

## Special Session “Field Experiments on Connected and Autonomous Vehicles” Call for Papers

### IEEE INTELLIGENT TRANSPORTATION SYSTEMS CONFERENCE - ITSC 2019

Connected autonomous vehicles (CAVs) have been increasingly investigated recently. Various analytical and simulation models have been proposed to describe dynamics, control and management problems from individual CAVs to large scale transportation system. Despite these fruitful developments, field experiments on CAVs validating and demonstrating modeling and simulation outcomes are relatively scarce, particular for problems in multiple-vehicle or traffic context. Without sufficient field studies, it remains inconclusive to validate the fundamental assumptions of these models, demonstrate the benefits of system-level models and transform modeling outcomes to implementable technologies and tangible societal impacts.

Realizing the importance of field experiments, a number of recent studies have conducted CAV field experiments. Different from classic experiments that focus on individual vehicle control in a relatively closed environment, recent experiments focus on interactions of multiple vehicles (even including human drivers) in an open road traffic context. These experiments have yield important results in addressing the aforementioned knowledge gaps and proving feasibility and benefits of CAV deployments in public roads. These important studies deserve dedicated venues for reporting these exciting findings to broach research community. The ITSC provides an ideal platform to open a world class venue as a special session promoting these experiments. Such a special session will make ITSC as one of the first platforms featured with spotlight sessions for CAV field experiments in multi-vehicle and traffic context. It will benefit a large group of audience including multi-disciplinary researchers, industry practitioners and governments at ITSC.

This session is jointly sponsored by the Transportation Research Board (TRB) Committee on Traffic Flow Theory and Characteristics (TFTC).

**List of specific topics of interest:** This special session is interested in but not limited to studies including a component of field experiments involving multiple vehicles on one or more of the following topics:

- Longitudinal control
- Lane changing
- Mixed traffic
- Freeway CAV control
- Coordination with signals
- Speed harmonization
- Stability analysis

#### Organizers:

Xiaopeng (Shaw) Li, Associate Professor, University of South Florida, USA, [xiaopengli@usf.edu](mailto:xiaopengli@usf.edu)

Xiaobo Qu, Professor, Chalmers University of Technology, Sweden, [xiaobo@chalmers.se](mailto:xiaobo@chalmers.se)

Soyoung Ahn, Associate Professor, University of Wisconsin – Madison, USA, [ahn37@wisc.edu](mailto:ahn37@wisc.edu)

Birger Löfgren, Research Manager, RISE institute, Sweden, [birger.lofgren@ri.se](mailto:birger.lofgren@ri.se)

#### Submission Instruction:

When you submit your paper to this special session, please select the Code of the Special Session: **tug5u**. The deadline for submission is **31 Mar 2019**. Note that the page limit for IEEE ITSC is **six (6)**. The conference is hosted during **27-30 October 2019 in Auckland, New Zealand**. For the detail, please refer to the conference CFP website: <https://www.itsc2019.org/call-for-papers>.