Henry M. Louie

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Academic Experience

Seattle University, Seattle, WA

Associate Professor	Fall 2014 to present
Assistant Professor	Fall 2008 to Spring 2014

Copperbelt University, Kitwe, Zambia

Visiting Academic (Fulbright Scholar)	Fall 2015 to present

University of Washington, Seattle, WA

Affiliate Professor	Summer 2009 to present
Pre-Doctoral Lecturer	Fall 2006, Fall 2007
Research Assistant	Summer 2004 to Summer 2007

University of Illinois, Champaign, IL

Research Assistant	Fall 2002 to Spring 2004

Education

PhD, Electrical Engineering, March 2008

University of Washington, Seattle, WA
Dissertation: *Market-Based Evaluation of Wind Energy Conversion-Based Generation Integration Methodologies and Technologies*
Advisor: Professor Kai Strunz

M.S., Electrical Engineering, May 2004

University of Illinois at Urbana-Champaign, Champaign, IL
Thesis: *Linear Approximation of Line Closure Impacts on Generator Currents*
Advisor: Professor Peter Sauer

B.S., Electrical Engineering, June 2002

Kettering University, Flint, MI
Thesis: *Detection and Mitigation Techniques of Ferroresonance in Transformers*
Advisor: Professor Hüseyin R. Hiziroğlu

Teaching Experience

Courses

Control Systems Laboratory	SQ15
Digital Operations and Computation	FQ09, WQ10, FQ10, WQ11, WQ12
Electrical Circuits I	WQ12, SQ13, SQ14

Electrical Energy Systems	WQ15
Electromechancial Energy Conversion	WQ11, FQ12
Electromechanical Energy Conversion Laboratory	WQ13
Electronic Circuits Laboratory	SQ09, WQ11, SQ13
Energy Utilization and Conservation (Copperbelt Univ.)	FQ15
Energy Systems in Less Economically Developed Countries	FQ16
Engineering Design	FQ14, WQ15, SQ15, FQ16
Engineering Problem Solving with MATLAB	FQ10, FQ13, WQ14, FQ14, WQ15
Introduction to Applied Optimization	SQ11
Introduction to Engineering	FQ12, FQ13, FQ14
Power Electronics	FQ08
Power Systems	WQ13
Power System Analysis (Univ. of Wash.)	FQ06, FQ07
Renewable Energy Systems*	WQ08, SQ10, SQ12, SQ14
Signals and Systems Laboratory	WQ09, WQ10, WQ14

Senior Design Projects

Augmented Reality with Google Glass (Alstom Grid)	2014-2015
Microgrid Simulation and Tools (Pacific Northwest National Lab)	2013-2014
Protective Relaying IEC 61850 Communications Verification (SNC Lavalin)	2012-2013
Design and Construction of an Appropriate Technology Wind Turbine	2011-2012
Electromagnetic Modeling of Open Source Axial Flux Generator Designs	2010-2011
Alternative Energy Generation (Kenworth)	2009-2010
Small Human-Powered Generator Version 2	2009-2010
Small Human-Powered Generator	2008-2009

Undergraduate Research Projects

Testing Battery Charge Controllers Student: A. Biniam	Spring 2015
Micro Grid Design for Filibaba, Zambia Student: E. Morris	Spring 2015
Correlation of EV Demand and Wind Power Student: P. Berg	Spring 2014
Creation of Battery Education Material Student: C. Reeder	Fall 2012
Performance Testing of a Generator Student: D. Nausner	Winter 2012
Low Tech Wind Turbine Control Student: A. Pirbhai	Spring 2011
Modeling Student Energy Usage Student: J. McIntosh	Spring 2011
Wind Power Data Compression Student: S. Hitchen	Summer 2010
Design and Implementation of a Computer Gaming Interface Student: D. Sable	Spring 2010
Development of Microcontroller for Autonomous Computer Gaming Student: P. Hoffstetter	Spring 2010
Assessment of Wind Power Resource Student: J. Motoike	Fall 2009

Industry/Non-Profit Organization Experience

KiloWatts for Humanity, Seattle, WA

Co-Founder and Vice-President 2015-Present
Non-profit organization enabling electricity access to the energy-impoverished in Sub-Saharan Africa.

3TIER, Inc., Seattle, WA

Business Development Manager 2007-2008
Oversaw development of wind energy forecasting business segment. Authored technical proposals and research publications on renewable energy forecasting.

Power Engineers, Inc., Longview, WA

Field Engineer 2001-2002
Commissioned electric power generating facilities and substations up to 500 kV and 1.7 GW.

Electro-Test, Inc., Kent, WA

Field Engineer 1997-2001
Tested and inspected electric power apparatus up to 125 kV.

Awards and Fellowships

Fulbright Scholar (Teaching/Research Core Program) 2015-2016
Electrification in the Context of Less Economically Developed Countries, Copperbelt University, Zambia

Provost's Faculty Award for Excellence in Teaching (inaugural recipient) 2015
Awarded by the Provost to a single faculty member each year.

Outstanding Educator Award 2013
IEEE Region 6 Northwest Area (WA, OR, ID, AK)

Outstanding Teacher Award 2012
Seattle University College of Science and Engineering

SU Center for Environmental Justice and Sustainability Fellow 2013-2014
Development of Electric Vehicle Load Forecasting Techniques for a Sustainable Future

SU Center for Environmental Justice and Sustainability Mentor 2013-2014
Are wind power and electric vehicle charging correlated? (Student: P. Berg)

Clare Boothe Luce Scholarship Mentor Award 2012-2014
Statistical Modeling of the Usage and Impact of Electric Vehicles on Electric Power Systems (Student: N. Ng)

Seattle University Summer Faculty Fellowship 2012
Field Testing of an Appropriate Technology Wind Turbine in Rural Zambia

Seattle University Summer Faculty Fellowship 2009
Enabling Renewable Energy through Simulation of Hybrid Energy Storage and Weather Forecasting Technologies

Grants

Global Research Grant ($893) 2016

Contextualizing Technical Operational Data from Off-Grid Electrical Systems

General Electric ($56,323) 2016

Implementation of Additional Energy Kiosks Near Chalokwa, Zambia
Co-PI

Global Research Grant ($7,220) 2015

Experiential Energy Development Program

Alstom We Share the Power Program ($26,394) 2015

A Sustainable Energy Kiosk for Rural Development in Siavonga, Zambia

IEEE Smart Village ($24,650) 2015

A Sustainable Energy Kiosk for Rural Development in Filibaba, Zambia

Global Research Grant ($1,975) 2014

Indicators of Sustainable Off-Grid Energy Systems

Alstom Foundation for the Environment ($85,000) 2013

A Sustainable Community Charging Station for Energy and Empowerment in Rural Kenya

Seattle University Global Grant ($1,160) 2012

An Experiential Appropriate Illumination Technology Workshop and Student Immersion Experience

Science and Engineering Summer Student Research Support ($4,160) 2012

Development of an Appropriate Technology Testbed (Student: D. Nausner)

Seattle University Endowed Mission Fund ($5,000) 2012

Wind Turbine Deployment in Zambia

Seattle University Global Grant ($9,524) 2011

Development of an Experiential Humanitarian Engineering Pilot Program

Seattle University Endowed Mission Fund ($6,000) 2011

Wind Turbine Construction in Zambia

Independent Colleges of Washington Energy Efficiency and Conservation Grant ($10,000) 2010-2011

Using Smart Grid Technology to Promote Energy Efficiency and Conservation in Student Housing (Student: J. McIntosh)

Washington NASA Space Grant Consortium ($3500) 2010

Compression of Large Wind Speed and Wind Power Data Sets (Student: S. Hitchen)

Book Chapters and Technical Magazine Articles

R. Podmore, R. Larsen, H. Louie, N. Johnson and S. Saha, "Fueling Sustainability: The Exponential Impact of Empowering Off-Grid Communities," *Electrification Magazine*, vol. 4, no. 1, pp. 11-17, DOI: 10.1109/MELE.2015.2509878 Mar. 2016.

H. Louie, et al., "Rural Sub-Saharan Microgrids," *Electrification Magazine*, vol. 3, no. 1, pp. 7-15, DOI: 10.1109/MELE.2014.2380111 Mar. 2015.

H. Louie, et al., "Eternal Light: Ingredients for Sustainable Off-Grid Energy Development," *Power & Energy Magazine*, vol 12, no. 3, pp. 70-78, DOI: 10.1109/MPE.2014.2317093, Jul./Aug. 2014.

H. Louie and J. Sloughter, "Modeling and Statistical Characteristics of Wind Power," Book Chapter in *Large Scale Renewable Power Generation: Advances in Technologies for Generation, Transmission and Storage*, Springer, 2014.

R. Podmore, R. Larsen, H. Louie, et al., "Affordable Energy Solutions for Developing Communities," *IEEE Power & Energy Society Special Issue*, Apr. 2012.

Peer-Reviewed Journal Articles

H. Louie and P. Dauenhauer, "Effects of Load Estimation Error on Small-Scale Off-Grid Photovoltaic System Design, Cost and Reliability," *Energy for Sustainable Development*, vol. 34, pp. 30–43, DOI: 10.1016/j.esd.2016.08.002, Sept. 2016.

H. Louie, "Time Series Modeling of Aggregated Electric Vehicle Charging Station Load," *Electric Power Components and Systems*, Under Review.

H. Louie, "Operational Analysis of Hybrid Solar/Wind Microgrids Using Measured Data," *Energy for Sustainable Development*, vol. 31, pp. 108–117, DOI: 10.1016/j.esd.2016.01.003, Apr. 2016.

H. Louie, "Probabilistic Modeling and Statistical Analysis of Aggregated Electric Vehicle Charging Station Load," *Electric Power Components and Systems*, vol. 43, no. 20, pp. 2311–2324, DOI: 10.1080/15325008.2015.1080770, Oct. 2015.

H. Louie, "Correlation and Statistical Characteristics of Aggregate Wind Power in Large Transcontinental Systems," *Wind Energy*, DOI: 10.1002/we.1597, Feb. 2013.

H. Louie, "Evaluation of Bivariate Archimedean and Elliptical Copulas to Model Wind Power Dependence Structures," *Wind Energy*, DOI: 10.1002/we.1571, Nov. 2012.

H. Louie and A. Miguel, "Lossless Compression of Wind Plant Data," *IEEE Transactions on Sustainable Energy*, vol. 3, no. 3, pp. 598-606, DOI: 10.1109/TSTE.2012.2195039, Jul. 2012.

K. Strunz and H. Louie, "Cache control for energy storage: power system integration and education based on analogies derived from computer engineering," *IEEE Transactions on Power Systems*, vol. 24, no. 1 pp. 12-19, Feb. 2009.

H. Louie and K. Strunz, "Superconducting Magnetic Energy Storage (SMES) for energy cache control in modular distributed hydrogen-electric energy systems," *IEEE Transactions on Applied Superconductivity*, vol. 17, no. 2 pp. 2361-2364, Jun. 2007.

H. Louie and K. Strunz, "Hierarchical multiobjective optimization for independent system operators (ISOs) in electricity markets," *IEEE Transactions on Power Systems*, vol. 21, no. 4, pp. 1583-1591, Nov. 2006.

Peer-Reviewed Technical Conference Publications

D. Mulongoti, G. Mugala, B. Kumwenda and H. Louie, "Determining the Effects of Load-shedding on Residential Electricity Consumption Using Meter Data-A Case Study of Kitwe, Zambia," To be presented at *IEEE Global Humanitarian Technology Conference*, Seattle, WA, Oct. 2016.

R. Ngoma, A. Tambatamba, B. Oyoo and H. Louie, "Domestic Electric Consumers Response to Load- shedding: A Case Study of Kitwe, Zambia," To be presented at *IEEE Global Humanitarian Technology Conference*, Seattle, WA, Oct. 2016.

M. Shields, H. Louie, G. Goldsmith, B. Blainedavis and D. Nausner, "Technical Design of Off-Grid Energy Kiosks," To be presented at *IEEE Global Humanitarian Technology Conference*, Seattle, WA, Oct. 2016.

J. M. Sloughter, J. Isakson, Y. P. Mak, A. K. Scheicher, H. Louie, K. Shields and M. Salmon, "Technical Design of Off-Grid Energy Kiosks," To be presented at *IEEE Global Humanitarian Technology Conference*, Seattle, WA, Oct. 2016.

H. Louie, D. Goldsmith, P. Dauenhauer and R. Almeida, "Issues and Applications of Real-Time Data from Off-Grid Electrical Systems," *Proceedings of IEEE PES PowerAfrica Conference*, Livingstone, Zambia, Jun. 2016.

H. Louie, M. Shields, S. J. Szablya, L. Makai and K. Shields "Design of an Off-Grid Energy Kiosk in Rural Zambia," *Proceedings of IEEE Global Humanitarian Technology Conference*, DOI: 10.1109/GHTC.2015.7343946, Seattle, WA, Oct. 2015.

P. Dauenhauer and H. Louie, "System Usage Trends for Off-grid Renewable Energy Users in Developing Communities," *Proceedings of 4th Symposium on Small PV Applications*, Müchen, Germany, Jun. 2015.

V. Van Acker, S. J. Szablya, H. Louie, A. Pirbhai and J. Sloughter, "Summary of Energy Use and Costs in Rural Kenya for Community Microgrid Business Model Development," *Proceedings of IEEE Global Humanitarian Technology Conference*, San Jose, CA, Oct. 2014.

H. Louie et al., "Opportunities and Challenges for Micro Wind Turbines in Developing Communities," *Proceedings of IEEE Global Humanitarian Technology Conference*, Seattle, WA, Oct. 2012.

H. Louie, "Evaluating Archimedean Copula Models of Wind Speed for Wind Power Modeling," *Proceedings of Power Africa 2012*, Johannesburg, South Africa, Jul. 2012.

H. Louie and S. J. Szablya, "Electromagnetic Field Modeling of Appropriate Technology Generators for Rural Electrification Applications," *Proceedings of IEEE Global Humanitarian Technology Conference*, Seattle, WA, Oct. 2011.

R. Podmore, R. Larsen, H. Louie and B. Waldron, "Affordable Energy Solutions for Developing Communities," *Proceedings of the IEEE Power & Energy Society General Meeting*, Detroit, MI, Jul. 2011.

H. Louie, "Experiences in the Construction of Open Source Low Technology Off-Grid Wind Turbines," *Proceedings of the IEEE Power & Energy Society General Meeting*, Detroit, MI, Jul. 2011.

H. Louie, S. J. Szablya, K. Peng and E. Hoffstetter, "Design and Testing of a Small Human-Powered Generator for Developing Rural Communities," *Proceedings of the 42nd North American Power Symposium*, Arlington, TX, Sept. 2010.

H. Louie, "Characterizing and Modeling Aggregate Wind Plant Power Output in Large Systems," *Proceedings of IEEE Power & Energy Society General Meeting*, Minneapolis, MN, Jul. 2010.

H. Louie, "Evaluation of Probabilistic Models of Wind Plant Power Output Characteristics," *Proceedings of Probabilistic Methods Applied to Power Systems*, Singapore, Jun. 2010.

H. Louie and S. Parker and R. Christie, "Estimating Aggregate Wind Plant Capacity from Historical Time Series Data," *Proceedings of the 41st North American Power Symposium*, Starkville, MS, Oct. 2009.

H. Louie and K. Anderson, "Economic analysis of power generation forecast utilization by merchant wind plants," *Proceedings of the 40th North American Power Symposium*, Calgary, AB, Canada, Sept. 2008.

H. Louie and K. Strunz, "Energy market-integrative wind plant modeling for wind plant integration economic analysis," *Proceedings of IEEE Power Engineering Society General Meeting*, Pittsburgh, PA, Jul. 2008.

H. Louie and K. Strunz, "Locational marginal pricing in North American power systems," *Proceedings of VDE Netzregelung und Systemführung*, München, Germany, Mar. 2008.

H. Louie and K. Strunz, "Integration of capital costs and operating profits into distributed hydrogen-electric power system design," *Proceedings of the 38th North American Power Symposium*, Carbondale, IL, Sept. 2006.

H. Louie, et al., "Integrated hydrogen production and fueling for the marine transportation sector," *Proceedings of the Annual Hydrogen Conference*, Long Beach, CA, Mar., 2006.

H. Louie and K. Strunz, "Market-based power flow control with reduced wide-area impact," *Proceedings of the CIGRE/IEEE PES Symposium on Congestion Management in a Market Environment*, San Antonio, TX, Oct. 2005.

Peer-Reviewed Pedagogical & Professional Conference Publications

H. Louie, S. Szablya and A. Miguel "A Sustainable Student Design of an Energy Kiosk for Rural Kenya," *Proceedings of the ASEE Conference and Exhibition*, Seattle, WA, Jun. 2015.

H. Louie and A. Srivastava "Resources for Pre-University Power Engineering Outreach," *Proceedings of the IEEE Power & Energy Society General Meeting*, Detroit, MI, Jul. 2011.

H. Louie, M. Burns and C. Lima "An Introduction and User's Guide to the IEEE Smart Grid Web Portal," *Proceedings of the Innovative Smart Grid Technologies Europe*, Gothenburg, Sweden, Oct. 2010.

H. Louie, "Using Audience Response Systems to Enrich Engineering Education", *Proceedings of the ASEE Conference and Exhibition*, Louisville, KY, Jun. 2010.

Student Publications

N. Ng (student), "Markov Modeling of Electric Vehicle Charging," *National Conference on Undergraduate Research*, Spokane, WA, Apr. 2015.

P. Berg (student), "Can Wind Power be used to Provide Sustainable Energy to Electric Vehicles?," *National Conference on Undergraduate Research*, Lexington, KY, Apr. 2014.

N. Ng (student), "Parametric Modeling of Electric Vehicle Charging Profiles," *National Conference on Undergraduate Research*, Lexington, KY, Apr. 2014.

D. Nausner (student), "Harmonic Distortion in Improvised Power Systems," *National Conference on Undergraduate Research*, La Crosse, WI, Apr. 2013.

J. McIntosh (student), "Using Smart Grid Technology to Promote Energy Efficiency and Conservation in Student Housing," *National Conference on Undergraduate Research*, Ithaca, NY, Mar. 2011.

J. Motioke (student), "Assessment of Rooftop Wind Resource for Renewable Power Generation," *National Conference on Undergraduate Research*, Missoula, MT, Apr. 2010.

Invited Talks

Technical Talks

"Energy," Masters of Development Practice Program Lecture, Regis University, Denver, CO., Sept. 2016

"Rural Microgrids and the Zambian Energy Crisis," IEEE Distinguished Lecture, Univ. of Cape Town, S. Africa, Mar. 2016

"Rural Microgrids and the Zambian Energy Crisis," IEEE Distinguished Lecture, Stellenbosch, S. Africa, Mar. 2016

"Life without Electricity and the Role of Microgrids in Energy Poverty," IEEE Distinguished Lecture, Stockholm, Sweden, Jan. 2016

"Power to the People: Engineering Education and Energy Poverty Alleviation," *ASEE Annual Conference*, Distinguished Lecture, Seattle, WA, Jun. 2015

"Lighting Up a Village: How Social Enterprises and Technology Can Change Lives," *Bethel College Spring Convocation*, Keynote, Wichita, KS, Mar. 2015

"Re-envisioning Electricity Service in Sub-Saharan Africa," *IEEE-IEEMA Intelect Conference and Exhibition*, Invited Speaker, Mumbai, India, Jan. 2015

"Lighting Up a Village," *IEEE PES Chapter Meeting*, Distinguished Lecturer, Redmond, WA, Nov. 2014

"Sustainable Microgrids in Less Economically Developed Communities," *IEEE PES General Meeting*, Panelist, Washington, D.C., Jul. 2014

"Community Microgrids: A New Hope for the Energy Impoverished," *Renewable Energy Research Conference*, Oslo, Norway, Jun. 2014.

"Energy, Engineering and Social Justice," *IEEE PES Chapter Meeting*, Lincoln, NE, Sept. 2013.

"Electricity Past and Future: The U.S. Experience," Keynote, *Electricity Engineers' Association Conference* Auckland, New Zealand, Jun. 2013.

"Energy, Engineering and Social Justice," Seminar, University of Auckland, Auckland, New Zealand, Jun. 2013.

"Energy, Engineering and Social Justice," Transpower, Wellington, New Zealand, Jun. 2013.

"Energy, Engineering and Social Justice," Seminar, University of Canterbury, Christchurch, New Zealand, Jun. 2013.

"Energy Poverty," *IEEE PES Women in Power*, Webinar, Jun. 2013.

"Electrification and Sustainable Design," Guest Lecture, ENGR380: Sustainable Design, University of Washington, Seattle, WA, Jun. 2013.

"Power to the People," *IEEE PES Chapter Meeting*, Lehigh University, Bethlehem, PA, Jan. 2013.

"Power to the People: The Role of Power Engineers in Energy Poverty Alleviation," *IEEE PES Seattle Chapter Meeting*, Alstom Grid, Redmond, WA, Oct. 2012.

"Energy Storage Opportunities and Challenges in Improvised Rural Micro Grids," *Panel Session*, Great Lakes Symposium, Chicago, IL, Sept. 2012.

"Recent Field Experiences in Zambia," *Tutorial Session*, Power Africa, Johannesburg, South Africa, Jul. 2012.

"Affordable Energy Solutions for Developing Communities," *Tutorial Session*, IEEE Global Humanitarian Technology Conference, Seattle, WA, Oct. 2011.

"Reliable Electricity in Haiti," *Panel Session on IEEE Humanitarian Technology Challenge Projects*, IEEE Global Humanitarian Technology Conference, Seattle, WA, Oct. 2011.

"Technologically Appropriate Wind Turbines for Zambia: A Sustainable Pathway for Rural Electrification," *Department Seminar*, Washington State University, Pullman, WA, Sept. 2011.

"Wind Turbine Generators for Energy Poverty Alleviation in Rural Communities," *Seminar*, Kettering University, Flint, MI, Jul. 2011.

"Field Experiences in Wind Turbines for Energy Poverty Alleviation," *Special Technical Session on Eliminating Global Energy Poverty*, IEEE PES General Meeting, Detroit, MI, Jul. 2011.

"A Brief Introduction to Renewable Energy and the Smart Grid," *Power Exchange Session*, Seattle City Light, Seattle, WA, Jul. 2011.

"The Smart Grid: Applications, Technologies and Standards", *IEEE New Technologies Conference*, The Boeing Company, Renton, WA, Aug. 2010.

"Wind Turbine Fundamentals," *Engineers Without Borders, Puget Sound Professionals Meeting*, Seattle, WA, Aug. 2010.

"Open Source Wind Turbine Design," *IEEE PES General Meeting, Community Solutions Initiative*, Minneapolis, MN, Jul. 2010.

"The Effects of Geographic Diversity on Wind Plant Integration," *3TIER Inc., Technical Seminar*, Seattle, WA, Jan. 2010.

"Statistical Analysis of the Effects of Geographic Diversity on Wind Plant Integration," *University of Washington Energy and Environment Seminar*, Seattle, WA, Nov. 2009.

"The World of Renewable Energy," *North Seattle Community College Earth Day Program*, Seattle, WA, Feb. 2009.

"Fundamentals and Future of Wind Energy," *IEEE Seattle Section GOLD Event*, Seattle, WA, Nov. 2008.

Service Talks

"From Lab to Market," *Fulbright Seminar*, Moderator, Seattle, WA, Jun. 2014.

"Educational Goals, Approach and Benefits of the Seattle University Base of the Pyramid Community Outreach Program," *IEEE PES General Meeting, Community Solutions Initiative Workshop*, Vancouver, BC, Canada, Jul. 2013.

"Career Paths in Energy Engineering," *Energy Workforce Workshop*, Panelist, Seattle, WA, Jun. 2013.

"Engineering Future Cities," *Washington State Future Cities Competition*, Keynote Speaker, Seattle, WA, Jan. 2011.

"Engineering a Difference: Seattle University Service Work in Zambia," *IEEE Seattle Section Fall Banquet*, Keynote Speaker, Seattle, WA, Oct. 2009.

"Engineering a Just and Humane World," *Seattle University Open House Workshop*, Seattle, WA, Apr. 2010.

"Humanitarian Engineering," *IEEE GOLD Humanitarian Seminar*, Seattle, WA, Feb. 2010.

"Humanitarian Engineering," *Joint IEEE/Engineers Without Borders Meeting*, Seattle Pacific University, Seattle, WA, Jan. 2010.

Professional Development Talks

"Opportunities for Students in Professional Associations," *WCERTE*, Moses Lake, WA, Apr. 2013.

"The Past, Present and Future of the Power & Energy Society," *Keynote, Innovative Smart Grid Technologies Middle East*, Jeddah, Saudi Arabia, Dec. 2011.

"Making the Most of your PES Membership," *Student Program, Innovative Smart Grid Technologies Europe*, Gothenburg, Sweden, Oct. 2010.

"Navigating your way through the PES," *IEEE General Meeting GOLD Reception*, Calgary, AB, Canada, Jul. 2009.

"Making it Relevant: Leveraging Public Interest in Renewable Energy to Promote Power Engineering Education," *UWIG/NREL Industry-University Workshop on Power Engineering Needs for the Wind Industry*, Broomfield, CO, May 2008.

"Doing More Than Talking About the Weather: What Power Engineers Need to Know About Renewable Energy," *UWIG/NREL Industry-University Workshop on Power Engineering Needs for the Wind Industry*, Broomfield, CO, May 2008.

Service

University and College Committees

Science & Engineering Rank and Tenure Comm.	2014-2015
President's Committee for Sustainability	2011-2014
Science & Engineering Master of Eng. in Systems Engineering Comm.	2013-2015
Science & Engineering Awards Comm.	2013
Science & Engineering Project Center Hiring Comm.	2012
Science & Engineering Science Fair Expo Comm.	2012-2013
Science & Engineering Faculty Development Comm.	2010-2011
Science & Engineering Grad. Research Fellowship Comm.	2010-2011, 2013-2014

Professional Association Administrative Positions

IEEE PES PowerAfrica Conference, Tech. Program Co-Chair	2015-2016
IEEE Power & Energy Society (PES) VP of Membership & Image	2011-2015
IEEE Smart Village Steering Committee, Member	2015-Present
Energy Workforce Workshop, Co-Chair	2013
IEEE Global Humanitarian Technology Conference, Tech. Program Co-Chair	2012
IEEE Power & Energy Society (PES) Governing Board, Member-At-Large	2010
IEEE PES Liaison to Industry Applications Society	2012
IEEE PES Seattle Chapter, Chair	2010-2012

IEEE PES Seattle Chapter, Past Chair 2012-2014
IEEE PES Seattle Chapter, Award Chair 2012-2014
IEEE PES Scholarship Plus Initiative Steering Committee, Member 2010-2014
IEEE PES Long-Range Planning Committee, Member 2010-Present
IEEE PES Nominations & Appointment Committee, Member 2010-2012
IEEE Smart Grid Steering Committee, Member 2009-2010
IEEE PES Student Meetings Subcommittee, Secretary-Elect 2009-2010
IEEE PES Education Committee, Member 2008-Present
IEEE PES Website Development Committee, Chair 2008-2009

Professional Association Technical Positions

IEEE PES Working Group on Sustainable Energy Systems for Developing Communities, Secretary 2009-Present
Community Solutions Initiative 2009-2014
Wind Turbine Taskforce, Co-Chair

Civic Positions

Seattle City Light Integrated Resource Planning Board, Member 2009-Present

Reviewer Activities

IEEE Transactions on Power Systems (Journal)
IEEE Transactions on Power Delivery (Journal)
IEEE Transactions on Sustainable Energy (Journal)
IEEE Transactions on Smart Grid (Journal)
IEEE Transactions on Power Electronics (Journal)
Applied Energy (Journal)
Wind Energy (Journal)
International Transactions on Electrical Energy Systems (Journal)
Electric Power Systems Research (Journal)
Electric Power Components and Systems Journal (Journal)
IEEE PowerAfrica (Conference)
IEEE Global Humanitarian Technology Conference (Conference)
IEEE Power & Energy Society (Various Conferences)
American Society of Engineering Education (Various Conferences)
Southern African Universities Power Engineering Conference
National Science Foundation PCAN (Grant Proposals)
World Book Encyclopedia (Articles)

Professional Association Memberships

Institute of Electrical and Electronic Engineers (IEEE) 2002-Present
IEEE Power & Energy Society (PES) 2002-Present
American Society of Engineering Education (ASEE) 2007-Present
Engineering Institute of Zambia (EIZ) 2016-Present
Engineers Without Borders (EWB) 2010-2014

Professional Development Activities

Grant Development Workshop (University of Washington, 2013)
Active Learning (Seattle University, 2012)
Stepping Into the VOID: Active Learning (Seattle University, 2012)

Writing, Procrastination, and Resistance (Seattle University, 2011)
Universal Design for Learning (Seattle University, 2011)
Lab-Volt Training Seminar (North Seattle Community College, 2010)
American Society of Engineering Education Conference and Exposition (Louisville, KY, 2010)
Effective Academic Advising Workshop (Seattle University, 2010)
Office of Naval Research Reforming Electric Energy Undergraduate Curricula (Tucson, AZ, 2010)
Ignatian Pedagogy Workshop (Seattle University, 2009)
Future Gazing on Sustainability Workshop (Seattle University, 2009)
Advising for the Core Workshop (Seattle University, 2009)