

# Vortragsankündigung

**Donnerstag, 21.11.19, 12:15 – 13:15 Uhr**  
**TU Graz, Inffeldgasse 18, Hörsaal i1**

## **Power and Control Hardware-in-the-Loop (HIL) evaluation at Clemson University**

**Prof. Johan Enslin, Clemson University, Charleston SC, USA**

The increased use of variable and intermittent renewable generation and increased requirements for a reliable and resilient power supply drive the need to evaluate power equipment and performing research to improve grid reliability and security increasingly. The objective of this presentation is to discuss HIL projects in wind turbine drive-trains, energy storage, PV inverters, transformer protection against GIC and Combined-heat and Power (CHP) generation under real-time control and full power conditions. Clemson University in Charleston SC, USA, has one of the highest power HIL facilities in the world where power converters, wind and CHP generators can be tested under full load, emulated grid conditions. The importance of HIL testing and some experimental results will be emphasized under new utility grid codes and standards.



Prof. Johan H Enslin is the Duke Energy Endowed Chaired Professor in Smart Grid and Executive Director for the Power Program at Zucker Family Graduate Education Center for Clemson University in North Charleston SC. He comes as Director for the Energy Production and Infrastructure Center (EPIC) and the Duke Energy Distinguished Chair in Power System at UNC Charlotte. Enslin has combined a 38-year career with leadership in industry and academia, in the US, Europe and South Africa. He served as an executive for private business operations and a professor in electrical engineering. Dr. Enslin initiated and led renewable energy teams, companies and executed multi-disciplinary power system projects. Over the course of his career Johan worked for more than 90 US, European, Asian and African power utilities, governments and industries. He authored and co-authored more than 300 technical journal and conference papers for IEEE and other organizations and has written several chapters in scientific books. Johan is a life-long leader in the IEEE and CIGRÉ working groups and committees. He holds more than 25 provisional and final patents. He received the 2014 Charlotte Business Journal Energy Leadership Award. He is a registered Professional Engineer in South Africa, Fellow of the SAIEE and Fellow of the IEEE.