



IMPACTFUL MICROGRIDS

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[\[wsu.zoom.us/j/5226526738\]](https://wsu.zoom.us/j/5226526738)

OVERVIEW

Microgrids are small, autonomous energy systems. Microgrids are indeed a philosophy of life, coming from the idea of generating and consuming energy at the same point, thus avoiding electricity (energy) long distance transmission losses. The idea can be translated to water, food, or life. The talk will present the human body-brain as an example of hierarchical/distributed system. Then microgrid concept will be presented in different areas, from earth to space applications. Finally, the talk will present the microgrid research impact issues related to industry and society.

BIO

Josep M. Guerrero (S'01-M'04-SM'08-FM'15) received his BS in telecommunications engineering (1997); his MS in electronics engineering (2000); and his PhD (2011) in power electronics from the Technical University of Catalonia, Barcelona. Since 2011, as a full professor with the Department of Energy Technology, Aalborg University, Denmark, he has been responsible for the Microgrid Research Program. From 2014, he was chair Professor in Shandong University. In 2015, he was a distinguished guest professor in Hunan University; and in 2016, he was a visiting professor fellow at Aston University, UK, and a guest professor at the Nanjing University of Posts and Telecommunications. In 2019, he was designated Villum Investigator by The Villum Fonden, which supports the Center for Research on Microgrids (CROM) at Aalborg University. Dr. Guerrero is the founder and Director of CROM. (www.crom.et.aau.dk).



His research interests encompass different microgrid aspects, including power electronics, distributed energy-storage systems, hierarchical and cooperative control, energy management systems, smart metering and the internet of things for AC/DC microgrid clusters and islanded minigrids. Specially focus includes microgrid technologies applied to offshore wind, maritime microgrids for electrical ships, vessels, ferries and seaports, and space microgrids applied to nanosatellites and spacecrafts. Dr. Guerrero is an Associate Editor for a number of IEEE TRANSACTIONS and has published more than 600 journal papers in the fields of microgrids and renewable energy systems; cited more than 50,000 times. He received the best paper award of the IEEE Transactions on Energy Conversion for the period 2014-2015; best paper prize of IEEE-PES in 2015; and the best paper award of the Journal of Power Electronics in 2016. For six consecutive years (2014 – 2019), he received awards by Clarivate Analytics (formerly Thomson Reuters) as the Highly Cited Researcher with 50 highly cited papers. In 2015, he was elevated as IEEE Fellow for his contributions on “distributed power systems and microgrids.”