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USU Engineering Professors Headline Electric Vehicle and Roadway Conference | College of Engineering

02/10/2015

(From Archive) Originally posted Feb. 10, 2015 – PARK CITY, Utah – Top executives from the automotive industry and engineering experts from Utah State University and around the world came together this week to discuss the future of electric vehicles.



Panelists from BMW, Toyota, the University of Cambridge, Purdue, USU, the US Department of Transportation and other institutions presented the latest on topics ranging from vehicle charging technology to roadway infrastructure at the third annual Conference on Electric Roads and Vehicles, or CERV.

Presenters focused on several key themes including stationary wireless charging, dynamic wireless charging, manufacturing standards and vehicle automation.

A major takeaway from the conference was that electric cars are the future of surface transportation and that technology and safety standards need to be developed ahead of mass commercialization.

"A few years ago when we first held this conference, we were talking about the vision of all this," said Regan Zane, USU-Utah Science Technology and Research (USTAR)-endowed professor of electrical and computer engineering, and CERV administrator. "Now, we have experiences to share and we're planning for the future."



Zeljko Pantic, USU assistant professor of electrical and computer engineering, spoke about the most recent developments at USU's Power Electronics Lab and the soon-to-be-completed Electric Vehicle and Roadway Research Facility and Test Track.

Ryan Gerdes, also an assistant professor of ECE, spoke on his research related to vehicle automation and platooning. Gerdes recently received major funding from the National Science Foundation to explore the many safety and security aspects of driverless cars.

Jason Quinn, USU assistant professor of mechanical engineering, presented a socio-economic analysis on electric vehicle transportation. He and other experts agree that the high costs of implementing electric vehicle systems can be balanced by improved air quality and the cost savings of reduced dependence on fossil fuels.

Engineering expertise will lead the ongoing integration of electrical vehicle systems. Dan Mikat, Senior Principal Engineer for Toyota of North America, said his company alone employs about 250 engineers involved specifically in the development of electric vehicle technologies.

BMW's manager of Connected E-mobility Cliff Fietzek said the company is also actively engaged in outlining standards the company hopes can be implemented worldwide.



In addition to creating new technologies, the group is working to address a myriad of engineering concerns that will have to be addressed before electric roadways and in-motion charging can become a reality.

Becky McDaniel of Purdue University touched on a number of issues about roadway infrastructure. She openly admitted her comments had the tone of "Debbie Downer," noting that transportation agencies will be reluctant to implement the needed infrastructure to support electric roadways and charging systems. As a specialist in asphalt materials and pavements, McDaniel said civil engineers will need to be part of the mix of experts who will ultimately decide how to safely embed new electrical systems into roadways.

"These agencies are typically risk-averse," she said. "And it will be difficult to fund these types of new projects given that we're already not spending enough on transportation."

USU's office of Commercialization & Regional Development is the chief sponsor for the CERV event. David Christensen, director of research development, announced that CERV 2016 is slated to take place in Logan at the University Inn & Conference Center.

Image Gallery

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