Summary of Activities – Transportation Machinery TC

We welcome several new members to the TC. They are

Prof. Frank Chongwoo Park	(S. Korea)
Prof. Nong Zhang	(Australia)
Prof. Peter Petrak	(Slovakia)
Prof. Thomas Chondros	(Greece)
Prof. Nenad Zmic	(Serbia)
Prof. Ashitava Ghosal	(India)
Prof. Bharat Seth	(India)

They join an active group comprised of Prof. Chintien Huang (Taiwan), Prof. Mauri Haataja (Finland), Prof. Torsten Bertram (Germany), and Dr. Madhu Raghavan (USA)

The TC's mission is to maintain a strong focus on the transportation industry with emphasis on new trends such as hybridization, clean diesels, and electrification of vehicles. We work to facilitate communication and cooperation on these topics amongst TC members.

SUMMARY OF RECENT ACTIVITIES

Prof. Frank Park (Seoul, Korea): conducted a graduate research seminar on information geometry with mobile robotic applications (given at Georgia Tech). His research is focused on automated recharging mechanism design for electric vehicles

Prof. Mauri Haataja (Finland): has been involved in the electrical automotive development between a Finnish automotive company and an electrical vehicle company from China. A few prototypes of the electrical cars have been produced in China and Finland. Arctic climate tests have been conducted through most of 2009 and are also planned for 2010.

MEETINGS AND VISITS

The TC has had 2 teleconferences in 2008 and 2 in 2009. Discussions have mainly been around collaborative projects. These include

- Prof. Ghosal's work on Low-Cost Hybrid Propulsion System Architecture at the Indian Institute of Science, Bangalore.
- Prof. Chintien Huang's collaboration with KMC chain manufacturer in Taiwan -- one of the largest producers of bicycle chains. They are developing a competitive product for automotive applications and also extending research to folding bikes.
- Prof. Nong Zhang's teaching & research in the Mechanical Engg & Mechatronics program at the University of Technology at Sydney. Prof. Zhang is conducting sponsored projects on hydraulic active suspensions, advanced automotive DCT transmissions, and vehicle dynamics. He is also conducting basic research in hybrid vehicle energy storage, recuperation, and optimal energy management

FUTURE PLANNED ACTIVITIES

For 2010, the TC is planning a workshop on Hybrid Propulsion Systems at UTS, Sydney, Australia in the June-July timeframe. Prof. Nong Zhang will be organizing this activity. The plan is to have several invited speakers from US, Australia, India, and China speak at a 2-day event that focuses on the research challenges in the mass commercialization of hybrid propulsion systems.