

POWER-TO-GAS

THURSDAY, NOVEMBER 7 - ROOM 103-A/B, 1:30 PM - 3:30 PM

- **H2@Scale: Economic Potential of Hydrogen as an Energy Intermediate** - *Mark Ruth, National Renewable Energy Laboratory*
- **UC Irvine Power-to-Gas Demonstration: Dynamic Operation of Electrolyzer Systems and Integration with Central Plant** - *John Stansberry, National Fuel Cell Research Center*
 - This power-to-gas demonstration utilizes a proton exchange membrane electrolyzer system with natural gas pipeline injection followed by hydrogen combustion in a gas turbine to produce partially decarbonized power.
- **Design of 20 Nm³/h Class Liquid Organic Hydrogen Carrier System Integrated with Electrolyzers and Fuel Cells** - *Sanghun Lee, Korea Advanced Institute of Science and Technology*
 - In this study, 20 Nm³/h class liquid organic hydrogen carrier system is designed to replace compressed hydrogen tanks in a hydrogen energy storage system.
- **Electrolysis' Potential Value for Supporting the Electrical Grid** - *Mark Ruth, National Renewable Energy Laboratory*
 - NREL evaluates the economic performance of water electrolysis in a selection of electricity markets – both current and potential future markets.
- **Numerical Tool for Off-design Analysis of Power-to-Gas (P2G) System Based on Solid Oxide Electrolyzer (SOE)** - *Jakob Kupecki, Institute of Power Engineering*
 - This presentation describes the numerical modeling method which makes it possible to perform sensitivity studies of power-to-gas systems based on stacks of solid oxide electrochemical cells operated in electrolysis mode.