

December 5th, 2018

# **Board of Advisors Meeting**



# Thank you to our Sponsors























# WELCOME

#### Members of the Board of Advisors and Special Guests,

Thank you for participating in our fall 2018 Board of Advisors meeting. We have experienced some great successes in research, education, and outreach since our last meeting, including:

- Competing for and undertaking numerous funded projects from the California Energy Commission, DOE, and others. One example is a \$2.2 million U.S. DOE award to advance solar technologies. Led by Professor Vinod Narayanan, Associate Director of the Western Cooling Efficiency Center, researchers will advance solar thermal power generation by developing innovative additivelymanufactured heat exchangers.
- Welcoming the second class of UC Davis Energy Graduate Group students. During their first week on campus, students participated in an orientation program— Power Trip—to learn about the wide variety of energy related research and policy work being conducted at UC Davis and in the Sacramento/Bay area through discussions with researchers and leaders from industry, government, public interest groups, and academia. During Power Trip, students had the pleasure of meeting with Ralph Cavanagh and new board members Paul Lau and Mark Philpott. Laurie Giammona had PG&E host the students for a visit and tour of their SF offices as well.
- Hosting an affiliate event on Climate-Resilient
   Communities at the Global Climate Action Summit. This
   session was attended by leading experts from around the
   world. We were delighted to have Jill Anderson as both a
   keynote speaker and session leader. Mike Peevey, Barry
   Neal, and Sharon Tomkins were able to join our evening
   event at the Exploratorium.
- Organizing a fall seminar series. We have been honored to host a number of energy leaders on campus this fall to speak to our Energy Graduate Group and broader UC Davis community. Speakers to date have included former President of Southern California Edison Bob Foster, Senator Nancy Skinner, Associate Professor Steve Davis, and CPUC Commissioner Carla Peterman.

- Launching an Emerging Energy Professionals Program.
   EEI is providing professional development opportunities, internship placement, career counseling, and exposure to critical energy issues to about 30 students this academic year. Students include undergraduate and graduate students from across UC Davis that are interested in energy.
- Hosting a program review to advance military collaboration. Over eighty people from seven universities gathered at UC Davis on October 29-31 for the Naval Excellence Partnership Teaming with Universities for National Excellence program review. Student veterans and researchers presented updates on their projects and engaged with key faculty, university leadership, as well as government and industry leaders.
- Providing an energy audit boot camp. In September, EEI joined with PG&E to provide a 2-day training course for student veterans interested in pursuing careers in the energy field.

Looking ahead, we have important work to accomplish in the coming year, including **recruiting a permanent faculty director.** We look forward to continued work with you and your respective organizations in achieving our goals.

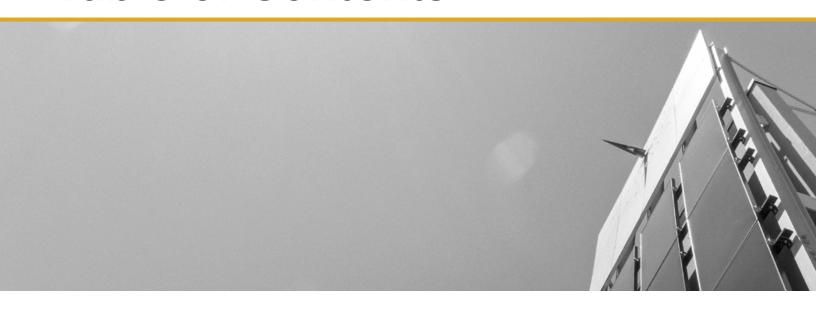
As you will see in the attached agenda for Wednesday, December 5th, we have scheduled opportunities for openended discussion on timely energy topics. In a departure from previous meetings, rather than hearing from our center directors, our research staff and students will brief you on select projects and initiatives underway. This will expose you to some of the fantastic talent we have attracted to the Institute.

Safe travels and see you soon,

Mark Modera

Interim Faculty Director
Energy and Efficiency Institute

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## Agenda

10:00 a.m. Arrival and Refreshments

10:30 a.m. Welcome and Introductions

Ralph Cavanagh, Chair

**New Board Members** 

Scott Crider, SDG&E Mark Philpott, Chevron Sharon Tomkins, SoCalGas

**Returning Board Members** 

Jill Anderson, SCE

Robert Bienenfeld, Honda

Paul Lau, SMUD

Barry Neal, Wells Fargo Michael Peevey, CPUC

**Special Guests** 

Ashutosh Bhagwat, UC Davis

Vincent Davis, PG&E

David Hochschild, California Energy Commission

Mark Perutz, DBL Partners

10:50 a.m. Update on the Energy and Efficiency Institute

Mark Modera, Interim Faculty Director Benjamin Finkelor, Executive Director

11:15 a.m. Board Discussion: Challenges for the new Director and California: Decarbonization,

"Decostification," and Equity. How can Distributed Energy Resources be used to support a safe,

resilient, clean energy future for all?

12:30 p.m. Lunch

1:15 p.m. New Technologies and Realities for California

Staff Presentations:

Andrew Harper, California Lighting Technology Center – Improved lighting for

healthcare and municipal lighting

Theresa Pistochini, Western Cooling Efficiency Center - Balancing energy, indoor air quality

and outdoor air quality in schools and offices

Robert Good, Center for Water Energy Efficiency – Electricity load shifting demand

management in the water sector

**2:15 p.m.** Energy Graduate Group Student Presentations:

Ryan Barr, Advancing electric storage and 2<sup>nd</sup> life batteries for supporting the grid

Greg Miller, Timing is everything: Decarbonizing our grid with demand optimization

Armando Casillas, Rapid building leakage diagnostics using IoT Devon Schmidt, Smart buildings on the UC Davis campus

3:15 p.m. Break & Group Photo

# Agenda

3:45 p.m. Board Discussion: California's energy future: an agenda for the next 8 years. What are the

highest priority energy issues that need to be solved in the state, the nation and the world?

4:45 p.m. Wrap-up and Final thoughts

5:30 p.m. Adjourn meeting

6:00 p.m. Dinner

Brief tour of the Bicycle Hall of Fame

Brief remarks by David Phillips, UCOP – University of California's Progress and Future Efforts

Towards Carbon Neutrality in 2025

U.S. Bicycling Hall of Fame

303 3rd Street



#### Ralph Cavanagh

Ralph Cavanagh is the Co-Director of the Energy Program at the Natural Resources Defense Council. He has been a Visiting Professor of law at Stanford and UC Berkeley, a lecturer on law at the Harvard Law School, and a faculty member for the University of Idaho's Public Utility Executives Course. From 1993 to 2003, Cavanagh served on the U.S. Secretary of Energy's Advisory Board. His current board memberships include the Bipartisan Policy Center, the Bonneville Environmental Foundation, the California Clean Energy Fund, the Center for Energy Efficiency and Renewable Technologies, and the Renewable Northwest Project. He is a member of the National Commission on Energy Policy, established by the William & Flora Hewlett Foundation in 2002. He received the Heinz Award for Public Policy, the National Association of Regulatory Utility Commissioners' Mary Kilmarx Award, Yale Law School's Preiskel-Silverman Fellowship, and the Lifetime Achievement in Energy Efficiency Award from California's Flex Your Power Campaign. Cavanagh is a graduate of Yale College and Yale Law School.



#### **Jill Anderson**

Jill Anderson is vice president of Customer Service Operations at Southern California Edison (SCE), one of the nation's largest electric utilities. She is responsible for leading SCE's energy efficiency, demand response and clean self-generation program portfolios and customer strategy, marketing, e-commerce and strategic alliance functions. Previously, Anderson was executive vice president and chief commercial officer at the New York Power Authority (NYPA), the country's largest state power organization. She was responsible for sales, marketing, new products and technology, and energy efficiency programs. In this role, Anderson also oversaw the marketing of NYPA's generation assets, trading, fuel operations, hedging, business development for new transmission and generation activities. Prior to this position at NYPA, she led energy policy, sustainability, corporate communications, regulatory affairs and government relations departments. Anderson received a Master of Business Administration degree from New York University and a Bachelor of Science in Mechanical Engineering degree from Boston University.



#### **Robert Bienenfeld**

Robert Bienenfeld is Assistant Vice President, Environment and Energy Strategy for American Honda's Product Regulatory Office. Bienenfeld is responsible for policy (legislative proposals and regulatory rule making) as it relates to the automobile and its impact on the environment. In addition, he is responsible for recommending long-term strategies to address greenhouse gas, energy security, and air quality issues. Bienenfeld was responsible for Honda's discussions with the White House that led to the historic 2012–2016 and 2017–2025 Greenhouse Gas and Fuel Economy Regulations. Bienenfeld is a 30+ year Honda veteran. Key accomplishments include: the initial proposal for Honda's "Safety for Everyone" strategy, Honda's introduction of telematics, Honda's investments in car sharing, and vehicle refueling technologies. Bienenfeld led the launch of Honda's first battery electric car, the 1997-9 EV PLUS, Honda's first generation Civic natural-gas vehicle (1998), and the original Honda Insight (1999). Bienenfeld graduated from St. John's College.



#### **Scott Crider**

Scott Crider is vice president of customer services for San Diego Gas & Electric (SDG&E), one of Sempra Energy's California regulated utilities. In his current role, Crider oversees all customer-related activities for SDG&E, including call centers, energy efficiency, demand response and customer assistance programs, customer privacy, revenue cycle activities, electric rates and analysis, field services, corporate brand, marketing and customer communications. He has a bachelor's degree in law and society from the University of California, Santa Barbara.



#### Laurie Giammona

Laurie Giammona is Senior Vice President and Chief Customer Officer for Pacific Gas and Electric Company (PG&E). Giammona leads all aspects of PG&E's Customer Care and Corporate Real Estate Strategy and Services organization. She oversees service to 16 million people throughout Northern and Central California and manages seven million square feet of facilities supporting more than 20,000 employees. Giammona oversees billing, metering, revenue, call centers, local offices, account services, low income offerings and customer programs including energy efficiency, solar, electric vehicle and demand response portfolios. Giammona joined PG&E in 2012 as Vice President of Customer Service. Previously, she held senior level positions at Comcast, including Regional Vice President of Customer Care, and United Airlines. She currently is on the boards of the California Chamber of Commerce and the Wine Institute and serves on the executive board for the Make-A-Wish Foundation, Greater Bay Area.



#### **David Jacot**

David Jacot, P.E., is the Director of Efficiency Solutions for the Los Angeles Department of Water & Power (LADWP). In this role, Jacot oversees all aspects of LADWP's offerings and strategies designed to overcome market barriers to the comprehensive adoption of energy efficiency by LADWP's customers. He has a Bachelor's degree in Mechanical Engineering from the University of Oklahoma, and a Master's degree in Urban and Regional Planning from California State Polytechnic University – Pomona, as well as 15 years of experience designing high performance building systems, modeling building energy usage, and managing cost-effective and investment-grade energy efficiency programs.



#### Paul Lau

Paul Lau is Chief Grid Strategy & Operations Officer at Sacramento Municipal Utility District (SMUD). He is responsible for the operations of SMUD's power markets, transmission and distribution grids, including the Balancing Authority of Northern California (BANC), the development of a holistic smart grid strategy and SMUD's research & development programs. Lau directs a number of departments and is the executive sponsor of SMUD's deployment of advanced metering infrastructure and smart grid initiatives. Prior to this appointment, he was the Assistant General Manager of Power Supply & Grid Operations. Lau is active in international energy issues and serves as a delegate with the United States Energy Association. He is a registered professional electrical engineer in the state of California and has more than 30 years of utility experience. Lau received his bachelor's degree in electrical power engineering from California State University, Sacramento. He also is a Senior Fellow of the American Leadership Forum.



#### **Barry Neal**

Barry Neal is the Executive Vice President leading Wells Fargo's Renewable Energy and Environmental Finance activities, managing a group whose primary focus is originating lending and investment opportunities in the renewable energy sector. His scope of activities is borne out of Wells Fargo's Environmental Commitments, first announced in 2005 and then expanded in 2012 and 2018. These commitments include a focus on providing capital to environmentally-beneficial businesses and projects in several industry sectors including renewable energy, cleantech, energy efficiency, and real estate. Neal joined Wells Fargo in 2006, after spending more than 20 years in the energy and environmental sectors. Prior to joining Wells Fargo, he provided management consulting services to financial institutions and renewable energy development companies. Neal earned a M.S. in Energy Management & Policy from the University of Pennsylvania and a B.S. in Business Administration from the University of California at Berkeley.



#### Michael R. Peevey

Michael R. Peevey retired from the California Public Utilities Commission, where he served as President, at the end of his term in December, 2014. He is spending more time with his family while he writes a book on California energy-environmental policies over the past 40 years. Peevey was appointed President of the Commission by Gov. Gray Davis in 2002. From 1995 until 2000, he served as President of NewEnergy, Inc. Earlier, Peevey was President of Edison International and Southern California Edison. He has served on many boards and has received numerous awards recognizing his leadership in developing energy policy and promoting recognition of California's diverse population. He has received leadership recognition from the American Council for Energy Efficiency (2005), the Utility Minority Access Program (2006) and the California Solar Energy Industries Association (2006). He holds bachelor's and master's degrees in economics from the University of California, Berkeley.



#### **Mark Philpott**

Mark Philpott is Chevron's Energy Management Manger, responsible for the development of energy strategy, monitoring corporate energy performance and supporting Chevron's energy management practice across the enterprise. Previously, Philpott has served as the Manager of Reliability and Integrity as well as Manager of Process Engineering both within Chevron's Energy Technology Company. He joined Chevron in 1982 as a gas process engineer in Canada and has held several positions of increasing responsibility working in numerous operations and projects around the world. He earned a B.Sc. in Biochemistry from McGill University and B.A.Sc. in Chemical Engineering the University of Ottawa.



#### **Sharon Tomkins**

Sharon Tomkins is vice president, customer solutions and strategy for Southern California Gas Company (SoCalGas), a Sempra Energy regulated California utility. She is responsible for developing and delivering the information, products and services that meet customers' energy needs and support state environmental and social policy objectives. Tomkins' responsibilities include renewable natural gas, near zero emissions transportation, emerging technologies and energy efficiency. She joined SoCalGas in 2010 as regulatory assistant general counsel. Prior to this, Tomkins was a partner at O'Melveny & Myers LLP where she was a founding member of the firm's Energy, Natural Resources & Environmental Practice. Her energy focus began during her representation of various clients, including Sempra, during the California energy crisis. Tomkins serves on the board of directors of the California Minority Counsel Program, Las Angeles Library Foundation, Constitutional Rights Foundation and Civil Justice Association of California. She graduated Order of the Coif from the USC Gould School of Law and received her undergraduate degree in English, with High Distinction, from Pennsylvania State University.

# **Special Guests**



#### **Ashutosh Bhagwat**

Ash Bhagwat is a Martin Luther King, Jr. Professor of Law at the University of California, Davis School of Law, where he teaches Administrative Law, Constitutional Law, and Economic Regulation. Prior to joining the Davis faculty in 2011, Professor Bhagwat was a member of the faculty at the UC Hastings College of the Law for seventeen years. He clerked for Judge Richard Posner of the Seventh Circuit, and Justice Anthony Kennedy of the United States Supreme Court. Professor Bhagwat is the author of The Myth of Rights, published by the Oxford University Press as well as numerous articles on a wide variety of legal subjects, with a particular focus on the First Amendment. Professor Bhagwat is a member of the American Law Institute. In May of 2011, Governor Jerry Brown appointed Professor Bhagwat to serve as a member of the Board of Governors of the California Independent System Operator.



#### **Vincent Davis**

Senior Director of Energy Efficiency Programs, Policy and Strategy at PG&E. The Energy Efficiency team under Davis's leadership is responsible for policy, strategy, product development, program management, engineering services, channel engagement, project office support, enrollment and incentive management, and inspection and verification of all Energy Efficiency programs.



#### **David Hochschild**

David Hochschild is a commissioner at the California Energy Commission. He was appointed by Governor Jerry Brown in February 2013. Commissioner Hochschild's career has spanned public service, environmental advocacy and the private sector. He first got involved in the solar energy field in 2001 in San Francisco as a Special Assistant to Mayor Willie Brown where he launched a citywide \$100 million initiative to put solar panels on public buildings. He went on to co-found the Vote Solar Initiative, a 60,000-member advocacy organization promoting solar policies at the local, state and federal level. He served as executive director of a national consortium of leading solar manufacturers and worked for five years at Solaria, a solar company in Silicon Valley. In 2007-2008, he served as a commissioner at the San Francisco Public Utilities Commission. For his work to advance clean energy, Commissioner Hochschild was awarded the Sierra Club's Trailblazer Award, the American Lung Association's Clean Air Hero Award and the Department of Energy's Million Solar Roof True Champion Award. Commissioner Hochschild holds a B.A. degree from Swarthmore College and a Masters of Public Policy degree from Harvard's Kennedy School of Government and was a Coro Fellow in Public Affairs.

# **Special Guests**



#### **Mark Perutz**

Mark Perutz is a Partner at DBL Partners. Previously he was an investment professional at JPMorgan helping to manage the Bay Area Equity Fund from 2003 through the spin-out of the Bay Area Equity Fund from JPMorgan and the founding of DBL Partners in January 2008. He is currently on the board of RallyPoint and a stealth company, was formerly on the Board of Revolution Foods, and has worked with the following DBL portfolio companies: Advanced Microgrid Solutions, OffGrid Electric, Primus Power, Farmer's Business Network, NEXTracker, SolarCity, Tesla Motors, Solaria, Ogin, PowerLight, eMeter, Siva, Labcyte, CareDx, Bentek, ReShape and Wholeshare. Mark received a BS and MS in Mechanical Engineering from MIT, and received a MBA from the Sloan School of Business at MIT.



#### **David Phillips**

David Phillips was appointed Associate Vice President for Energy and Sustainability, effective December 2015. In this newly created position, David provides strategic leadership for energy and sustainability initiatives across the University of California. Among other goals, multidisciplinary teams are currently developing plans and actions to reach systemwide carbon neutrality by 2025. This initiative is being implemented as part of UC's broader energy procurement and sustainability efforts in consultation with the University's Global Climate Leadership Council, Energy Governing Board and the sustainability community.

# Faculty Leadership



#### Frank Loge

Frank Loge is Director of the Center for Water-Energy Efficiency, a professor in the Department of Civil and Environmental Engineering, and the current holder of the Ray B. Krone Endowed Professorship in Environmental Engineering at the University of California, Davis. He began his career studying water and wastewater treatment and has developed a strong interest in the relationship between energy, water, and health. He advocates performing fundamental research to advance knowledge and developing and deploying technologies and policies that improve environmental quality and the efficiency of resource consumption. His research efforts focus on the energy and health implications of engineered and natural systems, designing sustainable systems and technologies, and entrepreneurship and finance. Dr. Loge holds a Ph.D. in Civil and Environmental Engineering from the UC Davis and is a licensed Professional Engineer in the state of California.



#### Mark Modera

Mark Modera is Interim Faculty Director of the Energy and Efficiency Institute, Director of the UC Davis Western Cooling Efficiency Center (WCEC), Professor in the Departments of Civil and Environmental Engineering and in Mechanical and Aerospace Engineering, and is the Sempra Energy Chair in Energy Efficiency. Prior to joining WCEC, he worked at Carrier Corp., where he was Vice-President, and at Lawrence Berkeley National Laboratory (LBNL). While at LBNL, Modera developed an aerosol-based duct sealing process, and subsequently established Aeroseal, Inc. to commercialize the technology. He has a diverse set of research interests, including energy efficiency, ventilation, and indoor air quality. Modera received a master's degree in mechanical engineering from the University of California, Berkeley and a Ph.D. in mechanical engineering from the Royal Institute of Technology in Stockholm.



#### **Michael Siminovitch**

Michael Siminovitch is Director of the California Lighting Technology Center (CLTC), Professor in the Department of Design, and the Arthur H. Rosenfeld Chair in energy efficiency. Siminovitch participated on the leadership team for California's Strategic Lighting Plan and helped lead efforts to improve the 2013 Title 24, Part 6 standards for exterior lighting. He co-authored the original California Advanced Lighting Controls Training Program (CALCTP) and now serves on its board of directors. He also established the UC Davis Smart Lighting Initiative, one of the largest lighting retrofit projects in California, to reduce lighting energy use 60% below 2007 levels. In 2014, Siminovitch was selected by UC President Janet Napolitano as an inaugural member of the UC Global Climate Leadership Council. He received master's degrees in Industrial Design and Architecture from the University of Illinois and a doctoral degree in Architecture and Human Factors Engineering from the University of Michigan.

# Faculty Leadership



#### **Andrew Hargadon**

Andrew Hargadon is the Charles J. Soderquist Chair in Entrepreneurship and Professor of Technology Management at the UC Davis Graduate School of Management. His research focuses on the effective management of innovation and entrepreneurship, particularly in the development and commercialization of sustainable technologies. Hargadon is the founding director of two key centers at UC Davis—the Mike and Renee Child Institute for Innovation and Entrepreneurship and the Energy Efficiency Center. He has published numerous articles and chapters in leading scholarly and applied publications, and is the author of Sustainable Innovation: Build Your Company's Capacity to Change the World (Stanford University Press, 2015) and How Breakthroughs Happen: The Surprising Truth About How Companies Innovate (Harvard Business School Press 2003). Prior to his UC Davis appointment, Hargadon worked at Apple Computer and Stanford University. He received his master's in mechanical engineering and his Ph.D in organizational behavior from Stanford University.



#### Alissa Kendall

Alissa Kendall is a Professor of Civil & Environmental Engineering and Chair of the Energy Graduate Group at UC Davis. Her research applies principles of industrial ecology and environmental engineering by developing and implementing life cycle assessment (LCA) methods for vehicles and fuels, civil infrastructure, and food and bioenergy production systems with the ultimate goal of mitigating climate change and other environmental and resource challenges. Kendall's teaching interests mirror this interdisciplinary, problem-oriented research program. She teaches Life Cycle Assessment for Sustainable Engineering, a core class in the Energy curriculum, and an undergraduate class in Urban Systems and Sustainability. She has received a number of honors and awards related to research and teaching. Kendall holds a B.S. in Environmental Engineering from Duke University and an M.S. and Ph.D. from the University of Michigan, Ann Arbor.



#### **Kurt Kornbluth**

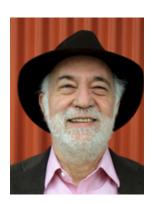
Kurt Kornbluth is founding Director of the UC Davis Program for International Energy Technology and the UC Davis D-Lab, Adjunct Assistant Professor in the Department of Biological and Agricultural Engineering, and Associate Director for the UC Davis Blum Center for Developing Economies. Kornbluth's research areas include hybrid fossil fuel/renewable electrical grids, and sustainable, low-carbon energy technologies for the developed and developing world. He has worked in the field of international development, renewable energy, and energy efficiency since 1993 and has a diverse background including implementing appropriate technology projects in Africa and Central America. In 2015, the University of California named him a Climate Action Champion for UC Davis as part of the UC Carbon Neutrality Initiative. Kornbluth holds a Ph.D. in mechanical and aeronautical engineering from UC Davis and is a UC Davis Graduate School of Management Business Development Fellow as well as an NSF IGERT fellow.

# Faculty Leadership



#### **Alan Meier**

Alan Meier is a senior scientist at Lawrence Berkeley National Laboratory, Adjunct Professor at UC Davis in the Department of Environmental Science and Policy, and a faculty researcher and Associate Director of Curriculum at the UC Davis Energy Efficiency Center. His research focuses on understanding how people and equipment use energy and opportunities to reduce consumption. Meier's research on "standby power use" in appliances—equal to 1% of global CO2 emissions— led him to propose an international plan to reduce standby power loss in all devices to less than 1 watt, which was endorsed by the G8 countries. He is Executive Editor (and founder) of the journal Home Energy and is the author of many articles and two books, Supplying Energy through Greater Efficiency and Saving Electricity in a Hurry. Meier holds a Ph.D. in energy and resources from University of California, Berkeley.



#### **Dan Sperling**

Daniel Sperling is Professor of Civil Engineering and Environmental Science and Policy, and founding Director of the UC Davis Institute of Transportation Studies. He is recognized as a leading international expert on transportation technology assessment, energy and environmental aspects of transportation, and transportation policy. He holds leadership positions on key boards and committees and in 2007 was appointed to serve as a member of the California Air Resources Board. Sperling was the 2013 Chair of the California Fuel Partnership and the 2015 Chair of the National Academies' Transportation Research Board. In recognition of his work, Sperling received the 2013 Blue Planet Prize and the 2010 Heinz award. He has authored or edited over 200 technical articles and 12 Books, including Two Billion Cars (Oxford University Press, 2009) and has testified 10 times to the U.S. Congress and state legislatures. Sperling received his Ph.D. in transportation engineering from the University of California, Berkeley.



#### Gil Tal

Gil Tal holds a Ph.D. in Transportation Technology and Policy from UC Davis, and an M.A. in geography and environmental policy and planning from the Hebrew University in Jerusalem. Between 2008 and 2010 Dr. Tal was a post-doctoral researcher with the Center for Global Metropolitan Studies and the UC Transportation Center at UC Berkeley. His work at UC Davis and UC Berkeley focuses on travel behavior and the implementation of travel behavior related policies. At the PH&EV center Dr. Tal is leading projects on the future need for electric vehicle infrastructure, and the correlation between charging infrastructure, travel behavior and the demand for EV's. He is currently leading research on number of projects including a study on local planning and deployment of electric vehicle infrastructure, a study on GIS tools for infrastructure planning, a multi-state study of new plug-in vehicle buyers, and a study on the secondary market of plug-in vehicles in California.

### **Featured Staff**



#### **Benjamin Finkelor**

Benjamin Finkelor is Executive Director of the UC Davis Energy and Efficiency Institute. Prior to joining the EEI, he served in a variety of roles within the clean technology sector, including director of business development for a local clean-energy start-up company, interim executive director for CleanStart (a Sacramento-based business incubator supporting local clean energy technology ventures and entrepreneurs), and as a cleantech analyst for the private equity arm of the California Public Employees' Retirement System (CalPERS). Finkelor holds a master's degree in business administration from the University of California, Davis Graduate School of Management. He also earned an emphasis in corporate environmental management through the Bren School at University of California, Santa Barbara. His undergraduate degree is from University of California, San Diego.



#### **Robert Good**

Robert Good has a background in project management, waterway debris management, operations research, and software development. His current interests include the impact of electricity rates on water utility operations, optimization and automation of water distribution networks, real-time data visualization, distributed water treatment and reuse, and the development of technologies to improve regional water resource and energy management. Robert is currently a candidate for receiving a M.S. in Civil and Environmental Engineering from UC Davis.

### **Featured Staff**



#### **Andrew Harper**

Andrew Harper is an Associate Development Engineer at CLTC. His work includes research and development of lighting controls for daylight harvesting as well as energy efficient lighting systems for agriculture and human centric applications. Drew graduated from the University of Notre Dame with a Bachelor of Science in Mechanical Engineering in 2014. His interests include building automation and advanced control systems.



#### Theresa Pistochini

Theresa Pistochini is the Engineering Manager at the UC Davis Energy and Efficiency Institute and Western Cooling Efficiency Center with 10 years' experience in applied research in energy efficiency in buildings, primarily in the areas of Heating, Ventilation, and Air Conditioning (HVAC). She led the development and construction of the HVAC testing laboratory in 2013 and is currently co-PI and Project Manager for the planned California Energy Product Evaluation Hub, a project sponsored by the California Energy Commission. The Hub will improve adoption rates of distributed energy resources by providing comprehensive product reviews compiled in an on-line Buyer's Guide targeted to the needs of institutions and their procurement staff. Pistochini provides technical management for the engineering staff, reviewing project progress including experimental plans, analyses, results, and publications. She earned her M.S. degree from UC Davis and is a registered professional mechanical engineer in California.

### **Featured Students**



#### Ryan Barr

After earning his bachelor's degree in Systems Engineering from the University of Illinois, Ryan worked as a management consultant at KPMG. There, he primarily assisted a Fortune 100 utility client with the transformation of financial processes. Ryan's passion for sustainable energy solutions is rooted in the complex network of aging equipment we call "the grid." His research will seek to illuminate the grid evolution required to effectively deploy tools such as renewable generation, energy storage, and electric vehicles at scale. He will explore the potential to do so in a way that accomplishes climate goals, without jeopardizing energy availability and grid reliability.



#### **Armando Casillas**

Armando received his B.S. in Mechanical Engineering from UC Merced. While pursuing his undergraduate degree, he worked for Facilities Management as an energy analyst, which is where he developed a passion and appreciation for sustainability and building energy efficiency. Armando's research interests include HVAC systems, building automation and energy management. He spent the summer of 2017 with the UC Davis Energy Conservation Office as a graduate student researcher and is now working with Dr. Mark Modera as part of the Western Cooling Efficiency Center (WCEC). Armando is from Bakersfield, California.



#### **Greg Miller**

Motivated by the urgency of climate change, Greg is studying the role of demand flexibility in a 100% decarbonized electric grid. Prior to starting his PhD at Davis, he worked in Washington, DC as Georgetown University's Sustainability Manager. Greg also volunteers with the Clean Energy Leadership Institute, a non-profit dedicated to empowering and educating young professionals to be the next generation of clean energy leaders. Greg has a BS in Foreign Service and a Certificate in Business Administration from Georgetown University.



#### **Devon Schmidt**

Devon is a master's student in the Energy Graduate Group. Her research will focus on building efficiency and decarbonizing electricity systems. Prior to attending graduate school, Devon worked as an engineering technician for the City of Santa Barbara's Public Works Department. In that capacity, she worked on capital improvement water and wastewater projects. After that, she worked for a solar distribution and design company called Solar Roof Dynamics. There, she worked on residential system design, utility interconnection processes, and nationwide incentive program research. Devon earned an undergraduate degree in biology from UC Santa Barbara in 2012.



1605 Tilia St., Suite 100

Davis, CA 95616 (530) 752-4909