

Webinar:

Grid Integration of Renewable Energy Resources into Weak Grids



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"ورود بعنوان مهمان و با وارد کردن نام و نام خانوادگی"

Abstract:

On the way to a zero net emissions future, Australia's electricity network roadmap is to replace the critical role of synchronous generator-based plants such as coal-fired power plants with low-emission renewable, power electronic converter (PEC-) connected energy resources. Retiring conventional synchronous generators and their substitution with PEC-connected generators creates a power system with a lower level of native inertia leading to a weaker electricity network with a lower system strength. Additionally, with the majority of optimal sites for renewable energy generation and stiffer connection points already utilised, future developments need to focus on less favourable locations leading to the connection of future farms into weaker grid points with lower system strength. This presentation will present several solutions for the grid integration of renewable energy resources into weak areas of the grid using enhanced grid following inverters and also grid forming inverters

Biography:

Dr Behrooz Bahrani is a Senior Lecturer in the Electrical and Computer Systems Engineering department and the director of Grid Innovation Hub at Monash University. He obtained his PhD from EPFL, Switzerland, in 2012. Prior to joining Monash, he was a postdoctoral fellow at several institutions including EPFL, Purdue University, Georgia Institute of Technology, and the Technical University of Munich. His research interests include control of power electronic systems, applications of power electronics in power systems, and grid integration of renewable energy resources.