K. Nakano Lab.

[Measurement and Control in Mobility]

Advanced Mobility Research Center

http://www.knakanolab.iis.u-tokyo.ac.jp/english/index_en.htm

Mechanical and Biological Systems Control

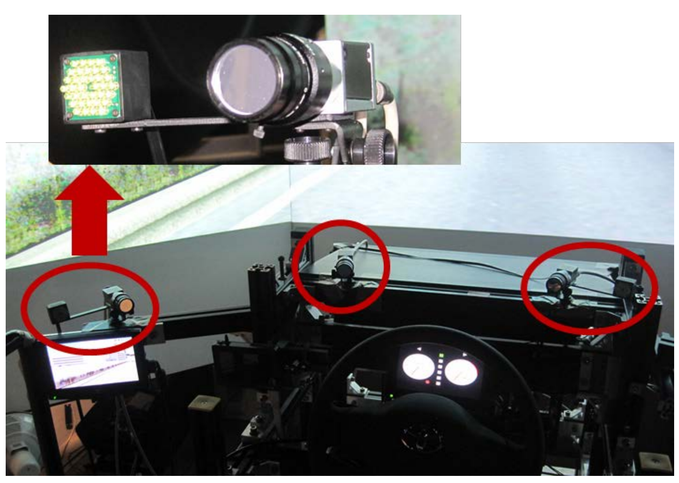
Interdisciplinary Information Studies, Mechanical Engineering

Human-oriented Mobility Engineering

Based on knowledge of mechanical engineering, we are carrying out studies on active vibration control, energy harvesting, multi-channel signal processing method such as independent component analysis applied for condition monitoring, measurement of bio-signals, haptic guidance control, human-machine interface in automobiles, ability of elderly drivers, and so on. Studies on measurement and control mainly related to automobiles are widely being conducted.

- ◆Mobility engineering using bio-signals
- ◆Haptic guidance control
- ◆Condition monitoring of drivers with steering admittance
- ◆Evaluation of Human-machine-interface of automobiles with gaze measurement
- ◆Evaluation of influence on behaviors of inter-vehicle signal and road signs
- ◆Development of ITS to railway vehicles
- ◆Evaluation of driving ability of elderly drivers with white matter lesions
- ◆Independent component analysis applied to measurement of vehicle vibration
- ◆Personal mobility vehicles
- ◆Energy harvesting: Energy generation from vibration

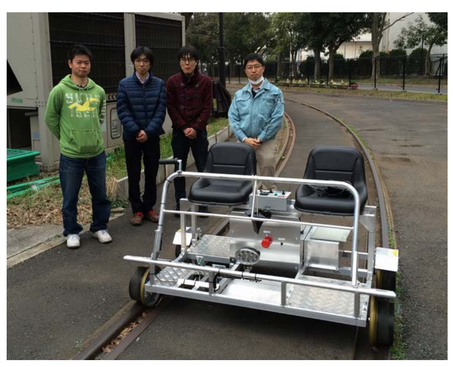
Driving simulator



Gaze measurement system

Electromagnetic actuator for an automobile suspension

Vibration analysis
on a railway bogie using ICA



Railway electric cart

Test of driving ability of elderly drivers

Small electric vehicle for experiment