

Chien-fei Chen, Ph.D.

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Updated February, 2018

Current Position

Director of Education and Diversity Program

Research Assistant Professor

NSF-DOE Engineering Research Center, Center for Ultra-wide-area Resilient Electrical Energy Transmission Networks (CURENT), University of Tennessee, Knoxville, UTK

Adjunct Research Assistant Professor

Department of Sociology, UTK

Education

- Ph.D. Sociology, Washington State University, 2009
Dissertation: *“Mechanism, Transmission and Enforcement of Social Norms: A Study of College Students’ Drinking Behavior”*
- M.A. Mass Communication, Washington State University, 1994
Thesis: *“The Impact of American Media and Interpersonal Communication on the Acculturation Process of Taiwanese Immigrants in the United States”*
- B.A. Foreign Language and Literature (English and Japanese), 1992
National Cheng Kung University, Taiwan

Previous Academic Appointments

- 2009-2010 Research Scientist, Dept. of Electrical Engineering & Computer Science, Virginia Tech
- 2008-2009 Lecturer, Dept. of Communication Studies, UTK
- 2002-2003 Lab Manager, Lab for the Study of Cognitive, Emotion and Communication, WSU

Media and Public Relations Industry Experiences

- 1998 - 2001 Producer and Program Planner, Public Television Service (PTS), Taiwan
- 1998 News Writer & Program Planner, SET Television Station, Taipei, Taiwan
- 1997-1998 Campaign Manager, Vision Communication Public Relation Company, Taipei, Taiwan
- 1997 Writer & Producer, Chinese Television Station, Taipei, Taiwan
Production Assistant (internship), KCTS-Seattle Public Television, WA
- 1996-1997 Producer and Director, Seattle Chinese Television Station, WA
- 1995 Associate Producer (internship), KSPS - Spokane Public Station, WA

Research Focus

Environmental Sociology, Energy Poverty, Interdisciplinary Research of Social Science and Energy Behaviors, Survey Design and Engineering Education

Journal Articles under Review

1. **Chen, C.F.**, Xu, X., Duncan, T., Islam, F., Adams, J., & Gilooly, V. (under review). Social order, environmental impacts, and crisis communication: Mining tweets for analysis of hurricane disaster response. *Annual Meeting of American Sociological Association*, 2018.
2. Arpan, L., Xu, X., Raney, A.A., **Chen, C.-F.**, & Wang, Z. (under review). Can this issue be reframed? Using moral foundations theory to frame messages promoting residential renewable energy programs among U.S. liberals and conservatives. *Energy Research and Social Science*.
3. **Chen, C.F.**, Tan, R., Lundell, B., Bodga, N., Islam, F., & Vera, N. (under review). Twitter data mining of power outages caused by Hurricane Irma in the U.S. *IEEE Power and Energy Society (PES) General Meeting*, 2018.

Book Chapters

1. **Chen, C.-F.**, Schweiker, M. & Day, J. K. (2018). Ethics and privacy. In Andreas Wagner, William O'Brien and Bing Dong (eds.) *Exploring occupant behavior in building: Methods and challenge* (pp. 287-306). New York, NY: Springer Nature.
2. Christine Horne, **C.-F. Chen**, Justin Berg, & Katie Evermann-Druffel. (2009). Metanorm expectations: Determining what to sanction. In Shane R. Thye, Edward J. Lawler (eds.) *Altruism and prosocial behavior in groups (Advances in group processes, Volume 26)* (pp.199 – 223). Wales, UK: Emerald Group Publishing Limited.

Journal Publications

1. Xu, X., **Chen, C.F.**, Zhu, X., & Hu, Q. (2019). Promoting acceptance of direct load control programs in the United States: Financial incentive versus control option. *Energy*, 147, 1278-1287.
2. Asadinejad, A., Rahimpour, A., Tomsovic, K., Qi, H., & **Chen, C.-F.** (2018). Evaluation of residential customer elasticity for incentive based demand response programs. *Electric Power Systems Research*, 158, 26-36.
3. Talele, S., Traylor, C., Arpan, L., Curley, C., **Chen, C.-F.**, Day, J., Feiock, R., Hadzikadic, M., Ingman, S., Karaguzel, O.T., Lam, K.P., Menassa, C., Pevnitskaya, S., Spiegelhalter, T., Tolone, W.J., Yan, W., Yeatts, D., Zhu, Y., & Tao, Y. (2018). Energy modeling and data structure framework for sustainable human-building ecosystems (SHBE): A review. *Frontiers in Energy*, p1-19. <https://doi.org/10.1007/s11708-017-0530>.

4. D'Oca, S., **Chen, C.-F.**, Hong, T., & Belafi, Z. (2017). Synthesizing building physics with social psychology: An interdisciplinary framework for context and occupant behavior in office buildings. *Energy Research and Social Science*, 34, 240-251.
5. Cui, Y., Yan, D., & **Chen, C.-F.** (2017). Exploring the factors and motivations influencing heating behavioral patterns and future energy use intentions in the hot summer and cold winter climate zone of China. *Energy and Buildings*, 153, 99-110.
<http://dx.doi.org/10.1016/j.enbuild.2017.07.068>
6. Yeatts, D. E., Auden, D., Cooksey, C., & **Chen, C.-F.** (2017). A systematic review of strategies for overcoming the barriers to energy-efficient technologies in buildings. *Energy Research and Social Science*, 32, 76-85. <http://dx.doi.org/10.1016/j.erss.2017.03.010>
7. Xu, X., Maki, A., **Chen, C.-F.** Dong, B., & Day, J. (2017). Investigating willingness to save energy and communication about energy use in the American workplace with the attitude-behavior-context model. *Energy Research and Social Science*, 32, 13-22.
<http://dx.doi.org/10.1016/j.erss.2017.02.011>
8. **Chen, C.-F.**, Xu, X., & Day, J. (2017). Thermal comfort or money saving? Exploring intentions to conserve energy among low-income households in the United States. *Energy Research and Social Science*, 26, 61-71. <http://dx.doi.org/10.1016/j.erss.2017.01.009>
9. **Chen, C.-F.**, Xu, X., & Arpan, L. (2017). Between the technology acceptance model and sustainable energy technology acceptance model: Investigating smart meter acceptance in the United States. *Energy Research and Social Science*, 25, 93-104.
<http://dx.doi.org/10.1016/j.erss.2016.12.011>
10. Hong, T., Yan, D., D'Oca, S., & **Chen, C.-F.** (2016). Ten questions concerning occupant behavior in buildings: The big picture. *Building and Environment*, 114, 518-530.
<http://dx.doi.org/10.1016/j.buildenv.2016.12.006>
11. **Chen, C.-F.** Xu, X. & Frey, R. S. (2016). Who wants solar water heaters and alternative fuel vehicles? Assessing social-psychological predictors of adoption intention and policy support in China. *Energy Research and Social Science*, 15, 1-11.
<http://dx.doi.org/10.1016/j.erss.2016.02.006>
12. Xu, X., Arpan, L., & **Chen, C.-F.** (2015). The moderating role of individual differences in responses to benefit and temporal framing of messages promoting residential energy saving. *Journal of Environmental Psychology*, 44, 95-108.
<http://dx.doi.org/10.1016/j.jenvp.2015.09.004>
13. **Chen, C.-F.** & Knight, K. (2014). Energy at work: Social psychological factors affecting energy conservation intentions within Chinese electric power companies. *Energy Research and Social Science*, 4, 23-31. <http://dx.doi.org/10.1016/j.erss.2014.08.004>

14. Hu, Q., Li, F., & **Chen, C.-F.** (2014). A smart home test bed for undergraduate education to bridge the curriculum gap from traditional power systems to modernized smart grids. *IEEE Transactions on Education*, 58(1), 32-38. doi: 10.1109/TE.2014.2321529
15. **Chen, C.-F.**, Tomsovic, K., & Aydeniz, M. (2014). Filling the pipeline: Power system curricula for middle school and high school students. *IEEE Transactions on Power Systems*, 29(24), 1874-1879. doi: [10.1109/TPWRS.2013.2293752](https://doi.org/10.1109/TPWRS.2013.2293752)
16. Li, H., Song, J. B., **Chen, C.-F.**, Lai, L., & Qiu, R. (2014). Behavior propagation in cognitive radio networks: A social network approach. *IEEE Transactions on Wireless Communications*, 13(2), 646-657. doi: [10.1109/TW.2013.121813.121964](https://doi.org/10.1109/TW.2013.121813.121964)
17. Worcester, A. C., Hickox, V. M., Klimaszewski, J. G., Wilches-Bernal, F., Chow, J. H., & **Chen, C.-F.** (2013). The sky's the limit: Designing wind farms: A hands-on STEM activity for high school students. *IEEE Power & Energy Magazine*, 11(1) 18-29. doi: [10.1109/MPE.2012.2225213](https://doi.org/10.1109/MPE.2012.2225213)
18. Tang, L., & **Chen, C.-F.** (2013). Effectiveness of health messages to change women's thin-ideal and unhealthy weight control intentions: Connecting social norms and social networks approaches. *Asian Journal of Communication*, 23(5), 519-537. <http://dx.doi.org/10.1080/01292986.2012.756045>
19. Horne, C., **Chen, C.-F.**, Berg, J., & Evermann-Druffel, K. (2009). Metanorm expectations: Determining what to sanction. *Advances in Group Processes*, 26, 199-223. doi: 10.1108/S0882-6145(2009)0000026011
20. Pinkleton, B., Reagan, J., Aaronson, D., & **Chen, C.-F.** (1997). The role of individual motivations in information source use and knowledge concerning divergent topics. *Communication Research Reports*, 14(3), 291-301. <http://dx.doi.org/10.1080/08824099709388672>
21. Reagan, J., Pinkleton, B., **Chen, C.-F.**, & Aaronson, D. (1995). How do technologies relate to the repertoire of information sources? *Telematics & Informatics*, 12(1), 21-27. [http://dx.doi.org/10.1016/0736-5853\(94\)00035-R](http://dx.doi.org/10.1016/0736-5853(94)00035-R)

Conference Publication and Presentation

1. Xu, X., **Chen, C.F.**, Washizu, A., Ishii, H., & Yashiro, H. (2018, August). Willingness to pay for home energy management system: A cross-country comparison. *IEEE Power and Energy Society (PES) General Meeting, Portland, OR*.
2. **Chen, C. F.** (2017, December). The social-psychological factors affecting willingness to adopt smart meters and smart home energy management system in the United States. *World Congress on Sustainable Technologies (WCST)*, University of Cambridge, UK.

3. **Chen, C. F.** (2017, December). Promoting voluntary peak demand response behaviors in the United States: A special examination across income groups," *World Congress on Sustainable Technologies* (WCST), University of Cambridge, UK.
4. **Chen, C. F.** & Xu, X. (2017, July). Do poor people think differently from rich people? Investigating public acceptance of electricity demand response behaviors across income levels in the United States. *NSF RCN: Energy Impacts Symposium for Fostering Cross disciplinary Research on Energy Development*, Columbus, Ohio.
5. **Chen, C.-F.** (2017, June). An interdisciplinary framework and survey for investigating cross-country occupant behavior in buildings: Social-psychological analysis of demand response and smart home management system. *The Annual American Society of Heating and Air-Conditioning Engineers (ASHRAE) Summer Conference*, Long Beach, CA.
6. **Chen, C.-F.**, Xu, X., Arpan, L., & Loveday, A. (2017, August). Fuel poverty: The role of social-psychological factors affecting low-income households' acceptance to demand response. *The Annual Meeting of American Sociological Association (ASA)*, Montreal, Canada.
7. **Chen, C.-F.**, Arpan L., & Xu, X. (2017, April). Predicting consumer interest in electricity demand response programs in the United States: A social-psychological approach. *The first International Conference on Energy Research & Social Science*, Melia Sitges, Spain.
8. Roetzel, A. & **Chen, C.-F.** (2016, December). Understanding qualitative and quantitative influences on occupant behavior in offices. *The International Conference of the Architectural Science Association*, Adelaide. Australia.
9. Asadinejad, A., Tomsovic, K., **Chen, C. F** (2017, September). Sensitivity of incentive based demand response program to residential customer elasticity. *IEEE North American Power Symposium* (NAPS), Denver, Co.
10. Asadinejad, A., Varzaneh, M. G., Tomsovic, K., **Chen, C. F.**, & Sawhney, R. (2016, July). Residential customers elasticity estimation and clustering based on their contribution at incentive based demand response. *IEEE Power and Energy Society (PES) General Meeting*, Boston, MA.
11. **Chen, C.-F.** (2016, January). Beyond technology: Improving occupants' energy efficiency behaviors through social-psychological analysis. *The Annual American Society of Heating and Air-Conditioning Engineers (ASHRAE)*, Winter Conference, Orlando, FL.
12. **Chen, C.-F.** & Xu, X. (2015, August). Exploring social psychological factors and barriers affecting low-income residents' intentions to reduce energy use. *The Annual Meeting of American Sociological Association (ASA)*, Chicago, IL.
13. Hu, Q., Fang, X., Li, F., Xu, X., **Chen, C. F.**, & Hu, H. (2015, July). An approach to assess

the responsive residential demand to financial incentives (pp. 1-5). *2015 IEEE Power & Energy Society General Meeting*, Denver, CO.

14. Xu, X. & **Chen, C.-F.** (2014, December). Investigating residents' responses to financial incentives and related customer segmentation for promoting demand responses. *The Annual Meeting of Behavior, Energy and Climate Change (BECC)*, Washington, D.C.
15. **Chen, C.-F.**, Xu, X., Zhao, W., & Sun, J. (2014, August). Privacy concern, energy concern, or money consciousness? Examination of factors influencing residents' smart meter acceptance. *The Annual Meeting of American Sociological Association (ASA)*, San Francisco, CA.
16. Foy, J., **Chen, C.-F.** & Wills, E. (2014, June). Integrating assembly language programming into high school STEM education. *The 121st American Society of Engineering Education Annual Meeting (ASEE)*, Indianapolis, IN.
17. **Chen, C.-F.** & Xu, X. (2013, November). Do the right thing or stay comfortable? Exploring social-psychological factors affecting electricity saving among employees in Chinese electric power companies. *The Annual Meeting of BECC*, Sacramento, CA.
18. Xu, X., & **Chen, C.-F.** (2013, November). Saving energy for different reasons: Exploring the social-psychological drivers for electricity curtailment and recycling behaviors. *The Annual Meeting of BECC*, Sacramento, CA.
19. Xu, X., **Chen, C. F.**, Gao, W., & Li, H. (2013, August). Beyond classical economics: Exploring the impact of social-psychological factors on preference for speed over price and willingness to pay for a faster wireless service plan (pp. 55-60). *The 2013 IEEE/CIC International Conference on Communications in China (ICCC)*, Xi'an, China.
20. **Chen, C.-F.** & Shelton, J. (2013, August). Exploring social-psychological factors of affecting electricity use and support of renewable energy policy. *The Annual Meeting of American Sociological Association (ASA)*, New York, NY.
21. **Chen, C.-F.**, Li, Y., & Banerjee, D. (2012, August). Exploring social-psychological factors related to energy conservation behavior among Chinese employees. *The Annual Meeting of American Sociological Association (ASA)*, Denver, CO.
22. Mar, H., **Chen, C.-F.**, & Li, H. (2012, July). Bayesian network structure learning for analyzing the impact of social networks on adolescent heavy drinking. *The Add Health Users Conference*, NIH Campus, Bethesda, MD.
23. **Chen, C.-F.** & Shen, X. (2012, May). Do fear-appeal media messages work in China? Effects of law enforcement, perceived consequences, and injunctive norms on drinking- and driving behavior among Chinese students. *The Annual Meeting of International Communication Association (ICA)*, Denver, CO.

24. **Chen, C.-F.** & Shen, X. (2011, October). Social and psychological factors of drinking and driving among Chinese college students. *The Proceedings of International Conference on Public Administration*, Dongsan City, China.
25. **Chen, C.-F.**, Li, H., & Mar, H. (2011, August). Explaining mechanisms of norms and networks on heavy drinking and alcohol consequences among youth. *The Annual Meeting of American Sociological Association (ASA)*, Las Vegas, NV.
26. Chen, L., Markham, P., **Chen, C. F.**, & Liu, Y. (2011, July). Analysis of societal event impacts on the power system frequency using FNET measurements (pp. 1-8). *2011 IEEE Power and Energy Society General Meeting*, Detroit, MI.
27. Li, H., **Chen, C. F.**, & Lai, L. (2011, June). Propagation of spectrum preference in cognitive radio networks: A social network approach (pp. 1-5). *The 2011 IEEE International Conference on Communications (ICC)*, Kyoto, Japan.
28. **Chen, C.-F.** (2010, August). Norm transmission, interpersonal communication and drinking decision. *The Annual Meeting of American Sociological Association (ASA)*, Chicago, IL.
29. Tang, L. & **Chen, C.-F.** (2010, June). Connecting social norms and social networks: A study of unhealthy weight control intentions and internalization of thin ideal in China. *The Annual Meeting of International Communication Association (ICA)*, Singapore.
30. **Chen, C.-F.** & Tang, L. (2009, May). Social norms and sanctioning through social networks: A theoretical study of body image. *The Annual Meeting of International Communication Association (ICA)*, Chicago, IL.
31. **Chen, C.-F.**, Bolls, P., Bemker, V., Schmidt, N., and Harbor, A. (2004, May). The effects of audio-video redundancy and emotional valence on the allocation of attention to audio and visual processing. *The Annual Meeting of International Communication Association (ICA)*, New Orleans, LA.

Funding

1. Co-PI, “Collaborative Research: CRISP Type 2: Revolution through Evolution: A Controls Approach to Improve How Society Interacts with Electricity” (Lead PI at UTK), National Science Foundation (NSF), CNS 1541117 9/15/15-9/14/18 (\$2,499,801).
2. PI, Research Experience for Veterans Supplement Grant, NSF 08/1/2015-7/31/2018 (\$40,000).
3. Co-PI, “Collaborative Research: Design, Analysis and Implementation of Social Interactions in Cognitive Radio Networks,” (PI: Husheng Li), NSF CNS1247834, 10/01/2012-9/30/2015 (\$140,000).
4. Senior personnel for “Social-psychological Factors of Energy Saving, Public Acceptance of Smart Meter, Demand Response Programs and Renewable Energy Technology,” NSF EEC-1041877: “Center for Ultra-Wide-Area Resilient Electric Energy Transmission Networks (CURENT), 08/15/2011-08/15/2018 (\$360,000).

5. Director of pre-college, university and REU programs, NSF EEC-1041877: “*Center for Ultra-Wide-Area Resilient Electric Energy Transmission Networks (CURENT)*,” 08/15/2011-08/15/2018 (\$1,897,390.8).
6. PI, “Persuasive Power in Norms: Under What Conditions will Norms Work” Alcohol and Drug Abuse Research Program Pilot Grant (\$10,895), 2008-2009, WSU.
7. Gordon D. & Izola P. Morgan Graduate Fellowship, Sociology, WSU.

Teaching Experience

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| 2011-2017 | Co-instructor of Graduate Advance Research Seminar: Ultra-Wide-Area Resilient Electric Energy Transmission Networks, Department of Electrical Engineering and Computer Science, UTK (team taught across multi-disciplines among four campuses including Tuskegee, Northeastern University, Rensselaer Polytechnic Institute and UTK). |
| 2008 | Lecturer, Department of Communication Studies, UTK
Course: Health Communication Research and Health Campaign |
| 2007 | Teaching Assistant, Department of Sociology, WSU
Course: Introduction to Sociology |
| 2003-2005 | Teaching Assistant, Department of Sociology, WSU
Course: Introduction to Statistical Analysis |
| 2002-2003 | Teaching Assistant, Edward R. Murrow School of Communication, WSU
Course: Introduction to Communication Theory |

Invited Presentations

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| 2018 | Is Technology Enough: Social-psychological Analysis of Demand Response Behaviors and Home Management System. Lawrence Berkeley National Lab (January 5 th). |
| 2017 | <p>Social-psychological Analysis of Demand Response, Energy Behaviors and Smart Home Management System. Presented for NSF-National Natural Science Foundation of China’s International Workshop on Smart Cities, Human Behavior and Sustainable Development: Opportunities and Challenges for Infrastructure Development, Beijing (September 27-30th).</p> <p>Interdisciplinary Approach to Investigate Demand Response and Energy Behaviors: Integration of Social-psychology and Power Systems. Presented for Department of Electrical Engineering, Tsinghua University, China (June 5th); School of Economics and Management, North China Electric Power University (June 2nd).</p> <p>Social-Psychological Analysis of Demand Response and Energy Behaviors and Smart Home Management Systems in the U.S., Presented for Department of Civil Engineering, National Taiwan University (May 8th), and Department of Electrical Engineering, Sun Yat-Sen University, Taiwan (May 11th).</p> |

- Technology is not Enough: Social-Psychological Analysis of Demand Response and Energy Behaviors. Presented for School of Mechanical Engineering, Tongji University, China (May 17th); NARI School of Electrical and Automation Engineering, Nanjing Normal University, China (May 22nd); Department of Electrical Engineering, Zhejiang University, China (May 26th), and Department of Electrical Engineering at Xi'an Jiaotong University, China and Xi'an University of Technology (May 31st).
- 2016
- The Value of Social Psychology for Improving Building Modeling. Presented for NSF RCN-SEES: Predictive Modeling Network for Sustainable Human-Building Ecosystems (SHBE). Workshop Theme IV: Enhancing Interdisciplinary Education and Diversity in Education, Knoxville, TN (September 20th-October 1st).
- An International Occupant Behavior Survey Effort. Presented for the 4th Experts' Meeting in Working Phase of IEA EBC Annex 66 Meeting, Ottawa, Canada (August 3-5th).
- Social-Psychological Factors in the Interdisciplinary Research of Demand Response and Renewable Energy Technology. Presented for GEIRI North America (part of State Grid, China) (July 28th).
- Beyond Technology: Why Social-Psychological Factors are Important in the Interdisciplinary Research of Energy and Technology. Presented for ACROSS Research Center, Waseda University, Japan (April 25th), Department of Electrical Engineering at National Sun Yet Sen University, (May 3rd), Taiwan, Department of Electrical Engineering at SouthEast University, China (May 13th), and NARI, Nanjing, China (May 16th).
- The Importance of Environmental Sociology and Survey Methodology to Occupant Behavior Research. Department of Building Science, Tsinghua University, China (May 18th).
- Exploring the Relationship between Social-psychological Factors and Residential Demand Response Programs. Presented for the Center of iNnovation and Synergy for Intelligent Home and living Technology (INSIGHT), Taiwan University (May 5th).
- Integration of Social Psychological Factors and Group Dynamic Analysis of Occupant Behavior in Buildings. Presented for the 3rd Expert Meeting in Working Phase of EBC Annex 66 Meeting, Vienna, Austria (March 31st).
- 2015
- Social Psychological Approaches to Analyze Demand Response and Promote Energy Efficiency. Keynote speaker for the joint workshop of US NSF CURENT and Japan ACROSS on Distributed Energy Management System, Waseda University, Japan (December 10th).

- Social-psychological Analysis of Residential Energy Behaviors and Customer Segmentation. Presented to the Center of iNnovation and Synergy for Intelligent Home and living Technology (INSIGHT), Taiwan University (July 21st).
- Environmental Psychology and Improving Energy Efficiency through Social-Psychological Approaches. Presented to Department of Electrical Engineering and Computer Science and School of Architecture, Tsinghua University, Beijing (July 6th); and the Department of Mechanical Engineering and Environmental Science, Nanjing Normal University (July 7th), and the Department of Electrical Engineering, SouthEast University, Nanjing, China (July 8th).
- Beyond Technology: Enhancing Energy Efficiency through Social Psychological Approaches in Public Domain. Presented to the International Energy Agency (IEA), Energy in Buildings and Communities (EBC) Annex 66, Lawrence Berkeley National Laboratory (March 30th).
- 2014
- Social-psychological Approaches to Energy Saving. Presented to the NSF RCN-SEES: Predictive Modeling Network for Sustainable Human-Building Ecosystems (May 26th).
- NSF ERC University Education Programs. Panelist at the NSF Division of Engineering Education and Centers, Engineering Directorate, Engineering Education PI Awardees' Meeting (September 29-30th).
- 2013
- Social-psychological Factors Relating to the Acceptance of Smart Meters. Presented to Vanderbilt Institute for Energy & Environment, Vanderbilt University (October 30th).
- Collaborative Research: Design, Analysis and Implementation of Social Interactions in Cognitive Radio Networks. Presented to the NSF Enhancing Access to the Radio Spectrum (ERAS) Program Workshop (October 6th).
- Promoting Engineering Education to Women. Presented to Federal Bureau of Investigation (FBI), Knoxville (April 3rd).
- Approaches to University Education Diversity Programs. Presented to the NSF Engineering Research Center Annual Meeting (October 20th).
- 2010
- Social-psychological Factors and Energy Issues. Presented to the Department of Electrical Engineering, Southeast University, Nanjing, China (May 20th).

Services

- NSF RCN Workshop Chair for the “Enhancing Interdisciplinary Education and Diversity” for Predictive Modeling Network for Sustainable Human-building Ecosystems (SHBE) funded by NSF Research Coordination Network (RCN) in Science, Engineering and Education for Sustainability (SEES) program September 30th-October 1st, 2016
- Department Reviewer for the Institutional Review Board (IRB) since 2015
- Organizer of the summer REU STEM Symposium at UTK in 2015 and 2016
- Reviewer for NSF Science Technology Center Proposal Red Team at UTK in 2015
- Steering committee and lead for sustainability education program for NSF RCN-SEES: Predictive Modeling Network for Sustainable Human-Building Ecosystems (SHBE) since 2014
- Co-lead on social-psychological modeling task and international occupant behavior survey for the International Energy Agency (IEA), Energy in Buildings and Communities (EBC) Annex 66: Definition and Simulation of Occupant Behavior in Buildings from 2014-2017.
- Committee of the interdisciplinary research task of occupant behavior model for the American Society of Heating and Air-Conditioning Engineers (ASHRAE) since 2016
- NSF reverse site visit reviewer for the Partnership International Research and Education (PIRE) Program, 2014
- Invited panelist for NSF Panel of the Engineering Education Awardee’s Meeting: Testing Regimes and Engineering Formation in K-12 setting in 2014
- Co-moderator for the Education and Diversity Program Orientation, NSF Engineering Research Center Annual Meeting, November 14-16th, 2012
- Search committee for assistant professors from the Department of Teaching and Learning, UTK, 2012
- Led a group of undergraduate and graduate students from the department of EECS, UTK on research and academic exchange visit to Tsinghua, Southeast, and North Electric Power Universities and several utility companies in China in 2103 and 2017.
- Supervisor of CURENT student leadership council since 2011
- Responsible for various university and K-12 engineering education and diversity outreach, curriculum design, and proposal writing: including supervising research experience for undergraduate program (REU), designing engineering education assessment strategies, and professional trainings for graduate and undergraduate students; design and supervise middle school engineering programs, girl-only summer STEM program (*Adventure in STEM*), young scholar program (for high school students), K-8 Family Engineering Night, and STEM education curriculum development at local k-12 schools to encourage community’s broader involvement in STEM education, particularly in the areas schools with economic disadvantages. Total outreach participants were over 20,000 since 2012
- Promote diversity in the STEM fields for both universities and K-12 students, including encouraging women, minority, veterans, people with disabilities and lower-social economic background and so on since 2011

Advising Experiences

- Post-doctoral researcher, serving as a major adviser

Dr. Xiaojing Xu, research projects relating to demand response, energy behaviors, and public acceptance of renewable technology, “Social Impact of Power Grid Technology and Energy Conservation Behaviors.”

- M.S. and Ph.D. students serving as adviser for NSF-funded research projects for the departments of sociology and psychology, UTK
 1. Wenna Zhao. Energy saving behaviors and environmental impact (2012-2014)
 2. Summer Liu. Assessment for engineering education (2012-2014)
 3. Julie Shelton. Energy conservation behaviors, climate change and public acceptance of renewable energy technology (2013)
 4. Yifan Jiang. Public acceptance of communication and grid technology (2013)
- M.S. and Ph.D. students serving as committee member for the department of EECS, UTK
 1. Drew Maters (Spring 2017). Demand response, smart meter and energy behavioral analysis (Chair: Audris Mockus)
 2. Jiahui Guo. (July 2016). Data analytics and application developments based on synchrophasor, measurements (Chair: Yilu Liu)
 3. Jidong Chai. (June 2016). Wide-area measurement-based applications for power system monitoring and dynamic modeling (Chair: Yilu Liu)
 4. Yin Lei. (August 2015). Wide-Area synchrophasor measurement applications and power system dynamic modeling (Chair: Yilu Liu)
 5. Qinran Hu. (July 2015). Incentive based residential load aggression (Chair: Fran Li).
 6. Lingwei Zhan. (June 2014). Accuracy and stability improvement of synchrophasor measurements (Chair: Yilu Liu)
- Undergraduate students in social science fields, serving as adviser:
 1. Nesto Rivas (Psychology): Reducing poverty using solar panel in rural areas of China (Jan. 2018- present)
 2. Victoria Gilooly (Psychology): Social-psychological analysis of disasters, power grid infrastructure and social inequality issues (November 2017-present)
 3. Taylor Duncan (Psychology): Social-psychological factors affecting demand response and energy behavior among underserve communities (August 2017-present)
 4. James Brannon (Statistics): Public acceptance of smart home management system (May 2016-present)
 5. Jacqueline Adams (Psychology): Occupant behavior and energy saving in commercial building in multi-country context (Fall 2015- present)
 6. Alyssa Loveday (Psychology): Social-psychological factors affecting smart home management system and demand response, a cross-country comparison (August 2016-September 2017)
 7. Jackson Lanier (Sociology): Energy behaviors, public good and occupant behaviors in commercial buildings (Fall 2015-Fall 2016)
 8. Erica Davis (Sociology): Energy demand response and social psychological factors (Fall 2015-Summer 2016)
 9. Luke Waring (Sociology): Power transmission infrastructure and environmental impact at the community level (2013)
 10. Kayla Stover (Sociology): Survey methodology and energy saving behaviors (2012)

- Undergraduate students in engineering and computer science fields serving as adviser:
 1. Jeffery Dong (Computer Science): Integrating statistical modeling with simulation to investigate social psychological analysis of demand response behaviors (Fall 2017-present)
 2. Roy Tan and Brian Lundell and Natalie Bogda (Computer Science): Using Twitter to analyzing energy and disaster issues (Spring 2017-present)
 3. Faiza Islam (Industrial Engineering): Social-psychological factors and residential demand response programs (Fall 2016-present)
 4. James Bates (Electrical Engineering): Analysis of behavioral patterns using Residential Household Energy Consumption Data and American Time Use Survey (Fall 2016-present)
 5. Sean Indelicato (Electrical Engineering): Incentive based demand response (Spring –Fall, 2017)
 6. Taylor Woodward (Industrial Engineering) and Diane Garcia (Electrical Engineering): Public acceptance of smart home management system (Spring 2016-May 2017)
 7. Adam Foshie (Electrical Engineering): Data acquisition and analysis for residential probabilistic demand response modeling (May-August 2016)
 8. Candice Patton (Electrical Engineering): incentives and demand response programs (Fall 2013-Summer 2014)

Media Interview

1. University Researchers Study the Social-Psychological Side of Distribution Microgrids. Research featured by Microgrid Knowledge on November 15, 2015.
<http://microgridknowledge.com/university-researchers-study-the-social-psychological-side-of-distribution-microgrids/>.
2. Interviewed by Knoxville News-Sentinel regarding social-psychological factors and smart meter project in July, 2016.
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