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ANNOUNCEMENT

International Recognition for Aristotle University PhD Thesis on Protecting Electric Vehicle Charging Stations Against Overvoltages

Thessaloniki 4/11/2026

A PhD thesis completed at the School of Electrical and Computer Engineering of the Faculty of Engineering at Aristotle University (AUTh) has received international recognition in the IEEE Industry Applications Society's global "IAS Student Thesis Contest".

Specifically, the doctoral thesis by Dr Alexandros Chatzikostas, entitled "Modelling and Coordination of Overvoltage Protection Devices: Application to Electric Vehicle Charging Systems", won third place in the international competition, which attracted 60 entries from around the world.

The research was conducted at AUTh's High Voltage Laboratory under the supervision of Associate Professor Thomas Tsovilis of the School of Electrical and Computer Engineering. Assistant Professor Georgios Peppas of the Technical University of Crete and Dr Zacharias Datsios, Research Associate at AUTh's High Voltage Laboratory, also contributed to the research.

The award-winning thesis focuses on protecting modern electric vehicle charging infrastructure against lightning-induced overvoltages, which can affect the safe and reliable operation of electric vehicle charging stations.

As part of the research, the team developed a generalised, experimentally validated methodology for the electrical characterisation and modelling of overvoltage protection devices based on different technologies. The methodology draws on laboratory tests involving high-voltage impulse and high-current testing.

The researchers used the proposed models in simulations to evaluate the protection of high-power electric vehicle charging stations against lightning-induced overvoltages. By analysing the results, the thesis identifies the required electrical characteristics and establishes guidelines for selecting, sizing and coordinating the protection devices installed at electric vehicle charging stations. The findings contribute to improving the reliability of charging infrastructure and ensuring the safer integration of electric mobility into modern power grids.

The award ceremony took place on 5 October 2026 in Vancouver, Canada, as part of the IEEE Industry Applications Society (IAS) Annual Meeting 2026.

IEEE: The World's Largest Technical Professional Community

The Institute of Electrical and Electronics Engineers (IEEE) is a global technical and professional organisation dedicated to advancing the theory and applications of electrical and computer engineering, supporting the development of the profession and its contribution to society. IEEE currently has more than 420,000 members, including over 90,000 students, in more than 160 countries, making it the world's largest technical professional community.

Photographs from the award ceremony are attached.

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We kindly request that this event be published, broadcast, and covered by the media.