

# ICATE 2021 – Conference program

Thursday, 27 May 2021

09:00 - 10:00	<p>Registration  <i>Chair: Local Committee ICATE 2021</i>  <a href="#">(CISCO Webex platform - channel 1)</a></p>		
10:00 - 10:30	<p>Opening ceremony  <i>Chair: Maria Brojboiu, General Chair ICATE 2021</i>  <a href="#">(channel 1)</a></p>		
10:45 - 11:30	<p>PLENARY SESSION          Lucian Dascalescu and Thami Zegloul – <b>R&amp;D of Novel High-Intensity Electric Fields Applications</b>  <i>Chair: Maria Brojboiu, General Chair ICATE 2021</i>  <a href="#">(channel 1)</a></p>		
11:45 - 12:30	<p>PLENARY SESSION          Abdel-Badeeh M. Salem – <b>Knowledge Engineering Paradigms for Bio-Medical Informatics and Smart Healthcare Systems</b>  <i>Chair: Maria Brojboiu, General Chair ICATE 2021</i>  <a href="#">(channel 1)</a></p>		
12:45 - 14:15	<p>♦ Circuits and Systems          ♦ Power Electronics  <i>Chairs: Mihai Iordache</i>  <i>Maria Ioannides</i> <a href="#">(channel 2)</a></p>	<p>♦ Control Systems          ♦ Electrical Engineering in Transportation Systems (1)  <i>Chairs: Dragos Niculae</i>  <i>Dan Doru Micu</i> <a href="#">(channel 3)</a></p>	<p>♦ Electromagnetic Compatibility          ♦ Magnetics  <i>Chairs: Virgiliu Fireteanu</i>  <i>Remus Pusca</i> <a href="#">(channel 4)</a></p>
	<p><b>52.</b> Victor Bucata, Mihai Iordache, Ionela Vlad, Alina Orosanu, Horatiu Samir Popescu, Marius Florin Staniloiu - <i>Thévenin Equivalent Circuits for Magnetic Coupling Resonators (Series–Series, Series–Parallel) in Wireless Power Transfer Systems</i></p> <p><b>54.</b> Victor Bucata, Mihai Iordache, Ionela Vlad, Alina Orosanu, Horatiu Samir Popescu, Marius Florin Staniloiu - <i>Wireless Power Transfer Systems: Thévenin Equivalent Circuits for Parallel-Series and Parallel-Parallel Magnetic Resonator Configurations</i></p> <p><b>65.</b> Gabriela Dana Petropol-Serb, Ion Petropol-Serb - <i>Remote Learning Model to Introduce Transdisciplinary Topics of Synchronous Generator</i></p> <p><b>73.</b> Mircea-Emilian Ardeleanu, Daniela Popescu - <i>The Impact of the Applied Teaching Activities in the Training of Technical and Digital Competencies and Abilities</i></p> <p><b>106.</b> Maria Ioannides, Stylianos Papazis - <i>Teaching and Research in Emerging Electrical Energy Engineering Education</i></p> <p><b>68.</b> Lavinus Sorin Goreci, Mihaela Popescu, Ion Tilă - <i>The Choice of the IGBTs and Their Cooling in Electric Traction Converters for Autonomous Vehicles</i></p>	<p><b>27.</b> Hossein Hosseini Vaez, Alireza Khosravi, Milad Malekzadeh - <i>Robust Observer Based Control Scheme for DC-DC Boost Converter Using LMI</i></p> <p><b>28.</b> Mohanad Abd Shehab, Ammar AL-GIZI, Salah M. Swadi - <i>Efficient Real-Time Object Detection based on Convolutional Neural Network</i></p> <p><b>40.</b> Romulus Lungu, Claudia Efrim, Zewei Zheng, Mihai Lungu - <i>Dynamic Inversion based Control of DGMSCMGs. Part 1: Obtaining the Nonlinear Dynamic Model</i></p> <p><b>41.</b> Romulus Lungu, Claudia Efrim, Zewei Zheng, Mihai Lungu - <i>Dynamic Inversion based Control of DGMSCMGs. Part 2: Control Architecture Design and Validation</i></p> <p><b>45.</b> Fatemeh Rahmani, Mehran Sajedi Mashhadi, Hamid Ghobadi Lamouki, Fariba Asghari, Hassan Shokouhandeh, Meysam Amoozadeh - <i>Maximum Power Point Tracking – A Study of Photovoltaic Systems in Supplying Stand-Alone and Grid-Connected Electrical Loads</i></p> <p><b>77.</b> Mitică Iustinian Neacă - <i>Solar Tracking System for Several Groups of Solar Panels</i></p>	<p><b>86.</b> Annamaria Sarbu, Paul Bechet, Simona Miclăuș, Robert Helbet, Emil Șorecău - <i>Isotropic Near Field Measurement System for New Generation Communication Signals: Preliminary Design and USRP Calibration</i></p> <p><b>93.</b> Viorica Voicu, Livia-Andreea Dina, Petre-Marian Nicolae, Mihai Madalin Negoiescu, Paul-Adrian Nicolescu - <i>Measurements of Shielding Effectiveness at a Faraday Flexible Enclosure</i></p> <p><b>43.</b> Miftah Irhoumah, Remus Pusca, Eric Lefevre, David Mercier, Raphael Romary - <i>Evaluation of the Voltage Supply Unbalance and Detection of the Short-Circuit Faults in Induction Machine through the Neighboring Magnetic Field</i></p> <p><b>79.</b> Virgiliu Fireteanu, Constantin Dumitru - <i>Finite Element Analysis of Multiphase Permanent Magnet Synchronous Motors with the Same Stators of Analogue 3-phase, 5-phase, 7-phase and 9-phase Induction Motors</i></p> <p><b>81.</b> Gheorghe Paltanea, Veronica Manescu (Paltanea), Ioan Florea Hantila, Paul Minciunescu, Bogdan Varaticeanu, Lucian Demeter, Marica Pesteri, Costel Paun - <i>Numerical Analysis of a Free Rare-Earth PMSynRM for Light Electric Vehicle</i></p> <p><b>88.</b> Alexandru-Ionel Constantin, Constantin Dumitru, Emil Tudor, Ionut Vasile, Mariana Arsene - <i>Studies Related to the Optimization of an Interior Permanent Magnet Synchronous Machine Designed for the Electric Vehicles</i></p>

15:30 - 17:00	<p>◆ Electrical Machines and Drives  <i>Chairs: Alexandru Bitoleanu  Dan Floricau (channel 2)</i></p> <p><b>36.</b> Claudiu-Ionel Nicola, Marcel Nicola, Maria-Cristina Nițu - <i>Real-Time Sensorless Control of PMSM and SCADA Integration</i></p> <p><b>37.</b> Constantin Vlad Suru, Mihaela Popescu, Mihaita Linca - <i>An Optimal Slipping Frequency Control Implementation for Induction Traction Motor on dSPACE 1104 DSP Board</i></p> <p><b>38.</b> Olimpiu Stoicuta - <i>A New Approach to Speed and Rotor Flux Estimation of Induction Motors for Vector Control Systems</i></p> <p><b>39.</b> Mihaela Popescu, Alexandru Bitoleanu, Constantin Vlad Suru - <i>Synthesis of Rotor Field-Orientation Control for Induction Traction Motor</i></p> <p><b>59.</b> Andrei Oprea, Dan Floricau, Dragos Ovidiu Kisk - <i>Validation Steps For Vector Control Modelling</i></p> <p><b>80.</b> Andrei Oprea, Dan Floricau - <i>Efficient Topology of Powering a Washing Machine Using a Permanent Magnet Synchronous Motor</i></p>	<p>◆ Industrial Applications (1)  <i>Chairs: Maria Brojboiu  Horia Hedesiu (channel 3)</i></p> <p><b>46.</b> Vasile Eusebiu Toader, Ciprian Bejenar, Mihaela Pavăl, Dumitru Cernușcă, Oana Vasilica Grosu - <i>Considerations Regarding a Nitinol (Ni-Ti)-Operated Micropump</i></p> <p><b>47.</b> Dumitru Cernușcă, Dan Laurențiu Milici, Mihaela Pavăl, Eugen Hopulele, Eusebiu Vasile Toader, Paul Cernușcă - <i>Design, Implementation and Testing of a Locking System</i></p> <p><b>48.</b> Corina-Ioana Gheorghiu, Ioan-Dragos Deaconu, Aurel-Ionut Chirila, Valentin Navrapescu - <i>Educational Platform for an Underground Smart Parking using Programmable Logic Controllers</i></p> <p><b>49.</b> Mircea-Emilian Ardeleanu, Aurelia Scorenea, Dan-Gabriel Stănescu, Ioana-Gabriela Sîrbu - <i>Experimental Determinations on the Influence of Environmental Factors on the Electrical Properties of Some Composite Materials</i></p> <p><b>72.</b> Aurel-Ionuț Chirilă, Ioan-Dragoș Deaconu, Valentin Năvrăpescu, Narcis-Mihai Hariton, Cosmin-Ionuț Mihai, Gabriel Beciu - <i>An Approach on Power Converters Cooling System Optimization</i></p> <p><b>102.</b> Horia Hedesiu, Mircea Ruba, Claudia Martis, Horea Grebla, Csaba Kilyen, Horea Florin Moldovan - <i>PV Monitoring System using Industrial Internet of Things Technologies based on Graphical Programming</i></p>	<p>◆ Power and Energy Systems (1)  <i>Chairs: Nicolay Mihailov  Silvia Maria Diga (channel 4)</i></p> <p><b>23.</b> Constantin Barbulescu, Stefan Kilyeni, Cosmin Oros, Alex Bittenbinder, Marin Salinschi - <i>Heuristic and Metaheuristic Techniques Based Distribution Network Reconfiguration. Case Study: IEEE 33 Bus System</i></p> <p><b>25.</b> Cristian Gheorghiu, Stefan Gheorghe, Mircea Scripcariu, Radu Florin Porumb, Gabriela Nicoleta Sava - <i>The Power Quality Indices Influence on the Economics and the Energy Efficiency of Industrial End-Users</i></p> <p><b>34.</b> Marcel Nicola, Dumitru Sacerdoțianu, Claudiu-Ionel Nicola, Sergiu Ivanov, Marian Ciontu, Maria-Cristina Nițu - <i>Improved Control Strategy of Unified Power Quality Conditioner Using Fractional Order Controller and Particle Swarm Optimization</i></p> <p><b>50.</b> Alexandra Boyadzhieva, Boris Evstatiev, Nicolay Mihailov, Ludmil Mihailov - <i>Analysis of the Efficiency of a Stand-Alone PV System for Powering of a Detached House in the Village of Nikolovo, Bulgaria</i></p> <p><b>51.</b> Nicolay Mihailov, Katerina Gabrovska-Evstatieva, Boris Evstatiev - <i>Investigation of Electric Load Profiles in Industrial Poultry Farms</i></p> <p><b>63.</b> Silvia-Maria Digă, Valentin Năvrăpescu, Nicolae Digă, Cristian Bratu, Paul-Mihai Mircea - <i>Considerations on the Harmonic Regime Produced by the Faults Appeared in the Medium Voltage Networks with the Neutral Treated by Extinguishing Coil</i></p>
17:15 - 18:45	<p>◆ Environment Engineering and Equipment  <i>Chairs: Elena Helerea  Mihaela Popescu (channel 2)</i></p> <p><b>75.</b> Calin Ciugudeanu, Dorin Beu, Mircea Buzdugan - <i>SteriLightVent - Hybrid UV Lighting Decontamination Device</i></p> <p><b>83.</b> Alexandru-Daniel Vlas, Andy-Alexandru Balazs, Andras Vernes, Dorin Beu, Mircea-Ion Buzdugan - <i>Educational Buildings in Romania - Survey of Existing Lighting Systems</i></p> <p><b>98.</b> Ionel Laurentiu Alboteanu, Andrei Cosmin Militaru - <i>Small Scale Model of Heating, Ventilation and Air Conditioning System</i></p> <p><b>108.</b> Vlad Cojanu, Elena Helerea - <i>On the Water-Energy Relationship in the Case of Water Supply Systems</i></p>	<p>◆ Applied Mathematics in Electrical Engineering  <i>Chairs: Calin Munteanu  Dana Constantinescu (channel 3)</i></p> <p><b>26.</b> Florian Munteanu, Adela Ionescu - <i>Analyzing the Nonlinear Dynamics of a Cubic Modified Chua's Circuit System</i></p> <p><b>44.</b> Anton Duca - <i>RSM Enhanced ACOR Algorithm for Electromagnetic Optimization</i></p> <p><b>62.</b> Anton Duca - <i>Adaptive ACOR for Solving the TEAM22 Benchmark Problem</i></p> <p><b>64.</b> Mihaela Ilie, Sorin Ilie, Andrianjafimanjato Daniel Razafindrazanakolona - <i>A Truthful Mechanism for Rentals of Privately Owned Electrical Vehicles</i></p> <p><b>87.</b> Ileana-Diana Nicolae, Lucian-Cristian Scarlatescu, Dusan Kostic, Petre-Marian Nicolae, Adrian-Ionuț Hurezeanu - <i>Improving the Efficiency of Joint SWT/WPT Analysis by Using Different Wavelet Mothers</i></p>	<p>◆ Power and Energy Systems (2)  <i>Chairs: Leonardo-Geo Manescu  Denisa Rusinaru (channel 4)</i></p> <p><b>110.</b> Leonardo-Geo Manescu, Denisa Rusinaru, Gabriel-Cosmin Buzatu, Lucian Mandache, Anca Bandoi, Catalina Sitnikov, Claudiu Popirlan, Carmen Maria Negrila, Claudiu George Bocean - <i>Smart Storage and Grid Services Based on Removable Modular Batteries for EV</i></p> <p><b>35.</b> Marcel Nicola, Claudiu-Ionel Nicola - <i>Improved Performance of a Converter Operating as a Power Interface in Hybrid Microgrids Using Fractional Order PI Controller</i></p> <p><b>67.</b> Vlăduț-Andrei Ion, Eda-Elif Gemil, Mădălina Arhip-Călin - <i>Addressing SmartGrid Using a Practical, Scalable and Cost-Effective Home Automation Solution</i></p> <p><b>55.</b> Cristian-Eugeniu Salceanu, Marcel Nicola, Daniel Ocoleanu, Daniela Iovan, Sorin Enache - <i>Experimental Study of HBC Fuses with Aluminium Fuse Element at Minimum Rated Breaking Current</i></p> <p><b>56.</b> Maria-Cristina Nițu, Marcel Nicola, Claudiu-Ionel Nicola, Ancuța-Mihaela Aciu, Daniel Ocoleanu, Cristian Eugeniu Sălceanu - <i>Overvoltage Produced by Lightning Impulse in High Power Transformers - Parameters that Influence Their Transmission</i></p> <p><b>33.</b> Gheorghe-Eugen Subțirelu, Mircea Dobriceanu, Mihăiță Lincă - <i>Virtual Instrumentation for Power Quality Analysis in the Main Supplying Point at Entrance of an Industrial Consumer</i></p>

## Friday, 28 May 2021

09:30 - 11:30	♦ Electrical Engineering in Transportation Systems (2) <i>Chairs: Alexandru Morega Dorin Lucache (channel 2)</i>	♦ Industrial Applications (2) <i>Chairs: Rafael Romary Petre-Marian Nicolae (channel 3)</i>	♦ Power and Energy Systems (3) <i>Chairs: Ioan Popa Mihai Mircea (channel 4)</i>	♦ ACER Session <i>Chairs: Andrei Marinescu Mihaela Morega (channel 5)</i>
	<p><b>42.</b> Iulian Vlăducă, Claudia Irina Borzea, Mirela Letiția Vasile, George Iulian Bălan, Adrian Săvescu, Andrei Mitru, Dragoș Filip Niculescu, Cristian Valentin Nechifor, Daniel Ușeriu, Teodor Stănescu, Petre Gabriel Bădea, Răzvan Ciobanu - <i>Automation Control System for Naval Propulsion Retrofitting</i></p> <p><b>66.</b> Liviu Popescu, Laurentiu Dumitran, Alexandru Stanescu - <i>Multi-Motor Solutions for Electric Vehicles</i></p> <p><b>69.</b> Gabriel Nicolae Popa, Corina Maria Diniș, Ioan Băciu, Angela Iagăr - <i>Aspects Regarding of Electrical Isolation of Spark Plugs Used at Spark-Ignition Engines</i></p> <p><b>70.</b> Gabriel Nicolae Popa, Corina Maria Diniș, Ioan Băciu, Sorin Ioan Deaconu - <i>Automotive PM Surface Alternator, Analyse with Experiments</i></p> <p><b>95.</b> Liviu Dinca, Jenica-Ileana Corcau - <i>Numerical Study Concerning Longitudinal Dynamic of a Canard UAV with Vectored Thrust</i></p> <p><b>96.</b> Petre Negrea - <i>An Overview of Acceleration Detection in Inertial Navigation Systems</i></p> <p><b>97.</b> Vlad Aurelian Vaduvescu, Petre Negrea - <i>Inertial Measurement Unit – A Short Overview of the Evolving Trend for Miniaturization and Hardware Structures</i></p> <p><b>99.</b> Nicolae-Alin Niculescu, Jenica-Ileana Corcau, Gavril Alexandru - <i>Integrated System for Monitoring Aircraft Structural Condition by Using the Strain Gauge Marks Method</i></p>	<p><b>85.</b> Emil Tudor, Dumitru Strambeanu, Daniel Lipcinski, Sergiu Nicolaie, Cristinel Ilie, Dragos Ovezza, Nicolae Tanase, Andreea Voina, Marius Fartan - <i>Locomotive Diesel Engine Test Stand with Energy Recovery in the Electrical Network</i></p> <p><b>92.</b> Alin-Iulian Dolan, Constantin-Florin Ocoleanu - <i>Influence of Experimental Measurements Accuracy on Connector Resistance Factor for Crimped Connections</i></p> <p><b>100.</b> Ioan Cristian Hoarca - <i>Mathematical Modeling and Simulation of PV Systems Part I: Mathematical Modeling and Simulink Implementation</i></p> <p><b>101.</b> Ioan Cristian Hoarca - <i>Mathematical Modeling and Simulation of PV Systems Part II: Simulation Results</i></p> <p><b>103.</b> Lidia-Cristina Bazavan, Horatiu Roibu, Nicu-George Bizdoaca - <i>Design of Improved Mechatronic System for Virtusphere</i></p> <p><b>104.</b> Horatiu Roibu, Andrei Costin Trasculescu, Ionut Cristian Resceanu, Lidia Cristina Bazavan, Radu Dumitru Antohi, Nicu George Bizdoaca - <i>Collaborative Application Between Robots for Industrial Environments</i></p>	<p><b>29.</b> Vlad Panainte, Ichim Nasui, Marius Panea, Sanda Oltean, Ana Maria Moldovan, Horia Balan - <i>Setting Digital Relay Protection in Wind Farms Using Similitude Criteria Analysis</i></p> <p><b>71.</b> Jovan Vujasinovic, Goran Savic - <i>Demand Side Management and Integration of a Renewable Sources Powered Station for Electric Vehicle Charging into a Smart Grid</i></p> <p><b>76.</b> Constantin Ghinea, Dorian Octavian Sidea, Mircea Eremia, Lucian Toma - <i>Optimal Location and Sizing of Multiple PV Systems in a Distribution Network using Marine Predators Algorithm</i></p> <p><b>84.</b> Dorian Marin, Adelina Bordianu, Alexandru-Ionel Constantin - <i>Computational Fluid Dynamics and Experimental Analyzes of a Pico-Hydrokinetic Turbine</i></p> <p><b>89.</b> G. Pradeep Reddy, Y. V. Pavan Kumar - <i>Smart Grid Communication and Networking: Review of Standards</i></p> <p><b>91.</b> Liviu Ruieneanu - <i>Improving the Partial Load Operation Regimes for Cogeneration/ Trigeneration Systems</i></p> <p><b>107.</b> Ion Marin, Doru Ursu, Marian Ciontu, Paul-Mihai Mircea, Ion Mircea, Gabriel-Cosmin Buzatu - <i>Study of Overvoltages at the Extinguishing Coil Disconnection from Medium Voltage Networks in Stabilized Earthing Regime</i></p> <p><b>109.</b> Gabriel-Cosmin Buzatu, Paul-Mihai Mircea, Cristian Bratu, Doru Ursu, Eugen Butoarca, Gheorghe Chera - <i>Possibilities to Improve Energy and Economic Efficiency for an Overhead Transformer Station and Related Network</i></p>	<p>Workshop led by Romanian Association of Electromagnetic Compatibility (ACER)</p>
11:45 - 12:30	PLENARY SESSION Lucian Toma, Mihai Sanduleac – <b><i>Solutions for power system stability under renewables dominated operating conditions</i></b> <i>Chair: Leonardo-Geo Manescu (channel 1)</i>			
12:45 - 13:00	Closing ceremony <i>Chairs: Maria Brojboiu, General Chair ICATE 2021            Lucian Mandache, Publication Chair ICATE 2021            Ioana-Gabriela Sirbu, Secretariat ICATE 2021 (channel 1)</i>			