NH3 Fuel Conference 2015

Wednesday, September 23rd

Optional Tours

Please note: Tour attire: long pants, flat, closed-toe shoes (no sandals).

Tour of Argonne's Advanced Powertrain Research Facility and *Tour of the EV-Smart Grid Interoperability Center* (Bldg. 362)

Argonne's ***Advanced Powertrain Research Facility*** (APRF) enables researchers to conduct vehicle benchmarking and testing activities that provide data critical to the development and commercialization of next-generation vehicles. APRF engineers use the facility's two-wheel drive (2WD) and four-wheel drive (4WD) dynamometers and state-of-the-art instrumentation to reveal important information on performance, fuel economy, energy consumption and emissions output. The APRF is capable of testing conventional, hybrid and advanced electrical propulsion systems using a variety of standard and renewable fuels in a precise laboratory environment.

Funded by the U.S. Department of Energy and in partnership with the European Commission's Joint Research Centre, Argonne has developed one of two extensive state-of-the-art ***EV-Smart Grid Interoperability Center*** to support analysis, development and testing of electric vehicle charging technologies and their connection the smart grid. Included in the development and testing are 1) Charging Systems, studying and validating AC, DC and wireless technologies to allow *any* EV to plug into *any* EVSE safely and reliably; 2) Communication Technologies, developing and verifying software, embedded systems, and messaging protocols that connect EVs and EVSEs with the utility/grid operator to provide information to support billing and load management; 3) Networks, examining infrastructure-related systems to help develop a robust and reliable V2G network—from emerging smart grid technologies to micro-grids.

Tour of the Advanced Photon Source Center (Bldg. 401)

The Advanced Photon Source at Argonne National Laboratory is one of five national synchrotron radiation light sources supported by the U.S. Department of Energy's Office of Science to carry out applied and basic research to understand, predict, and ultimately control matter and energy at the electronic, atomic, and molecular levels, provide the foundations for new energy technologies, and support DOE missions in energy, environment, and national security. It provides the brightest storage ring-generated X-ray beams in the Western Hemisphere to more than 5,000 scientists worldwide.