Advanced Mobility Research Center
[Designing the Next Generation Transport Systems]

Intelligent Transport Systems


1: Dept. of Fundamental Engineering, 2: Dept. of Mechanical and Biofunctional Systems, 3: Dept. of Informatics and Electronics,
4: Dept. of Materials and Environmental Science, 5: Dept. of Human and Social Systems

http://www.its.iis.u-tokyo.ac.jp/

Research and Developments on ITS

Various Traffic Simulation Models (TS)
Traffic simulators (TS) of various scales developed, to evaluate political options with high accuracy.

- SOUND: A network traffic simulator, covering a wide network including expressways, while vehicles are considered individually.
- AVENUE: A street-level traffic simulator, based on the detailed maneuvers of individual vehicles, such as lane changing at an intersection. Used for evaluating traffic operation strategies, reducing congestion on streets, etc.
- KAKUMO: A micro traffic simulator, connecting TS and DS. It fills the gap of spatiotemporal resolution between TS and DS by calculating driver’s behavior and vehicle dynamics of hundreds of vehicles around the test driver in DS. Simultaneously, the behavior of the test driver in DS is reflected to TS, and the movements of surrounding vehicles and the traffic condition change interactively.

Sensing Vehicles
Sensing vehicles are developed for collecting various real-world data while running on the field.

MAESTRO B can measure location, speed, acceleration, and direction of the experimental vehicle itself with relative positioning of the following vehicle, which is applied for analyzing behaviors of vehicles and drivers under various traffic conditions.

Sensing

- Sensing

Societal implementation of automated driving
Automated Driving emerging scenario proposal and the Impact Analysis

Assessment of bipolarized mobility innovation scenarios, cross-field academic collaboration

Human Resource Development and Social Return Activities

- ITS Seminar: Series of seminars organized about three times a year, and ITS based on needs from local areas as well as central administration promoted
- Lectures: Not only lectures for students but also a special lecture “UTmobI Forum” (once a year) for private sectors organized for developing human resource in ITS industry
- Research Committee: Informal discussions about latest ITS topics hosted every month inviting speakers from academia, industry, and government

Global Collaboration
ITS Center hosts an international symposium every year and exchanges faculty members and students with other universities and institutes through international collaboration as well as domestic collaboration.

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) 2014.4 "Advanced Mobility Research Center (ITS Center)" (Director: Prof. Dr. Suda)
2018.4 Director: Prof. Dr. Oguchi
2019.4 Update members and strengthening the organization

Various ITS Research Activities

- ITS Center: ITS Center promotes research and development of ITS through collaboration of academia, public, and private sectors.
- Research Committee: ITS R&R Experiment Field is conducted as a cross-departmental organization within the university, and since July 2018 it has been promoting it with an eight-department structure.
- Human Resource Development and Social Return Activities: Various ITS-related activities developed for creating new professionals in ITS industry.
- Joint research: Along with government organizations, corporations, and universities, the center conducts joint research projects.

Next-Generation Infrastructure

- Autonomous Traffic Signal System

Kashiwa ITS FOT Model City

Field test of automated driving buses

Kashiwanoha-Campus Station

Kashiwa Campus UTokyo

History of ITS Center

- Development of ITS
- Human Resource Development and Social Return Activities
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