



TOWARDS RESILIENT POWER SYSTEMS: EXPERIENCES AND APPLICATIONS FROM INTERNATIONAL PROJECTS

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OVERVIEW

Power systems are being increasingly exposed to extreme weather and natural hazards with catastrophic consequences on modern societies, revealing at the same time significant challenges and limitations in current network planning and operation standards in providing hedge against such events. This has placed resilience in the spotlight of system operators, planners and decision-making bodies around the world.

In this context, this seminar will share experiences and applications from relevant national and international research projects in the area of resilient power systems planning and operation. It will cover conceptual frameworks for better understanding the multi-faceted concept of resilience and how this can be explicitly embedded in novel resilience assessment and cascading analysis tools, as well as risk-based planning approaches to support the decision-making on resilient investment portfolios. It will also provide updates on ongoing works by relevant IEEE and CIGRE working groups on the topic of power system resilience.

BIO

Dr. Mathaios Panteli holds an Assistant Professor position within the Department of Electrical and Computer Engineering, University of Cyprus, since January 2021 and an Honorary Lecturer position at the Department of Electrical and Electronic Engineering, Imperial College London since September 2022. Prior to joining UCY, he was a Lecturer at the Power and Energy Division of The University of Manchester, serving as the Deputy Lead of the Sustainable Energy Systems research cluster. His main research interests include techno-economic reliability, resilience and flexibility assessment of future low-carbon energy systems, grid integration of renewable energy sources and integrated modelling and analysis of co-dependent critical infrastructures, in which areas he has successfully developed a multi-million research portfolio, attracting funding from research councils, industry, and European Commission.

Mathaios is an IEEE Senior Member, an IET Chartered Engineer (CEng), the Chair of the CIGRE working group C4.47 “Power System Resilience” and the CIGRE Cyprus National Committee, an invited member of multiple IEEE, CIGRE and CIRED working groups, and a Fellow of the Higher Education Academy (UK). He serves as an Associate Editor in IEEE Transactions on Sustainable Energy and IET Renewable Power Generation. He is also the recipient of the prestigious 2018 Newton Prize and he was selected in the top 12 innovators for 2022 by the Innovation Radar Prize competition of the European Commission.

