Large Scale Autonomy: Connectivity and Mobility Networks

November 16 - 20, 2020

Scientific Overview

This workshop aims to bring together the essential communities from mathematics and engineering to address forthcoming issues central to our future transportation systems. It will bring together the operations research experts developing the next generation of dynamic fleet dispatching and optimization algorithms vital to mobility on demand services, the transportation engineers responsible for planning the future of our public and private transportation systems, and the modelers responsible for predicting new congestion dynamics at local and city scales. The workshop will also explore how these systems will operate in city, suburb, and rural contexts to support mobility needs for people and goods.

This workshop will include a poster session; a request for posters will be sent to registered participants in advance of the workshop.

Long Program Schedule

This workshop is part of the long program on "Mathematical Challenges and Opportunities for Autonomous Vehicles."

- Autonomous Vehicles Opening Day : September 14, 2020
- Mathematical Challenges and Opportunities for Autonomous Vehicles Tutorials : September 15 - 18, 2020
- Workshop I: Individual Vehicle Autonomy: Perception and Control : October 5 - 9, 2020
- Workshop II: Safe Operation of Connected and Autonomous Vehicle Fleets : October 26 - 30, 2020
- **Workshop III: Large Scale Autonomy: Connectivity and Mobility Networks : November 16 - 20, 2020**
- Workshop IV: Social Dynamics beyond Vehicle Autonomy : November 30 - December 4, 2020
- Autonomous Vehicles Culminating Retreat at Lake Arrowhead : December 13 - 18, 2020

Participation

Additional information about this workshop including links to register and to apply for funding, can be found on the webpage listed below. Encouraging the careers of women and minority mathematicians and scientists is an important component of IPAM's mission, and we welcome their applications.
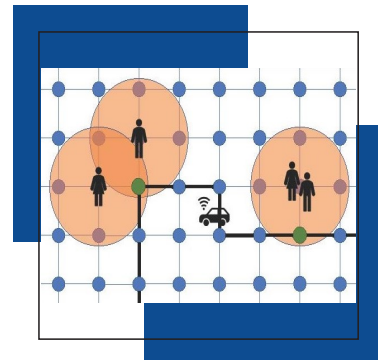
Organizers

Paola Goatin (INRIA), Hani Mahmassani (Northwestern University), Monica Menendez (NYU Abu Dhabi), Samitha Samaranayake (Cornell University), and Maria Gracia Speranza (University of Brescia).

Speakers

Maria Battarra (University of Bath), **Alexandre Bayen** (UC Berkeley), **Ann Campbell** (University of Iowa), **Carlos Canudas de Wit** (GIPSA Lab), **Elisabetta Cherchi** (University of Newcastle), **Joseph Chow** (NYU), **Christian Claudel** (UT Austin), **Maria Laura Delle Monache** (INRIA), **Daniel Delling** (Apple), **Juliana Freire** (NYU), **Simone Goettlich** (University of Mannheim), **Michael Hyland** (UCI), **Saif Jabari** (NYU), **Karl Johansson** (KTH), **Hani Mahmassani** (Northwestern University), **Monica Menendez** (NYU Abu Dhabi), **Simona Sacone** (University of Genoa), **David Shmoys** (Cornell), **Maria Gracia Speranza** (University of Brescia), **Alireza Talebpour** (Texas A&M), **Pascal Van Hentenryck** (NICTA), **Tom van Woensel** (Eindhoven University of Technology), **Nigel Wilson** (MIT), and **Yafeng Yin** (UMich).

For more information, visit the program webpage:
www.ipam.ucla.edu/avws3