SUDA LAB.  
[Dynamics and Control of Vehicle]  

Institute of Industrial Science  
Advanced Mobility Research Center (ITS center)  
Department of Mechanical and Bio functional Systems  

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. Dynamics and Control of Vehicle Systems  
Dynamic analysis of railway vehicle, Automobile, Bicycle, Personal Mobility, Vehicle, Multi-body dynamics, 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, Truck Platoon project, Autonomous Driving project, Inter-vehicle communication, ASV project in Hiroshima  

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, Brain Activity Measurement, Sensing using Quasi Electrostatic Field, Personal mobility vehicle, Machine Learning and Big Data Analytics, Variable-boarding-location-type automatic platform gate  

5. Study on Social Acceptability and Comfort  
Evaluation method, Seat arrangement of commuter train and automobiles, Cabin design of “EcoRide”, Ecosystem  

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