

## **Tutorial 4: Hybrid Electric Powertrains**

**Tuesday, September 6, 2011, 2:00 PM – 5:30 PM**

**Speaker:** Mengyang Zhang, Chrysler Group LLC

**Short Biography:** Mengyang Zhang is a Senior Technical Specialist with Chrysler Electrified Propulsion Systems, in areas of powertrain controls and calibrations. He is also responsible for Advanced Technology and Benchmarking for Chrysler Electrified Propulsion Systems. His recent HEV experience includes launching 2009 Chrysler Aspen/Durango HEV and developing Ram pick-up PHEV for DOE/Chrysler funded PHEV demonstration fleet. Mengyang has over 16 years in research and development of automotive products including advanced powertrain, electric drive systems, and chassis systems.

**Tutorial Description:** This tutorial covers fundamental aspects of modern HEV powertrains, from characteristics of subsystems to vehicle level requirements pertaining to powertrains. The technical details about HEV vehicle performance, drivability, fuel economy, emission standards and OBD compliance are elaborated. HEV operating strategies and controls are explained in the light of meeting powertrain requirements. Examples from some of popular HEV models are used to explain the current state of art of HEV powertrains. Potentials and challenges of PHEV and EREV are also discussed.