Grid Control Systems Organization and Systems Overview

In this talk, Dr. Rodrigo will provide an overview of the Grid Control Systems organization and its role at Florida Power & Light Company. He will share details on how the team supports and integrates with other business units, along with how the group provides a key role in ensuring regulatory, cyber security and operational needs. He will also discuss efforts he leads in evolution and strategic positioning to prepare for the future grid. Finally, Dr. Rodrigo will highlight the strong partnership between FPL and UCF and how it has benefited both organizations.

Dr. Rodrigo is responsible for developing future strategy and architecture for Grid Control Systems (GCS). He joined FPL in 2012 and has worked in the electrical utility industry for more than 30 years. He has successfully led many systems design, development, integration and implementation projects and initiatives, and brings expertise in strategy formulation and implementation in energy and market management systems, vendor and resource procurement, renewables integration and systems integration, to name a few, both at FPL and prior to joining FPL. Dr. Rodrigo holds a Ph.D. and an M.S. in electrical engineering, both from Kansas State University. He also has an M.B.A. from the University of Colombo and a B.S. in electrical engineering from University of Moratuwa. Dr. Rodrigo is a Senior Member of the IEEE and a certified Six Sigma Green Belt.

Characterizing Other Worlds from a Single Pixel

In the 25 years since the discovery of the first exoplanet, the number of known worlds outside our solar system has increased to a couple thousands. Even when we can see these worlds in our images, they occupy at most a single pixel. This talk will cover how radiative transfer models and mapping techniques are used to detect changes in chemistry across the atmosphere, and the presence of variable cloud structures in these worlds, using information from that one pixel. Dr. Karalidi will discuss the steps her group is taking to prepare for the JWST era and the large amount of data we will have from these alien worlds.

Dr. Karalidi’s research focuses on the characterization of imaged exoplanets and brown dwarfs using various radiative transfer codes and mapping techniques. She received her Ph.D. in astrophysics in 2013 from Leiden University in the Netherlands. Before coming to UCF, she was a postdoc at the University of Arizona and at the University of California, Santa Cruz. Dr. Karalidi joined the Department of Physics at UCF as an assistant professor in 2019. Since joining UCF, she has served as PI on two successful NASA ROSES proposals and was awarded 15 Hubble Space Telescope orbits to observe a brown dwarf binary.