

**Special Session title**

Decision Making in Autonomous Driving

**Special Session proposer(s)**

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**Abstract**

Decision making is a major part of autonomous driving which has significant influences on the safety, efficiency and comfort of autonomous vehicles. Appropriate decisions are difficult to be obtained due to complex and unpredictable traffic environment that is mainly consisted of traffic scenarios and different kinds of surrounding obstacles. Currently, making decisions is still a great challenge because the autonomous vehicles should share the road traffic space with other human-related surroundings, behaviors of which are complicated and challenging to predict. Unfortunately, the mixed traffic with human involved moving objects and autonomous vehicles may last for a long period. Therefore, how to make safe, efficient and comfortable driving decisions is of great significance in the field of autonomous driving.

We have not contacted any potential contributors for this special issue yet. We plan to disseminate the CFPs to the human factors, machine learning, robotics and vehicle engineering communities through a variety of large academic and industrial mailing lists (including university department and research institute lists) as well as on the ITSC 2020 and our lab websites.

**Keywords**

- Automated Vehicle Operation, Motion Planning, Navigation
- Advanced Vehicle Safety Systems
- Human Factors in Intelligent Transportation Systems

**Topics of interest**

- Interaction mechanism of autonomous vehicles and human involved moving objects
- Driving intention inference of surrounding obstacles
- Motion prediction of human involved moving objects
- Risk assessment in different driving conditions
- Game-theory-oriented decision making in autonomous driving
- Machine learning based decision making of autonomous vehicles
- RSS (Responsibility-Sensitive Safety)-oriented decision making
- Other decision making methods and their applications in autonomous driving