



# SUDA LAB.

Driving simulator visit  
Poster exhibition

## [Dynamics and Control of Vehicle]

Institute of Industrial Science    Advanced Mobility Research Center (ITS center)  
Department of Mechanical and Bio functional Systems  
Mobility and Field Science, Social Cooperation Program

<http://www.nozomi.iis.u-tokyo.ac.jp/>

### Specialized Field ● Dynamic Systems and Control

## Study on Vehicles with Advanced control, Multi-body Dynamics and Environmental Physiology for Sustainable Mobility.

### 1. Active Suspension Control of Vehicle Systems

Self powered and advanced active vibration control applied to ground vehicles, ship, elevator and maglev system

### 2. ITS (Intelligent Transport Systems) Projects

Sustainable ITS project, Energy-saving ITS project, ITS project for parking

### 3. Study on Advanced Mobility with Motion Simulators

Development of mixed reality transport experiment space, Comfort evaluation of railway vehicle,  
Experimental platform for scaled model vehicle

### 4. Dynamics and Monitoring of Vehicle-Infrastructure-Human System

Improvement of curving performance for railway vehicle, Detection of vehicle abnormal state and derailment,  
Contact mechanics of Wheel/Rail and Tire/Road, Driver characteristics and modeling, Onboard flywheel battery  
system, Personal mobility vehicle, Variable-boarding-location-type automatic platform gate

### 5. Study on Comfort

Evaluation method, Seat arrangement of commuter train and automobiles, Cabin design of "EcoRide"

### 6. Development of Proving Ground for Advanced Mobility Research

Driving simulator, Railway test track and "EcoRide", Test field for automobile and road traffic, Traffic light

### 7. Multi-body Dynamics

Dynamic analysis of railway vehicle, Automobile, Bicycle, and etc.

**Multibody Dynamics and Control**

**Ship Anti-Rolling System with Self-Powered Active Control**

**Maglev System with Controlled Damper**

**Eco transport system "Eco Ride"**

**Full and Scaled Model Rail Vehicle Test Track for Innovative Designed Railway Truck**

**Full Scale Mockup Rail Vehicle for Study on Comfort**

**Energy-Saving ITS**

**Experimental Traffic Light for ITS Research**

**Variable-boarding-location-type Automatic Platform Gate**

**Driving Simulator with 6 d.o.f motion, Turntable & 360° Full Screen**

**Tire Test Machine**

**Electro Magnetic Suspension for Automobile**

**Truck Cabin Driving Simulator**

**Personal Mobility Vehicle**

**Automobile & ITS**

**Comfort and Human Interface**

**SUDA Lab.**

**Railway Vehicle**