



Integrated Distribution System Planning Training for Midwest/MISO Region

October 13-15, 2020

PRESENTER BIOS



Dr. Doug Black is the Grid Integration Group Leader at Berkeley Lab and conducts research on microgrid and vehicle-to-grid integration (VGI) demonstration projects. His work focuses on optimizing control of VGI implementations while maximizing electric vehicle (EV) and grid function and minimizing overall charging costs for individual and EV fleet owners. Doug studies VGI configurations ranging from managed EV charging and building load control for retail demand response programs to using bi-directional EV charging for frequency regulation in wholesale electricity ancillary services markets. Doug earned a Ph.D. in Civil and Environmental Engineering from the University of Berkeley and a B.S. in Electrical Engineering from the University of Michigan.

Patrick Dalton is a manager of Distributed Energy Resources (DERs) at ICF, supporting clients in developing solutions to address DER impacts on utility planning and operations. He has 11 years of distribution engineering experience at a major U.S. electric utility, where he led a team responsible for DER integration. He supported revisions to the Minnesota statewide interconnection process and technical standards and participated in MISO working groups to develop IEEE 1547 bulk system implementation guidelines. Patrick is an active member of industry standard working groups related to DER interconnection, interoperability, and energy storage including revisions to the IEEE 1547 series and IEEE 2030. Patrick is a licensed professional engineer in Minnesota.



Paul De Martini is a leading expert on the business, policy and technology dimensions of a more distributed and resilient power system. His consulting practice supports utility, market operator, regulatory and government clients. He has authored or co-authored several widely cited reports, including U.S. Department of Energy (DOE) reports on integrated distribution planning, transmission-distribution operational coordination, and modern distribution grids. Paul was previously Vice President, T&D Advanced Technology, at Southern California Edison. He began his career at Pacific Gas & Electric in electric system operations and transmission and distribution engineering and construction. He is a senior IEEE member and was a member of the National Academies of Sciences Committee on T&D Resilience.

Natalie Mims Frick is an Assistant Leader and Energy Efficiency Program Manager in the Electricity Markets and Policy Department at Berkeley Lab. She manages projects on energy efficiency and other DERs, including technical assistance to states and research on DER policies and programs. Before joining the lab, Natalie was the principal at Mims Consulting, LLC, where she served as an expert witness in demand-side management regulatory proceedings across the country. She also was an Energy Efficiency Director at the Southern Alliance for Clean Energy and a Senior Consultant at Rocky Mountain Institute.



Juliet Homer is a professional engineer in the Energy Policy and Economics Group at Pacific Northwest National Laboratory (PNNL). Her work supports national and international projects in the areas of integrated energy planning, advanced distribution system planning and grid modernization. Before joining PNNL, Juliet was a Utility Analyst at the Oregon Public Utility Commission where she managed electric and natural gas utility resource planning dockets and performed economic analyses of proposed utility investments. She previously worked as a consultant with Greeley and Hansen, LLC, a multi-national engineering consulting firm, where she managed planning and engineering design projects for water and wastewater systems.

Dr. Fredrich Kahl is an independent researcher and consultant. He has worked with North American regulators and utilities on a range of critical issues facing the electricity industry, including grid modernization investment economics, distribution system platforms and markets, wholesale market design and evaluation, resource planning, retail rate design, and resource adequacy program design. Previously, he was a Director at the consulting firm Energy and Environmental Economics (E3). Fritz holds Ph.D. and M.S. degrees in Energy and Resources from the University of California, Berkeley, and a B.A. in Philosophy from the College of William & Mary.



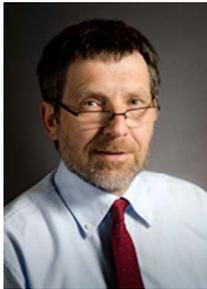
Rois Langner is a Senior Engineer in the Commercial Buildings Research Group at the National Renewable Energy Laboratory (NREL). Starting in 2010, her work has focused on methods to achieve ultra-high efficiency targets cost-effectively in commercial buildings for zero energy performance, whole building integration, and optimized building design and operation for load flexibility and grid coordination. Rois currently oversees the Commercial Buildings Research Group's initiatives on zero energy and leads DOE's Better Buildings Alliance Renewables Integration Technical Research Team, which works closely with building owners and managers and industry partners to understand and support new technological advances in strategic integration of renewables, energy storage, building load flexibility and grid coordination.

Matt Leach originally joined the Commercial Buildings Research Group at NREL in 2009. He returned in 2018 after four years in the private sector. His expertise is in building energy simulation and analysis and integrated building design. Throughout his career, Matt has focused on enhancing the use of whole-building energy simulation at all stages of the design process to achieve cost-effective energy savings, code compliance, utility rebates and building certification. He has extensive experience using the EnergyPlus™ and OpenStudio® toolsets.



Dr. Debra Lew is an independent consultant with 28 years of experience in the energy sector. Previously she served as Technical Director at GE Energy Consulting, focusing on utility integration of wind, solar and DERs. Before that, she spent 16 years at NREL, where she initiated and led the Western Wind and Solar Integration Study, examining impacts of high penetrations of wind and solar in the Western Interconnection. She also worked with Hawaiian Electric on integrating high levels of wind and solar in Hawaii. She has a B.S. from MIT in Electrical Engineering and Physics and a Ph.D. from Stanford in Applied Physics.

Jason MacDonald is a Principal Scientific Engineering Associate in Berkeley Lab's Energy Storage and Distributed Resources Department. He researches fast, automated demand response for bidding into bulk power system ancillary service markets. Work includes analyses of barriers to demand response in wholesale electricity markets, development of mathematical models for demand response availability, and pilots to test control paradigms for resource aggregation of thermostatically controlled loads and plug-in electric vehicles (PEVs) for participation in ancillary service markets. Jason completed graduate work in Mechanical Engineering and Sustainable Systems at the University of Michigan, where he examined the electricity consumption profile, fleet marginal electricity demand and environmental impacts of PEVs. He was a system engineer for a photovoltaic integrator and a systems integration engineer on the Chevy Volt powertrain at General Motors.



Dr. Michael Kintner-Meyer is a Staff Scientist at PNNL. He has 30 years of experience in the international energy and environment field, most of that in large-scale energy/economics modeling activities at academic and governmental institutions as well as in industry. He is a "systems-thinker" with a broad range of technical competencies, including systems analysis that addresses national and international energy infrastructure operations and expansions, water resources and economic analyses.

Chandler Miller is a Program Manager in Berkeley Lab's Electricity Markets and Policy Department, focusing on energy efficiency and other DERs. He has held consulting roles with Enovation Partners and DNV GL, independent power producers and investors. He also was an analyst at Pacific Gas and Electric, overseeing demonstration projects funded by the Electric Program Investment Charge. At Enphase Energy, he developed a techno-economic model and supported market strategies for a home energy storage product. Chandler holds a B.S. in Environmental Engineering Science from University of California, Berkeley, and an M.S. in Nanoengineering from University of California, San Diego.



Dr. Andrew Mills is a Research Scientist in Berkeley Lab's Electricity Markets and Policy Department. He conducts research on the integration of variable generation into the electric power system, evaluating the costs, benefits, and institutional needs of renewable energy transmission and other supporting infrastructure. Andrew has a Ph.D. in Energy and Resources from University of California, Berkeley, and a B.S. in Mechanical Engineering from Illinois Institute of Technology.

Dr. Kevin P. Schneider is a Principal Research Engineer at PNNL, working at the Battelle Seattle Research Center. His main areas of research are distribution system analysis and power system operations. Kevin is an Adjunct Faculty member at Washington State University, an Affiliate Associate Professor at University of Washington, and a licensed Professional Engineer in Washington state. He is the past Chair of IEEE's Distribution System Analysis Subcommittee and the current Chair of the Analytics Methods for Power Systems Committee. He received his B.S. in Physics and M.S. and Ph.D. degrees in Electrical Engineering from the University of Washington.





Lisa Schwartz is a Deputy Leader of Berkeley Lab's Electricity Markets and Policy Department. She manages work spanning utility regulation, electricity system planning, energy efficiency and other DERs, and grid-interactive efficient buildings and leads training for states on distribution system planning. Previously, she was Director of the Oregon Department of Energy, where earlier in her career she was a Senior Policy Analyst. At the Oregon Public Utility Commission, she was staff lead on resource planning and procurement, demand response, and distributed and renewable energy resources. She also served as a senior associate at the Regulatory Assistance Project. Lisa received an M.S. in Land Resources from University of Wisconsin, Madison, and a B.S. in Environmental Studies from George Washington University.

Ben Sigrin is an Energy Systems Modeling Engineer in the Distributed Systems and Storage Group at NREL. He is the team lead for model development and analysis for the Distributed Generation Market Demand (dGen) model. The dGen model is an agent-based model to simulate customer-driven DER adoption based on economic and behavioral drivers. He also leads NREL research relating to the behavioral drivers of DER adoption. Ben received an M.S. in Energy & Earth Resources and a M.P.Aff from the University of Texas at Austin.



Dr. Emma Stewart is the Associate Program Leader for the Defense Infrastructure Program at Lawrence Livermore National Laboratory. She has over 15 years of experience working in distribution operations, planning and DER integration. She worked at Berkeley Lab for several years, including in the area of distribution measurement and analysis techniques for smart grid applications. Earlier, Emma was a visiting researcher at Sandia National Laboratories and a Senior Engineer at BEW Engineering (now DNV GL). She led distribution modeling and analysis and high renewable penetration studies for utilities. Emma holds a master's degree in Electrical and Mechanical Engineering from University of Strathclyde and a Ph.D. in Electrical Engineering.

Dr. Jeffrey Taft is the Chief Architect for Electric Grid Transformation at PNNL. He is responsible for development and articulation of large-scale architecture for grid modernization and support of many cross-cutting activities. He began working in the grid modernization area in 2001 and has held smart grid chief architect roles with Cisco, Accenture and IBM. He also worked for Westinghouse. His participation in smart grid projects spans sensor architectures and analytics for distribution grids, end-to-end grid structure, integration and control. Jeff earned a Ph.D. in Electrical Engineering from the University of Pittsburgh. He is a member of the IEEE Power and Energy Society, an emeritus member of the GridWise Architecture Council, and the holder of 37 patents in control systems, signal processing and grid modernization. Jeff leads the Grid Architecture work for DOE's Grid Modernization Initiative and co-leads DOE's technical assistance project for distribution grid modernization.



Jeremy Twitchell is an Energy Research Analyst at PNNL, focusing on energy storage and distribution system planning. Prior to joining the lab, he was an energy policy advisor at the Washington Utilities and Transportation Commission, where he led staff development of a policy statement on the role of energy storage in utility resource planning and a distribution planning rulemaking. He also drafted a report for the Washington State Legislature on best practices in distribution planning and has provided rate case testimony on rate design and resource acquisition.