**PROF. AKSHYA K. SWAIN**

**ASSOCIATE PROFESSOR OF ELECTRICAL AND COMPUTER ENGINEERING IN UNIVERSITY OF AUCKLAND, NEW ZEALAND**

**Biography**

**Title: Smartgrid: From the Perspective of Control Systems**

Power generation from renewable energy sources (RESs)  and their increasing penetration into the conventional grid is growing at a rapid pace around the world. However, the RESs are unpredictable and fluctuating in nature and often produce low power compared to traditional generation. The integration of variety of  RESs into the traditional grid pose several challenges which include power quality issues, power fluctuations due to presence of a new source  or plug and play feature of RESs, voltage and frequency deviation due to transition from grid-connected to stand-alone mode and vice versa and so on. Control is the key to mitigate some of the issues associated with the penetration of RESs. This presentation will therefore focus on discussing some of the advanced and popular control strategies including the feedback linearising controller, Lyapunov based controller, backstepping controller, reinforcement learning controller to solve the fault-ride through or low voltage ride through (LVRT) of mix/hybrid generation system.