Past Issues

Director's Letter



Dear Colleagues and Friends,

ITS Berkeley Director's Letter

This month, I am thrilled to announce that a new faculty member will be joining ITS Berkeley this year, as the next Faculty Director of Partners for Advanced Transportation Technology (PATH), Professor Trevor Darrell. Trevor is a Professor in the Electrical Engineering and Computer Science



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Trevor's area of expertise is in algorithms for large-scale perceptual learning, including object and activity recognition and detection, for a variety of applications including multimodal interaction with robots and mobile devices. Such techniques allow systems to better "see" the world around them both in terms of localizing the position of targets and obstacles but also in terms of understanding what type of objects are present and what activities people are doing in the environment, so that the system can provide more useful or safe interaction. He also comes with significant interaction with the automotive industry, having been funded for many years on automotive related research projects by Toyota Motor Corporation while on the faculty of UC Berkeley and by Ford Motor Corporation while on the faculty of Massachusetts Institute of Technology. Trevor's group has recently introduced new software framework for open-source deep learning called CAFFE, which has rapidly become an industry standard in a number of industries with application in logistics and autonomous navigation.

I am personally very excited to welcome Trevor to ITS Berkeley and PATH. More than 15 years ago, PATH defined a new future for transportation, by being the first academic research center in the world to pursue a large scale demonstration of driverless cars: the famous Automated Highway System (AHS) was the pioneering implementation of automated driving, which to this day, remains the peak of PATH's legacy. Today, we see these concepts routinely adopted by the private sector, Google in particular, and the PATH vision of the 1990s becoming a reality. In the mean time, PATH's footprint in Intelligent Transportation Systems continued to develop, in particular in traffic operations, modal applications, connected vehicles and safety.

In the era of machine learning, big data and robotics, Trevor brings expertise to PATH that will enable center researchers to continue pioneering the field of Intelligent Transportation Systems, in particular vision. A lot of the problems in today's increasingly automated world have to do with sensing and actuation. Trevor's work with PATH over the coming years will focus partly on perception and action, which are one of the next frontiers in many fields of Intelligent Transportation Systems (as well as many other technological fields). I am particularly eager to see new engagement of the machine learning community with transportation. In fact, CITRIS has just started a major initiative on robotics, led by Ken Goldberg. Automation of transportation will be a major component of this initiative, and I look forward to working together with CITRIS Director Costas Spanos on making this new thrust of PATH become an integral part of the robotics initiative at CITRIS, as part of the growing synergies between CITRIS and ITS.

Trevor will be leading the institute together with Co-Director Tom West. I also want to take this opportunity to thank Trevor's predecessor, Professor Roberto Horowitz for his work at PATH since 2010, in particular for his efforts in the merge process between the former PATH and the California Center for Innovative Transportation (CCIT), which led to the fusion of the two research centers. Finally, I look forward to working together with Trevor and Tom on the new exciting directions PATH will take in the coming years.

Go Bears!

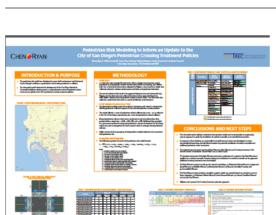




Trevor Darrell has been appointed as the new faculty director for Partners for Advanced Transportation Technology (PATH). The computer science professor will begin his appointment at the end of spring.



Check out a recap and pictures from the first Student Conference sponsored by UCCONNECT, held Feb. 27-28, 2015 at UC Santa Barbara. Over a 100 students from UCCONNECT participated, incude 39 fron UC Berkeley.



SafeTREC and Chen Ryan Associates received an excellence in safety research award at the Active Living Research 2015 Conference in San Diego from Active Living Research, the Robert Wood Johnson Foundation, and the Centers for Disease Control and Prevention's National Center for Injury Prevention and Control.



Several ITS Berkeley faculty, staff and alumni will be working with the University of California Los Angeles' Institute for Pure and Applied Mathematics (IPAM) merging traffic and math in a long program called New **Directions in Mathematical Approaches** for Traffic Flow Management.

Headlines



ITS Berkeley's Alexander Skabardonis, an engineering professor at UC Berkeley and "expert on all things traffic" talks with KQED on I-80 SMART Corridor.



<u>LA Times</u> asks adjunct public health professor David Ragland, director of Berkeley's Safe Transportation Education and Research Center, about railroad crossing safety in California.



TSRC co-director Susan Shaheen speaks with <u>Popular Science</u> for article "The Safer, Faster, More Efficient Commute Of The Future."



TSRC just released summary and powerpoints from "What's The Future of Shared-Use Mobility" workshop (DC, Jan 2015).



TSRC co-director Susan Shaheen talks about shared-use mobilities of urban transportation in North America with Move Forward.

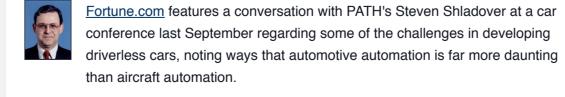
TSRC co-director Susan Shaheen talks about shared-use mobility and the future



Real Business spoke with Transportation Sustainability Research Center's Susan Shaheen about what to expect in the near future regarding ride sharing and ride sourcing safety regulations and laws.



KTVU reports Berkeley's Institute of Transportation Studies is working with BART to develop a system that would automatically stop a train if workers are on the to develop a system that would automatically stop a train if workers are on the tracks.



conference last September regarding some of the challenges in developing driverless cars, noting ways that automotive automation is far more daunting than aircraft automation.



Susan Shaheen, co-director of Berkeley's Transportation Sustainability Research Center, spoke with the San Francisco Chronicle on the increasingly competitive relationship between Google and Uber as they race to develop robotic taxis.

Events

ITS Berkeley features a weekly Friday Transportation Seminar Series with leading researchers and practitioners in the transportation field. See the **full schedule**. Miss a

 March 20 Economically and Environmentally Informed Policies for Road Resurfacing

lecture? Check out weekly recaps <u>here</u> or follow live tweets on #itsberksem.

Darren Reger, from UC Berkeley, will present "Economically and Environmentally Informed Policies for Road Resurfacing" for the ITS Berkeley Transportation Seminar Friday, March 20 at 4-5 p.m. in 290 Hearst Memorial

Mining Building. Coffee and cookies will be served at 3:30 p.m.

Policies for Facilities and System Problems Jinwoo Lee, from UC Berkeley, will present "Joint Optimization of Pavement Management and Reconstruction Policies for Facilities and System Problems" for the ITS Berkeley Transportation Seminar Friday, April 3 at 4-5 p.m. in 290 Hearst Memorial Mining Building. Coffee and cookies will be served at 3:30

<u>April 3 Joint Optimization of Pavement Management and Reconstruction</u>

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Future of Automated Driving" featuring Francesco Borelli, UC Berkeley, Jerry Jariyasunant, Automatic, Inc., Megan Ryerson, University of Pennsylvania, and Randell Iwasaki, Contra Costa Transportation Authority for the ITS Berkeley Transportation Seminar Friday, April 10 at 4-5 p.m. in 290 Hearst Memorial Mining Building. Coffee and cookies will be served at 3:30 p.m.

• April 17 Congestion Propagation in Urban Networks: Implications for City-wide Traffic Control

Jean Doig, from UC Berkeley, will present "Congestion Propagation in Urban Networks: Implications for City-wide Traffic Control " ITS Berkeley

Transportation Seminar Friday, April 17 at 4-5 p.m. in 290 Hearst Memorial

Mining Building. Coffee and cookies will be served at 3:30 p.m.
 April 24 Monitoring Traffic for Incidents and Extreme Congestion Events
 Dan Work, from University of Illinois at Urbana-Champaign, will present
 "Monitoring Traffic for Incidents and Extreme Congestion Events " for the ITS
 Berkeley Transportation Seminar and as part of the Resilience Seminar Series with CITRIS and TRUST Friday, April 24 at 4-5 p.m. in 290 Hearst Memorial Mining Building. Coffee and cookies will be served at 3:30 p.m.



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