Development of Production Control Systems for Hybrids, PHEVs and BEVs

Dr. Deepa Ramaswamy, President and CEO, Hybrid Chakra Consulting

Challenges involved in the development of a production control system for a hybrid/alternative energy vehicle center not only around new component technologies such as batteries, power electronics, and electric machines, but also upon the invention that is required to develop novel algorithms that utilize components in the most synergistic fashion so as to optimize a function of interest (fuel economy for example). Additionally, OEM performance and production requirements must be met for quality and robustness over the lifetime of the vehicle. This talk begins by describing some of the configurations of production hybrid electric vehicles followed by discussion of their control systems in terms of their basic goals and major functions. The development of the control system from prototype stage through production level will be described, including a brief review of some new areas being worked on in hybrid/EV control.

Dr. Deepa Ramaswamy is the founder of Hybrid Chakra Consulting, a consulting company that offers services in the hybrid vehicle, plug-in hybrid vehicle and electric vehicle domains. She received her B. Tech. from the Indian Institute of Technology, Madras, and her Ph.D. in Electrical Engineering (Controls) from the University of Illinois at Urbana-Champaign. She worked at Ford for several years on Ford’s first production hybrid vehicle, the Hybrid Escape. At Ford, she won the Henry Ford Technology Award for the development of the hybrid powertrain control system. Following that she was the Chief Engineer for Hybrid Systems at Ricardo, and now offers her own consulting services through Hybrid Chakra (www.hybridchakra.com).

Date: Monday, November 22, 2010
Location: Wayne State University College of Engineering
          Engineering Bldg Room 1507 (EDC Auditorium)
          5050 Anthony Wayne Drive, Detroit MI 48202

Parking: Option 1: WSU Parking Structure #2, Anthony Wayne Drive ($4.75 in dollars or quarters)
         Option 2: Street Parking on Warren (free after 6 pm)

Directions: www.campusmap.wayne.edu

Time: 6:30 pm Reception and Poster Session (w/ tour of WSU Energy Storage Lab) / 7:30 pm Speaker Presentation
       8:30 Networking Session (Traffic Jam & Snug, 511 West Canfield, Detroit)

Price: No Charge (cash bar at Traffic Jam & Snug)

RSVP by: Monday, November 15, 2010 to Dr. Dennis Corrigan
         corrigan@wayne.edu http://www.electrochem.org/ecs/sections/detr/detr.htm