

# UCDAVIS

## SUSTAINABLE TRANSPORTATION ENERGY PATHWAYS

An Institute of Transportation Studies Program

# STEPS FALL 2016 SYMPOSIUM

November 30 and December 1, 2016  
UC Davis Conference Center

Thank you to our STEPS 2016 program sponsors:



Event Files at:  
[www.steps.ucdavis.edu](http://www.steps.ucdavis.edu)  
Password:  
SUSTAINABLE2016

**November 30, 2016 (Wednesday)**

8:15 a.m.	Continental Breakfast
8:45 a.m.	Welcome and Introductory Remarks Joan Ogden, Director, STEPS Program, ITS-Davis, Professor, Environmental Science and Policy, UC Davis
9:00 a.m.	<b>Keynote: “Travel Behavior, Now and Next”</b> David Ory, Metropolitan Transportation Commission, SF Bay Area
9:45 a.m.	<b>Session 1: Three Revolutions</b> Moderator: Dan Sperling, ITS-Davis Founding Director, Professor, Civil and Environmental Engineering, UC Davis <ul style="list-style-type: none"><li>• Dan Sperling: Report out of the 3R ITS conference from mid-November</li><li>• Lew Fulton, Director, STEPS Program, ITS-Davis: Three revolutions global project – initial findings</li><li>• Group Discussion: Giovanni Circella, UC Davis-Georgia Tech, and Robert Wimmer, Toyota</li></ul>
10:45 a.m.	Coffee Break
11:00 a.m.	<b>Session 2: Two Degrees and Beyond</b> Moderator: Lew Fulton <ul style="list-style-type: none"><li>• Lew Fulton: News from COP22, country commitments</li><li>• Joshua Miller, ICCT: iTEM-2 Conference Modeling results: What does it tell us about 2 degree scenarios?</li><li>• Group Discussion: Colin Murphy, NextGen Climate America</li></ul>
12:15 p.m.	Lunch
1:15 p.m.	<b>Session 3: Natural Gas as Enabler of Low Carbon Fuels</b> Moderator: Rosa Dominguez-Faus, STEPS Manager, ITS-Davis <ul style="list-style-type: none"><li>• Daniel Scheitrum, UC Davis: STEPS project on RNG potential in California</li><li>• Joan Ogden: H2 compatibility in NG system</li><li>• Amy Jaffe, ITS-Davis: Synergies, conclusions and next steps</li><li>• Group Discussion: Jeff Reed, Sempra, and Ryan Schuchard, CALSTART</li></ul>
2:30 p.m.	Coffee Break and <b>Poster Session</b> STEPS team members present 2016 research

3:45 p.m.	<b>Session 4: Transition Scenarios and Related Modeling</b> Moderator: Joan Ogden <ul style="list-style-type: none"> <li>Chris Yang, ITS-Davis: California transition modeling update</li> <li>Kalai Ramea, ITS-Davis: Spatial consumer choice project update</li> <li>Group Discussion: Zhenhong Lin, Oak Ridge National Laboratory, and Tim Olson, California Energy Commission</li> </ul>
5:00 p.m.	Wrap Up and Key Insights Rosa Dominguez-Faus
5:30- 8:30 p.m.	Reception & Dinner at “Our House” Restaurant 808 2nd St, Davis, CA 95616

### December 1, 2016 (Thursday)

8:15 a.m.	Continental Breakfast
8:45 a.m.	<b>Session 5: Electric Vehicles Update</b> Moderator: Tom Turrentine, Director, Plug-in Hybrid & Electric Vehicle Research Center, ITS-Davis <ul style="list-style-type: none"> <li>Mike Nicholas, ITS-Davis: eVMT in the household fleet: Evidence from year-long data collection of PEV household travel and charging</li> <li>Gil Tal, ITS-Davis: Secondary markets for PEVs in California</li> <li>Group Discussion: Tom Cackette, TCC, and Robert Bienenfeld, Honda</li> </ul>
10:00 a.m.	Coffee Break
10:15 a.m.	<b>Session 6: Heavy-duty Vehicles Update</b> Moderator: Lew Fulton, Director, STEPS Program, ITS-Davis <ul style="list-style-type: none"> <li>Andrew Burke: Latest truck technology analysis results</li> <li>Marshall Miller: update on HDV scenarios</li> <li>Group Discussion: Patric Ouellette, ITS Davis visiting researcher</li> </ul>
11:30 a.m.	<b>Session 7: Research Previews – Looking Forward to 2017</b> Moderator: Rosa Dominguez-Faus <ul style="list-style-type: none"> <li>Jinpeng Gao, ITS-Davis: Low-Speed Electric Vehicles in China: Market Boom, Consumer Behaviors, and Energy and Environmental Impacts</li> <li>Miguel Jaller, UC Davis: Shared Mobility in First/Last Mile Transit Access Programs: Impacts of Travel Demand, Energy and Emissions</li> <li>Lewis Fulton: International EV Modeling and Scenarios</li> <li>Amy Jaffe: Peak Oil Demand: The Role of Policies after the Paris Agreement</li> </ul>
12:30 p.m.	Lunch and Adjourn

# Posters

#	Title	Presenters/Team
1	<b>Modeling the Dynamic Game Among Oil, Gas, and Shale Producers</b>	Khaled H. Kheiravar, C.-Y. Cynthia Lin Lawell, James B. Bushnell, Amy Myers Jaffe, Erich J. Muehlegger
2	<b>Alternative Vehicle Supply and Demand, and the Effects of Government Policy</b>	Yuan Chen, C.-Y. Cynthia Lin Lawell, Erich J. Muehlegger
3	<b>What Makes Travelers Use Uber: Exploring the Latent Constructs behind the Use of On-Demand Ride Services in California</b>	Farzad Alemi, Giovanni Circella, Susan Handy, Patricia Mokhtarian
4	<b>A Beginning Look at Rail Scenarios out to 2050</b>	Raphael Isaac, Lew Fulton
5	<b>Californian Millennials Drive Smaller Cars: Estimating Vehicle Type Choice of Millennials</b>	Rosaria Berliner and Giovanni Circella
6	<b>3 Revolutions</b>	Lew Fulton and Dominique Meroux
7	<b>Renewable Natural Gas and the LCFS</b>	Dan Scheitrum
8	<b>PHEV Vehicle Performance Simulation and Optimization</b>	Wei Ji, Gil Tal, Michael Nicholas, Karim Hamza and Ken Laberteaux
9	<b>BEV Consumer Behavior in Practice: Comparison of BEV Usage to ICE Usage in Multi-Vehicle Household</b>	Wei Ji, Gil Tal and Michael Nicholas
11	<b>Electrified Transportation in China</b>	Xiuli Zhang, Tom Turrentine, Gil Tal
10	<b>Modeling the interactions between the electric vehicles for transportation and renewable intensive electricity grids in California and the Western US</b>	Saleh Zakerinia, Chris Yang, Sonia Yeh, Joan Ogden
12	<b>Modeling and analyzing near term transitions to alternative fueled vehicles using a spatial regional consumer choice and fueling infrastructure model</b>	Kalai Ramea, Chris Yang, Michael Nicholas
13	<b>Long-Term Gasoline Refueling Behavior and its Implication for Building a Hydrogen Refueling Network</b>	Laura Cackette, Michael Nicholas, Joan Ogden
14	<b>Sustainable Hydrogen Fueling/DC Fast Charging Systems at California Highway Rest Stop Areas</b>	Hengbing Zhao, Andrew Burke
15	<b>The Fuel Economy of MD/HD Trucks 2015-2050</b>	Andrew Burke, Hengbing Zhao
16	<b>The Biofuel Innovation Tracker</b>	Julie Witcover, Rob Williams

# Registrants List

First Name	Last Name	Title	Organization
Robert	Bienenfeld	Assistant Vice President	American Honda Motor Co., Inc.
Amy	Jordan Bason	Energy Analyst	Aramco
Nathan	Parker	Assistant Research Professor	Arizona State University
Tai	Stillwater	CEO	BikeLeap
Michelle	Bogen	Advanced Technology Engineer	BMW of North America
Simon	Lux	Senior Advanced Battery Technology Engineer	BMW of North America
Jim	Boyd	Owner	Boyd Consulting
Bill	Elrick	Executive Director	CaFCP
Mark	Wenzel	Climate Change Adviser	CalEPA
Hannah	Goldsmith	Project Manager	CalETC
Adrian	Cayabyab	Air Resources Engineer	California Air Resources Board
Jin	Miao	Air Resources Engineer	California Air Resources Board
Melanie	Zauscher	Air Pollution Specialist	California Air Resources Board
Cody	Livingston	Air Pollution Specialist	California Air Resources Board
Sam	Wade	Chief, Transportation Fuels Branch	California Air Resources Board
Sarah	Pittiglio	Research Coordinator	California Air Resources Board
Jeff	Kessler	Air Resources Engineer	California Air Resources Board
Xuping	Li	Air resources engineer	California Air Resources Board
Kathleen	Kozawa	Staff Air Pollution Specialist	California Air Resources Board
Fereidun (Don)	Feizollahi	Economist	California Air Resources Board
Zhuo	Yao	Air Pollution Specialist	California Air Resources Board
Farhad	Farnam	Research Specialist	California Department of Water Resources
Kadir	Bedir	EV Infrastructure Specialist	California Energy Commission
Justin	Regnier	Air Resources Engineer	California Energy Commission
Matthew	Ong	Air Pollution Specialist	California Energy Commission
Leslie	Baroody	Energy Commission Infrastructure Specialist	California Energy Commission
Mark	Palmere	Energy Analyst	California Energy Commission
Tim	Olson	Senior Policy Advisor	California Energy Commission
Mark	Johnson	Energy Analyst	California Energy Commission
Thanh	Lopez	Air Pollution Specialist	California Energy Commission
Lindsee	Tanimoto	Light Duty EV Specialist	California Energy Commission
Aniss	Bahreinian	Energy Commission Specialist	California Energy Commission
Sudhakar	Konala	Energy Analyst	California Energy Commission
Jerry	Wiens	Retired Annuitant	California Energy Commission

<b>William</b>	Kinney	Air Pollution Specialist	California Energy Commission
<b>Jesse</b>	Gage	Energy Commission Specialist	California Energy Commission
<b>Robert</b>	McBride	Energy Specialist	California Energy Commission
<b>Thomas</b>	Lawson	President	California Natural Gas Vehicle Coalition
<b>Ryan</b>	Schuchard	Policy Director	CALSTART
<b>Leonard</b>	Seitz	Operations Researcher	Caltrans
<b>Patrick</b>	Tyner	Transportation Planner	Caltrans
<b>Mark</b>	Samuelson	Acting Assistant Director of Sustainability	Caltrans
<b>Lauren</b>	Iacobucci	Associate Transportation Planner	Caltrans
<b>soheila</b>	khoii	Research Manager II	Caltrans
<b>Huilan</b>	Han	Transportation Engineer	Caltrans
<b>Dustin</b>	Foster	Associate Transportation Planner	Caltrans
<b>Dillon</b>	Miner	Transportation Planner	Caltrans
<b>John</b>	Shears	Research Coordinator	CEERT (The Center for Energy Efficiency and Renewable Technologies)
<b>Micah</b>	Berry	Fuels Advocacy Specialist	Chevron
<b>Matt</b>	Franklin	Analyst	Chevron
<b>Brett</b>	Williams	Principal Advisor, Clean Transportation	CSE
<b>Tim</b>	Frazier	Director of Engineering	Cummins
<b>Richard</b>	Battersby	Director	East Bay Clean Cities
<b>Nick</b>	Tamborra	Regulatory Development	Fiat Chrysler
<b>Dan</b>	Adsit	Manager	Ford Motor Company
<b>Zhen</b>	Jiang	Analytics Scientist	Ford Motor Company
<b>Ian</b>	Sutherland	Staff Researcher	General Motors
<b>Ben</b>	Sharpe	Senior Researcher	International Council on Clean Transportation
<b>Joshua</b>	Miller	Researcher	International Council on Clean Transportation
<b>Magdala</b>	Arioli	Visiting Scholar	ITS-Davis
<b>Ellen</b>	van der Meer	Visiting Scholar	ITS-Davis
<b>Khaled</b>	Kheiravar	PhD Candidate	ITS-Davis
<b>Christopher</b>	Yang	Research Scientist	ITS-Davis
<b>Andy</b>	Burke	Research Engineer	ITS-Davis
<b>Yunshi</b>	Wang	Director	ITS-Davis
<b>Guozhen</b>	Li	Graduate Student Researcher	ITS-Davis
<b>Jingyuan</b>	Zhao	Research Scholar	ITS-Davis
<b>Jacques</b>	Franco	Science & Policy Fellow	ITS-Davis
<b>Rosa</b>	Dominguez-Faus	STEPS Manager	ITS-Davis
<b>Beth</b>	Bourne	Assistant Program Manager	ITS-Davis
<b>Joan</b>	Ogden	Professor	ITS-Davis

<b>Gil</b>	Tal	Professional Researcher	ITS-Davis
<b>Giovanni</b>	Circella	Researcher	ITS-Davis
<b>Amy</b>	Jaffe	Executive Director Energy and Sustanability	ITS-Davis
<b>Yuan</b>	Chen	Ph.D. Student	ITS-Davis
<b>Raphael</b>	Isaac	Ph.D. Candidate	ITS-Davis
<b>Marshall</b>	Miller	Senior Development Engineer	ITS-Davis
<b>Farzad</b>	Alemi	PhD Candidate	ITS-Davis
<b>Laura</b>	Cackette	GSR	ITS-Davis
<b>Thomas</b>	Mackey	Associate Director of Development and External Relations	ITS-Davis
<b>Kathleen</b>	Yip	Student	ITS-Davis
<b>Jinpeng</b>	Gao	Graduate Student Researcher	ITS-Davis
<b>Hengbing</b>	Zhao	Assoc. Project Scientist	ITS-Davis
<b>Xiuli</b>	Zhang	GSR	ITS-Davis
<b>Dominique</b>	Meroux	Graduate Student Researcher	ITS-Davis
<b>Jingyuan</b>	zhao	Research Scholar	ITS-Davis
<b>Patric</b>	Ouellette	Visiting Scholar	ITS-Davis
<b>Patric</b>	Ouellette	Visiting Scholar	ITS-Davis
<b>Laura</b>	Podolsky	Policy Director	ITS-Davis, NCST
<b>Thomas</b>	Turrentine	Director	ITS-Davis, PH&EV Center
<b>Dahlia</b>	Garas	Program Director	ITS-Davis, PH&EV Research Center
<b>Scott</b>	Hardman	Postdoctoral Researcher	ITS-Davis, PH&EV Research Center
<b>Nicolette</b>	Caperello	Staff Research Associate	ITS-Davis, PH&EV Research Center
<b>Wei</b>	Ji	GSR	ITS-Davis, PH&EV Research Center
<b>Giovanni</b>	Circella	Researcher	ITS-Davis, UC Davis
<b>Michael</b>	Coates	Principal	Mightycomm/Volvo Group
<b>David</b>	Ory	Leader Analytical Services	MTC
<b>Colin</b>	Murphy	Climate Policy Advocate	NextGen Climate America
<b>Zhenhong</b>	Lin	Researcher	Oak Ridge National Lab
<b>Dave</b>	Lewis	Director – Wholesale Marketing & Business Development	Pacific Gas & Electric
<b>Lance</b>	Atkins	Principal Engineer	Renault-Nissan Alliance
<b>Keith</b>	Leech	President	Sacramento Clean Cities
<b>Rebecca</b>	Levinson	Systems Analyst	Sandia National Laboratories
<b>Nesty</b>	Torres Chicon	Systems Research and Analysis	Sandia National Laboratories
<b>Lisa</b>	Mirisola	Program Supervisor	SCAQMD
<b>Greg</b>	Kamla	Policy Manager - Transport	Shell
<b>Shawn</b>	Murphy	Engineering Manager	Shell
<b>Phillip</b>	Villagomez	Business Development Manager	Shell New Energies
<b>Helen</b>	O'Connor	Stakeholder Relations	Shell Oil

Manager			
<b>Shenglong</b>	Wan	Deputy Director	SINOPEC
<b>Lei</b>	Wang	Senior Engineer	SINOPEC
<b>Guohua</b>	Liu	Senior Economist	SINOPEC EDRI
<b>He</b>	Yang	Deputy Director	SINOPEC RIPP
<b>Jing</b>	Wang	Engineer	SINOPEC RIPP
<b>Ralph</b>	Troute	PM electric transportation	SMUD
<b>Jeffrey</b>	Reed	Director, Business Strategy and Advanced Technology	SoCalGas & SDG&E
<b>Tim</b>	Carmichael	Agency Relations Manager	Southern California Gas Company
<b>Tom</b>	Cackette	Owner	Tom Cackette Consulting
<b>Robert</b>	Wimmer	Director	Toyota
<b>John</b>	Willard	Mobility Consultant	Toyota
<b>Michael</b>	Lord	Executive Engineer	Toyota Motor North America
<b>John</b>	Stevens	Science and Technology Policy Fellow	U.S. DOE, Fuel Cells Technologies Office
<b>Lisa</b>	Snapp	Center Director	U.S. EPA
<b>Meredith</b>	Cleveland	Physical Scientist	U.S. EPA
<b>Karl</b>	Simon	Director, TCD	U.S. EPA
<b>Sharyn</b>	Lie	Director, Climate Economics & Modeling Center	U.S. EPA
<b>Trina</b>	Martynowicz	Clean Fuels Coordinator	U.S. EPA R9
<b>John</b>	Mikulin	Regional Lead, ZEV Deployment	U.S. EPA R9
<b>Matthew</b>	Brusstar	Lab Deputy Director	U.S. EPA/OTAQ
<b>Miguel</b>	Jaller	Assistant Professor	UC Davis
<b>Rosaria</b>	Berliner	GSR	UC Davis
<b>Nicholas</b>	Pappas	Graduate Student	UC Davis
<b>Kalai</b>	Ramea	Postdoctoral Researcher	UC Davis
<b>Karen</b>	Block	Senior Director of Development	UC Davis
<b>Daniel</b>	Sperling	Professor	UC Davis
<b>Nicole</b>	Biggart	Research Professor	UC Davis
<b>Daniel</b>	Scheitrum	PhD Candidate	UC Davis
<b>Saleh</b>	Zakerinia	PhD Student	UC Davis
<b>Sam`</b>	McLaughlin	External Research Manager	Volvo Group
<b>Dawn</b>	Fenton	Director, Sustainability & Public Affairs	Volvo Group North America
<b>Karen</b>	Hamberg	Vice President, Strategy	Westport