



Last Updated: October 25, 2018

**Annual Review**  
**Toyota-CSAIL Joint Research Center**  
 Wednesday October-31-2018; Room 32-G449

- 8:30am – 9:00am    Arrival and Breakfast
- 9:00am – 9:05am    Welcome and Introductions
- 9:05am – 9:10am    TRI Perspective; TRI Staff
- 9:10am – 9:40am    Overview of Projects  
 Daniela Rus, Director of CSAIL

**DRIVING**

- 9:40am – 9:55am    *Decision Making for Parallel Autonomy in Clutter* (PIs: Daniela Rus, Sertac Karaman)  
 TRI Liaisons: Jonathan DeCastro
- 9:55am – 10:10am    *Tools and Data to Revolutionize Driving* (PIs: Daniela Rus, Sertac Karaman)  
 TRI Liaisons: Steve McGill, Guy Rosman
- 10:10am – 10:25am    *Parallel Autonomous Driving System* (PIs: Daniela Rus, Sertac Karaman)  
 TRI Liaisons: Steve McGill, Guy Rosman
- 10:25am – 10:40am    *Predicting a Driver's State-of-Mind* (PIs: Antonio Torralba, Wojciech Matusik)  
 TRI Liaisons: Simon Stent
- 10:40am – 10:55am    **Break**
- 10:55am – 11:10am    *Uncovering the Pain Points in Driving* (PIs: Ruth Rosenholtz, Fredo Durand, William Freeman, Aude Oliva, Antonio Torralba)  
 TRI Liaisons: Simon Stent

**ROBOTICS**

- 11:10pm – 11:25pm    *Using Vision and Language to Read Minds* (PIs: Nick Roy, Boris Katz)  
 TRI Liaisons: Guy Rosman
- 11:25pm – 11:40pm    *The Robotic Manipulation Data Engine\** (PI: Alberto Rodriguez)  
 TRI Liaisons: Duy-Nguyen Ta
- 11:40am – 11:55am    *Automation for Everyone\**; *Uhura- A Driver's Personal Coach for Managing Risk* (PI: Brian Williams)  
 TRI Liaisons: Calder Phillips-Grafflin, Naveen Kuppuswamy
- 11:55am – 12:55pm    **Lunch (Room 32-D463)**
- 12:55pm – 1:10pm    *Dense, Freeform Tactile Feedback for Manipulation and Control\** (PI: Wojciech Matusik)  
 TRI Liaisons: Naveen Kuppuswamy
- 1:10pm – 1:25pm    *Exploring the World of High Definition Touch* (PI: Ted Adelson)  
 TRI Liaisons: Alex Alspach
- 1:25pm – 1:35pm    *Inner Vision: Camera Based Proprioception for Soft Robots\** (PIs: Edward Adelson, Daniela Rus)  
 TRI Liaisons: Alex Alspach

1:35pm – 1:45pm *All Terrain Mobility and Navigation\** (PI: Sangbae Kim)  
TRI Liaisons: Siyuan Feng

1:45pm – 2:00pm Break

#### CORE ML & AI

2:00pm – 2:10pm *A Safety Interlock for Self-driving Cars\** (PIs: Daniel Jackson, Armando Solar-Lezama)  
TRI Liaisons: Soonho Kong

2:10pm – 2:25pm *Crossing the Vision-Language Boundary* (PIs: Jim Glass, Antonio Torralba)  
TRI Liaisons: Simon Stent

2:25pm – 2:40pm *Formal Verification Meets Big Data Intelligence* (PI: Armando Solar-Lezama)  
TRI Liaisons: Soonho Kong, Jon DeCastro

2:40pm – 2:55pm *The Car Can Explain!* (PIs: Gerald Sussman, Hal Abelson, Lalana Kagal, Daniel Weitzner)  
TRI Liaisons: Luke Fletcher

2:55pm – 3:05pm Break

3:05pm – 3:20pm *Simulation and Verification for Vision-in-the-Loop Control* (PI: Fredo Durand)  
TRI Liaisons: Soonho Kong, Kunimatsu Hashimoto

3:20pm – 3:35pm *Drinking from the Visual Firehose: High-Frame-Rate, High-Resolution Computer Vision for Autonomous and Assisted Driving* (PIs: Saman Amarasinghe, Fredo Durand)  
TRI Liaisons: Sudeep Pillai

3:35pm – 3:50pm *Analysis by Synthesis Revisited: Visual Scene Understanding by Integrating Probabilistic Programs and Deep Learning* (PI: Josh Tenenbaum)  
TRI Liaisons: Kunimatsu Hashimoto

3:50pm – 4:00pm *Sensible Deep Learning for 3D Data\** (PI: Justin Solomon)  
TRI Liaisons: Wadim Kehl

4:00pm – 4:30pm Poster Viewing (R&D Commons Area – same floor as Room 32-G449)

4:30pm – 5:30pm Steering Committee Meeting (Room 32-G601: Bleil Boardroom)

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\*This is a new project