



Experimental vehicles, a driving simulator, posters exhibited

Advanced Mobility Research Center (ITS Center)

先進モビリティ研究センター(ITSセンター)
<http://www.its.iis.u-tokyo.ac.jp/>

Intelligent Transport Systems

Suda Lab and Nakano Lab (Dept. of Mechanical and Biofunctional Systems)

Ikeuchi Lab (Dept. of Informatics and Electronics)

Oguchi & Tanaka & Kuwahara Lab, Sakamoto Lab, and Makino Lab (Dept. of Human and Social Systems)

- ITS (Intelligent Transport Systems) is an advanced transport system in which various fields, such as transport engineering, vehicle engineering, information technology, are integrated.
- The Advanced Mobility Research Center promotes research and development of ITS through collaboration of academia, public, and private sectors.



History

- 2003.4 "Sustainable ITS", a cooperative project among academia, industry, and the government, started in CCR
- 2005.3 "Collaborative Research Center for Advanced Mobility (ITS Center)" established in IIS (Director: Prof. Dr. Ikeuchi)
- 2009.4 Upgraded to "Advanced Mobility Research Center (ITS Center)," an university-authorized research center (Director: Prof. Dr. Kuwahara)
- 2010.4 Prof. Dr. Suda elected as a director

Research Activities

Next-Generation Infrastructure

● Signal control

Drivers' stopping/passing behaviors at yellow time, which may raise the risk of intersection accidents (dilemma zone), analyzed by DS experiment



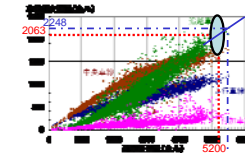
● On-street Parking

Influence of on-street parking on traffic flow and safety evaluated using TS and DS, and a parking space design with little influence on those proposed



● Dynamic Traffic Operation

Effect of dynamic traffic operation, such as dynamic hard shoulder opening, analyzed and the safety issue evaluated



● Road Space Design

"Optical Dots" developed for safe and comfort driving, adopted by Tokyo Metropolitan Expressway



● Public Address System in Tunnels

Public address system developed for the case of emergency evacuation in long tunnels, adopted by Tokyo Metropolitan Expressway



Nagasaki EV & ITS Project

Project for establishing an environment-friendly and future-oriented tourism system using Electric Vehicles (EV) and ITS technologies, launched in Goto Islands, Nagasaki Prefecture

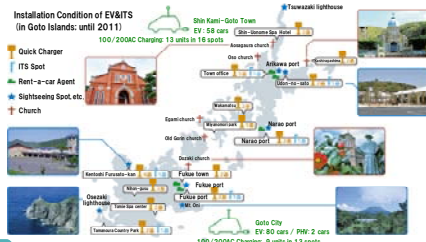
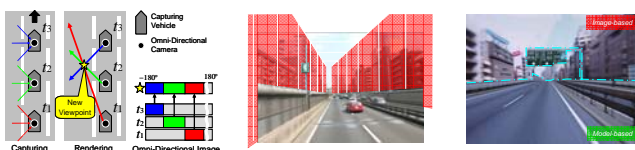


Image-based City Rendering

- Expression of urban space with rich reality by processing real-world image data acquired by the sensing vehicles



Next-Generation Vehicle

● Electromagnetic Suspension

Composed of an electric motor and a ball-screw-and-nut, for an active suspension of an automobile



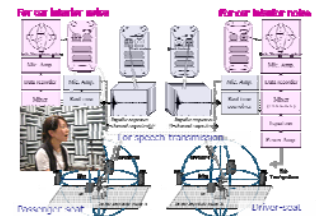
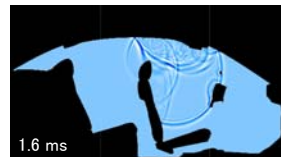
● Analysis on Vehicle's Vibration

Monitoring system of vehicle's vibration using ICA, which is a signal processing method to extract characteristics from mixed complicated observing signals, developed



● Sound Field Analysis and Assessment in Vehicles

Sound field prediction and assessment carried out by numerical analysis to create the acoustical comfort in vehicles



● In-vehicle Layout

In-vehicle layout for improving passenger ride comfort adopted by Tokyu 7000 Series



● Personal Mobility Vehicle (PMV)



Environment-friendly new urban transportation mode for comfort & efficient short-distance trip

ITS FOT Model City Project in Kashiwa

ITS research activities launched for environment-friendly transport society in kashiwa City, which is designated as one of the ITS FOT model cities by the Cabinet Office of Japan



Virtual City Modeling

Constructing virtual city model using on-vehicle sensors

- Example of 3D modeling



- Background separation using spacetime filter



- True color estimation of building surfaces

