

# 学术报告会

时间：2014年10月16日（周四）10:00

地点：电院2-410会议室

## Machine Intelligence of Autonomous Vehicles

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### Abstract:

Autonomous Vehicles or Advanced Driver Assistance Systems using Machine Intelligence will make a big impact on future mobility. These Systems lead to not only improvement of safety and efficiency, but also enhancement of people's activities and paradigm change of road transportations. However there are still a lot of challenges to overcome before these vehicles can be deployed at a large scale. This presentation aims at discussing element technologies such as external sensor, road environment understanding, localization, situation judgment and path planning that are necessary for implementing autonomous vehicles and machine intelligence which is same level as expert driver.

### Biography:

**Shinpei KATO** received his B.S., M.S., and Ph.D. degrees from Keio University in 2004, 2006, and 2008 respectively. During his Ph.D. program, he won the research fellowship (DC1) from JSPS in 2006 and the annual Young Author Award from IEEE Computer Society Japan Chapter in 2008. In the fall of 2009, he was selected for the JSPS Excellent Young Researcher Overseas Visit Program to join Real-Time and Multimedia Systems Laboratory (RTML) directed by Prof. Raj Rajkumar at Carnegie Mellon University (CMU) through the summer of 2012. While he was at CMU, he took an initiative in research on GPU real-time computing, and now the autonomous vehicle developed in RTML, a.k.a. BOSS, is employing this cutting-edge GPU technology. In July 2012, he moved to Systems Research Laboratory (SRL) directed by Prof. Scott Brandt at University of California, Santa Cruz (UCSC). In SRL, he led the QoS-aware storage and GPU-accelerated RAID6 projects. As of April 2012, he has worked at Nagoya University as a tenured faculty member.

**Yoshiki NINOMIYA** received his B.S., M.S. and Ph.D. degrees from Nagoya University in 1981, 1983 and 2008 respectively. After he graduated from Nagoya University in 1983, he joined Toyota Central R & D Labs., Inc. (TCRDL). His research was about outdoor & indoor mobile robots. In 1990, he was a member of the advanced driver assistance project at TCRDL. His interests were image recognition, image processing hardware, and sensor fusion & localization. He was research leader from 2003, laboratory research manager from 2004, division manager from 2011 and executive general manager from 2012. He got the special prize from Imaging Association Japan in 1996, the paper award from Information Processing Society of Japan in 2003. He contributed the practical application of TOYOTA Motor's Advanced Driver Assistance System, Lane Keeping Assist, Pre-crash Safety, Night Vision and so on. As of April 2014, he has worked at Nagoya University as a designated professor at Intelligent Vehicle Research Division, Institute of Innovation for Future Society.