AWARDS



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IEEE IAS Member Johann W. Kolar Received the 2025 IEEE Medal in Power Engineering

he IEEE Medal in Power Engineering was established in August 2008 and is presented annually to an individual deemed to have made outstanding contributions to technology associated with the generation, transmission, distribution, application, and utilization of electric power for the betterment of society. The award is funded by the IEEE Industry Applications, Industrial Electronics, Power Electronics, and Power & Energy Societies.

Prof. Johann W. Kolar is the recipient in 2025 of this medal for "pioneering contributions to and leadership in power electronics systems, grid interfacing technologies, and ultrahighspeed motor drives."



Johann W. Kolar received his M.Sc. degree in industrial electronics and control engineering and his Ph.D. degree in electri-

cal engineering (summa cum laude/ promotio sub auspiciis praesidentis rei publicae) from the Vienna University of Technology, Austria, in 1997 and 1999, respectively. Since 2001 he

Digital Object Identifier 10.1109/MIAS.2025.3541940 Date of current version: 9 April 2025 has been head of the Power Electronic Systems Laboratory at the Swiss Federal Institute of Technology (ETH) Zurich, first as an associate professor and then as a full professor (since 2004). Prof. Kolar is now Professor Emeritus, Department of Information Technology and Electrical Engineering, ETH Zurich, Switzerland.

Prof. Kolar, a Life Fellow of IEEE, is one of the most influential world researchers in the field of power electronics robust design and control. He has proposed many novel pulsewidth modulation converter topologies and modulation and control concepts, such as the Vienna Rectifier, the sparse matrix converter, and the Swiss rectifier. Indeed, Prof. Kolar can be considered the "father" of high-efficiency ac/dc converters for data center supplies, bidirectional adjustable speed drives, battery chargers, and the integration of solar power into the grid. He also developed the X-Rectifier concept, another groundbreaking invention with potential to enable major applications, including the interconnection of local dc microgrids to three-phase ac mains. The significant contributions of Prof. Kolar also include ultrahigh-speed motor drives employing ac/ac converters with high switching frequency and high-performance switching methods for solid-state transformers applied in the next generation of medium-voltage power supplies.

Prof. Kolar has supervised and graduated more than 90 Ph.D. students. His scientific production is impressive, with more than 900 scientific papers published in international journals and conference proceedings, four book chapters, and more than 200 patents.

Prof. Kolar has presented more than 35 educational seminars at leading international conferences and has received more than 35 IEEE Transactions and Conference Prize Paper Awards. He has also been recognized as a recipient of the 2014 IEEE Power Electronics Society R. David Middlebrook Achievement Award, the 2016 IEEE William E. Newell Power Electronics Award, the 2016 IEEE PEMC Council Award, the 2020 European Power Electronics Association Outstanding Achievement Award, and two Federal Institute of Technology (ETH) Zurich Golden Owl Awards for excellence in teaching. He has initiated and/or is the founder of four ETH spin-off companies.

With his outstanding contributions, Prof. Kolar has proven himself a global visionary, changing the future of electricity in industry and power conversion technologies.