21st International Symposium on Power Electronics - Ee2021
Virtual (Online)
Final Program / Finalni Program

Updated: Oct. 25, 2021

Wednesday, 27 Oct. 2021.

PRE-CONFERENCE EVENTS

09:00 - 09:35h **REGISTRATION / TESTING**

09:50 - 10:00h **OPENING - Tutorials** **MS Teams platform**

10:00 - 13:00h **TT-1:** **Tutorial 1** **MS Teams platform**

Chair: **Mladen Vučković, University of Novi Sad, Faculty of Technical Sciences, Novi Sad, Serbia**

Huai Wang and Shuai Zhao
Aalborg University, Aalborg, Denmark
"AI-Assisted Condition and Health Monitoring in Power Electronics"

13:00h - 14:00h **LUNCH BREAK**

14:00 - 17:00h **TT-2:** **Tutorial 2** **MS Teams platform**

Chair: **Barbara Vujkov, University of Novi Sad, Faculty of Technical Sciences, Novi Sad, Serbia**

Miroslav Vasić, Luis Gomez Navajas, Javier Galindos Vicente
Universidad Politecnicade Madrid Center for Industrial Electronics, Madrid, Spain
"Design Challenges for high-performance GaN based converters in multi-MHz applications"

17:30h - 18:30h **Testing session: Paper Video Presentations Upload and Testing**

CONFERENCE

Time	Paper Id	Session	Paper title / Authors:family name	Authors: name	Affiliation	State

Thursday, 28 Oct. 2021.

09:00 - 09:30h **REGISTRATION / TESTING & UPLOAD**

09:45h **PLENARY Session** **OPENING CEREMONY** **MS Teams platform**

Chair: **Prof. Vladimir Katić, University of Novi Sad, Faculty of Technical Sciences, Novi Sad, Serbia**

Co-chair: **Dr. Dragan Kovačević, University of Belgrade, Belgrade, Electrical Engineering Institute "Nikola Tesla", Serbia**

Co-chair: **Academician Prof. Slobodan Vukosavić, University of Belgrade/Serbian Academy of Sciences and Arts, Belgrade, Serbia**

Opening speach, Prof. Vladimir Katić
Welcom speach, Dr. Dragan Kovačević
Welcom speach, Academician Prof. Slobodan Vukosavić
Novi Sad - European Capital of Culture 2021 - short video
Ee 2019 - short video
About Ee 2021 - Prof. Vladimir Katić
Official opening of the 21st Int. Symp. on Power Electronics, Prof. Srdjan Kolaković, Dean of the Faculty of Technical Sciences, Novi Sad, Serbia

10:00h **PLENARY Session - KN1** **KEY-NOTE PAPERS** **MS Teams platform**

Chair: **Prof. Vladimir Katić, University of Novi Sad, Faculty of Technical Sciences, Novi Sad, Serbia**

Co-chair: **Prof. Petar Grbović, University of Innsbruck, Innsbruck Power Elect.Lab. (i-PEL), Innsbruck, Austria**

10:00h **KN1.1** **Power Semiconductor Devices - Development Trend and Application Challenges will Silicon be replaced by WB-Technologies?**
Lorenz | Leo | ECPE/Infineon and the German Academy of Science, Nuremberg | Germany

10:30h **KN1.2** **Energy Access – challenges and opportunities for the power electronics community**
Popović | Jelena | University of Twente, Twente | Netherlands

11:00h **KN1.3** **Highly efficient and robust direct modular multilevel converters for grid-connected applications**
Vukosavić | Slobodan | University of Belgrade/Serbian Academy of Sciences and Arts, Belgrade | Serbia

11:30 - 11:45h **REFRESHMENT BREAK**

11:45h	**PLENARY Session - IL1**		**INVITED LECTURES**		**MS Teams platform**	
		Chair:	**Prof. Vanja Amrozić, University of Ljubljana, Slovenia**			
		Co-chair:	**Asist.Prof. Aleksandar Stanisavljević, University of Novi Sad, Faculty of Technical Sciences, Novi Sad, Serbia**			
11:45h		**IL1.1**	**Self-Designing Blocks: Turn your simulation software into a Pre-Design Tool**			
			Meynard	Thierry	Université de Toulouse, Laboratoire LAPLACE, Toulouse	France
12:10h		**IL1.2**	**PHIL – Power Hardware in the Loop for the real-time power emulation of electrical machines**			
			Lidozzi	Alessandro	Roma Tre University, Rome	Italy
12:35h		**IL1.3**	**On the True Value of Wide Bandgap Power Devices for Low and High Power Applications**			
			Deboy	Gerald	Infineon Technologies Austria AG, Villach	Austria
13:00h - 14:00h			**LUNCH BREAK**			
14:00h	**SESSION -T1.1**		**Modern Devices in Power Electronics**		**MS Teams platform**	
		Chair:	**Dr. Žarko Janda, Electrical Engineering Institute "Nikola Tesla", University of Belgrade, Belgrade, Serbia**			
		Co-chair:	**Assoc.Prof. Stevan Grabić, University of Novi Sad, Faculty of Technical Sciences, Novi Sad, Serbia**			
14:00h	02634	**T1.1-1**	**Minimization of Commutation Losses in LLC Resonant Converter with GaN HEMTs and Si based MOSFETs**			
			Lukić	Emilija	University of Belgrade, School of Electrical Engineering, Belgrade	Serbia
			Čakarević	Jelena	University of Belgrade, School of Electrical Engineering, Belgrade	Serbia
			Milić	Aleksandar	University of Belgrade, School of Electrical Engineering, Belgrade	Serbia
14:15h	06634	**T1.1-2**	**Analysis and Modeling of Temperature Dependence of I-V behavior in Silicon Carbide MOSFETs**			
			Bavi	Danial	Macquarie University, Sydney	Australia
			Brooks	Britt	Wolfspeed, Durham (NC)	United States
			Khandelwal	Sourabh	Macquarie University, Sydney	Australia
14:30h	02234	**T1.1-3**	**SiC MOSFET Junction Temperature Estimation based on Output Characteristics Integrated on Gate-driver**			
			Mocevic	Slavko	Virginia Tech (VT), Center for Power Electronics Systems, Blacksburg	United States
			Mitrovic	Vladimir	Virginia Tech (VT), Center for Power Electronics Systems, Blacksburg	United States
			Wang	Jun	University of Nebraska–Lincoln, Lincoln	United States
			Burgos	Rolando	Virginia Tech (VT), Center for Power Electronics Systems, Blacksburg	United States
			Boroyevich	Dushan	Virginia Tech (VT), Center for Power Electronics Systems, Blacksburg	United States
14:45h	00734	**T1.1-4**	**Test Bench Setup for characterization of GaN HEMT**			
			Galindos	Javier	Universidad Politécnica de Madrid, Centro de Electrónica Ind., Madrid	Spain
			Serrano	Diego	Universidad Politécnica de Madrid, Centro de Electrónica Ind., Madrid	Spain
			Vasic	Miroslav	Universidad Politécnica de Madrid, Centro de Electrónica Ind., Madrid	Spain
15:00h	03434	**T1.1-5**	**GaN And Superjunction MOSFET Transistor Switching In A Resonant Switched-Capacitor Converter**			
			Folmer	Szymon	AGH University of Science and Technology, Krakow	Poland
			Stala	Robert	AGH University of Science and Technology, Krakow	Poland
15:15h	00634	**T1.1-6**	**Analytical PFC Boost Inductor Power Loss Calculation Method in CCM**			
			Szczerba	Piotr	Fideltronik Poland R&D Centre, Krakow	Poland
			Raczko	Waldemar	Fideltronik Poland R&D Centre, Krakow	Poland
			Ligenza	Slawomir	Fideltronik Poland R&D Centre, Krakow	Poland
			Worek	Cezary	AGH University of Science and Technology, Krakow	Poland
15:30h	01434	**T1.1-7**	**Analytical Design Optimization of PFC Boost Inductor in CCM**			
			Szczerba	Piotr	Fideltronik Poland R&D Centre, Krakow	Poland
			Raczko	Waldemar	Fideltronik Poland R&D Centre, Krakow	Poland
			Ligenza	Slawomir	Fideltronik Poland R&D Centre, Krakow	Poland
			Worek	Cezary	AGH University of Science and Technology, Krakow	Poland
15:45h	03734	**T1.1-8**	**Modeling and simulation of power thyristors in power supply for induction heating with respect to their failure rates and reliability**			
			Dankov	Dobroslav	Technical University of Gabrovo , Gabrovo	Bulgaria
			Prodanov	Prodan	Technical University of Gabrovo , Gabrovo	Bulgaria

14:00h	**SESSION T4.1**		**Control of Modern Converters**		**MS Teams platform**	
		Chair:	**Prof. Seddik Bacha, Grenoble-Alpes University, G2Elab, Grenoble, France**			
		Co-chair:	**Prof. Vladimir Katić, University of Novi Sad, Faculty of Technical Sciences, Novi Sad, Serbia**			
14:00h	03634	**T4.1-1**	**Minimum Deviation Controller for Indirect Energy Transfer Converters**			
			Josipovic	Ksenija	University of Toronto, Toronto	Canada
			Prodic	Aleksandar	University of Toronto, Toronto	Canada
			Lu	Liangji	University of Toronto, Toronto	Canada
			Roberts	Gianluca	University of Toronto, Toronto	Canada
			Calabrese	Giacomo	Texas Instruments, Freising	Germany
			Neveu	Florian	Texas Instruments, Freising	Germany
14:15h	01734	**T4.1-2**	**Control Algorithms for Matrix Converters With Low Mathematical Complexity**			
			Igney	Jens	University of Erlangen-Nuremberg, Inst. of Elec.Dr. and Mach., Erlangen	Germany
			Hahn	Ingo	University of Erlangen-Nuremberg, Inst. of Elec.Dr. and Mach., Erlangen	Germany
14:30h	00934	**T4.1-3**	**Algorithm and block diagram of an electronic system for control of energy flows in residential premises**			
			Stoev	Iordan	University of Ruse "Angel Kanchev", Ruse	Bulgaria
			Zaharieva	Snezhinka	University of Ruse "Angel Kanchev", Ruse	Bulgaria
			Borodzhieva	Adriana	University of Ruse "Angel Kanchev", Ruse	Bulgaria
			Petrova	Teodora	Trakia University, Stara Zagora	Bulgaria
14:45h	01934	**T4.1-4**	**Half-Bridge Voltage Source Inverter Control Development Using HIL System**			
			Brandis	Andrej	University of Osijek, Fac. of Elec.Eng., Comp.Sc. and Infor.Tech., Osijek	Croatia
			Pelin	Denis	University of Osijek, Fac. of Elec.Eng., Comp.Sc. and Infor.Tech., Osijek	Croatia
			Topić	Danijel	University of Osijek, Fac. of Elec.Eng., Comp.Sc. and Infor.Tech., Osijek	Croatia
			Knežević	Goran	University of Osijek, Fac. of Elec.Eng., Comp.Sc. and Infor.Tech., Osijek	Croatia
15:00h	02534	**T4.1-5**	**Influence of system delay on current controller stability and performance at grid-side inverter with LCL filter**			
			Stojanović	Lazar	University of Belgrade, School of Electrical Engineering, Belgrade	Serbia
			Bakić	Filip	University of Belgrade, School of Electrical Engineering, Belgrade	Serbia
			Milić	Aleksandar	University of Belgrade, School of Electrical Engineering, Belgrade	Serbia
15:15h	02834	**T4.1-6**	**Analysis and DSP Implementation of Multi-sampled Three-Phase Current Controllers**			
			Petric	Ivan	University of Padova, Padova	Italy
			Cvetanovic	Ruzica	University of Belgrade, School of Electrical Engineering, Belgrade	Serbia
			Mattavelli	Paolo	University of Padova, Padova	Italy
			Buso	Simone	University of Padova, Padova	Italy
			Vukosavic	Slobodan	University of Belgrade, School of Electrical Engineering, Belgrade	Serbia
15:30h	00834	**T4.1-7**	**Automatic System for Saving Cooking Gas**			
			Ciufudean	Calin	Stefan cel Mare University, Suceava	Romania
			Buzduga	Corneliu	Stefan cel Mare University, Suceava	Romania
16:00 - 16:15h			**REFRESHMENT BREAK**			

16:15h	**SESSION -T1.2**		**DC/DC Converters**		**MS Teams platform**	
		Chair:	**Prof. Branko Blanuša, University of Banja Luka, Faculty of Electrical Engineering, Banja Luka, Bosnia and Herzegovina**			
		Co-chair:	**Dr. Vladimir Vukić, Electrical Engineering Institute "Nikola Tesla", University of Belgrade, Belgrade, Serbia**			
16:15h	02734	**T1.2-1**	**Analysis, Modeling, and Simulation of the Multiple Output Flyback Converter used in Various Motor Drive Applications**			
			Tahmaz	Oguz	AVL Research & Engineering TR, Istanbul	Turkey
			Yildiz	Ali Bekir	Kocaeli University, Kocaeli	Turkey
16:30h	00234	**T1.2-2**	**Active-Clamped Flyback DC-DC Converter in Three-Phase Application**			
			Vračar	Darko	BRUSA Elektronik (München) GmbH, Munich	Germany
			Pavlovský	Martin	BRUSA Elektronik (München) GmbH, Munich	Germany
			Pejović	Predrag	University of Belgrade, School of Electrical Engineering, Belgrade	Serbia
16:45h	04534	**T1.2-3**	**Analysis, Modeling and Simulation of Two Stage Buck-Boost Converter with Switched-Capacitor**			
			Birtek	Gizem	Kocaeli University, Kocaeli	Turkey
			Yildiz	Ali Bekir	Kocaeli University, Kocaeli	Turkey
17:00h	05334	**T1.2-4**	**A New Tapped Inductor Quadratic DC-DC Converter**			
			Ionici	Cristian-Valentin	Politehnica University Timisoara, Timisoara	Romania
			Lascu	Dan	Politehnica University Timisoara, Timisoara	Romania
17:15h	01534	**T1.2-5**	**Generalised Fourier Series Model for Dual Active Bridge DC/DC Converter based on Triple Phase Shift Modulation Method**			
			Rahman	M. I.	University of Aberdeen, Aberdeen	United Kingdom
			Jovcic	Dragan	University of Aberdeen, Aberdeen	United Kingdom
			Ahmed	K. H.	University of Aberdeen, Aberdeen	United Kingdom
17:30h	05534	**T1.2-6**	**A Buck Converter Suitable in Low Step-Down Applications**			
			Botila	Delia-Anca	Politehnica University Timisoara, Timisoara	Romania
			Lascu	Dan	Politehnica University Timisoara, Timisoara	Romania
			Pop-Calimanu	Ioana-Monica	Politehnica University Timisoara, Timisoara	Romania
17:45h	06034	**T1.2-7**	**Comparative Analysis of Input-Series-Output-Series Parital Power Rated DC to DC Converters**			
			Lopušina	Igor	University of Innsbruck, Innsbruck Power Elect.Lab. (i-PEL), Innsbruck	Austria
			Grbović	Petar	University of Innsbruck, Innsbruck Power Elect.Lab. (i-PEL), Innsbruck	Austria
18:00h	06934	**T1.2-8**	**The Transient Regime of a DC Relay Supplied a Charged Condenser**			
			Toader	Dumitru	Politehnica University Timisoara, Dep. Fund. of Phys.for Eng., Timisoara	Romania
			Blaj	Constantin	Politehnica University Timisoara, Dep. Fund. of Phys.for Eng., Timisoara	Romania
			Greconici	Marian	Politehnica University Timisoara, Dep. Fund. of Phys.for Eng., Timisoara	Romania
			Solea	Claudiu	Politehnica University Timisoara, Dep. Fund. of Phys.for Eng., Timisoara	Romania
			Vesa	Daniela	Politehnica University Timisoara, Dep. Fund. of Phys.for Eng., Timisoara	Romania
			Maghet	Adrian	Politehnica University Timisoara, Dep. Fund. of Phys.for Eng., Timisoara	Romania

16:15h	**SESSION T7.1**		**Renewable Energy Sources and Grids**		**MS Teams platform**	
		Chair:	**Assoc.Prof. Čedomir Zeljković, University of Banja Luka, Faculty of Electrical Engineering, Banja Luka, Bosnia and Herzegovina**			
		Co-chair:	**Assist.Prof. Ivan Todorović, University of Novi Sad, Faculty of Technical Sciences, Novi Sad, Serbia**			
16:15h	01634	**T7.1-1**	**Multi-Level, Partial Power Processing and WBG Devices - Future of 1500-V Photovoltaic Systems**			
			Stevanovic	Branislav	Universidad Politécnica de Madrid, Centro de Electrónica Ind., Madrid	Spain
			Alou	Pedro	Universidad Politécnica de Madrid, Centro de Electrónica Ind., Madrid	Spain
			Vasic	Miroslav	Universidad Politécnica de Madrid, Centro de Electrónica Ind., Madrid	Spain
16:30h	03034	**T7.1-2**	**Probabilistic load flow calculation using Halton quasi-random numbers in modern power systems with wind and solar generation**			
			Mišurović	Filip	University of Montenegro, Faculty of Electrical Engineering, Podgorica	Montenegro
			Mujović	Saša	University of Montenegro, Faculty of Electrical Engineering, Podgorica	Montenegro
16:45h	03834	**T7.1-3**	**Siting and Sizing of Renewable Energy Sources: A Case Study on Montenegro**			
			Šćekić	Lazar	University of Montenegro, Faculty of Electrical Engineering, Podgorica	Montenegro
			Kontić	Mićo	Crnogorski elektroprenosni sistem, National dispat. center, Podgorica	Montenegro
			Srdanović	Neda	Crnogorski elektroprenosni sistem, National dispat. center, Podgorica	Montenegro
17:00h	04934	**T7.1-4**	**An Improved Direct Voltage Component Extraction Method for Grid Connected Converters**			
			Cvetanovic	Ruzica	University of Belgrade, School of Electrical Engineering, Belgrade	Serbia
			Janda	Zarko	University of Belgrade, Electrical Eng. Institute Nikola Tesla, Belgrade	Serbia
17:15h	05434	**T7.1-5**	**GIS for Public Lighting Installations**			
			Špica	Sanja	University of Novi Sad, Faculty of Technical Sciences, Novi Sad	Serbia
			Čeliković	Milan	University of Novi Sad, Faculty of Technical Sciences, Novi Sad	Serbia
			Popov	Srđan	University of Novi Sad, Faculty of Technical Sciences, Novi Sad	Serbia
18:15h			**Social Activities (Virtual Welcome Party)**			

Friday, 29 Oct. 2021.

08:00 - 08:45h			**REGISTRATION / TESTING & UPLOAD**			
09:00h	**SESSION -T2.1**		**Automotive and Industrial Drives**		**MS Teams platform**	
		Chair:	**Prof. Darko Marčetić, University of Novi Sad, Faculty of Technical Sciences, Novi Sad, Serbia**			
		Co-chair:	**Prof. Petar Matić, University of Banja Luka, Faculty of Electrical Engineering, Banja Luka, Bosnia and Herzegovina**			
09:00h	05934	**T2.1-1**	**Analysis of power distribution systems based on low-voltage DC/DC power supplies for automated guided vehicles (AGV)**			
			Hanschek	Andreas J.	University of Innsbruck, Innsbruck Power Elect.Lab. (i-PEL), Innsbruck	Austria
			Bouvier	Yann E.	University of Innsbruck, Innsbruck Power Elect.Lab. (i-PEL), Innsbruck	Austria
			Jesacher	Erwin	University of Innsbruck, Innsbruck Power Elect.Lab. (i-PEL), Innsbruck	Austria
			Grbović	Petar J.	University of Innsbruck, Innsbruck Power Elect.Lab. (i-PEL), Innsbruck	Austria
09:15h	02334	**T2.1-2**	**Analysis of Non-Regenerative Resistive Dynamic Braking Behavior of PMSM**			
			Ekim	Melih Nafi	Akim Metal A.Ş., Istanbul	Turkey
			Unal	Alpay Oguz	Akim Metal A.Ş., Istanbul	Turkey
			Yildiz	Ali Bekir	Kocaeli University, Kocaeli	Turkey
09:30h	02934	**T2.1-3**	**Matlab/Simulink Based Energy Consumption Prediction of Electric Vehicles**			
			Janković	Filip	University of Montenegro, Faculty of Electrical Engineering, Podgorica	Montenegro
			Šćekić	Lazar	University of Montenegro, Faculty of Electrical Engineering, Podgorica	Montenegro
			Mujović	Saša	University of Montenegro, Faculty of Electrical Engineering, Podgorica	Montenegro
09:45h	07934	**T2.1-4**	**Modelling of three-phase interleaved DC-DC converter for hybrid energy storage application in electric vehicles**			
			Vukajlovic	Nikola	University of Novi Sad, Faculty of Technical Sciences, Novi Sad	Serbia
			Popadic	Bane	University of Novi Sad, Faculty of Technical Sciences, Novi Sad	Serbia
			Milicevic	Dragan	University of Novi Sad, Faculty of Technical Sciences, Novi Sad	Serbia
			Dumnic	Boris	University of Novi Sad, Faculty of Technical Sciences, Novi Sad	Serbia
			Mitrovic	Zoran	University of Novi Sad, Faculty of Technical Sciences, Novi Sad	Serbia
10:00h	02034	**T2.1-5**	**Extended SVM for direct matrix converter based drive operating under unbalanced grid conditions**			
			Stanić	Luka	University of Belgrade, School of Electrical Engineering, Belgrade	Serbia
			Ristić	Leposava	University of Belgrade, School of Electrical Engineering, Belgrade	Serbia
			Bebić	Milan	University of Belgrade, School of Electrical Engineering, Belgrade	Serbia
			Rivera	Marco	University of Talca, Department of Electrical Engineering, Talca	Chile
10:15h	04734	**T2.1-6**	**Revitalization and Modernization of Dragline Excavators with Limited Budget**			
			Bebić	Milan	University of Belgrade, School of Electrical Engineering, Belgrade	Serbia
			Rašić	Neša	University of Belgrade, School of Electrical Engineering, Belgrade	Serbia
			Vojvodić	Nikola	University of Belgrade, School of Electrical Engineering, Belgrade	Serbia
			Jeftenić	Borislav	EMP Inženjering 2016, Belgrade	Serbia

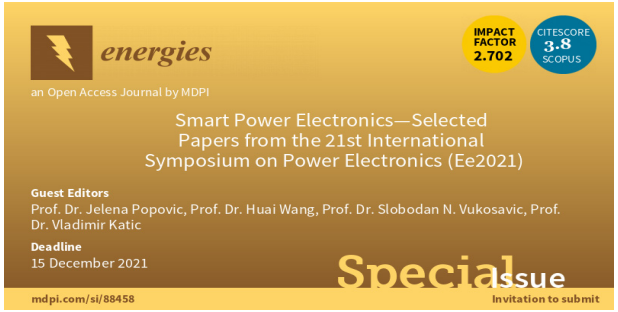
09:00h	**SESSION -T6.1**		**POWER QUALITY**		**MS Teams platform**	
		Chair:	**Assist.Prof. Martin Ćalasan, University of Montenegro, Faculty of Electrical Engineering, Podgorica, Montenegro**			
		Co-chair:	**Assis.Prof. Aleksandar Stanisavljević, University of Novi Sad, Faculty of Technical Sciences, Novi Sad, Serbia**			
09:00h	02134	**T6.1-1**	**Calculation and Spectral Analysis of DC-Link Current for three phase PWM inverter**			
			Sun	Jianxia	Beijing Institute of Technology, Beijing	China
			Lin	Cheng	Beijing Institute of Technology, Beijing	China
09:15h	06334	**T6.1-2**	**Voltage Sags Duration Probability Distribution Function**			
			Katić	Vladimir	University of Novi Sad, Faculty of Technical Sciences, Novi Sad	Serbia
			Milićević	Srđan	University of Novi Sad, Faculty of Technical Sciences, Novi Sad	Serbia
			Stanisavljević	Aleksandar	University of Novi Sad, Faculty of Technical Sciences, Novi Sad	Serbia
09:30h	01834	**T6.1-3**	**Comparison of Sinusoidal PWM Techniques in Terms of Harmonic Analysis in Three and Five Level Diode Clamped Inverter**			
			Badak	Ufuk	Kocaeli University, Kocaeli	Turkey
			Yildiz	Ali Bekir	Kocaeli University, Kocaeli	Turkey
09:45h	07034	**T6.1-4**	**Application of the PV systems for non-linear load current compensation**			
			Trifunjagić	Viktor	University of Novi Sad, Faculty of Technical Sciences, Novi Sad	Serbia
			Katić	Vladimir	University of Novi Sad, Faculty of Technical Sciences, Novi Sad	Serbia
			Stanisavljević	Aleksandar	University of Novi Sad, Faculty of Technical Sciences, Novi Sad	Serbia
10:00h	07434	**T6.1-5**	**Training an LSTM Voltage Sags Classificator on a Synthetic Dataset**			
			Turović	Radovan	University of Novi Sad, Faculty of Technical Sciences, Novi Sad	Serbia
			Dragan	Dinu	University of Novi Sad, Faculty of Technical Sciences, Novi Sad	Serbia
			Stanisavljević	Aleksandar	University of Novi Sad, Faculty of Technical Sciences, Novi Sad	Serbia
			Gojić	Gorana	University of Novi Sad, Faculty of Technical Sciences, Novi Sad	Serbia
			Petrović	Veljko	University of Novi Sad, Faculty of Technical Sciences, Novi Sad	Serbia
			Katić	Vladimir	University of Novi Sad, Faculty of Technical Sciences, Novi Sad	Serbia
			Gajić	Dušan	University of Novi Sad, Faculty of Technical Sciences, Novi Sad	Serbia
10:30 - 10:45h			**REFRESHMENT BREAK**			
10:45h	**PLENARY Session - KN2**		**KEY-NOTE PAPERS**		**MS Teams platform**	
		Chair:	**Prof. Miroslav Vasić, Universidad Politécnica de Madrid, Centro de Electrónica Ind., Madrid, Spain**			
		Co-chair:	**Assoc.Prof. Dušan Gajić, University of Novi Sad, Faculty of Technical Sciences, Novi Sad, Serbia**			
10:45h		**KN2.1**	**"Transformers" for Artificial Intelligence**			
			Kisačanin	Branislav	Nvidia Corp., Santa Clara, USA/Centre for AI, Novi Sad	USA / Serbia
11:15h		**KN2.2**	**AI Applications for Power Electronics – Challenges and Opportunities**			
			Wang	Huai	Aalborg University, Aalborg	Denmark

11:45h	**PLENARY Session - IP1**		**INVITED LECTURES**		**MS Teams platform**	
		Chair:	**Prof. Vladimir Katić, University of Novi Sad, Faculty of Technical Sciences, Novi Sad, Serbia**			
		Co-chair:	**Assoc.Prof. Dinu Dragan, University of Novi Sad, Faculty of Technical Sciences, Novi Sad, Serbia**			
11:45h	07234	**IP1.1**	**Blockchain-based Smart Decentralized Energy Trading for Grids with Renewable Energy Systems**			
			Gajić	Dušan	University of Novi Sad, Faculty of Technical Sciences, Novi Sad	Serbia
			Petrović	Veljko	University of Novi Sad, Faculty of Technical Sciences, Novi Sad	Serbia
			Horvat	Nebojša	University of Novi Sad, Faculty of Technical Sciences, Novi Sad	Serbia
			Dragan	Dinu	University of Novi Sad, Faculty of Technical Sciences, Novi Sad	Serbia
			Stanisavljević	Aleksandar	University of Novi Sad, Faculty of Technical Sciences, Novi Sad	Serbia
			Katić	Vladimir	University of Novi Sad, Faculty of Technical Sciences, Novi Sad	Serbia
12:10h	06534	**IP1.2**	**Advancements on Real-Time Simulation for High Switching Frequency Power Electronics Applications**			
			Osório	Caio	Typhoon Hil, Inc., Novi Sad	Serbia
			Miletic	Milos	Typhoon Hil, Inc., Novi Sad	Serbia
			Zelic	Jovan	Typhoon Hil, Inc., Novi Sad	Serbia
			Majstorovic	Dusan	Typhoon Hil, Inc., Novi Sad	Serbia
			Gagrica	Ognjen	Typhoon Hil, Inc., Novi Sad	Serbia
12:35h	06434	**IP1.3**	**HIL-based certification for converter controllers: Advantages, challenges and outlooks**			
			Magnago	Henrique	Typhoon Hil, Inc., Novi Sad	Serbia
			Horst Figueira	Henrique	Typhoon Hil, Inc., Novi Sad	Serbia
			Gagrica	Ognjen	Typhoon Hil, Inc., Novi Sad	Serbia
			Majstorovic	Dusan	Typhoon Hil, Inc., Novi Sad	Serbia
13:00h - 14:00h			**LUNCH BREAK**			

14:00h	**INDUSTRY SESS. - IS-1**	**Special Session - Industry Session**		**MS Teams platform**		
	Chair:	**Prof. Slobodan Mirčevski, "St. Kyril and Methodij" University, FEIT, Skopje, North Macedonia**				
	Co-chair:	**Barbara Vujkov, , University of Novi Sad, Faculty of Technical Sciences, Novi Sad, Serbia**				
14:00h	**IS-1.1**	**Typhoon HIL Presentation: Next-generation model-based tools for innovative teaching and research.**				
		Santo	Debora	Typhoon Hil, Inc., Novi Sad	Serbia	
		Jelic	Dimitrije	Typhoon Hil, Inc., Novi Sad	Serbia	
14:45h	**IS-1.2**	**Brose Presentation**				
		Vujkov	Kristina	Brose d.o.o., Pančevo	Serbia	
15:30h	**IS-1.3**	**The Renewable Energy Sources for smart sustainable health Centers, University Education and other public buildings (RESCUE), Interreg-IPA CBC Croatia-Serbia project**				
		Dumnić	Boris	University of Novi Sad, Faculty of Technical Sciences, Novi Sad	Serbia	
		Šljivac	Damir	University of Osijek, Fac. of Elec.Eng., Comp.Sc. and Infor.Tech., Osijek	Croatia	
		Stojkov	Marinko	University of Slavonski Brod, Slavonski Brod	Croatia	
		Varda	Nikolina	Clinical Hospital Center, Osijek	Croatia	
		Lukić	Radisav	Clinical Center of Vojvodina, Novi Sad	Serbia	
15:45 - 16:00h		**REFRESHMENT BREAK**				
16:00h	**SESSION -T3.1**	**Electric Machines**		**MS Teams platform**		
	Chair:	**Dr. Đorđe Stojić, Electrical Engineering Institute "Nikola Tesla", University of Belgrade, Belgrade, Serbia**				
	Co-chair:	**Assist.Prof. Dejan Jerkan, University of Novi Sad, Faculty of Technical Sciences, Novi Sad, Serbia**				
16:00h	01134 **T3.1-1**	**Non-linear Observer Based Stator Inter-turn Short-circuit Fault Detection in 3-Φ Induction Motor**				
		Duvvuri	SSSR Sarathbabu	Shri Vishnu Engineering College for Women, Bhimavaram	India	
		S M	Padmaja	Shri Vishnu Engineering College for Women, Bhimavaram	India	
16:15h	05234 **T3.1-2**	**FCS-MPC of a DMC-fed Induction Machine with Unity Input Power Factor Using Rotating Vectors**				
		Mekhilef	Aymen Abdelmounaim	Ecole Nationale Polytechnique, Algeria	Algeria	
		Benachour	Ali	Ecole Supérieure des Sciences Appliquées d'Alger, Algeria	Algeria	
		Dali	Ali	Centre de Développement des Energies Renouvelables, Algeria	Algeria	
		Berkouk	El Madjid	Ecole Nationale Polytechnique, Algeria	Algeria	
16:30h	02434 **T3.1-3**	**Design Procedure for High-Frequency Transformer in LLC Resonant Topology**				
		Obradović	Katarina	University of Belgrade, School of Electrical Engineering, Belgrade	Serbia	
		Plavšić	Jovana	University of Belgrade, School of Electrical Engineering, Belgrade	Serbia	
		Milić	Aleksandar	University of Belgrade, School of Electrical Engineering, Belgrade	Serbia	
16:45h	03934 **T3.1-4**	**Influence of phase coupling on the performance of 8/6 SRM**				
		Mihic	Dragan	University of Belgrade, School of Electrical Engineering, Belgrade	Serbia	
		Brkovic	Bogdan	University of Belgrade, School of Electrical Engineering, Belgrade	Serbia	
		Terzic	Mladen	University of Belgrade, School of Electrical Engineering, Belgrade	Serbia	
		Koprivica	Zarko	University of Belgrade, School of Electrical Engineering, Belgrade	Serbia	
17:00h	06134 **T3.1-5**	**Inductance Identification of the Surface Permanent Magnet Synchronous Machines with sinusoidal voltage test signals**				
		Vučković	Mladen	University of Novi Sad, Faculty of Technical Sciences, Novi Sad	Serbia	
		Dumnić	Boris	University of Novi Sad, Faculty of Technical Sciences, Novi Sad	Serbia	
		Vasić	Veran	University of Novi Sad, Faculty of Technical Sciences, Novi Sad	Serbia	
		Vujkov	Barbara	University of Novi Sad, Faculty of Technical Sciences, Novi Sad	Serbia	
		Popović	Vladimir	University of Novi Sad, Faculty of Technical Sciences, Novi Sad	Serbia	
17:15h	01234 **T3.1-6**	**Minimization of an Electromagnetic Torque Ripple of a Five-Phase IM Operated under One-Phase Fault**				
		Zaskalicky	Pavel	Technical University of Košice, Kosice	Slovakia	

16:00h	**SESSION T4.2**		**Control and Measurement in Power Electronics**		**MS Teams platform**	
		Chair:	**Assoc.Prof. Milutin Petronijević, University of Niš, Faculty of Electronic Engineering, Niš, Serbia**			
		Co-chair:	**Assoc.Prof. Milan Bebić, University of Belgrade, School of Electrical Engineering, Belgrade, Serbia**			
16:00h	00334	**T4.2-1**	**Predictive Control of an Induction Machine Fed by a Voltage Source Inverter**			
			Rivera	Marco	University of Talca, Department of Electrical Engineering, Talca	Chile
			Riveros	José	Universidad Nacional de Asunción, Asuncion	Paraguay
			Wheeler	Patrick	The University of Nottingham, Nottingham	United Kingdom
			Ristic	Leposava	University of Belgrade, School of Electrical Engineering, Belgrade	Serbia
			Mirzaeva	Galina	The University of Newcastle, Newcastle	Australia
			Zanchetta	Pericle	The University of Nottingham, Nottingham	United Kingdom
16:15h	00434	**T4.2-2**	**The Selection of Cost Functions in Model Predictive Control Applications**			
			Rivera	Marco	University of Talca, Department of Electrical Engineering, Talca	Chile
			Rojas	Diego	University of Talca, Department of Electrical Engineering, Talca	Chile
			Wheeler	Patrick	The University of Nottingham, Nottingham	United Kingdom
16:30h	07534	**T4.2-3**	**Improvement of PMSM Control Using Reinforcement Learning Deep Deterministic Policy Gradient Agent**			
			Nicola	Marcel	National Institute for Research, ICMET Craiova, Craiova	Romania
			Nicola	Claudiu-Ionel	National Institute for Research, ICMET Craiova, Craiova	Romania
16:45h	07734	**T4.2-4**	**Tuning of PI Speed Controller for PMSM Control System Using Computational Intelligence**			
			Nicola	Marcel	National Institute for Research, ICMET Craiova, Craiova	Romania
			Nicola	Claudiu-Ionel	National Institute for Research, ICMET Craiova, Craiova	Romania
17:00h	04034	**T4.2-5**	**Approaches to Reducing of the Active Power Measurement Error for a Method Based on Averaging of Instantaneous Power**			
			Serov	Andrey	National Research University, Moscow Power Eng. Institute, Moskow	Russian Federation
17:15h	00134	**T4.2-6**	**Method of Reducing of the Complex Spectrum Measurement Error In Case of Applying of the Quadrature Demodulation Technique**			
			Serov	Andrey	National Research University, Moscow Power Eng. Institute, Moskow	Russian Federation
			Serov	Nikolay	National Research University, Moscow Power Eng. Institute, Moskow	Russian Federation
			Shatokhin	Alexander	National Research University, Moscow Power Eng. Institute, Moskow	Russian Federation
17:30h	05634	**T4.2-7**	**Analysis of the influence of non-simultaneous sampling on the measurement of three-phase instantaneous power**			
			Vojvodić	Nikola	University of Belgrade, School of Electrical Engineering, Belgrade	Serbia
			Bebić	Milan	University of Belgrade, School of Electrical Engineering, Belgrade	Serbia
18:00h	**PLENARY Session**		**Awards Session (Media sponsor - Journal Energies)**		**MS Teams platform**	
		Chair:	**Prof. Vladimir Katić, University of Novi Sad, Faculty of Technical Sciences, Novi Sad, Serbia**			
		Co-chair:	**Academician Prof. Slobodan Vukosavić, University of Belgrade/Serbian Academy of Sciences and Arts, Belgrade, Serbia**			

- Best Paper Award (300$, sponsored by Energies)
- Best Student Paper Awards
  (free registration fee at Ee2023, sponsored by Power Electronics Society of Serbia)
- National Best Paper Award - for Serbian authors only
  (sponsored by Power Electronics Society of Serbia and Institute Nikola Tesla)
- Special Issue of Energies: "Smart Power Electronics – Selected papers from the 21st International Symposium on Power Electronics (Ee 2021)":
  Announcement of the selected papers.



18:30h		**Social Activities (Virtual Welcome Party)**

Saturday, 30 Oct. 2021.

08:00 - 08:30h			**REGISTRATION / TESTING & UPLOAD**			
10:00h	**PLENARY Session - KN3**		**KEY-NOTE PAPERS**		**MS Teams platform**	
		Chair:	**Prof. Dražen Dujić, PEL, Swiss Federal Institute of Technology – EPFL, Lausanne, Switzerland**			
		Co-chair:	**Prof. Vladimir Katić, University of Novi Sad, Faculty of Technical Sciences, Novi Sad, Serbia**			
10:00h		**KN3.1**	**Managing Power Complexity for Extreme Performance: Circuit, Architecture, and Magnetics**			
			Chen	Minjie	Princeton University, Princeton	United States
10:30h		**KN3.2**	**Component Data - The Key to Unleash the Potential of Design Automation for Power Electronics**			
			Hermanns	Kevin	PE-Systems GmbH, Darmstadt	Germany
11:00 - 11:15h			**REFRESHMENT BREAK**			
11:15h	**SESSION -T1.3**		**POWER CONVERTERS AND DEVICES**		**MS Teams platform**	
		Chair:	**Prof. Denis Pelin, University of Osijek, Faculty of Electrical Engineering, Computer Sciences and Information Technologies, Osijek, Croatia**			
		Co-chair:	**Assist.Prof. Vladimir Popović, University of Novi Sad, Faculty of Technical Sciences, Novi Sad, Serbia**			
11:15h	07834	**T1.3-1**	**Analysis and Design of Partial-Power Rated Single-Phase Diode Boost Rectifier**			
			Grbovic	Petar	University of Innsbruck, Innsbruck Power Electr. Lab. (i-PEL), Innsbruck	Austria
			Miletic	Zoran	Austrian Institute of Technology (AIT), Vienna	Austria
			Lopusina	Igor	University of Innsbruck, Innsbruck Power Electr. Lab. (i-PEL), Innsbruck	Austria
11:30h	04634	**T1.3-2**	**Design of a SiC Mosfet 6-Phase Boost Rectifier**			
			Di Nezio	Giulia	Roma Tre University, Roma	Italy
			di Benedetto	Marco	Roma Tre University, Roma	Italy
			Lidozzi	Alessandro	Roma Tre University, Roma	Italy
			Solero	Luca	Roma Tre University, Roma	Italy
11:45h	05134	**T1.3-3**	**Braking energy recovery by Modular Multilevel Converters in MVDC Railway Electrification Systems**			
			Strobl	Simon	EPFL, Power Electronics Laboratory, Lausanne	Switzerland
			Milovanovic	Stefan	EPFL, Power Electronics Laboratory, Lausanne	Switzerland
			Ladoux	Philippe	University of Toulouse, Laboratory LAPLACE, Toulouse	France
			Dujic	Drazen	EPFL, Power Electronics Laboratory, Lausanne	Switzerland
12:00h	06734	**T1.3-4**	**Increasing Current Loop Performance Using Variable Accuracy Feedback for GaN Inverters**			
			Anuchin	Alecksey	National Research University, Moscow Power Eng. Institute, Moskow	Russian Federation
			Gulyaeva	Maria	National Research University, Moscow Power Eng. Institute, Moskow	Russian Federation
			Zharkov	Alexandr	National Research University, Moscow Power Eng. Institute, Moskow	Russian Federation
			Lashkevich	Maxim	National Research University, Moscow Power Eng. Institute, Moskow	Russian Federation
			Hao	Chen	China University of Mining & Technology, Xuzhou	China
			Dianov	Anton	National Research University, Moscow Power Eng. Institute, Moskow	Russian Federation
12:15h	05834	**T1.3-5**	**New Three-Level Soft Turn-off T-type NPC Inverter**			
			Penczek	Adam	AGH University of Science and Technology, Krakow	Poland
			Mondzik	Andrzej	AGH University of Science and Technology, Krakow	Poland
			Piróg	Stanisław	AGH University of Science and Technology, Krakow	Poland
			Twaróg	Mateusz	AGH University of Science and Technology, Krakow	Poland
			Stala	Robert	AGH University of Science and Technology, Krakow	Poland
12:30h	07134	**T1.3-6**	**1:1 Resonant Switched Capacitor with Capacitive-based Isolation**			
			Serrano	Diego	Universidad Politécnica de Madrid, Centro de Electrónica Ind., Madrid	Spain
			Vasić	Miroslav	Universidad Politécnica de Madrid, Centro de Electrónica Ind., Madrid	Spain
12:45h			**CLOSING**		**MS Teams platform**	

XXI Savetovanje Energetska elektronika - Ee 2021

Virtualna konferencija (on-line)

Preliminarni Program / Preliminary Program

www.dee.uns.ac.rs

Postavljeno: 25.10.2021.

Sreda, 27 Okt. 2021.		
	DOGAĐAJI PRE POČETKA KONFERENCIJE	
09:00 - 09:35h	**Registracija Tutorijali / Testiranje**	
09:50 - 10:00h	**OTVARANJE - Tutorijali**	
10:00 - 13:00h	**Tutorijal 1**	
14:00 - 17:00h	**Tutorijal 2**	
17:30 - 18:30h	**Testiranje on line sistema**	
	KONFERENCIJA	
Četvrtak, 28 Okt. 2021.		
09:00 - 09:30h	**REGISTRACIJA / TESTIRANJE**	
09:45h **PLENARY Session**	**OTVARANJE**	**MS Teams platforma**
Chair:	**Prof. Vladimir Katić, University of Novi Sad, Faculty of Technical Sciences, Novi Sad, Serbia**	
Co-chair:	**Dr. Dragan Kovačević, University of Belgrade, Belgrade, Electrical Engineering Institute "Nikola Tesla", Serbia**	
Co-chair:	**Academician Prof. Slobodan Vukosavić, University of Belgrade/Serbian Academy of Sciences and Arts, Belgrade, Serbia**	
	DALJE PO PROGRAMU ZA 21th INTERNATIONAL SYMPOSIUM on POWER ELECTRONICS	
13:00h - 14:00h	**RUČAK**	
	DALJE PO PROGRAMU ZA 21th INTERNATIONAL SYMPOSIUM on POWER ELECTRONICS	
18:45h - 20:30h	**DRUŠTVENE AKTIVNOSTI (VIRTUELNA ZABAVA DOBRODOŠLICE)**	
Petak, 29 Okt. 2021.		
08:00 - 08:45h	**REGISTRACIJA / TESTIRANJE**	
	DALJE PO PROGRAMU ZA 21th INTERNATIONAL SYMPOSIUM on POWER ELECTRONICS	
13:00h - 14:00h	**RUČAK**	
	DALJE PO PROGRAMU ZA 21th INTERNATIONAL SYMPOSIUM on POWER ELECTRONICS	
18:00h	**DODELA NAGRADA (MEDIJSKI SPONZOR - JOURNAL ENERGIES; Društvo za Ee)**	
18:30h	**DRUŠTVENE AKTIVNOSTI (VIRTUELNA ZABAVA)**	

Subota, 30 Okt. 2021.

08:00 - 08:30h **REGISTRACIJA / TESTIRANJE**

	Id rada	Tema	Naslov rada i Autori			Država
08:45h	**SESIJA - S1**		**ENERGETSKA ELEKTRONIKA, POGONI I OBNOVLJIVI IZVORI**		**MS Teams platforma**	
		Predsed.:	**Goce Arsov, Univerzitet Sv. Kiril i Metodij, Skoplje, Severna Makedonija**			
		Ko-Predsed.:	**Zoltan Čorba, Univerzitet u Novom Sadu, Fakultet tehničkih nauka, Novi Sad, Srbija**			
08:45h	00135	**S1-1**	**ENERGETSKA ELEKTRONIKA – SIMPOZIJUM U GODINAMA JUBILEJA**			
			Katić	Vladimir	Univerzitet u Novom Sadu, Fakultet tehničkih nauka, Novi Sad	Srbija
			Nikolić	Dragomir	Univerzitet u Novom Sadu, Fakultet tehničkih nauka, Novi Sad	Srbija
			Čorba	Zoltan	Univerzitet u Novom Sadu, Fakultet tehničkih nauka, Novi Sad	Srbija
			Stanisavljević	Aleksandar	Univerzitet u Novom Sadu, Fakultet tehničkih nauka, Novi Sad	Srbija
			Gerić	Ljubinka	Univerzitet u Novom Sadu, Fakultet tehničkih nauka, Novi Sad	Srbija
			Galić	Jadranka	Društvo za energetsku elektroniku, Novi Sad	Srbija
09:00h	00235	**S1-2**	**IMPLEMENTACIJA FN ELEKTRANA U ZDRAVSTVENE I OBRAZOVNE CENTRE KROZ REGIONALNU SARADNJU HRVATSKA - SRBIJA**			
			Čorba	Zoltan	Univerzitet u Novom Sadu, Fakultet tehničkih nauka, Novi Sad	Srbija
			Dumnić	Boris	Univerzitet u Novom Sadu, Fakultet tehničkih nauka, Novi Sad	Srbija
			Popadić	Bane	Univerzitet u Novom Sadu, Fakultet tehničkih nauka, Novi Sad	Srbija
			Milićević	Dragan	Univerzitet u Novom Sadu, Fakultet tehničkih nauka, Novi Sad	Srbija
			Žnidarec	Matej	Sveučilište J.J.Strossmayera, FERIT, Osijek, Hrvatska	Hrvatska
			Stojkov	Marinko	Sveučilište u Sl. Brodu, Strojarski fakultet, Slavonski Brod, Hrvatska	Hrvatska
09:15h	00335	**S1-3**	**PRIKAZ RADA U LABORATORIJI ZA MIKROELEKTRONIKU FAKULTETA TEHNIČKIH NAUKA**			
			Damnjanović	Mirjana	Univerzitet u Novom Sadu, Fakultet tehničkih nauka, Novi Sad	Srbija
			Kisić	Milica	Univerzitet u Novom Sadu, Fakultet tehničkih nauka, Novi Sad	Srbija
09:30h	00435	**S1-4**	**LABORATORIJI ZA OPTOELEKTRONIKU – LABORATORIJSKE VEŽBE I ISKUSTVA**			
			Jovanović	Miloš	Univerzitet u Novom Sadu, Fakultet tehničkih nauka, Novi Sad	Srbija
			Stefanov	Aleksandar	Univerzitet u Novom Sadu, Fakultet tehničkih nauka, Novi Sad	Srbija
			Vasiljević Toskić	Marko	Univerzitet u Novom Sadu, Fakultet tehničkih nauka, Novi Sad	Srbija
			Panzalović	Stefan	Univerzitet u Novom Sadu, Fakultet tehničkih nauka, Novi Sad	Srbija
			Bajić	Jovan	Univerzitet u Novom Sadu, Fakultet tehničkih nauka, Novi Sad	Srbija
09:45h	00535	**S1-5**	**ENERGETSKA ELEKTRONIKA - PREGLED KNJIGA, ČASOPISA I NAUČNIH SKUPOVA**			
			Katić	Vladimir	Univerzitet u Novom Sadu, Fakultet tehničkih nauka, Novi Sad	Srbija
			Mirčevski	Slobodan	Univerzitet „Sv. Kiril i Metodij“, FEIT, Skopje	Severna Makedonija
		DALJE PO PROGRAMU ZA 21th INTERNATIONAL SYMPOSIUM on POWER ELECTRONICS				

12:45h **ZATVARANJE SKUPA**

13:00 - 13:30h **GODIŠNJA SKUPŠTINA DRUŠTVA ZA ENERGETSKU ELEKTRONIKU** **MS Teams platforma**

Prof. Katić Vladimir Predsednik Društva za energetsku elektroniku, Novi Sad