

Intelligent Transportation Systems (ITS) Forum: Advanced Communications Technologies and Applications for ITS

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Forum

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Road transportation is playing an important role in the rapid development of economy and society. The three basic costs of a transportation system can be succinctly represented as delay, money, and loss of lives. In order to reduce the costs in a transportation system, it is important to provide drivers useful information so that they can make the best decisions in terms of their route, their speed, and so on. There have been fragmented efforts at providing assistance to motorists in the form of automatic toll collection and GPS (global positioning system) assisted driving. However, such systems are largely static, in the sense that actual road conditions have no impact on the quality of routes they produce. A novel concept in the form of an Intelligent Transportation System (ITS), based on wireless communications, the Internet, the GPS, and sensor networks, is gradually emerging to take a shape. The central idea in an ITS system is to deliver useful information to all kinds of motorists, such as ordinary car drivers, drivers of emergency vehicles, drivers of transit vehicles, drivers of service vehicles, and the police. Useful

information to motorists involve physical conditions of road segments, traffic conditions along road segments, roadblocks including accidents and repair works, and availability of services along their paths, to name a few. An ITS system is expected to shorten driving time, make driving safe, make availability of medical assistance and other helps quicker, assist law enforcement, and contribute to a better environment.

Given the vast expanse of an ITS system and the seemingly large cost of deploying such a system, it is important that different parties cooperate in such an endeavor. Several governments or organizations around the world, including the U.S. Department of Transportation, the Vehicle, Road and Traffic Intelligence Society of Japan, and ERTICO of ITS Europe have defined their own ITS architecture. Those initial thrusts on ITS have motivated researchers and engineers to identify key problems that must be addressed for an ITS system to be successful. There have been ongoing research on different aspects of ITS systems, but a great deal of work still remains to be done. The goal of this forum is to provide an open discussion for the recent research results on a broad range of topics relevant to ITS architecture, network support, communication-based information technologies, and application development.

The proposed speakers will be experts from academic institutions, automobile makers, electronics and telecommunications firms, and government agencies involved in the research, development and design of ITS technologies.

Moderators:

David Wei, Fordham University, USA
Teruo Higashino, Osaka University, Japan

Panelists:

Hiroshi Shigeno, Keio University, Japan
Fredrik Tufvesson, Lund University, Sweden
Russell Hsing, Telcordia Technologies, USA
Shinichi Takeda, Visiting Researcher of Telcordia Technologies, USA
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