



**CSULB Systems Council Chapter presents**  
**IEEE Distinguished Lecture Series on**

# **A New Way of Managing the Intermittency of Variable Energy Resources**

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**John Redding**

**CEO and Co-founder of Onset, Inc.**

**Date: Tuesday, September 15, 2015**

**Time: Network/Social 11:00 – 11:30 am**

**Talk: 11:30 am – 12:30pm**

**Location: ECS 317, California State University, Long Beach**



**Abstract:**

The single biggest challenge facing the electric power industry now and for the foreseeable future is the integration of an ever expanding supply of renewable energy. The output of Variable Energy Resources (wind and solar PV) is, of course, difficult to predict. Schedules are binding financial contracts to deliver the output or pay others to make up the difference. Consequently only 20% of VER generation is scheduled in the Day Ahead time frame whereas 80% of it shows up virtually unannounced in the Hour Ahead or Real Time Markets and all that's left to do is react. Our team at Onset, Inc. has developed a control system and algorithms (called UniGen) to directly couple VERs with such firming resources as a dedicated gas plant and energy storage systems for the express purpose of maintaining a schedule in real time. This allows the coupled VER generation to be scheduled in the Day Ahead Market with a minimal risk of the schedule deviations that incur financial costs. The UniGen control system has been modeled using Simulink. This simulation model accurately reflects the dynamic nature of VERs, gas plants and storage systems working together to maintain generation schedules. Mr. Redding will present this at the meeting and run a few simulations to highlight its key features and benefits.

**About Speaker:**

John Redding is the CEO and co-founder of Onset, Inc. Along with Jim Detmers, former COO of CAISO, he created and developed the UniGen concept which is an effective and economic way to integrate renewables. Mr. Redding has 40 years of industry experience including 27 years with GE Energy. Over the course of his varied career, Mr. Redding has accumulated a wide-ranging knowledge of power plant technologies and economics and the electric power markets. He is convinced that the deployment of renewable generating resources has changed the electric power industry in unanticipated ways and has thereby created an opportunity for companies who provide non-traditional approaches and solutions that address both technical and cost issues. He has spent the last three years developing UniGen's value proposition, market testing the concept with municipal utilities, and meeting with investors to secure capital for Onset UniGen. John has a MS in Engineering from Purdue and an MBA from Santa Clara University.

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For more information, please contact IEEE chapter's secretary, Dr. Shadnaz Asgari at [Shadnaz.Asgari@csulb.edu](mailto:Shadnaz.Asgari@csulb.edu).