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

1. 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,
   - Free access Platform Gate

2. Study on social acceptability and comfort for transportation systems
   - Ecosystem, Evaluation method, Seat arrangement of commuter train and automobiles, Cabin design of “EcoRide”

3. 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

4. ITS (Intelligent Transport Systems) Projects
   - Sustainable ITS project, Truck Platoon project, Autonomous Driving project, Inter-vehicle communication,
   - ASV project in Hiroshima

5. 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

6. Development of Proving Ground for Advanced Mobility Research
   - Driving simulator, Railway test track, Test field for automobile and road traffic, Traffic light

Multibody Dynamics and Control

Railway Vehicle

ITS & Automobile

Comfort and Human Interface