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# 2021 International Green Energy Conference (IGEC-XIII)

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Name	Prof Vladimir Terzija, IEEE Fellow	
Affiliation	Skoltech, Moscow, Russia	
<b>Invited Plenary Lecture</b>		
Presentation Title	<b>Advanced Monitoring and Control for Sustainable Green Energy Systems</b>	
Abstract (Approximately 200 words)	<p>As a result of high penetration of Converter Interfaced Generation (CIG), also called nonsynchronous generation, converter connected demand and mixed ac-dc transmission and even distribution networks, the nature of operation of modern electrical power systems became a challenge. The nature of the entire system became more complex, expressed in quite a new dynamics, but also a new way how to monitor, protect and control such a new system, the system playing one of the most critical role in progressing modern societies, the system enabling functioning of other critical infrastructures in all countries. On the other hand, availability of modern sensor and ICT technology opened new paradigms for coping with previously described challenges. The presentation is aiming of addressing new approaches of monitoring, protecting and controlling future electrical power systems. In this context, some of typical PMU-based Wide Area Monitoring, Protection and Control applications, also model-free and data driven, will be discussed and presented. Experience gathered from 3 flagship multi-million projects funded by Ofgem (UK) Network Innovation Competition, VISOR, EFCC and FITNESS projects, will be summarized and also discussed from the perspective of their extension to another level: integration of different energy systems and approaches for their operation, fostering flexibility and resilience of particular energy systems. The presentation will also attempt to demonstrate some of results achieved through hardware in the loop testing using Real-time Digital Simulator (RTDS).</p>	
Biographical Sketch (Approximately 200 words)	<p>Vladimir Terzija was born in Donji Baraci (former Yugoslavia). He received the Dipl-Ing., MSc, and PhD degrees in electrical engineering from the University of Belgrade, Belgrade, Serbia, in 1988, 1993, and 1997, respectively. He is a Full Professor at Skoltech, Moscow, Russia. He is also a Distinguished Professor at the Shandong University, Jinan, China, where he has been since 2013. From 1997 to 1999, he was an Assistant Professor at the University of Belgrade, Belgrade, Serbia. From 2000 to 2006, he was a senior specialist for switchgear and distribution automation with ABB, Ratingen, Germany. From 2006 to 2020 he was the Engineering and Physical Science Research Council (EPSRC) Chair Professor in Power System Engineering with the School of Electrical and Electronic Engineering, The University of Manchester, Manchester, U.K. His current research interests include smart grid applications; wide-area monitoring, protection, and control; multi-energy systems; switchgear and transient processes; ICT, data analytics and digital signal processing applications in power systems. Prof. Terzija is Editor in Chief of the International Journal of Electrical Power and Energy Systems, Alexander von Humboldt Fellow, as well as a DAAD and Taishan Scholar. He is the recipient of the National Friendship Award, China (2019).</p>	