

IEEE BDA Tutorial Series: Big Data & Analytics for Power Systems

Infrastructure Asset Management with Power System Applications

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10:00 am-11:30 am, Thursday, Jul. 2, 2020, Pacific Time
(7:00 pm - 8:30 pm, Thursday, Jul. 2, 2020, Central European Summer Time)
(1:00 am – 2:30 am, Friday, Jul. 3, 2020, China Standard Time)

Abstract: The value of making smart decisions gives a reason for adopting Asset Management (AM). AM is defined as a coordinated activity of an organization to realize value from assets. The first step of AM is always the motivation. This tutorial introduces the concepts of AM and maintenance as a strategic tool for AM. Furthermore it gives a thoroughly presentation of the systematic method for performing maintenance that are the reliability centered maintenance (RCM) and the quantitative method of reliability centered asset management (RCAM). A focus for the tutorial is on the data needs. The presentation concludes with a case study for wind power turbines. It present an anomaly detection approach based on machine learning technique and data from alarms and the Supervisory Control And Data Acquisition system (SCADA). The results shows that the proposed approach can detect potential wind turbine failures at an early stage.

Bio: Dr. Lina Bertling Tjernberg is Professor in Power Grid Technology at the Royal Institute of Technology (KTH) and is the Director of the Energy Platform. Her research aims to develop models for electric power solutions for the future sustainable energy system. Areas of special expertise are in applied reliability theory and maintenance management. Dr. Bertling Tjernberg has previously been Professor at Chalmers University of Technology in Sustainable Power System and the Head of the Power System Group, and with the Swedish National Grid as Director of the Research and Development.

Dr. Bertling Tjernberg is a Senior Member of IEEE and is a Distinguished Lecturer of IEEE PES. She has been the Chair of the Swedish PE/PEL Chapter (2009-2019) and has served in the Governing Board of IEEE PES (2012-2016). She has been an Editor for the IEEE Transactions on Smart Grid Technologies and chaired the first IEEE ISGT Europe Conference. She is a standing committee member of the world energy council (WEC), is a member of the National Strategic Council for Wind Power and is part of the expert pool for the EU commission within Energy, ICT and Security. She has published over 100 papers and a book for CRC Press on [Infrastructure Asset Management with Power System Applications](#), 2018.

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