

AIT/IEEE PES Austria Chapter Lecture Series

SMART TRANSFORMER FOR REALIZING MESHED AND HYBRID ELECTRIC DISTRIBUTION GRID

[Chandan Kumar](#), Professor, [Indian Institute of Technology Guwahati](#), India

Thursday, 21. July 2022, 10:00 - 11:00 (hybrid)

Registration

Participation is free but [registration](#) is required! Login information for joining the online event will be provided right before the event starts!

Abstract

Significant installation of renewable energy sources, storage, and electric vehicles can induce problems such as voltage and current limit violations, reverse power flow, absence of inertia and consequent stability problems, poor power quality, etc. Smart transformer (ST) is a promising solution for avoiding such a changing grid scenario leading to strong grid reinforcements. The ST is a power electronics-based transformer with effective control and communication functionalities with the capability to control the voltage and power flow in electric grid. The ST provides features of conventional power transformer in a distribution grid, and also other benefits such as voltage control, frequency control, load compensation, and interfacing link for various ac and dc infrastructures, thus improving the flexibility of the system. In his lecture, Chandan Kumar will highlight the different possibilities and capabilities of ST in distribution grid to develop and realize meshed and hybrid distribution grids.

About the Speaker

Chandan Kumar (Senior Member, IEEE) received the Ph.D. degree from the Indian Institute of Technology Madras, Chennai, India, in 2014, in electrical engineering. He is currently working as associate professor with the Electronics and Electrical Engineering Department, Indian Institute of Technology Guwahati, Guwahati, India. During 2016 to 2017, he was Alexander von Humboldt Research Fellow with the Chair of Power Electronics, University of Kiel, Germany. His research interests include power electronics applications in power system, power quality, and renewable energy. He is serving as Associate Editor of IEEE Systems Journal, IEEE Open Journal of Power Electronics, IEEE Open Journal of the Industrial Electronics Society, and IEEE Access Journal. He is also secretary of IEEE IES Technical Committee on Renewable Energy Systems.

Organizers

This event is jointly organized by the [IEEE PES Chapter Austria](#), the [IEEE IAS/PELS/IES Joint Chapter Austria](#), and the [AIT Austrian Institute of Technology - Center for Energy](#).

Location

Hybrid - AIT Austrian Inst. of Technology, Giefinggasse 4, 1210 Vienna, Austria, GG4_F1_M4, 1st Floor and online

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