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SPECIAL SESSION SS2

2022 IEEE 20th International Power Electronics and Motion Control Conference (IEEE-PEMC 20220) will include Special Sessions, which are organized on highly specialized topics within the conference scope.

Session details:

Special Session Title: PE and Control Systems for Underground Applications

Session description (session scope, novelty, goals):	Keywords, topics:
The session is devoted to novel solution of power electronic and control systems developed for application at and for devices operating in underground environment, like coal mines. Such devices have to fulfill series of sophisticated requirements related to operational safety, electromagnetic compatibility and reliability. Power electronics converters supported by an advanced control and communication systems allows to realize required functionalities, e.g. supplying of transportation systems. Recent progress in this area will be presented during this dedicated special session.	Power converters, control system, underground supplying, coal mines, contactless energy transfer, electromagnetic compatibility, underground transportation, single wire energy transmission, suspended drive systems, explosive environment.

Organizer(s) details:

First organizer: Prof. Marcin Kasprzak	
E-mail: marcin.kasprzak@polsl.pl	Affiliation: Silesian University of Technology, Poland
Short bio: Prof. Marcin Kasprzak (Phd, DSc, EE), Associate Professor, Vice Head of the Department of Power Electronics, Electrical Drives and Robotics, Head of Laboratory of Power Electronics. Area of His expertise includes power electronics, high frequency power electronics conversion, design of the high frequency resonant inverters for induction heating applications (30-500kHz) and dielectric heating applications (several MHz) based on MOSFET transistors, high frequency induction heating, electromagnetic stirring and vibration systems of liquid metals. He realized several scientific projects and R&D in cooperation with industry. He developed professional device for thermal simulation of metallurgical processes. He is author and co-author of more than 90 scientific papers and 2 patents. He is supervisor of 4 PhD thesis (one already defended).	
Second organizer: Dr. Krzysztof Stankiewicz	
E-mail: kstankiewicz@komag.eu	Affiliation: KOMAG Institute of Mining Technology, Poland
Short bio: Dr Krzysztof Stankiewicz (PhD, Eng.), Assistant Professor and the Head of the Mechatronic Systems Department, managing a team of sixteen IT specialists, electronic, automation and electric engineers. He develops new technologies in the field of automation, monitoring and control systems, ICT, power supply, drives, especially in relation to machines and mining processes. He specializes in the development of control techniques and methods, Internet technologies and automation. He cooperates with scientific centers in Poland and abroad, including AITEMIN (Spain), MRSL (Great Britain), HUNOSA (Spain), RWTH (Germany), University of Exeter (Great Britain), University of Nottingham (Great Britain), Fraunhofer Institute (Leipzig, Germany). He is the author or co-author of 93 publications, co-author of 7 patents, contractor or manager of 128 projects that won 16 awards.	

Information:

- IEEE IES Rules for Special Sessions organization: <https://ieee-pemc2022.org/call-for-special-sessions/>