esteban Inga, Cristina Gómez and Roberto Hincapié
4:25 PM	4:45 PM	A Study of Microgrids through Cooperative Games including the Effect of Geographical Proximity	Juan Sanango, Esteban Samaniego, Juan L Espinoza and Rodrigo Sempertegui
4:50 PM	5:10 PM	Investigation of Infrastructural Solutions to Mitigate the Impacts of EV Recharging at LV Networks	Y. G. Pinto, F. C. L. Trindade, J. C. Cebrian and W. W. Teixeira
5:15 PM	5:35 PM	Development of a spatial load forecasting module for optimizing planning of electricity supply	Diego Morales, Yvon Besanger, Santiago Moscoso and Patricio Pesantez



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Day 2: Thursday, September 21, 2017

ROOM 2

10:00 AM	10:20 AM	Testbed for PSS Tuning Using Synchrophasor Measurements and a Real-Time Digital Simulator	Pablo Verdugo, Jaime Cepeda, Aharon De La Torre and Kevin Paucar
10:25 AM	10:45 AM	Methodology for defining the Functionality of Advanced Measurement Infrastructure in Colombia	Renato Cespedes, Javier Rosero García, William Montaña Salamanca and Juan Felipe Reyes Morales
10:50 AM	11:10 AM	Real-time Transient Stability Assessment of Electric Power Systems using Predictive-SIME based on Machine Learning	Diego Echeverria, Jaime Cepeda and Graciela Colome
11:15 AM	11:35 AM	Adaptive Distance Protection with Compensation for Remote Infeed Effect	Roger Oliveira and José Nuñez
11:40 AM	12:00 PM	Feasibility of Distributed Monitoring and Distributed Control in Power System	Silvana Gamboa and Eduardo A Orduña
4:00 PM	4:20 PM	Performance of Phasor Estimation Algorithms in Instability Cases of Electric Power Systems	Moisés Martínez and Graciela Colomé
4:25 PM	4:45 PM	Analysis to prevent the disconnection of shunt power capacitors because of the failure of capacitive units	Mariajose Macario, Alberto Casiano and Jorge Quintana
4:50 PM	5:10 PM	Economic Viability Study for the Smart Meter Installation in Brazil	Jonas Rigodanzo, Alzenira Abaide, Leonardo Silva and Joelson Paixão
5:15 PM	5:35 PM	Droop Control Based on Fuzzy Logic for Voltage and Frequency Regulation in Isolated Microgrids	Geronimo Barbosa Alexandre, Antonio Marcus Nogueira Lima and João Batista Moraes Dos Santos



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ROOM 3

10:00 AM	10:20 AM	Joint Reconfiguration of Feeders and Allocation of Capacitor Banks in Distribution Systems Using a Multi-Start Strategy	Márcio M Montsutsumi, Jose N Melchor, Leonardo H Macedo and Rubén Romero
10:25 AM	10:45 AM	An Analysis of the Optimal Switching Problem in Transmission Systems	Moisés Flores, John Fredy Franco and Rubén Romero
10:50 AM	11:10 AM	Strategic Bidding in Regional Electricity Markets: Alternative Approach using Mixed Complementarity Problems	Augusto F Porras-Ortiz, Ricardo Rubio-Barros and Osvaldo Añó
11:15 AM	11:35 AM	Optimal Fault Location in Transmission Lines Using Hybrid Method	Diego Carrión, Jorge W González, Idi A Issac and Gabriel J López
11:40 AM	12:00 PM	Design of secondary circuits of distribution networks using clustering and shortest path algorithms	Gabriela Cabrera-Celi, Edison Novoa-Guaman and Paul Vasquez-Miranda
4:00 PM	4:20 PM	Optimal Control of Reactive Power in an Offshore Wind Farm with HVDC Link	Carlos Gallardo and Richard Tapia
4:25 PM	4:45 PM	Optimal Placement, Sizing and Control of Distributed Series Reactor to Improve System Reliability	Mariano Anello and Alberto Del Rosso
4:50 PM	5:10 PM	Evaluation of the Influence of a High Quality Initial Solution in the Coordination of DOCRs Using an ACO Algorithm	Angel Esteban Labrador Rivas and Luis Alfonso Gallego Pareja
5:15 PM	5:35 PM	Particle Swarm Optimization Applied to Reactive Power Redispatch Considering Renewable Generation	Maíra Ribas Monteiro, Antonio Carlos Zambroni De Souza and Benedito Isaias De Lima Lopes



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ROOM 4

10:00 AM	10:20 AM	Voltage Control in Low Voltage Distribution Networks with High Penetration Photovoltaic System	Jaimis S Leon, Antonio Padilha Feltrin, Joel D Melo and Alfeu J Sgurezi Filho
10:25 AM	10:45 AM	Sizing of Hybrid Energy Storage Systems for Frequency Response of Solar Farms in Ecuador	Stalin Munoz Vaca, Charalampos Patsios and Phil Taylor
10:50 AM	11:10 AM	Assessing the Performance of Smart Inverters in Large-Scale Distribution Networks with PV Systems	María José Parajeles, Jairo Quirós-Tortós and Gustavo Valverde
11:15 AM	11:35 AM	Applications of Geothermal Energy in the Ecuadorian Context. Case study: Baños of Cuenca - Ecuador	Ricardo Medina, Diego X Morales, Johana Narvaez and Marco Antonio Toledo
11:40 AM	12:00 PM	Energy Storage for Frequency Control in Microgrids	Gastón Orlando Suvire, Leonardo Javier Ontiveros and Pedro Enrique Mercado
4:00 PM	4:20 PM	Smoothing of Photovoltaic Power Generation Using Batteries as Energy Storage	Carlos Ceja-Espinosa and Elisa Espinosa-Juarez
4:25 PM	4:45 PM	Importance of Hourly Multi-Bus Unit Commitment Models in the context of High Adoption of Variable Renewable Energies: A Chilean Example	Fernada Avila, Alejandro Navarro, Javier Ayala, Samuel Cordova, Pablo Cerda and Hugh Rudnick
4:50 PM	5:10 PM	Microgrid architectures for Distributed Generation: a brief review	Adriel M Rizzato Ledo, Marcelo G Molina, Maximiliano Martinez and Pedro E Mercado
5:15 PM	5:35 PM	Details and implementation of a SiC-based solid state transformer prototype	Juan M Ramirez, Aristeo Barrios Rivera and Joel Salome B



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Day 3: Friday, September 22, 2017

ROOM 1

10:00 AM	10:20 AM	Assessment of Demand Response and Distributed Generation Impacts in the Colombian Power System Chargeability	Jesus Lopez, Aaron Casadiegos, Julian Muñoz, Diego Andres Moreno, Fernando Paniagua, Carlos Andres Tamayo, Cristian Camilo Marin, Alvaro Jaramillo and Diego Mejia
10:25 AM	10:45 AM	Study for Determination of Projected Maximum Unit Demand Case Study: Cuenca–Ecuador	Santiago Moscoso, Diego Morales and Diego Balarezo
10:50 AM	11:10 AM	Using distribution-level locational marginal pricing to value distributed generation: impacts on revenues captured by generation agents	Jairo Terra, Rafael Ferreira, Carmen Borges and Martha Carvalho
11:15 AM	11:35 AM	Impact of Electric Vehicle Charging on the Distribution System in Cuenca, Ecuador	Julio Gomez, Paula Castro Vide, Natália Gameiro, Gonzalo Guerron and Luis González

Day 3: Friday, September 22, 2017

ROOM 2

10:00 AM	10:20 AM	Analysis of Voltage Sags Due to Induction Motors in Distribution Systems with High PV Penetration	Héctor Alejandro Villarroel Gutiérrez and Marcelo Gustavo Molina
10:25 AM	10:45 AM	Incorporation of Dynamic Voltage Support Requirements in PV Systems to Mitigate the Effects of Voltage Sags in Distribution Networks	Héctor Alejandro Villarroel Gutiérrez and Marcelo Gustavo Molina
10:50 AM	11:10 AM	Study and Analysis of Harmonic Disturbances in the Network of the Quito Electric Company to the Incorporation of the Metro System in Quito	José Marin, Mauro Jurado, Fabián Perez, Hugo Arcos and Franklin Quilumba
11:15 AM	11:35 AM	Grid-Connection Strategy with Reduced Current Spikes for Grid-Tie Module-Integrated Converter	Sebastian De Jesus Manrique Machado, Newton Da Silva, Leonardo Bruno Garcia Campanhol and Idi Amin Isaac Millán



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Day 3: Friday, September 22, 2017

ROOM 3

10:00 AM	10:20 AM	Determining Nodal Interruption Capacity with Reliability Assessment Method	Nestor Gonzalez Cabrera, Guillermo Gutierrez Alcaraz and Esteban Gil Sagas
10:25 AM	10:45 AM	Noise reduction for faults in HVDC lines using mathematical morphology	Victor Pellanda Dardengo, Paulo Holanda Cavalcante and Madson Cortes de Almeida
10:50 AM	11:10 AM	Power Quality with Solid State Transformer Integrated Smart-Grids	Fernando Vaca-Urbano and Manuel Alvarez-Alvarado
11:15 AM	11:35 AM	Sliding-Mode Control on DC-DC converters of a Virtual Power Plant	Eduardo Avila, Marcelo Pozo, Oscar Camacho, Paulo Leica, Leonardo Ortega, Carlos Gallardo and Xavier Dominguez

Day 3: Friday, September 22, 2017

ROOM 4

10:00 AM	10:20 AM	EMC Research of Transformer-Thyristor Regulator	Elena Sosnina, Alexey Loskutov, Aleksandr Sevostyanov and Rustam Bedretinov
10:25 AM	10:45 AM	Paralleling a Synchronverter and a PWM-based Converter for Supplying a Microgrid	Juan M Ramirez and Julio C Rosas-Caro
10:50 AM	11:10 AM	Development and Research of the Universal Coupling Device for Different Kinds of Electric Power Sources	Elena Sosnina, Alexandr Chivenkov and Ivan Lipuzhin
11:15 AM	11:35 AM	Standalone Photovoltaic System, using a Single Stage Boost DC/AC Power Inverter Controlled by a Double Loop Control	Wilson Pavon