





Invitation

Honory Speak by Prof. Xiongfei Wang, Aalborg University, Denmark Newly Elevated IEEE Fellow 2023 March 2, 2023 – 15.00-16.00 and afterwards a reception Pontoppidanstraede 111, Room 111/1.177, Aalborg Aalborg University, Department of Energy All are welcome

System Interactions and Control of Inverter-Based Resources

Abstract:

The massive deployment of inverter-based resources is fundamentally changing the operation and control of power systems. While power-electronic inverters feature more controllability than legacy grid assets, they tend to interact with one another in a wider timescale and bring different stability risks to power systems. This lecture will give first a review of the instability incidents caused by system interactions of inverter-based resources, and then discuss dynamics analysis and control methods for addressing the issues. The presentation is industry-oriented and primarily based on the research work in the past decade, beginning from the earlier HARMONY project to the recent projects of eGRID research group.

Biography:



Xiongfei Wang is currently a Professor with the Division of Electric Power and Energy systems, KTH Royal Institute of Technology, Stockholm, Sweden, and a part-time Professor at Department of Energy (AAU Energy), Aalborg University, Aalborg, Denmark. From 2009 to 2022, he was full-time with AAU Energy, where he received the PhD degree in 2013 and became an Assistant Professor in 2014, an Associate Professor in 2016, a Professor and Leader of Electronic Power Grid (eGRID) Research Group in 2018. His research interests include modeling and control of power electronic converters and systems, stability and power quality of power-electronic-based power systems, and high-power converters. Dr. Wang serves as Co-Editor-in-Chief for the IEEE Transactions on Power Electronics and

as Associate Editor for the IEEE Journal of Emerging and Selected Topics in Power Electronics (JESTPE). He was a member at large of Administrative Committee of IEEE Power Electronics Society (PELS) during 2020-2022. He received ten IEEE/IET Prize Paper Awards, the 2016 AAU Talent for Future Research Leaders, the 2018 Richard M. Bass Outstanding Young Power Electronics Engineer Award, the 2019 IEEE PELS Sustainable Energy Systems Technical Achievement Award, the Clarivate Highly Cited Researcher during 2019-2021, and the 2022 Isao Takahashi Power Electronics Award. He is elevated to IEEE Fellow of 2023.