

ITS-Davis e-news presents information on research, education, and outreach from the UC Davis Institute of Transportation Studies and its campus affiliates. [ITS-Davis e-news archives](#).

#### Research Update

- [NextSTEPS Program Awarded \\$2.7 Million by California Energy Commission](#)
- [Policy Center Hosts ZEV Policy Forum Series](#)
- [Closer Look at Carbon Consequences of Deforestation](#)
- [Researcher Led Analysis for Calif. Vehicle Standards](#)
- [Recent ITS-Davis Publications](#)

#### Education Highlights

- [Graduate Students Win Support for Research](#)
- [Student Research Presented at Annual UCTC Conference](#)
- [Learn Something New Every Day: Seminars Available Online](#)
- [Congratulations to Our June 2012 Graduates!](#)

#### ITS-Davis Highlights

- [World EV Cities and Ecosystems Web Portal Launched](#)
- [Renewable Energy is Hot Topic](#)
- [Two Billion Cars: Now in Chinese](#)
- [BBQ at West Village!](#)
- [In the News](#)

#### Research Update

##### NextSTEPS Program Awarded \$2.7 Million by California Energy Commission



NextSTEPS Program  
Director Joan Ogden

The UC Davis Institute of Transportation Studies (ITS-Davis) will receive a two-year, \$2.77 million grant from the California Energy Commission to research the value, benefits and drawbacks of all types of alternative transportation fuels and fuel uses in California. The Energy Commission approved the grant at its June 13, 2012 meeting in Sacramento.

The grant will support teams of research leaders and graduate students in the Institute's NextSTEPS consortium as they complete eight complex research tasks.

"This grant will allow us to conduct a wide assessment of the major alternative-fuel transitions in California, and enable us to inform the CEC in its investment decision-making," said NextSTEPS Program Director Joan Ogden, a UC Davis professor of environmental science and policy. "We look forward to helping the CEC maximize the reduction of greenhouse gases in California." [Click here to read more](#)

#### Policy Center Hosts ZEV Policy Forum Series

On June 27, the UC Davis Policy Institute for Energy, Environment and the Economy concludes its first policy forum series, [Zero Emission Vehicles: Beyond the Mandate](#). The series has provided a 'deep dive' into California's Zero Emission Vehicle (ZEV) mandate, which calls for 15 percent of passenger cars sold in the state to be ZEVs by 2025. The mandate is a component of the state's recently updated Advanced Clean Cars regulation.

The series has highlighted the latest UC Davis research on ZEVs and featured academic,

industry and regulatory experts in lively discussions about what this research means for the ZEV market, including technology, infrastructure, business strategy and policy. This week's final session at the UC Center Sacramento will focus on hydrogen fuel cell vehicle infrastructure needs. Previous sessions included:

- *ZEV 101*—an overview of technologies, policies, barriers, and energy and environmental motivations for zero emission vehicles
- *Here Come the Cars*—vehicle technology status and challenges, as well as the consumer perspective
- *Charging Ahead*—electric vehicle infrastructure issues



John Tillman of Mercedes-Benz speaks at the ZEV Policy Forum

Presentations from the ZEV policy series are [available online](#). Plans for future UC Davis Policy Institute public outreach activities include similar policy forums on energy, mobility, agriculture and environmental issues. To be notified of future events, [sign up here for the Policy Institute distribution list](#).

The Policy Institute was created this year as part of a bold campus-wide initiative to dramatically increase the value of UC Davis research to the policy-making process by identifying priority policy information needs, facilitating diverse collaborations, and translating science into policy-relevant products.

"By connecting the deep and broad resources of UC Davis, we can bring timely and relevant information to policymakers and others who are concerned with the linked issues of energy, the environment and the economy," says Policy Institute Director Anthony Eggert.

Affiliated campus researchers have a wealth of policy-relevant expertise in mobility, agriculture, clean energy, energy efficiency, air quality, water supply and water quality, climate change mitigation and adaptation, and other energy and environmental topics.

For more information or to join the discussion, visit the [Policy Institute website](#).

## Closer Look at Carbon Consequences of Deforestation

Forest clearing can release all of the carbon previously stored in trees into the atmosphere—or not, depending on how wood from the felled trees is used. [A new ITS-Davis study](#) shows that up to 62 percent of this carbon may continue to be stored for decades if harvested wood is used to create solid wood products such as lumber or furniture. But wood used for bioenergy or made into pulp for paper releases nearly all of its carbon, and where in the world the forest is located predicts fairly well how wood will be used.

In the study, recently published in *Nature Climate Change*, ITS-Davis Ph.D. student J. Mason Earles, ITS-Davis research scientist Sonia Yeh and Kenneth Skog of the U.S. Department of Agriculture Forest Service analyzed how 169 countries use harvested forests. They found that tropical forests of the Southern Hemisphere are more likely to be cleared as non-merchantable wood (burned or left on site), or for energy or paper production, while temperate forests in the United States, Canada and parts of Europe are cleared primarily for use in solid wood products.

These findings will be important in understanding how much and how fast carbon will be released from forest clearing, an important topic that has big implications for domestic and international biofuel policies. When governments provide incentives for more biofuel production from food-based crops, less food from those crops will be available domestically and some production may shift to other countries. And those countries might clear more lands, including forests that store large amounts of carbon, to make way for the new crops. Where lands are converted and how the wood from those forests is used would affect how much carbon would be released into the atmosphere.

The new information could also help inform climate models of the Intergovernmental Panel on Climate Change, the leading international body for the assessment of climate change.

"Previous models generally assumed that all the carbon from a cleared forest was released immediately or assumed a simple global average," says Earles. "We hope this study will provide some concrete data on these emissions factors."

## Researcher Led Analysis for Calif. Vehicle Standards



With its recent adoption of pioneering vehicle-emissions standards, the California Air Resources Board is back in the center of the world's clean-car-policy stage. And ITS-Davis graduate Nic Lutsey is being commended for his analytical work, which played a leading role in the development of the new regulations.

Lutsey, an ITS-Davis postdoctoral researcher and an ARB research consultant, was largely responsible for the vehicle technology, feasibility and cost assessments at the heart of the agency's new vehicle criteria pollutant (smog) and greenhouse-gas standards. [Click here to read more.](#)

## Recent ITS-Davis Publications

[Miller, Joshua \(2012\) \*\*Results of the 2011-12 Campus Travel Survey\*\*. Institute of Transportation Studies, University of California, Davis, Research Report UCD-ITS-RR-12-08](#)

[Burke, Andrew F. and Hengbing Zhao \(2012\) \*\*Energy Saving and Cost Projections for Advanced Hybrid, Battery Electric, and Fuel Cell Vehicles in 2015-2030\*\*. Institute of Transportation Studies, University of California, Davis, Research Report UCD-ITS-RR-12-05](#)

[Beebe, Craig W. and Stephen M. Wheeler \(2012\) \*\*Gold Country: The Politics of Landscape in Exurban El Dorado County, California\*\*. \*Journal of Political Ecology\* 19, 1–16](#)

[Wang, Ting, In-Sung Lee, Alissa Kendall, John T. Harvey, Eul-Bum \(E.B.\) Kim, Changmo Kim \(2012\) \*\*Life Cycle Energy Consumption and GHG Emission from Pavement Rehabilitation with Different Rolling Resistance\*\*. \*Journal of Cleaner Production\* \(in press\)](#)

[Stillwater, Tai and Kenneth S. Kurani \(2011\) \*\*Field Test of Energy Information Feedback: Driver Responses and Behavioral Theory\*\*. \*Transportation Research Record: Journal of the Transportation Research Board\* 2252, 7–15](#)

[McCollum, David L., Volker Krey, Keywan Riahi \(2011\) \*\*An Integrated Approach to Energy Sustainability\*\*. \*Nature Climate Change\* 1, 428–429](#)

[Ghandi, Abbas and C.-Y. Cynthia Lin \(2012\) \*\*Do Iran's Buy-Back Service Contracts Lead to Optimal Production? The Case of Soroosh and Nowrooz\*\*. \*Energy Policy\* 42, 181–190](#)

## Education Highlights

### Graduate Students Win Support for Research

ITS-Davis graduate students are involved in leading-edge research, and we are pleased to announce fellowships, scholarships and other awards they receive in recognition of their excellent work.

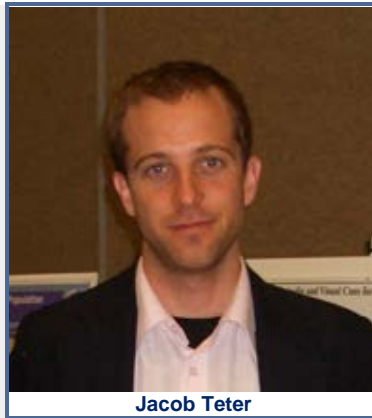
À  
À



Susan Pike



Mason Earles



Jacob Teter



Geoffrey Morrison

**Susan Pike**, a Transportation Technology and Policy (TTP) Ph.D. student, has been awarded a highly-competitive National Science Foundation Graduate Research Fellowship. NSF Graduate Research Fellows receive \$42,000 per year for three years and are eligible for international research and professional development opportunities.

**Mason Earles**, an Ecology Ph.D. student, has been awarded a prestigious EPA STAR (Science To Achieve Results) Fellowship. The fellowships, granted by the U.S. Environmental Protection Agency to approximately 100 students nationwide, award up to \$42,000 per year for up to three years for Ph.D. students.

**Jacob Teter** received a fellowship from the Eno Transportation Foundation to participate in the 20th annual Eno Leadership Development Conference in Washington, DC, this month. Teter is a TTP Ph.D. student.

**Geoffrey Morrison**, a TTP Ph.D. student, has been awarded a scholarship by the San Joaquin Valley Chapter of the National Defense Transportation Association.

### Student Research Presented at Annual UCTC Conference



The UC Davis Sustainable Transportation Center in April hosted graduate students from UC and CSU campuses at the UCTC Student Conference. Joseph Schofer, professor at Northwestern University and member of the ITS-Davis Board of Advisors, opened the conference with the annual Mel Webber Memorial Lecture. The agenda also covered a wide range of student research, with 18 presentations and 34 posters. More information is available on the [STC website](#).

### Learn Something New Every Day: Seminars Available Online

ITS-Davis has a great series of weekly seminars during the academic year—most are webcast and everyone is welcome to join us on campus or online. Recordings of many past seminars are also [available on our website](#). Weekly seminars have ended for the summer, and will resume fall quarter.

ITS-Davis also hosts special seminars from time to time. In May, Amy Myers Jaffe of Rice University's Baker Institute spoke on [The Shale Gas Revolution: Implications for the United States](#). Last week Mark Finley of BP discussed the [BP Statistical Review of World Energy, 2012](#).

To receive announcements of upcoming seminars, please [join our seminar mailing list](#).

### Congratulations to Our June 2012 Graduates!



Pictured at the June 14 graduation ceremony are, from left: *back row*: In-Sung Lee, Hui Li, Hui Guo, Ge Song, Ting Wang, Prof. John Harvey, Prof. Joan Ogden, Zhen Qian, Prof. Michael Zhang; *front row*: Yi-Ru Chen, Jingyan Wu, Jieyin Zeng, Prof. Pat Mokhtarian, Huijing Deng. Photo by Dorian Toy.

## ITS-Davis Highlights

### World EV Cities and Ecosystems Web Portal Launched

The Plug-in Hybrid & Electric Vehicle (PH&EV) Research Center recently hosted the first [World Electric Vehicle Cities and Ecosystems conference](#) in Los Angeles with co-sponsor UCLA Luskin Center for Innovation. City and agency decision makers, business executives and non-profit leaders from across the globe gathered to relate experiences and explore best practices and innovative solutions as they deploy plug-in electric vehicles (PEVs).

Part of the World EV Cities and Ecosystems project spearheaded by PH&EV Research Center Director Tom Turrentine for the International Energy Agency, the conference also marked the launch of the [project's web portal](#). This important new resource creates an opportunity for communities to share data on deployment of PEVs.

"Using the new web portal, cities that are making progress can share their experiences-to-date," says Turrentine. "Data on the impacts of policies, program outcomes, market growth or consumer behavior is incredibly valuable for researchers and city planners, but it was spread too far and wide to draw significant connections. Now they will have all of this information in one place."

The new web portal is still in its early phase, but already includes data from several cities. A downloadable PDF version of the [EV City Casebook](#) is available on the web portal site. It details local electric vehicle policies, incentives, programs and customer behaviors in 16 cities and regions across nine countries and three continents.

ITS-Davis had a big presence as well at the 26th International Electric Vehicle Symposium (EVS26), which followed the World EV Cities and Ecosystems conference. PH&EV Center researchers presented a dozen talks and posters —[more information is available here](#)—and ITS-Davis also had a booth in the exhibition hall (see photo at right), providing information on all our research



programs and a chance to chat with researchers.

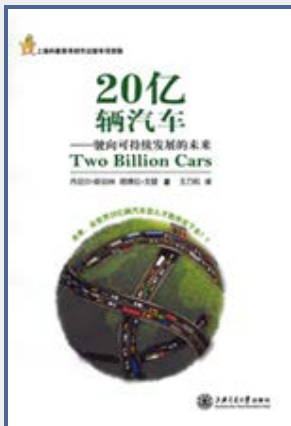
## Renewable Energy is Hot Topic

ITS-Davis researcher Mark Delucchi's work on moving to 100% renewable energy worldwide continues to have a big impact. [Science Direct](#) has cited his papers in *Energy Policy* with Stanford's Mark Jacobson as that journal's top two downloads in 2011. Visit our website for links to these and over 1500 other publications.

[Providing All Global Energy with Wind, Water, and Solar Power, Part I: Technologies, Energy Resources, Quantities and Areas of Infrastructure, and Materials](#)

[Providing All Global Energy with Wind, Water, and Solar Power, Part II: Reliability, System and Transmission Costs, and Policies](#)

## Two Billion Cars: Now in Chinese



[Two Billion Cars: Driving toward Sustainability](#), by ITS-Davis Director Dan Sperling and Deborah Gordon, made quite a splash when it was published in 2009. It spelled out why so many vehicles will soon be on the world's roads, and what advances in policy and technology could help make this future more sustainable. Sperling even talked about the book on a popular [national television program](#). The book still generates interest, and has now been translated into Chinese in an edition published by Shanghai Jiao Tong University Press. It is available on [Amazon.com's Chinese website](#).

## BBQ at West Village!



ITS-Davis students, faculty, staff and friends celebrated another productive academic year at our annual barbeque, held this year at West Village Square. The event provided a chance to get acquainted with the neighborhood before the Institute's upcoming move to [West Village](#), the new zero net energy community on the UC Davis campus.

## In the News

[Dan Sperling writes: Taking the politics out of energy decisions with a national clean fuel standard \(April 2012\)](#)

[Dan Sperling comments on EV charging: Do consumers need what they want? \(May 2012\)](#)

[Cyclists are citizen scientists, roadkill survey – Fraser Shilling comments \(May 2012\)](#)

[Dahlia Garas explains electric driving costs: cheaper per mile than gas \(May 2012\)](#)

[Susan Handy explains: Why I Bicycle but My Neighbors Don't \(May 2012\)](#)