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 then the movements of surrounding vehicles and the traffic condition change interactively.

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ITS R&R Experiment Field

Experiment fields for automobiles and trains and a driving simulator for large vehicle.

- Large-Scale Experiment and Advanced-Analysis Platform, Kashiwa Campus

Next-Generation Infrastructure

- Autonomous Traffic Signal System
- Comparative study of far/near side signal
- Driving test of automated driving buses

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 "UMobI 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 institutions 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

Societal implementation of automated driving

- Automated Driving emerging scenario proposal and the Impact Analysis
- Driver monitoring
- Recognition of hand signals by the in-vehicle camera

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