

## SEPOC 2022 - Schedule of Oral Sessions

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2) All times are in GMT-3

3) This schedule may be subjected to changes

### Technical Session 1

**Day** 12/11/2022 (Saturday)

**Hour** 13:30 - 15:00

#### Room 01a - Modeling and control of power electronics for renewable energy systems

**Chair:** Gustavo Koch

Hour	ID	Title	Authors
13:30	17	IV curve characterization methods for photovoltaic panels: An applicative review	Juan Carlos Colque Ccarita (Unicamp), Marco Quispe Barra (UNAP), Maximo Montalvo (UNAP), David Salinas Mendoza (UNAP), Iván Delgado Huayta (UNAP), José Luis Azcue Puma (UFABC)
13:48	90	Mathematical models used in photovoltaic system design software: a systematic review and a new proposal	Andrei da Cunha Lima (UFSM), Charles Schardong (UFSM), Frederico Menine Schaf (UFSM), Leandro Michels (UFSM)
14:06	109	A new modular multilevel converter based on photovoltaic system: power mismatch elimination and its control strategy	Juan Carlos Colque Ccarita (University of Campinas), Ernesto Ruppert (UNICAMP), José Luis Azcue (UFABC)
14:24	94	A New Fault Diagnostic Strategy for Photovoltaic Arrays through Artificial Neural Network	Amanda Costa Maia (UNIPAMPA), Guilherme Sebastião da Silva (UNIPAMPA)
14:42	71	Desacoplamento P/Q via Impedância Virtual Adaptativa em um Sistema PV Operado no Modo Tensão Conectado à Rede Elétrica de Baixa Tensão	Luiz Eduardo Marinho (UFRN), Thiago de Oliveira Alves (UFRN), José Raimundo Dantas Neto (UFRN), Ricardo Lúcio de Araujo Ribeiro (UFRN)

#### Room 01b - Real-time simulation AND Electrical machines, control and drives

**Chair:** Thieli Gabbi

Hour	ID	Title	Authors
13:30	98	Análise e projeto de um sistema de propulsão híbrido para um conjunto trator-implemento agrícola.	William Klaus Moreira (UFSM), Cassiano Rech (UFSM), Julian Cezar Giacomini (IFFar)
13:48	75	Análise do Desempenho de Modelo Virtual de Religador para Redes de Distribuição de Energia Desenvolvido a partir das Ferramentas da Typhoon HIL	Isabella Basso Pereira (UFSM), Adriano Peres de Moraes (CTISM), Fernando Guilherme Kaehler Guarda (CTISM), Jhonatan Antônio Cassol (UFSM)
14:06	62	Proposal of Prototype of PMU Based on Dynamic Phasors	Paulo Ricardo Dutra Ribeiro da Silva (Unicamp), Guilherme Cerbatto Schmitt Prym (Unicamp), Geyciane Perreira de Lima (Unicamp), Caíque Creomenes Almeida de Carvalho - (UFBA), Daniel Dotta (Unicamp), Marcelo Britto Martins (INMETRO)
14:24	81	Desenvolvimento de rotinas de testes automatizados para avaliação de desempenho de PMSM drives através de interface HIL	Emmanuel Adamski de Moura (UFSM), Cassiano Rech (UFSM), Rodrigo Padilha Vieira (UFSM)

#### Room 01c - Power systems analysis, operation, control and protections

**Chair:** Nelson Knak Neto

Hour	ID	Title	Authors
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13:30	43	Analysis of technical losses considering charging stations and PV systems	Cristiane Gastaldini (UFSM), Poleana Gehrke (UFSM), João G. S. de Avellar (UFSM), Criciéle C. Martins (UFSM)
13:48	37	Simulation and Dynamic Analysis of a Wind Farm in the Occurrence of a Fault in the Grid	Fernando Sousa (UFERSA), Emylle Cristine Alves e Silva (UFERSA), Adriano Aron Freitas de Moura (UFERSA), Ednardo Pereira da Rocha (UFERSA), Victor de Paula Brandão Aguiar (UFERSA), Daniel Carlos de Carvalho Crisóstomo (UFERSA)
14:06	93	Analysis of the impact of photovoltaic systems on the power factor	Poleana Gehrke (UFSM), Criciéle Castro Martins (UFSM), Mauricio Sperandio (UFSM)
14:24	41	Dynamic Simulation and Analysis of a Wind Farm Connected to a Transmission Substation.	Emylle Cristine Alves e Silva (UFERSA), Fernando Gabriel Araújo de Sousa (UFERSA), Adriano Aron Freitas de Moura (UFERSA), Ednardo Pereira da Rocha (UFERSA), Victor de Paula Brandão Aguiar (UFERSA), Daniel Carlos de Carvalho Crisóstomo (UFERSA)

#### Room 01d - Power electronics – topologies and design

**Chair: Jorge Rodrigo Massing**

Hour	ID	Title	Authors
13:30	39	Study About Architecture Classification of Bidirectional Non-Isolated Power Converters	Fabiano Gonzales Nimitti (UFSM), António Manuel Santos Spencer Andrade (UFSM)
13:48	1	Analysis of the Use of IGBT and SiC MOSFET in Power Converter DC-DC	Yury Skorokhod (Moscow Power Engineering Institute), Sergey Volskiy (Moscow Aviation Institute), Dmitriy Sorokin (Moscow Aviation Institute)
14:06	82	Four-phase Buck Converter Design and Thermal Modeling Using FEA Simulation	Gustavo Eckhardt (UNIJUÍ), João Manoel Lenz Vianna da Silva (UNIJUÍ)
14:24	111	Four-Switch Five-Level Common-Ground Transformerless Inverter	Felipe Bovolini Grigoletto (UNIPAMPA), Sound Cedieu (UNIPAMPA), Sze Sing Lee (Newcastle University (Singapore)), Reza Barzegarkhoo (University of Technology Sydney), Yam Prasad Siwakoti (University of Technology Sydney)

#### Technical Session 2

**Day 13/11/2022 (Sunday)**

**Hour 15:30 - 17:00**

#### Room 02a - Modeling and control of power electronics for renewable energy systems

**Chair: Lucas Vizzotto Bellinaso**

Hour	ID	Title	Authors
15:30	15	Power System Stabilizer Applied to VSG-Based Power Flow Control of DG Systems in Low-Voltage Networks	Thiago Figueiredo do Nascimento (UFRN), Andrés O. Salazar (UFRN)
15:48	32	Virtual Synchronous Generator and Harmonic Suppression Control in a Solid-State Transformer	Vinicius da Luz (UFES), Daniel Carletti (UFES), Matheus Bassani Luchini (UFES), Hélio Marcos André Antunes (UFES), Lucas Frizera Encarnação (UFES)
16:06	60	Impact Analysis of Low-Voltage Ride-Through on the VSG-Based Power Flow Control Applied to Grid-forming DG Systems	Thiago Figueiredo do Nascimento (UFRN), Andres O. Salazar (UFRN)

16:24	47	Topologies Analysis of Transformerless PV Inverters with Leakage Current Reduction	Guilherme Cerbato Schmitt Prym (Unicamp), Caíque Creomenes Almeida de Carvalho (UFBA), Geyciane Pinheiro de Lima (Unicamp), Paulo Ricardo Dutra Ribeiro da Silva (Unicamp), José Mario Araújo (IFBA), Marcelo Gradella Villalva (Unicamp)
16:42	48	A Novel H7 Transformerless Single-Phase Inverter Topology for Leakage Current Reduction	Caíque Creomenes Almeida de Carvalho (UFBA), Guilherme Cerbato Schmitt Prym (Unicamp), Geyciane Pinheiro de Lima (Unicamp), Paulo Ricardo Dutra Ribeiro da Silva (Unicamp), Marcelo Gradella Villalva (Unicamp), José Mario Araújo (IFBA)

### Room 02b - Education in Engineering AND Entrepreneurship in Engineering

<b>Chair:</b>		<b>Marcelo Serrano Zanetti</b>	
<b>Hour</b>	<b>ID</b>	<b>Title</b>	<b>Authors</b>
15:30	21	APLICATIVO PARA PROJETO DE SISTEMA FOTOVOLTAICO PARA CONSUMIDORES DO GRUPO A	Jovana dos Santos Argenta (UFSM-CS), Laura Lisiane Callai dos Santos (UFSM-CS), Ana A. T. Goretti (UFSM-CS)
15:48	99	Educational Linear Systems Emulation Platform	Juliane Farret (UFSM), Émerson Isaias da Silva (UFSM), Lucas Vizzotto Bellinaso (UFSM), Rodrigo Varella Tambara (UFSM)
16:06	73	APRENDIZAGEM ATIVA: DESENVOLVIMENTO DE PROGRAMA EM VBA PARA O PROJETO DE EFICIENTIZAÇÃO ENERGÉTICA ( <i>Active learning: development of a VBA program for the energy efficiency project</i> )	Rogério Moreira Alves Júnior (UFSM), Dion Lenon Prediger Feil (UFSM), Laura Lisiane Callai dos Santos (UFSM), Cristina Althaus (UFSM), Marcelo Grenzel (UFSM), Jessica Emilly de Moura Lisboa (UFSM)
16:24	85	Educational graphic tool for comprehension of relays 50/51, 67 and 21 operation	César Teixeira Pacheco (UFSM-CS), Dion Lenon Prediger Feil (UFSM-CS), Gustavo Lenhardt Steffen (UFSM-CS), Marcelo de Ramos Grenzel (UFSM-CS), Nelson Knak Neto (UFSM-CS), João Gabriel Silva de Avellar (UFSM-CS)
16:42	36	Development of a network of charging stations with franchising application through business model Canvas	Cristiane Gastaldini (UFSM), João G. S. de Avellar (UFSM), Poleana Gehrke (UFSM), Guilherme A. Rech (UFSM)

### Room 02c - IOT

<b>Chair:</b>		<b>Carlos Barrichello</b>	
<b>Hour</b>	<b>ID</b>	<b>Title</b>	<b>Authors</b>
15:30	12	An IoT-Based Smart Microgrid System For Rural Areas	Md Ether Deowan (American International University - Bangladesh), Md. Nafim Mahmud Bhuiyan (American International University - Bangladesh), Md. Hasibul Islam (American International University - Bangladesh)
15:48	33	Communication Technologies Comparison for Electric Power Quality Monitoring - Fuse Sensor	Helder Batista de Boa Esperança dos Prazeres (UFES), Ronimar Espindula Volkers (SEVEN SCIENCE SYSTEMS), Waldemar Júnior Tozi (SEVEN SCIENCE SYSTEMS), Lucas Frizera Encarnação (UFES)

16:06	14	Smart Early Flood Monitoring System Using IoT	Md Ether Deowan (American International University - Bangladesh), Samirul Haque (American International University - Bangladesh), Jahidul Islam (American International University - Bangladesh), Md. Hanjalayeamin (American International University - Bangladesh), Md. Touhidul Islam (American International University - Bangladesh), Rehenuma Tabassum Meghla (American International University - Bangladesh),
16:24	51	Evaluation of DLMS/COSEM Data Processing Setups Applied to Smart Metering	Cristian Augusto Wülfing (UFSM), Flávio Garlet Reck (Fox IoT), Carlos Henrique Barriquello (UFSM), Filipe Gabriel Carloto (Fox IoT), Paulo Ricardo Marin (Mux Energia), Everton Nascimento (Mux Energia)

### Room 02d - Smart lightening systems AND Artificial Intelligence

<b>Chair:</b>		<b>Paulo César Luz</b>	
<b>Hour</b>	<b>ID</b>	<b>Title</b>	<b>Authors</b>
15:30	44	Suplementação luminosa aplicada ao cultivo de hortaliças	Paulo Luz (UFSM-CS), Messias de Lara Teixeira (UFSM-CS), Luis Eduardo da Rosa Machado (UFSM-CS), Dion Lenon Prediger Feil (UFSM-CS)
15:48	87	Plataforma para testes de LEDs UV-C em aplicações de desinfecção microbiológica	Marcelo Santos da Costa (UFSM), Alysson Raniere Seidel (UFSM), Rodrigo Varella Tambara (UFSM), Maikel Fernando Menke (UFSM)
16:06	78	Análise de topologias para concepção de um receptor voltado à comunicação por luz visível	Guilherme Ribeiro Silveira (UFSM), Vitor Lorensen Padoin (UFSM), Schaiane Rodrigues Machado (UFSM), Ramon Panazollo (UFSM), Lucas Teixeira (UFSM), Marco Antônio Dalla Costa (UFSM)
16:24	66	Forecasting of photovoltaic power generation using deep learning AI	Leonardo Jonas Piotrowski (UFSM), Felix Alberto Farret (UFSM)
16:42	103	Random Forest Applied to Mass Imbalance Classification in Wind Turbines	Eduardo Goulart da Silva (UFSM), Émerson Cassiano da Silva (UFSM), Frederico Menine Schaf (UFSM), Humberto Pinheiro (UFSM), Claiton Moro Franchi (UFSM), Daniel Fernando Tello Gamarra (UFSM)

### Technical Session 3

**Day** 14/11/2022 (Monday)

**Hour** 08:00 - 09:30

### Room 03a - Modeling and control of power electronics for renewable energy systems

<b>Chair:</b>		<b>Márcio Stefanello</b>	
<b>Hour</b>	<b>ID</b>	<b>Title</b>	<b>Authors</b>
08:00	105	Multi-Input Split-Source Inverter (MISSI)	Gabriel Maier Cocco (UFSM), Robinson Figueiredo de Camargo (UFSM), Felipe Bovolini Grigoletto (UFSM), Fábio Ecke Bisogno (UFSM)
08:18	70	Inner Loop Controllers for Grid-Forming Inverters	Alexandre Trevisan Pereira (IFSul) Humberto Pinheiro (UFSM)

08:36	67	Model Predictive Control for Common Grounded Photovoltaic Multilevel Inverter	Felipe Bovolini Grigoletto (UNIPAMPA), Kelwin de Oliveira Silveira (UNIPAMPA), Fernanda Carnielutti (UFSM), Mokhtar Aly (UTFSM), Margarita Norambuena (UTFSM), José Rodriguez (Universidad San Sebastian)
08:54	24	Design methodology for the DC link current controller of a Series-Connected Offshore Wind Farm	Andrei de Oliveira Almeida (CEFET-MG), Pedro Machado de Almeida (UFJF), Pedro Gomes Barbosa (UFJF)
09:12	92	Self-Excited Induction Generator Based Generation System Regulation Using Synchronous Generator as Reactive Power Compensator	Raul Pivetta (UFSM), Igor Luiz Dal Forno (UFSM), Lucas Giuliani Scherer (UFSM), Robinson Figueiredo de Camargo (UFSM), Felipe Bovolini Grigoletto (UNIPAMPA)

### Room 03b - Education in Engineering

<b>Chair:</b>		<b>Cristiane Cauduro Gastaldini</b>	
<b>Hour</b>	<b>ID</b>	<b>Title</b>	<b>Authors</b>
08:00	25	Power Electronics Laboratory Projects Enhance Interdisciplinary Engineering Education	Georgios I. Orfanoudakis (Hellenic Mediterranean University (HMU)), Alexandros G. Paspatis (Hellenic Mediterranean University (HMU))
08:18	45	Veículo Elétrico com Abastecimento por Energia Fotovoltaica como Material Didático no Curso de Engenharia Elétrica	Vinícios Frigheto de Franceschi (UFSM-CS), Leonardo Chaves Machado (UFSM-CS), Alexander Nagorsny (UFSM-CS), Paulo César Vargas Luz (UFSM-CS)
08:36	102	Educational Low-Cost Frequency Response Analyzer using Arduino and Software Octave	Raymundo Cordero (UFMS), Sara de Oliveira (UFMS), Nicolle Arakaki (UFMS), Polynne Modesto (UFMS), Gleidson Kumagai (UFMS)
08:54	26	Development of Practical Extension Activities with High School Students to Encourage entry into Engineering Careers	Israel Gondres (UEA - Embedded Systems Laboratory), Eduardo Sales (UEA) Tiago Sá (UEA), Fábio de Sousa Cardoso (UEA), Angilberto Muniz Ferreira Sobrinho (UEA), André Luiz Printes (UEA)
09:12	46	Divulgação do curso de Engenharia Elétrica da Universidade Federal de Santa Maria Campus de Cachoeira do Sul na comunidade escolar	Paulo Luz (UFSM-CS), Laura Lisiane Callai dos Santos (UFSM-CS), César Teixeira Pacheco (UFSM-CS), Vinícios Frigheto de Franceschi (UFSM-CS), Larissa Melchiors Furlan (UFSM-CS), Matheus Vargas Linhares (UFSM-CS)

### Room 03c - Power systems analysis, operation, control and protections

<b>Chair:</b>		<b>Laura Lisiane Callai Dos Santos</b>	
<b>Hour</b>	<b>ID</b>	<b>Title</b>	<b>Authors</b>
08:00	76	Análise da viabilidade da implementação de microrredes em corrente contínua na região Sul e região Amazônica do Brasil	Nelson Knak Neto (UFSM-CS), Samantha Almansa Marques (UFSM-CS)
08:18	108	Microgrid for electric vehicle fast-charging: an energetic approach to highway operation in the South of Brazil	Joelson Lopes da Paixão (UFSM), Alzenira da Rosa Abaide (UFSM)
08:36	16	Análise da viabilidade econômica de geração distribuída com armazenamento para consumidores faturados pela tarifa branca	Ana Alice Timm Goretti (UFSM), Jovana dos Santos Argenta (UFSM), Laura L. C. dos Santos (UFSM), Paulo César Vargas Luz (UFSM)
08:54	97	Management of Distributed Energy Resources in a Rural Microgrid	Renata Lautert (UFSM), Adriano G. Freitas (University of Bradford), Ana Paula Militz (UFSM), Anderson Vinck (UFSM), Émerson I. da Silva (UFSM), Isabella B. Pereira (UFSM)

09:12	49	Realidade e perspectivas da energia solar fotovoltaica em residências: revisão de literatura	Juliana Veloso (UFSM)
<b>Room 03d - Electrical machines, control and drives</b>			
<b>Chair:</b>		<b>Rodrigo Padilha Vieira</b>	
<b>Hour</b>	<b>ID</b>	<b>Title</b>	<b>Authors</b>
08:00	107	p-q Theory Based Predictive Control for Voltage Regulation and Harmonic Compensation of Standalone SEIG	Marcos Vinicius Soares Gonçalves (UFSM), Gabriel Maier Cocco (UFSM), Robinson Figueiredo de Camargo (UFSM)
08:18	23	Current balancing of scalar-controlled induction motors with imbalanced cables	Georgios I. Orfanoudakis (Hellenic Mediterranean University (HMU)), Michael A. Yuratic (TSL Technology Ltd), Suleiman M. Sharkh (University of Southampton)
08:36	58	Electromagnetic Forces and Mechanical Stresses in Power Transformers: An Analysis Based on Computer Aided Engineering	Richard Gonçalves Cornelius (UFSM), Betina Lenhard (UFSM), Leonardo Hautrive Medeiros (UFSM), Vitor Cristiano Bender (UFSM), Tiago Bandeira Marchesan (UFSM), Rodinei Carraro (CEEE)
08:54	74	Powertrain Requirements and Performance Estimation of Vehicles Converted from Internal Combustion to Electrical Traction	Paulo Eckert (UFRGS), Igor Pasa Wiltuschnig (UFRGS), Bruno Dias (UFRGS), Rodrigo Borges Tavares (UFRGS), Evandro Claiton Goltz (UFSM), Rodrigo Padilha Vieira (UFSM)
09:12	96	Controlador de Carga para Gerador Síncrono Acoplado à Bicicletas Ergométricas	Rodrigo Buroni Machado (UNIPAMPA), Jocemar Biasi Parizzi (UNIPAMPA), Carlos Sonier Cardoso do Nascimento (UNIPAMPA), Cristiane Gastadini (UFSM)
<b>Technical Session 4</b>			
<b>Day</b>	<b>15/11/2022 (Tuesday)</b>		
<b>Hour</b>	<b>13:30 - 15:00</b>		
<b>Room 04a - Modeling and control of power electronics for renewable energy systems</b>			
<b>Chair:</b>		<b>Felipe Grigoletto</b>	
<b>Hour</b>	<b>ID</b>	<b>Title</b>	<b>Authors</b>
13:30	8	A Robust Adaptive Predictive Super-Twisting Sliding Mode controller for grid-tied converters	Paulo Jefferson Dias de Oliveira Evald (UFPEl), Guilherme Vieira Hollweg (UFSM), Hilton Abilio Gründling (UFSM)
13:48	9	A Least-Squares-based Adaptive PI Controller for grid-tied DC-AC converters	Paulo Jefferson Dias de Oliveira Evald (UFPEl), Guilherme Vieira Hollweg (UFSM), Hilton Abilio Gründling (UFSM)
14:06	84	Implementação discreta de um controlador super-twisting sliding-mode para inversor conectado a rede com filtro L	Adailton Braga Júnior (UFSM), Ana Flávia Bacca (UFSM), Rodrigo Padilha Vieira (UFSM)
14:24	113	Controle de corrente de um inversor monofásico conectado à rede empregando retroação parcial de estados e controlador ressonante	Maurício Carazzo de Camargo (UFSM), Pedro Henrique Borre Sebastiany (UFSM), Lucas Vizzotto Bellinaso (UFSM)
14:42	7	A Least-Square-based RMRAC for Grid-tied Voltage Source Inverters with LCL Filter	Paulo Jefferson Dias de Oliveira Evald (UFPEl), Guilherme V. Hollweg (UFSM), Lucas C. Borin (UFSM), Everson Mattos (UFSM), Rodrigo V. Tambara (UFSM), Vinicius F. Montagner (UFSM)
<b>Room 04b - Power systems analysis, operation, control and protections</b>			

Chair:		Mauro Fonseca Rodrigues	
Hour	ID	Title	Authors
13:30	54	Connection Study of Back-to-Back Hybrid Filter Applied to a Hot Strip Mill with Cycloconverters	Rafael Krause (UFES), Hélio Marcos André Antunes (UFES)
13:48	68	Análise dos Métodos de Bloqueio do Relé de Distância Durante Oscilações de Potência em Linhas de Um pouco mais de Meio Comprimento de Onda	Marcel Souza Mattos (UFSM), Ghendy Cardoso Junior (UFSM), Adriano Peres de Moraes (UFSM)
14:06	69	Especificação de para-raios em sistema de distribuição rural trifásico a dois fios	Murilo Neumann Oliveira (UFSM), Leonardo Felipe da Silva dos Santos(UFSM), Gustavo Marchesan (UFSM), Aécio de Lima Oliveira (UFSM), Ghendy Cardoso Junior (UFSM), Diego Berlezi Ramos (UFSM)
14:24	95	Apontamentos sobre Segurança Cibernética no Setor Elétrico	Davi Sehnem Castro (UFSM), Luiz Fernando Freitas-Gutierrez (UFSM)
14:42	13	Comparison between methods for the calculation of the electrical potential distribution in the surface of grounded grids.	Pedro Henrique Borré Sebastiany (UFSM), Miguel Spagnolo Martins (UFSM), Roberta Stefanello (UFSM), Maurício Carazzo de Camargo (UFSM), Diego Berlezi Ramos (UFSM), Ghendy Cardoso Jr. (UFSM)

#### Room 04c - Optimization

Chair:		Leonardo Emmendorfer	
Hour	ID	Title	Authors
13:30	35	Automation of the Tower Allocation Process of an Electric Power Transmission System	Tomás Scherer Ellwanger (UFSM), Mauricio Sperandio (UFSM)
13:48	51	Controle de Tensão e Reativos em Subestação de Distribuição com o uso do Gerenciador de Manobras em Supervisório Elipse	Felipe Anselmini (UFSM), Mauricio Sperandio (UFSM)
14:06	77	Optimal Power Factor Correction and Overvoltage Mitigation in Distributed Generation Unit	Marcelo Piveta (UTFPR), Emerson Giovani Carati (UTFPR), Jean Patric da Costa (UTFPR), Gustavo Bruinsma (UTFPR), Rafael Cardoso (UTFPR)
14:24	106	Electric Vehicle Charging Strategy in Smart Grids with Distributed Generation	Gustavo Bruinsma(UTFPR), Emerson Giovani Carati (UTFPR), Marcelo Piveta (UTFPR), Gabriel Antonio Salvatti (UFSM), Cassiano Rech (UFSM)
14:42	55	Sistema de Gerenciamento de Energia para Estações de Recarga Rápida de Veículos Elétricos com Banco de Baterias e Geração Fotovoltaica	Gabriel Salvatti (UFSM), Cassiano Rech (UFSM), Emerson Giovani Carati (UTFPR), Ademir Toebe (UFSM), Jonas Menon da Rosa (UFSM), Rafael Concatto Beltrame (UFSM)

#### Room 04d - Control theory and applications

Chair:		Rodrigo Varella Tambara	
Hour	ID	Title	Authors
13:30	59	Dead-Time Compensation for Grid-Following Inverters with SVM2PC	Dimas Schuetz (UFSM), Caio Ruviano Dantas Osório (Typhoon-HIL), Daniel Martins Lima (UFSC), Vinícius Foletto Montagner (UFSM), Fernanda de Moraes Carnielutti (UFSM), Humberto Pinheiro (UFSM)
13:48	80	State Space Predictive Minimum Variance Controller Applied to a Tacho Generator Motor	Daniel Abreu (UFPA), Antonio da Silva Silveira (UFPA), André Cavalcante do Nascimento (IFPA)

14:06	18	Controle De Corrente De Inversores Conectados À Rede Com Filtro LCL Por Realimentação De Estados Com Número Reduzido De Sensores	Everson Mattos (UFSM), Lucas Cielo Borin (UFSM), Guilherme Vieira Hollweg (University of Michigan), Paulo Jefferson Dias de Oliveira Evald (UFPEL), Vinicius Foletto Montagner (UFSM)
14:24	27	Signal-Flow Graph Modeling and Control of the DC-DC Multilevel Boost Converter	Edison Roberro Cabral da Silva (UFPB/UFCG), Darlan Alexandria Fernandes (UFPB), Anne Karoline Pontes de Macêdo (UFPB), Antônio Marcus Nogueira Lima (UFCG)
14:42	28	LQI Control applied to a DC-DC Boost Converter in a Standalone PV System	Leandro Carralero (UFBA), Hebert B. dos Santos (UFBA), Leandro L. O. Carralero (UFBA), Filipe A. da C. Bahia (UFBA), Carlos E. V. Nunes (UFBA), André P. N. Tahim (UFBA)

## Technical Session 5

**Day** 15/11/2022 (Tuesday)

**Hour** 15:30 - 17:00

### Room 05a - Modeling and control of power electronics for renewable energy systems

<b>Chair:</b>		<b>Rafael Cardoso</b>	
<b>Hour</b>	<b>ID</b>	<b>Title</b>	<b>Authors</b>
15:30	53	Dynamic Modeling and Control of the LLC Resonant Converter	Augusto Buboltz (UFSM), Fábio Ecke Bisogno (UFSM)
15:48	72	Estudo de Estruturas de Conversores TPC Não Isolados Baseados nos Conversores Classicos	Igor Soares Oliveira (UFSM), António Manuel Santos Spencer Andrade (UFSM)
16:06	19	A Control Strategy and Cell Balancing Speed Analysis Considering the Integrated Circuit LTC3300-1	Marcelo Camboim (CPQD), Jonathan Jefferson Pereira Moura (CPQD), Thomas Mateus Santana Nunes (CPQD), Maria de Fátima Negreli Campos Rosolem (CPQD), Nicolas Eugenio Lima Basquera (CPQD), Raul Fernando Beck (CPQD)
16:24	52	Passive balancing of second life lithium-ion cell by outlier detection for energy optimization	Gabriel Martinelli Galhardo (PUC-Campinas), Marcelo Miranda Camboim (CPQD), Jonathan Jefferson Pereira Moura (CPQD), Marina Lavorato de Oliveira (PUC-Campinas), Camila Omae (CPFL Energia), Kunlin Wu (CPFL Energia)
16:42	40	Development of a Three-Phase Converter with Power Derating for Second-Life Battery Energy Storage Systems	Gabriel Avila Saccol (UFSM), Fernanda Carnielutti (UFSM), Cassiano Rech (UFSM)

### Room 05b - Aerospace, Automotive and Telecommunication applications

<b>Chair:</b>		<b>Andrei Piccinini Legg</b>	
<b>Hour</b>	<b>ID</b>	<b>Title</b>	<b>Authors</b>
15:30	64	Desenvolvimento de blocos de codificação Run-Length Limited usando plataforma de Software-Defined Radio para comunicação por luz visível segundo padrão IEEE 802.15.7	Pedro Henrique Moura da Rosa, Vitalio Alfonso Reguera (UFSM), Carlos Henrique Barriquello (UFSM)
15:48	63	Design aspects of the electric propulsion of Brazilian Army Leopard vehicles with fuel cells	Márcio Almeida Gama, Felix Alberto Farret (UFSM), Frank Gonzatti (UFSM), João Olavo da Silva Viana Leite (IME)



16:06	88	Sistema Automatizado de Testes de Estações de Recarga de Veículos Elétricos em Corrente Alternada	Jonas Menon da Rosa (UFSM), Cassiano Rech (UFSM), Rafael Concatto Beltrame (UFSM), Gabriel Antonio Salvatti (UFSM), Ademir Toebe (UFSM)
16:24	86	Análise e dimensionamento de circuitos moduladores para VLC	Vitor Lorensen Padoin (UFSM), Ana Paula da Silva Bastianello (UFSM), Schaiane Rodrigues Machado (UFSM), Meryane Fernandes Machado (UFSM), Lucas Teixeira (UFSM), Marco Antônio Dalla Costa (UFSM)

#### Room 05c - Power electronics – topologies and design

<b>Chair:</b>		<b>Hamiltom Sartori</b>	
<b>Hour</b>	<b>ID</b>	<b>Title</b>	<b>Authors</b>
15:30	61	Conversor Full-Bridge Ressonante Aplicado à Fontes de Soldagem a Arco	Christian Griesang Barbosa (UFSM), Fábio Ecke Bisogno (UFSM), Douglas Camponogara (UFSM), Luciano Anderson Fricke (UFSM)
15:48	83	Power Losses Estimation in a GaN-based Synchronous Buck LED Driver	Giulia Kaufmann Grassi (UFSM), Igor Bertonecello Barboza (UFSM), Marco Antonio Dalla Costa (UFSM), Renan Rodrigo Duarte (UFSM)
16:06	100	Explanatory Review about Rapid Shutdown Devices and Standards to Increase Safety in Photovoltaic Systems	João Lima (UFSM), Andrei da Cunha Lima (UFSM), Lucas Vizzoto Bellinaso (UFSM), Leandro Michels (UFSM)
16:24	91	Evaluation of leakage current in different inverter structures applied in non-isolated power optimizers	Miréli Binder Vendruscolo (UFSM), Igor S. Oliveira (UFSM), Leandro Michels (UFSM), Antônio M. S.S Andrade (UFSM)

#### Room 05d - Optimization

<b>Chair:</b>		<b>João Manoel Lenz</b>	
<b>Hour</b>	<b>ID</b>	<b>Title</b>	<b>Authors</b>
15:30	89	Multi-objective Genetic Algorithm Based Optimal Design Methodology for LLC Resonant Converter	Maikel Menke (UFSM), Sérgio Luciano Avila (IFSC)
15:48	112	Comparative analysis among Steinmetz-based analytical models applied to inductors using iron powder material considering DC bias	Edemar Prado (UFBA), Pedro Cerutti Bolsi (UFSM), Hamiltom Confortin Sartori (UFSM), José Renes Pinheiro (UFBA)
16:06	6	Optimized Parameters Initialization of a RMRAC Controller Applied to Grid-Connected Converters	Guilherme Vieira Hollweg (University of Michigan), Paulo Jefferson Dias de Oliveira Evald (UFPEL), Everson Mattos (UFSM), Lucas Cielo Borin (UFSM), Rodrigo Varella Tambara (UFSM), Vinicius Foletto Montagner (UFSM)
16:24	79	Sistema Automatizado para Ensaio de Resistência e Elevação de Temperatura de Transformadores de Distribuição.	Mateus Stochero (UFSM), Cristian Pappis (UFSM), Guilherme Brasil Cavalheiro (UFSM), Marcelo Weber Contri (UFSM), Richard Gonçalves Cornelius (UFSM), Vitor Cristiano Bender (UFSM)