

# Prof. Elias Kyriakides Memorial Lecture

## *On the Impact of Digitalization to the Clean Energy Agenda and Sustainable and Low-Carbon Energy Systems*

### LECTURE ABSTRACT

The 4th Industrial Revolution, Industry 4.0, is significantly changing the nature of processes in the 21st century, particularly those related to technology, industry and society. Through introduction of smart technologies, doors for designing and implementing smart solutions contributing to security, dependability, flexibility and resilience of modern energy systems, are opened. Newly designed “digital substations” are enabling rapid and efficient horizontal and vertical transfer of data. Through application of data science-based solutions, integration of renewable energy sources is maximized, different energy vectors are integrated into single multi-energy systems, making them more efficient and contributing to confident transformation of the existing energy system into a sustainable and low carbon one. The abovementioned issues will be discussed from the new technology perspective, its impact to new solutions and its expected benefits. Some representative practical examples will be presented, too.

*The significance of Prof. Elias Kyriakides’ contribution and vision in almost all abovementioned aspects will be pointed out, bringing to us a clear image about his impressive achievements and inspiration which still lives with us.*

### BRIEF BIO



Vladimir Terzija received the Dipl.-Ing., M.Sc., and Ph.D. degrees in electrical engineering from the University of Belgrade, Belgrade, Serbia. He is a Full Professor and a Head of Laboratory of Modern Energy Systems at Skoltech, Moscow, Russian Federation. He is also a Distinguished Professor at the Shandong University, Jinan, China. In the past, he has been with the University of Belgrade (Serbia), ABB (Germany) and The University of Manchester (UK).

His research interests include smart grid applications; WAMPAC; power system protection; transient processes; 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, IEEE Fellow and the recipient of the National Friendship Award (China).



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