

PEMFC R&D PART 1

WEDNESDAY, NOVEMBER 6 - ROOM 101-A, 1:30 PM - 3:30 PM

- **Novel Modular Concept of Low Power Lightweight PEMFC Designed to Operate Under Harsh Conditions** - *Dr. Christophe Kinkelin, CEA (French Alternative Energies and Atomic Energy Commission)*
 - In order to push the limitations of low power fuel cells (< 2 kW), a novel concept of liquid cooled modular fuel cell stack is proposed. The liquid cooled closed cathode architecture enables to operate under extreme temperatures and increases the durability of the fuel cell stack.
- **Making the Case for Graphite Bipolar Plates** – *Brian James, Strategic Analysis, Inc.*
 - A comparison of metallic and flexible graphite bipolar plates for PEM fuel cells with suggested pathway to meeting the DOE bipolar plate target of \$3/kW.
- **High Purity, High Performance Graphite from A Green Technology with Continuous Thermal Purification Process for Fuel Cell Bipolar Plate Applications** - *Joseph Li, Superior Graphite*
 - This presentation will present a new green technology with continuous thermal purification process to purify graphite to extra high purity (very low impurities), as well as the characteristics of the high purity, high performance graphite for Fuel cell bipolar plate applications.
- **Development of Air Cooled PEFC Stack – Flow Design Optimization Through Computational Fluid Dynamics (CFD) and Short Stack Evaluation** - *K. Hari Gobi, ARCI-Centre for Fuel Cell Technology (CFCT)*
- **PEM Fuel Cell Stack for Automotive Application** - *Dr. Moshine Zahid, ElingKlinger AG*
- **Well-Tunable Electrodes with Ultralow Catalyst Loading for High-Efficiency Hydrogen Production** - *Feng-Yuan Zhang, University of Tennessee*
 - By employing advanced manufacturing, the well-tunable titanium liquid/gas diffusion layers are developed and demonstrate proton exchange membrane electrolyzer cell performance improvements.