

## Autonomous Vehicles

### Monday February 25, 2019

- 8:00–8:55 *Check-In/Light Breakfast (Hosted by IPAM)*
- 8:55–9:00 *Welcome & Opening Remarks: Dean Miguel García-Garibay (Dean of Physical Sciences, UCLA) and Dima Shlyakhtenko (Director, IPAM)*
- 9:00–9:50 **Ruzena Bajcsy** (University of California, Berkeley (UC Berkeley))  
*Multimodal real time assessment of the driver state using, Visual, Acoustic and body motion observations.*
- 10:00–10:15 *Break*
- 10:15–11:05 **Andrea Censi** (ETH Zurich)  
*Liability, Ethics, and Culture-Aware Behavior Specification using Rulebooks*
- 11:15–11:30 *Break*
- 11:30–12:20 **Karl Johansson** (Royal Institute of Technology (KTH))  
*Large-scale and networked control of automated freight transport*
- 12:30–2:30 *Lunch (on your own)*
- 2:30–3:20 **Jana Kosecka** (George Mason University)  
*Challenges and Opportunities in Autonomous Navigation*
- 3:30–4:00 *Break*
- 4:00–4:50 **Ragunathan Rajkumar** (Carnegie Mellon University)  
*Self-Driving Vehicles: The Promise, Peril and Challenges*
- 5:00–6:30 *Poster Session & Reception (Hosted by IPAM)*

### Tuesday February 26, 2019

- 8:00–9:00 *Check-In/Breakfast (Hosted by IPAM)*
- 9:00–9:50 **Fisher Yu** (University of California, Berkeley (UC Berkeley))  
*Towards Human-Level Recognition via Contextual, Dynamic, and Predictive Representations*
- 10:00–10:15 *Break*
- 10:15–11:05 **Alain Kornhauser** (Princeton University)  
*Market Forces and Market Potential for SmartDrivingCars (aka Autonomous Vehicles)*
- 11:15–11:30 *Break*

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- 11:30–12:20 **Adam Oberman** (McGill University)  
*Generalization and adversarial robustness of Regularized Deep Neural Networks*
- 12:30–2:30 *Lunch (on your own)*
- 2:30–3:20 **Stefano Soatto** (University of California, Los Angeles (UCLA))  
*Deep Representations for Decision and Control Tasks: The Emergence Theory of Deep Learning*
- 3:30–4:00 *Break*
- 4:00–4:50 **Richard Sowers** (University of Illinois at Urbana-Champaign)  
*Urban data; patterns for the connected vehicle*

### Wednesday February 27, 2019

- 8:00–9:00 *Check-In/Breakfast (Hosted by IPAM)*
- 9:00–9:50 **Daniel Work** (Vanderbilt University)  
*Controlling traffic composed of humans and automated vehicles*
- 10:00–10:15 *Break*
- 10:15–11:05 **Benjamin Seibold** (Temple University)  
*Instabilities in homogeneous and heterogeneous traffic flow*
- 11:15–11:30 *Break*
- 11:30–12:20 **Bozenna Pasik-Duncan** (University of Kansas)  
*Advances in noise modeling in stochastic systems and control*
- 12:30–2:30 *Lunch (on your own)*
- 2:30–3:20 **Cathy Wu** (Microsoft Research AI, MIT)  
*Integrating Autonomy into Transportation Systems*
- 3:30–4:00 *Break*
- 4:00–4:50 **Paola Goatin** (Institut National de Recherche en Informatique Automatique (INRIA))  
*Non-local macroscopic models accounting for the presence of autonomous vehicles*

### Thursday February 28, 2019

- 8:00–9:00 *Check-In/Breakfast (Hosted by IPAM)*
- 9:00–9:50 **Don MacKenzie** (University of Washington)  
*How might automated vehicles affect energy use and emissions?*
- 10:00–10:15 *Break*

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- 10:15–11:05 **Jonathan Sprinkle** (University of Arizona)  
*Model-Based Processes for Real-Time Cyber-Physical Systems Testbeds*
- 11:15–11:30 *Break*
- 11:30–12:20 **Luc Vincent** (Lyft)  
*From large-scale rideshare service to autonomous driving service*
- 12:30–2:30 *Lunch (on your own)*
- 2:30–3:20 **Maria Laura Delle Monache** (INRIA)  
*Micro - macro models for traffic with autonomous vehicles*
- 3:30–4:00 *Break*
- 4:00–4:50 **Hani Mahmassani** (Northwestern University)  
*Shared Autonomous Fleet Services and Multimodal Urban Mobility: Optimization, Prediction and Dynamic Network Modeling*

### Friday March 1, 2019

- 8:00–9:00 *Check-In/Breakfast (Hosted by IPAM)*
- 9:00–9:50 **Katherine Driggs-Campbell** (University of Illinois at Urbana-Champaign)  
*Trustworthy Autonomy: Algorithms for Human-Robot Systems*
- 10:00–10:15 *Break*
- 10:15–11:05 **Raquel Urtasun** (Uber ATG, University of Toronto)  
*A future with affordable self-driving vehicles*
- 11:15–11:30 *Break*
- 11:30–12:20 **Ramanarayan Vasudevan** (University of Michigan)  
*Bridging the Gap Between Safety and Real-Time Performance for Autonomous Vehicle Control*
- 12:30–2:30 *Lunch (on your own)*
- 2:30–3:20 **Samitha Samaranyake** (Cornell University)  
*Network level implications of Autonomous Mobility-on-Demand Systems: Challenges and Opportunities*
- 3:30–4:00 *Break*
- 4:00–4:50 *Wrap-up discussion*

