

## Cyber Valley Evening Colloquium on Autonomous Systems

### Multimodal Traffic Operations with Connected and Automated Vehicles

**Dr. Kaidi Yang**

Stanford University, USA

**Tuesday, April 27, 2021 19:00 s.t.**

**Online on Webex. For the event link please click [here](#)**

#### **Abstract**

Transportation systems are undertaking rapid transformation, thanks to the advances of disruptive technologies such as connected and automated vehicles. My research aims to leverage these advances to address the challenges in transportation systems. First, I will present my work on improving multimodal traffic operations using the information provided by connected vehicles. In particular, I will develop a multi-scale and multimodal perimeter control approach for large-scale traffic networks in a connected vehicle environment. Second, I will exploit the benefits of automated vehicles and devise strategies to innovate traffic operations in mobility-on-demand systems in a scenario with mixed autonomy.

#### **Biographical Information**

Dr. Kaidi Yang is currently a postdoctoral scholar with the Autonomous Systems Laboratory in the Department of Aeronautics and Astronautics at Stanford University. He obtained a Ph.D. degree from ETH Zurich in 2019, with a concentration on intelligent transportation systems. Before this, he received a BEng. in Automation, a BSc. in Pure and Applied Mathematics, and an MSc. in Control Science and Engineering from Tsinghua University. His main research interest lies in the design and operations of future mobility systems utilizing disruptive paradigms such as connected and automated vehicles, shared mobility, etc. He has published 11 papers in academic journals and made presentations at multiple international conferences, including a lectern presentation at International Symposium on Transportation and Traffic Theory (ISTTT). He is the recipient of two projects from the Swiss National Science Foundation (SNSF) Postdoc Mobility Fellowship. He has won the Best Paper Award for a paper published in 2019 on the journal Omega, the 2019 Chinese Government Award for Outstanding Self Finance Students Abroad, and the Best Student Paper (2nd place) in IEEE Intelligent Transportation Systems Conference. He serves as a Review Editor for Frontiers in Future Transportation.