

1. Title of the special session

Cooperative Driving

2. Aim and Scope (up to 300 words), stating importance and novelty, and describing technical issues the special session will address

Cooperative driving is one key function of connected and automated vehicles to improve driving safety and traffic efficiency. In this special session, we would like to address the sensing and motion control problems of cooperative driving in various representative traffic scenarios (e.g., ramps, non-signalized intersections). The papers discussing sensing and motion control for isolated vehicles is beyond our scope. The techniques to implement V2X communication is not the main theme of this special session, but any discussions about the influence of different V2X communication factors on sensing and motion control are highly welcome. The papers discussing advanced traffic control with the aid of cooperative driving are also highly welcome.

3. List of specific topics of interest (up to 10 topics)

Cooperative Driving

Platoon Control

String Stability

Cooperative Lane Change/Merge

Ramping Metering for Automation Vehicles

Cooperative Driving at Non-Signalized Intersections

Mixed Traffic of Human-Driven/Automated Vehicles

Cooperative Sensing

Advanced Traffic Control for Automation Vehicles

Connected and Automated Vehicles

4. A history of the special session, if not being offered for the first time

We had held a Cooperative Driving workshop in the IEEE Intelligent Vehicle Symposium 2018 and attracted many audiences. We believe a new special session for Cooperative Driving in the IEEE ITSC 2019 will attract more participators.

5. Expected number of manuscripts submitted for consideration and, if available, list of prospective authors and contributions

We expect 20-30 solid papers would be submitted for consideration and at least 15 papers will be accepted. Some authors already sent their papers to us for a pre-screen.

6. Dissemination plan (upon approval, organizers are encouraged to disseminate CFPs if the special session is opened to the community and is not organized within the scope

of a specific project)

Sure. The special session is opened to the community and is not organized within the scope of a specific project.

7. Contact details (institutional address, phone, e-mail) and a short bio of organizers

Li Li  
Department of Automation  
Tsinghua University  
Beijing, China 100084  
Tel: +86(10)62782071  
Email: [li-li@tsinghua.edu.cn](mailto:li-li@tsinghua.edu.cn)

Dongpu Cao  
Department of Mechanical and Mechatronics Engineering  
University of Waterloo  
Tel: (519) 888-4567 x 32170  
Email: [dongpu.cao@uwaterloo.ca](mailto:dongpu.cao@uwaterloo.ca)