

ITS UC DAVIS

INSTITUTE OF TRANSPORTATION STUDIES

e-news

ITS-Davis e-news is the electronic newsletter of the UC Davis Institute of Transportation Studies. Written for alumni and friends, *ITS-Davis e-news* reports information from ITS-Davis and affiliated campus departments that host transportation-related programs. For previous issues, see the [e-news archives](#).

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► New Initiatives

ULTRANS: Urban Land Use and Transportation Center

As the world's cities struggle to enhance economic development, social equity, and environmental quality while meeting the transportation demands of a growing population, they sorely need modeling tools that integrate transportation and land use. The new UC Davis Urban Land Use and Transportation Center (ULTRANS) aims to improve understanding of the relationship between transport and land use, and to develop, test, and deploy tools that can be used for planning and policy.

The initial focus will be development of policies and tools to be used in California to support state requirements for reduced greenhouse gas emissions in metropolitan areas. It will build upon internationally recognized modeling work at ITS-Davis and its affiliated [Information Center for the Environment \(ICE\)](#), and will include collaborations with ITS-Berkeley and other campuses.

Under the initial leadership of Mike McCoy (co-director of ICE), with Susan Handy, Robert Johnston, Mark Lubell, Patricia Mokhtarian, Deborah Salon, and Susan Shaheen, ULTRANS will dedicate itself to advancing understanding of all factors that influence and result from human travel and location choices. It will encompass research, teaching, and outreach components.



The Sustainable Transportation Center's (STC) mission is to conduct research, education, and outreach on sustainable transportation, which we define as an approach to transportation that meets the needs of all segments of society while minimizing environmental, societal, and economic costs. With funding authorization in 2005 from the U.S. Department of Transportation and a matching grant from the California Department of Transportation (Caltrans), the STC officially launched in 2006.

STC AWARDS: Faculty Research, Dissertation, and Undergraduate

2008 Faculty Research Grants

The STC has awarded five faculty research grants for 2008. These grants support faculty research projects that address the concerns of transportation agencies while meeting the most rigorous academic standards. Each project includes support for at least one graduate student and integrates education into the research process.

Susan Handy
"The Davis Bicycle Studies"

Patricia Mokhtarian
"Activities Conducted while Traveling: An Examination of their Impact on the Value of Travel Time Savings"

David Rapson
"Consumer expectations and the evolution of the US vehicle fleet: Re-examining CAFE standards"

Deborah Salon
"Do investments in urban public transit improve employment outcomes for residents? Evidence from Bogotá, Colombia"

Michael Zhang
"System-wide Ramp Metering as a Policy Tool to Induce Efficient Travel in a Freeway Corridor"

Dissertation Awards

The STC awards dissertation grants to support the research of Ph.D. students who have advanced to candidacy and are working on their own original research. The following students were awarded dissertation fellowships in spring 2008.

Adam Henry, Transportation Technology and Policy
"Social Networks and Learning for Sustainability in Regional Planning"
Adviser: Mark Lubell

Haining Du, Civil and Environmental Engineering
"Development of Dynamic Traffic Management System"
Adviser: Michael Zhang

Wei Tang, Transportation Technology and Policy
"The Exploration of E-Shopping Behavior: A Latent Class Approach"
Adviser: Patricia Mokhtarian

Undergraduate Research Fellowships

Undergraduate research fellowships are awarded to outstanding students with upper-class standing. The recipients work full time during the summer on a research project directed by a member of the faculty or research staff. Four students were awarded undergraduate summer research fellowships:

Brent Bateman
David Joe
Nathaniel Weaver
Kaitlyn Guiney

REACHING OUT: California UTC-PATH Conference

The UC Davis STC is once again co-sponsoring the second annual California University Transportation Centers-California PATH Conference, in early November in Los Angeles.

The theme of this year's UTC-PATH conference, "Tackling Congestion in an Era of Climate Change" focuses on the tremendous challenges cities face—mounting traffic congestion and its impact on climate change, safety, quality of life, and overall system performance—and presents new directions in congestion management research and practice. The conference examines state-of-the-art technology, finance, policy, planning, engineering, social and environmental effects, and institutional barriers, and draws from experiences in the United States and abroad.

Research Results

FIX I-5 PROJECT: Highway Closure a Chance for UC Davis Researchers to Test Commuter Behavior



Professor Michael Zhang talks to Sacramento TV reporters

When Caltrans closed portions of Interstate 5 through downtown Sacramento to perform repair work last summer, it gave UC Davis researchers a chance to survey regional commuters' responses. The research, funded by the California Environmental Protection Agency and carried out by professors Patricia Mokhtarian and Michael Zhang along with UC Davis students, was requested by Governor Arnold Schwarzenegger. In preparation for the closures, the governor issued an executive order to encourage state workers in the region to change their commute practices to relieve traffic congestion and reduce pollution, and he asked ITS-Davis for a report on the effects of that order.

The researchers used an online survey to obtain public feedback. When the answers have been analyzed, transportation planners should have a better idea of how transit ridership, traffic volume, and commute times might change with various disruptions. They'll also better understand why commuters make changes and whether changes might persist after disruptions end. This in turn will help them see how to improve transportation options in Sacramento and how to minimize the impacts of future projects like this one.

PHEV CENTER SUCCESSES: Consumer Research Underway, Conference Lauded

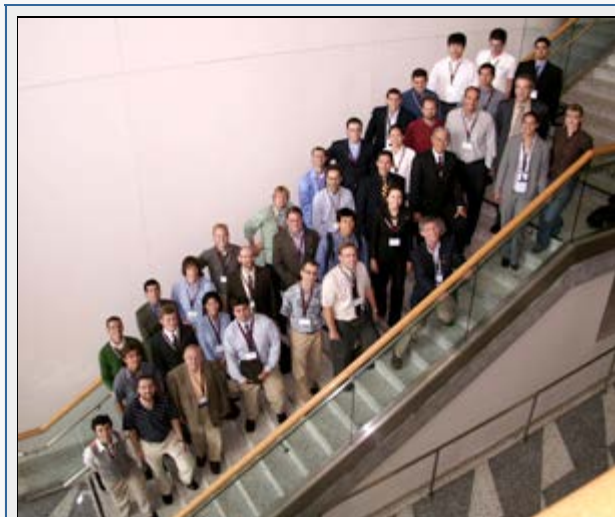
The UC Davis Plug-in Hybrid Electric Vehicle Research Center's hands-on consumer research is well underway this fall, with the center's converted plug-in hybrid Toyota Priuses placed in about 10 households and more than a hundred other households ready to participate in the trials. Researcher Ken Kurani, project manager Kevin Nesbitt, and PHEV Research Center director Tom Turrentine are leading the project.

The goal of the research is to answer the question, "Why would consumers buy PHEVs?" as well as related questions such as: How will consumers recharge a vehicle that does not have to be recharged in order to operate? How are PHEV emissions and efficiency to be regulated if they vary based on vehicle design and on driving and recharging behaviors? And, how will consumers value PHEVs?

The vehicles are placed in selected households for four weeks. Each car has been outfitted with a special data logger to record the drivers' recharging, refueling, and travel. In addition, the participating households are completing a comprehensive online survey and a series of interviews. Researchers are using the same online survey instrument that they deployed for the first phase of the PHEV Center's consumer research—a nationwide survey conducted last winter—to enable direct comparison of the local drivers' results with the national results.

The nationwide survey results suggest the majority of new vehicle buyers have little or no familiarity with PHEVs or electric-drive vehicles in general. Thus there is potential for misconceptions and confusion regarding the availability and purported benefits of PHEVs both in the early market, and in the longer term. Details and more results are available in ["The Early U.S. Market for PHEVs: Anticipating Consumer Awareness, Recharge Potential, Design Priorities and Energy Impacts."](#)

Kurani and Ph.D. student Jonn Axsen released these findings at last summer's inaugural Plug-In 2008 Conference and Exposition co-organized by the PHEV Center. The wildly successful event drew 650 attendees plus a hundred news media representatives. UC Davis



Many of the UC Davis students, researchers, and alumni who attended Plug-in 2008

students, researchers, and alumni were everywhere, it seemed. ITS-Davis director Dan Sperling and PHEV Research Center director Tom Turrentine spoke on plenary panels, professor Andy Frank gave a luncheon keynote, and other current researchers, students, and grads spoke and moderated panels over the three-day gathering. Next year's conference is scheduled for August 10–13 in Long Beach, California.

STEPS RESEARCH: Contributing to Public Policy

Researchers **Bryan Jenkins**, a professor of biological and agricultural engineering, and Ph.D. student **Nathan Parker** led a research team that conducted a spatial analysis and developed biofuels supply curves for [“Strategic Assessment of Bioenergy Development in the West.”](#) a study released September 1 by the Western Governors Association (WGA). Their work was conducted as part of the Sustainable Transportation Energy Pathways (STEPS) Program.

The study takes an in-depth look at the biomass resources available in the 19 western states that comprise the WGA, the technologies to convert them to liquid biofuels, and the challenge of integrating the supply chain from the resource sources to the finished fuels at a distribution terminal. Jenkins's and Parker's research is the first to attempt to include the spatial resource data with competition of multiple conversion technologies, and multiple resource types.

A recently completed National Research Council (NRC) study on the hydrogen economy, “Transitions to Alternative Transportation Technologies—A Focus on Hydrogen,” benefited from the leadership of STEPS director **Joan Ogden**, who served on the study committee, with support from STEPS researchers **Chris Yang** and **Marc Melaina**.

Hydrogen fuel cell vehicles could alleviate U.S. oil dependence and significantly reduce greenhouse gas emissions, the study found. However, bringing the technology from its current state to market viability will require substantial time and additional investment. It estimated a total public-private investment of about \$200 billion would be required from 2008 to 2023, at which point fuel cell vehicles would become competitive with gasoline-powered vehicles. The government cost to support the transition would be roughly \$55 billion. The study was performed in response to a congressional request in the Energy Policy Act of 2005.

NEW DIGS: Expanding Research Facilities Build Excellence



Andrew Burke and Marshall Miller with the new ABC-150 battery tester

ITS-Davis researchers Andrew Burke and Marshall Miller happily moved into new and expanded laboratory facilities over the summer. Burke and Marshall use the Vehicle Energy Storage and Fuel Cell Laboratory to test advanced batteries, ultracapacitors, and fuel cells under simulated real-world vehicle conditions.

The lab acquired an ABC-150 high-voltage, high-current battery pack tester and a test chamber that allows testing of battery cells and modules at low and high temperatures. The researchers are evaluating lithium-ion batteries for PHEVs. They have tested cells and modules that utilize different electrode chemistries, made by manufacturers from around the world. Computer models help the researchers assess how vehicles might perform using different battery technologies and powertrain arrangements.

FEATURED PUBLICATIONS: Two from Delucchi

Researcher Mark Delucchi has published two recent papers with co-author James J. Murphy, a University of Alaska-Anchorage economist, that examine external or “social costs” of motor vehicle use.

In [“How large are tax subsidies to motor-vehicle users in the U.S.?”](#) Delucchi and Murphy provide original, detailed estimates of four major kinds of tax subsidies related to motor vehicles, motor fuels, and highways. Their paper, published in *Transport Policy* in April, estimates that the total ‘tax subsidy’ to motor vehicle users in the U.S. may be in the range of \$19–64 billion per year, or \$0.11–\$0.37 per gallon of motor fuel.

In [“U.S. military expenditures to protect the use of Persian Gulf oil for motor vehicles”](#) Delucchi and Murphy tackle this often-discussed policy issue by asking the following question: “If the U.S. highway transportation sector did not use oil, how much would the U.S. federal government reduce its military commitment in the Persian Gulf?” They estimate that were there no oil in the Persian Gulf, then U.S. combined peacetime and wartime defense expenditures might be reduced in the long run by roughly \$27–\$73 billion per year in 2004 dollars, of which roughly \$6–\$25 billion annually, or \$0.03–\$0.15 per gallon, is attributable to motor vehicle use. This study was published in *Energy Policy*.

OFF THEY GO: ITS-Davis Congratulates '07-'08 Grads

September 2007

Reid (Rusty) Heffner, Ph.D., Transportation Technology and Policy
Adviser: Kenneth Kurani

Dissertation: "Semiotics and Advanced Vehicles: What Hybrid Electric Vehicles (HEVs) Mean and Why It Matters to Consumers"

Current Position: Associate, Booz Allen Hamilton, Inc.

Jill Hough, Ph.D., Transportation Technology and Policy

Adviser: Susan Handy

Dissertation: "Realized Travel Demand and Relative Desired Mobility of Elderly Women in Rural and Small Urban North Dakota"

Current Position: Director, Upper Great Plains Transportation Institute's Small Urban and Rural Transit Center (SURTC)

Michael Keteltas, M.S., Transportation Technology and Policy

Adviser: Daniel Sperling

Current Position: Caltrans

Hang Liu, M.S., Transportation Technology and Policy

Adviser: Yueyue Fan

Current Position: Ph.D. student, UC Irvine

Raghavender Palavadi Naga, M.S., Civil and Environmental Engineering

Adviser: Yueyue Fan

Thesis: "A Mathematical Model for Evaluating the Conversion of High Occupancy Vehicle Lane to High Occupancy/Toll Lane"

Current Position: Ph.D. student, Stanford University

December 2007

Aaron Arsenault, M.S., Mechanical and Aeronautical Engineering

Adviser: Steven Velinsky

Thesis: "Implementation and Validation of a Low Cost Sensor Array for Autonomous Roadside Mowing"

Evan Hartunian Girvetz, Ph.D., Ecology

Adviser: Steven Greco

Dissertation: "Multi-scale Habitat Patch Modeling: Integrating Landscape Pattern, Habitat Suitability, and Population Dynamics with Implications for Ecology and Conservation"

Current Position: Postdoctoral researcher, University of Washington

Chintamani Kulkarni, Ph.D., Mechanical and Aeronautical Engineering

Adviser: Harry Dwyer

Dissertation: "Modeling and the Performance Analysis of Transportation Refrigeration Units with Alternate Power Systems"

Current Position: Global Energy

Taihyeong Lee, Ph.D., Civil and Environmental Engineering

Adviser: Patricia Mokhtarian

Dissertation: "The Impact of Structural Changes in U.S. Industry on Relationships between Transportation and Communications"

Current Position: Research associate, Korean Transportation Institute

David McCollum, M.S., Transportation Technology and Policy

Adviser: Joan Ogden

Thesis: "Future Impacts of Coal Distribution Constraints on Coal Cost"

Current Position: Ph.D. student, UC Davis

Aybike Ongel, Ph.D., Civil and Environmental Engineering

Adviser: John Harvey

Dissertation: "Experimental Analysis of Open-Graded Asphalt Concrete Mixes in Terms of Safety, Durability, and Noise"

Current Position: Assistant professor, Kultur University, Turkey



Susan Handy, Michael Keteltas, Michael Zhang, and Ken Kurani

Brent Riffel, M.S., Transportation Technology and Policy

Adviser: Mark Delucchi

Thesis: "Analyzing the Atmospheric Climate Impacts of Anthropogenic Nitrogen Oxide (NOx) Emissions in CO2-Equivalent Terms and Preliminary Implications"

Current Position: Consultant, Life Cycle Associates

Jonathan Weinert, Ph.D., Transportation Technology and Policy

Adviser: Joan Ogden

Dissertation: "The Rise of Electric Two-Wheelers in China: Factors for Their Success and Implications for the Future"

Current Position: Planning engineer, Chevron Energy Technology Company

March 2008

Ted Buehler, M.S., Transportation Technology and Policy

Adviser: Susan Handy

Thesis: "Fifty Years of Bicycle Policy in Davis, California"

Current Position: Bicycle advocate, Portland, Oregon

Barbara Farinelli, M.S., Agricultural and Resource Economics

Adviser: Colin Carter

Thesis: "Import Demand for Brazilian Ethanol: A Cross-Country Analysis"

Eddie Jordan, M.S., Mechanical and Aeronautical Engineering

Adviser: Paul Erickson

Current Position: Ph.D. student, UC Davis

June 2008

Joel Bremson, M.S., Transportation Technology and Policy

Adviser: Susan Handy

Current Position: Ph.D. student, UC Davis

Matthew Caldwell, Ph.D., Transportation Technology and Policy

Adviser: Paul Erickson

Dissertation: "Reformation of Hydrous Mixed Alcohols Derived from Thermochemical Biomass Conversion as a Renewable Distributed Hydrogen Pathway"

Current Position: Senior researcher, Renewable Energy Institute International

In-Sung Lee, M.S., Civil and Environmental Engineering

Adviser: Patricia Mokhtarian

Current Position: Ph.D. student, UC Davis

Zhenhong (David) Lin, Ph.D., Civil and Environmental Engineering

Adviser: Yueyue Fan

Dissertation: "Optimizing the Regional Hydrogen Transition with Exogenous Demand: Tool Development and Empirical Study"

Current Position: Research staff, Oak Ridge National Laboratory

Nicholas Lutsey, Ph.D., Transportation Technology and Policy

Adviser: Daniel Sperling

Dissertation: "Prioritizing Climate Change Mitigation Alternatives: Comparing Transportation Technologies to Options in Other Sectors"

Current Position: Postdoctoral researcher, UC Davis

Jingtao Ma, Ph.D., Civil and Environmental Engineering

Adviser: Michael Zhang

Dissertation: "An Efficiency-Equity Solution to the Integrated Transportation Corridor Control Design Problem"

Current Position: Transportation engineer, PTV America, Inc.

Carrie Okma, M.S., Chemical Engineering

Adviser: Julie Schoenung

Current Position: Ph.D. student, UC Davis

Jonathan Woolley, M.S., Mechanical and Aeronautical Engineering

Adviser: Paul Erickson

Thesis: "Hydrogen Production from Autothermal Reforming of Ethanol ISO-Octane Mixtures: Experimental Validation of Chemical Equilibrium Analysis and the Effects of Dilution"

Current Position: Staff research assistant, UC Davis

September 2008

Hao Chen, M.S., Transportation Technology and Policy

Adviser: Debbie Niemeier

Thesis: "Predicting Near-Road PM2.5 Concentrations: A Comparative Assessment of CALINE4, CAL3QHC, and AERMOD"

Current Position: Student, Stanford University

Changmo Kim, Ph.D., Civil and Environmental Engineering

Adviser: Michael Zhang

Dissertation: "A Mechanistic Model of Work Zone Capacity"

Current Position: Assistant development engineer, UC Davis

Chiawei (Brian) Kuo, Ph.D., Transportation Technology and Policy

Adviser: Nesrin Sarigul-Klijn

Dissertation: "An Aeroacoustic Study of Micro-Tab on Airframe Noise Reduction"

Current Position: Postdoctoral researcher, UC Davis

Wayne Leighty, M.S., Transportation Technology and Policy

Adviser: Joan Ogden

Thesis: "Modeling of Energy Production Decisions: An Alaska Oil Case Study"

M.S., Agricultural and Resource Economics

Advisor: Cynthia Lin

Current Position: Ph.D. student, UC Davis

Meng-Cheng (Jason) Ni, Ph.D., Transportation Technology and Policy

Advisor: Daniel Sperling

Dissertation: "Motorization, Vehicle Purchase and Use Behavior in China: A Shanghai Survey"

Current Position: Transportation planner, Parsons Brinckerhoff

Andrew Shabashevich, M.S., Mechanical and Aeronautical Engineering

Advisor: Paul Erickson

Thesis: "Analysis of Powertrain Design on Effective Waste Heat Recovery from Conventional and Hybrid Electric Vehicles"

Current Position: Powertrain control systems engineer, IAV Automotive Engineering, Inc.

Tai Stillwater, M.S., Transportation Technology and Policy

Adviser: Patricia Mokhtarian

Thesis: "Carsharing and the Built Environment: A GIS-Based Study of One U.S. Operator"

Current Position: Ph.D. student, UC Davis

Gil Tal, Ph.D., Transportation Technology and Policy

Adviser: Susan Handy

Dissertation: "Overestimations in Forecasting New Transportation Demand Management Policies: Chronicle of an Error Foretold"

Current Position: Postdoctoral researcher, UC Berkeley

Guihua Wang, Ph.D., Civil and Environmental Engineering

Co-advisers: Joan Ogden and Daniel Sperling

Dissertation: "Lifecycle Analysis of Air Quality Impacts of Hydrogen and Gasoline Transportation Fuel Pathways"

WELCOME! ITS-Davis Welcomes New Students

Twenty-three new students have enrolled at ITS-Davis this fall, increasing enrollment to more than a hundred graduate students.

Transportation Technology and Policy

Allan Alexander

Jamie Davies-Shawhyde

Jay Feldman

Micah Fuller

Lauren Hilliard

Rachel Maiss

Gouri Mishra

Civil Engineering

Rachel Carpenter

Yuche Chen

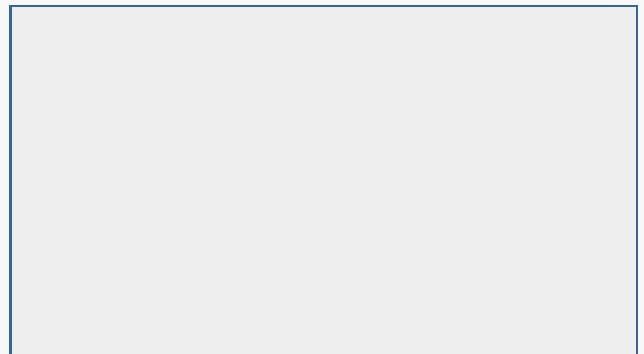
Hui Deng

Taslima Khanum

Hui Li

Nicholas Linesch

Ting Wang



Geoff Morrison
 Colin Murphy
 Narendra Pal
 Sheng-Wang Yang

Mechanical and Aeronautical Engineering

Daniel Arellano
 Jacquelyn Birdsall
 Bradley Brown
 Alea German
 Zach McCaffrey

Agricultural and Resource Economics

Giovanni Circella



Making nametags at the annual welcome BBQ

ACCOMPLISHMENTS: Awards and Fellowships

Christopher Knittel, an associate professor of economics and ITS-Davis affiliated researcher has been named a 2008–2009 Chancellor’s Fellow. Knittel is working with the team of UC Davis and UC Berkeley researchers who are providing technical support to the state for the development of the Low Carbon Fuel Standard. The Chancellor’s Fellow program was established in 2000 to honor the achievements of extraordinary UC Davis faculty early in their careers. Each fellow receives a \$25,000 prize to be used for research, teaching or service activities. The honored professors are allowed to use the Chancellor’s Fellow title for five years.



Christopher Knittel



Wayne Leighty

ITS-Davis graduate student **Wayne Leighty** has completed two Master’s Degrees, one in Transportation Technology and Policy (TTP) and another in Agricultural Resource Economics. Now he is pursuing a Ph.D. in TTP while also completing the MBA program at the UC Davis Graduate School of Management. This fall, Leighty learned that he will be supported by a full Dean’s Fellowship that is offered to only 10% of the MBA class. Way to go, Wayne!

Three new GATE Fellows for 2008 are **Jason**

Greenwood, David Kasheveroff, and Douglas Saucedo. Greenwood is studying ethanol-hydrogen combustion for the internal combustion engine. Kasheveroff is studying the role of oxygen delivery in hydrogen production devices for potential use in internal combustion or fuel cell engines. Saucedo is studying electric turbo-compounded internal combustion engines for improving hybrid electric vehicle fuel economy. Saucedo also has been awarded this year’s AAA Greenlight Initiative Fellowship. UC Davis is one of eight U.S. Department of Energy Graduate Automotive Technology Education (GATE) Centers of Excellence. GATE funds individual fellowships, research assistantships, and curriculum development, and offers internship opportunities with industry and government.



Douglas Saucedo



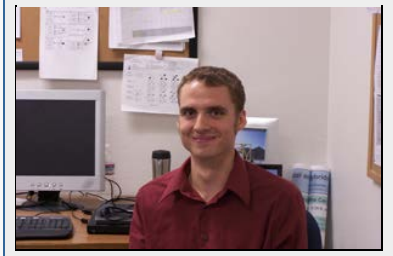
David Kasheveroff

Bryan Jungers, a civil and environmental engineering master’s student, has been awarded the first McWick Technology Foundation Fellowship. Jungers is the lead powertrain engineer for the UC Davis Vehicle Design Summit team. His McWick Fellowship will allow him to conduct battery cost research through the Institute’s PHEV Research Center.



Bryan Jungers

The Chevron Corporate Fellow for this year is **Jonn Axsen**, a Transportation Technology and Policy Ph.D. student who, with Ken Kurani and Tom Turrentine, designed and implemented the national survey for the project, [“The Early U.S. Market for PHEVs: Anticipating Consumer Awareness, Recharge Potential, Design Priorities and Energy Impacts.”](#)



Jonn Axsen

Development Update

Friends of ITS-Davis

Since its inception in 2005, gifts to *Friends of ITS-Davis* have totaled almost \$195,000. This amount has enriched the learning experience of ITS-Davis graduate students including those pursuing the Institute’s Transportation Technology and Policy degree. We invite you to make your gift to *Friends of ITS-Davis* by clicking [here](#).

Bay Area Foundations Support ITS-Davis Research and Policy Development

The Energy Foundation and the David and Lucile Packard Foundation combined their support for two grants totaling \$206,000 for research and analysis on sustainability standards needed to implement the Low Carbon Fuel Standard (LCFS), which aims to reduce the carbon intensity of transportation fuels 10% by 2020. Research Engineer Sonia Yeh coordinates a team of UC Davis and UC Berkeley researchers whose work, made possible by these generous grants, is providing technical support to the state as it develops the LCFS regulation. The Institute’s Dan Sperling and the late Alex Farrell of UC Berkeley co-directed the team that drafted the initial recommendations for the standard.

The David and Lucile Packard Foundation has granted ITS-Davis \$115,000 to fund Mark Delucchi’s work to develop a comprehensive sub-model of the nitrogen cycle within his Lifecycle Emissions Model (LEM), and to apply the LEM with this new sub-model to analyses of the climate impacts of biofuels. Delucchi’s LEM model is the most comprehensive lifecycle analysis model in the world for transportation fuels.

Fellowships

The McWick Technology Foundation recently pledged \$50,000 over five years for the McWick Technology Fellows and Scholars Fund. This donation will enable ITS-Davis to attract outstanding students to pursue clean vehicle research, with an initial focus on plug-in vehicles.

[Read more about the latest fellowship recipients above.](#)

ITS-Davis and Campus Highlights

PEOPLE: Sperling Speaks in UK

The transformation of cars and the car industry has begun with gasoline-electric hybrids, and will continue in the next decades with the wide adoption of plug-in electric hybrids, battery electric cars, and fuel cell electric vehicles, ITS-Davis Director Dan Sperling said during a keynote speech in London in late October.

The two-day conference, “Low Carbon Cars: Exploring the Challenge of Bringing Electric Vehicles to Market,” was hosted by the United Kingdom’s Department for Business, Enterprise & Regulatory Reform. British Prime Minister Gordon Brown called for the conference after international discussions about transportation energy reform this summer.

Sperling praised Brown’s leadership in “setting the ball rolling on the low-carbon vehicle future for the UK and the rest of the world.”

ITS-Davis has long emphasized the importance of collaborations between government, industry, and academia. “Only through joint international action arising through events such as this conference will these changes come about.”

The conference drew international transportation experts and policymakers. Other speakers included: Geoff Hoon, UK secretary of state for transport; Lewis Booth, Ford Motor Co. chief financial officer; Tayce Wakefield, General Motors vice president for public policy; Ian Marchant,

Scottish and Southern Energy chief executive officer; and Terunobu Yamauchi, director for automotive policy planning of Japan's Ministry of Economy, Trade and Industry.

PEOPLE: In Memory of Geoffrey Ballard

Canadian fuel cell pioneer Geoffrey E. H. Ballard, Ph.D., a founding member of the ITS-Davis Board of Advisors, passed away August 2. Widely acknowledged as the father of the fuel cell industry, Ballard was a great friend to ITS-Davis and a longtime chair of the Board of Advisors. The founder of Ballard Power Systems and of General Hydrogen, Ballard was known internationally for developing the first bus powered by a fuel cell.

His many honors include the World Energy Technology Summit "Lifetime Achievement Award," the Gutenberg International Environment Prize, the Order of Canada, the "Innovation Award for Leadership in Energy and the Environment" from *The Economist*, and designations as "Hero of the Planet" from *Time* magazine and "Business Leader of the Year" from *Scientific American*. He was the subject of a *Scientific American* Masters of Technology documentary.

Here at ITS-Davis, Ballard was a beloved and respected adviser. "Geoff always took time to interact with and inspire our students, and to provide counsel to our faculty," recalls Dan Sperling, ITS-Davis director. "We are grateful for Geoff's guidance. While he will be profoundly missed, ITS-Davis will always be inspired by his vision and commitment."



Geoffrey Ballard with ITS-Davis students in 2003

PEOPLE: Welcome David Greene, Ph.D., Visiting Researcher



David Greene and Dan Sperling

David Greene, a noted energy and transportation policy researcher at Oak Ridge National Laboratory's Center for Transportation Analysis, has joined ITS-Davis for a sabbatical year in 2008–2009. Greene, known for his analysis of transportation technology and economic potential, and fuel economy policy, will conduct research on feebates. His recent publications examine cap-and-trade carbon policies for transportation, and the potential infrastructure requirements of a transition to hydrogen fuel cells. Just last summer he testified to Congress on the near-term options to increase fuel economy and reduce petroleum demand. Greene will be working closely with the STEPS program and on other ITS-Davis energy policy initiatives.

PEOPLE: STEPS Welcomes Nic Lutsey, Ph.D.

ITS-Davis grad Nic Lutsey has officially joined the STEPS research team as a postdoctoral researcher, having received his Ph.D. in TTP last summer. Lutsey will extend his dissertation research, which examined cost-effectiveness of various climate change control strategies, to investigate the potential for ancillary benefits of greenhouse gas reduction technologies and assess the cost-effectiveness of possible compliance paths for California's Low Carbon Fuel Standard.



Nic Lutsey

TOPICS OF OUR TIME: Weekly Seminar Series in Full Swing

The ITS-Davis Weekly Seminar Series is one of the best ways to stay up-to-date on the newest transportation research and policy topics. Seminars are Fridays at 1:30. It's free and open to everyone. No reservations required. Learn more.

<http://www.its.ucdavis.edu/events/seminarseries/index.php>

EXTRA! READ ALL ABOUT IT! ITS-Davis and UC Davis Researchers in the News

Patricia Mokhtarian, September 5, in *The Press-Enterprise*, Riverside, Calif., on rising gas price impacts on telecommuting.

Ken Kurani, September 2, in the *Sacramento Business Journal*, on the resurgence of electric and electric-drive vehicles.

Dan Sperling, August 28, *MSNBC*, and August 7, *Dow Jones News Service*, on benefits and drawbacks of natural gas as a transportation fuel.

Pat Mokhtarian, July 30, *Forbes.com*, on research showing that better telecommunications can result in more travel rather than less.

Pat Mokhtarian, July 22, *MSNBC*, on commuters' response to high gas prices.

Tom Turrentine, July 22, 23, and 24, on numerous San Francisco Bay Area television and radio stations and in local and national newspapers, on plug-in hybrid electric vehicle potential. Coverage followed the successful Plug-In 2008 Conference and Exposition.