

## **Chien-fei Chen, Ph.D.**

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### **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, 1995  
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)  
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, Environmental Psychology, Energy Poverty, Quantitative Research Methods, Interdisciplinary Research of Social Science and Energy Behaviors, and Engineering Education

### **Journal Articles under Review**

- [1] Xu, X., **Chen, C.F.**, Zhu, X., & Hu, Q. (revision and resubmission). Promoting acceptance of direct load control programs in the United States: Financial incentive versus control option. *Energy*.
- [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] Xu, X., **Chen, C.F.**, Washizu, A., Ishii, H., & Yashiro, H. (under review). Willingness to pay for home energy management system: A cross-country comparison. *IEEE Power and Energy Society (PES) General Meeting, 2018*.
- [4] **Chen, C.F.**, Roy Tan, Brian Lundell, Natalie Bodga, Faiza Islam, & Nadya Vera. (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.**, M. Schweiker, & J.K. Day. (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] Talele, S., Traylor, C., Arpan, L., Curely, D., **Chen, C.-F.**, et al, (in press). Energy modeling and data structure framework for sustainable human-building ecosystems (SHBE): A review. *Frontiers in Energy*.
- [2] 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.

- [3] 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. Retrieved from <http://dx.doi.org/10.1016/j.enbuild.2017.07.068>
- [4] 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. Retrieved from <http://dx.doi.org/10.1016/j.erss.2017.03.010>
- [5] 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. Retrieved from <http://dx.doi.org/10.1016/j.erss.2017.02.011>
- [6] **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. Retrieved from <http://dx.doi.org/10.1016/j.erss.2017.01.009>
- [7] **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. Retrieved from <http://dx.doi.org/10.1016/j.erss.2016.12.011>.
- [8] 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. Retrieved from <http://dx.doi.org/10.1016/j.buildenv.2016.12.006>.
- [9] **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. Retrieved from <http://dx.doi.org/10.1016/j.erss.2016.02.006>
- [10] 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. Retrieved from <http://dx.doi.org/10.1016/j.jenvp.2015.09.004>
- [11] **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. Retrieved from <http://dx.doi.org/10.1016/j.erss.2014.08.004>
- [12] 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.

- [13] **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)
- [14] 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)
- [15] 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)
- [16] 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. Retrieved from <http://dx.doi.org/10.1080/01292986.2012.756045>
- [17] 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](https://doi.org/10.1108/S0882-6145(2009)0000026011)
- [18] 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. Retrieved from <http://dx.doi.org/10.1080/08824099709388672>
- [19] 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. Retrieved from [http://dx.doi.org/10.1016/0736-5853\(94\)00035-R](http://dx.doi.org/10.1016/0736-5853(94)00035-R)

### **Conference Publications**

- [1] **Chen, C. F.** & Xu, X. (2017, July 26-27). 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.
- [2] **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.
- [3] **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.

- [4] **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 International Conference on Energy Research & Social Science*, Melia Sitges, Spain.
- [5] 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.
- [6] 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.
- [7] **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.
- [8] **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.
- [9] 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.
- [10] 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.
- [11] **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.
- [12] 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.
- [13] **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.
- [14] 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.*

- [15] 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.
- [16] **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.
- [17] **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.
- [18] 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.
- [19] **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.
- [20] **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.
- [21] **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.
- [22] 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.
- [23] 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.
- [24] **Chen, C.-F.** (2010, August). Norm transmission, interpersonal communication and drinking decision. *The Annual Meeting of American Sociological Association (ASA)*, Chicago, IL.
- [25] 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.

- [26] **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.
- [27] **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**

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).

PI, Research Experience for Veterans Supplement Grant, NSF 08/1/2015-7/31/2018 (\$40,000).

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).

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).

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).

PI, “Persuasive Power in Norms: Under What Conditions will Norms Work” Alcohol and Drug Abuse Research Program Pilot Grant (\$10,895), 2008-2009, WSU.

Gordon D. & Izola P. Morgan Graduate Fellowship, Sociology, WSU

### **Teaching Experience**

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**

2017

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 27-30<sup>th</sup>).

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 5<sup>th</sup>); School of Economics and Management, North China Electric Power University (June 2<sup>nd</sup>).

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 8<sup>th</sup>), and Department of Electrical Engineering, Sun Yat-Sen University, Taiwan (May 11<sup>th</sup>).

Technology is not Enough: Social-Psychological Analysis of Demand Response and Energy Behaviors. Presented for School of Mechanical Engineering, Tongji University, China (May 17<sup>th</sup>); NARI School of Electrical and Automation Engineering, Nanjing Normal University, China (May 22<sup>nd</sup>); Department of Electrical Engineering, Zhejiang University, China (May 26<sup>th</sup>), and Department of Electrical Engineering at Xi'an Jiaotong University, China and Xi'an University of Technology (May 31<sup>st</sup>).

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 20<sup>th</sup>-October 1<sup>st</sup>).

An International Occupant Behavior Survey Effort. Presented for the 4<sup>th</sup> Experts' Meeting in Working Phase of IEA EBC Annex 66 Meeting, Ottawa, Canada (August 3-5<sup>th</sup>).

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 28<sup>th</sup>).



- 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 25<sup>th</sup>), Department of Electrical Engineering at National Sun Yet Sen University, (May 3<sup>rd</sup>), Taiwan, Department of Electrical Engineering at SouthEast University, China (May 13<sup>th</sup>), and NARI, Nanjing, China (May 16<sup>th</sup>).
- The Importance of Environmental Sociology and Survey Methodology to Occupant Behavior Research. Department of Building Science, Tsinghua University, China (May 18<sup>th</sup>).
- 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 5<sup>th</sup>).
- Integration of Social Psychological Factors and Group Dynamic Analysis of Occupant Behavior in Buildings. Presented for the 3<sup>rd</sup> Expert Meeting in Working Phase of EBC Annex 66 Meeting, Vienna, Austria (March 31<sup>st</sup>).
- 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 10<sup>th</sup>).
- 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 21<sup>st</sup>).
- 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 6<sup>th</sup>); and the Department of Mechanical Engineering and Environmental Science, Nanjing Normal University (July 7<sup>th</sup>), and the Department of Electrical Engineering, SouthEast University, Nanjing, China (July 8<sup>th</sup>).
- 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 30<sup>th</sup>).
- 2014
- Social-psychological Approaches to Energy Saving. Presented to the NSF RCN-SEES: Predictive Modeling Network for Sustainable Human-Building Ecosystems (May 26<sup>th</sup>).

NSF ERC University Education Programs. Panelist at the NSF Division of Engineering Education and Centers, Engineering Directorate, Engineering Education PI Awardees' Meeting (September 29-30<sup>th</sup>).

2013

Social-psychological Factors Relating to the Acceptance of Smart Meters. Presented to Vanderbilt Institute for Energy & Environment, Vanderbilt University (October 30<sup>th</sup>).

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 6<sup>th</sup>).

Promoting Engineering Education to Women. Presented to Federal Bureau of Investigation (FBI), Knoxville (April 3<sup>rd</sup>).

Approaches to University Education Diversity Programs. Presented to the NSF Engineering Research Center Annual Meeting (October 20<sup>th</sup>).

2010

Social-psychological Factors and Energy Issues. Presented to the Department of Electrical Engineering, Southeast University, Nanjing, China (May 20<sup>th</sup>).

2009

Mechanism, Transmission and Enforcement of Social Norms in Health Decision-Making. Presented to the Department of Sociology, UTK (October 29<sup>th</sup>).

### 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 30<sup>th</sup>-October 1<sup>st</sup>, 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
- Lead of 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 since 2014
- Committee member 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 five 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
- 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 aggregation (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 for NSF-funded projects
    1. Victoria Gilooly (Psychology): Social-psychological and environmental analysis during disasters and among underserved communities.
    2. Taylor Duncan (Psychology): Social-psychological factors affecting demand response and energy behavior (August 2017-present)
    3. James Brannon (Statistics): Public acceptance of smart home management system (May 2016-present)
    4. Alyssa Loveday (Psychology): Social-psychological factors affecting smart home management system and demand response, a cross-country comparison (August 2016-present)
    5. Jacqueline Adams (Psychology): Occupant behavior and energy saving in commercial building in multi-country context (Fall 2015- present)
    6. Jackson Lanier (Sociology): Energy behaviors, public good and occupant behaviors in commercial buildings (Fall 2015-Fall 2016)
    7. Erica Davis (Sociology): Energy demand response and social psychological factors (Fall 2015-Summer 2016)
    8. Luke Waring (Sociology): Power transmission infrastructure and environmental impact at the community level (2013)
    9. Kayla Stover (Sociology): Survey methodology and energy saving behaviors (2012)
  - Undergraduate students in engineering fields serving as adviser for NSF-funded projects:
    1. Jeffery Dong (Computer Science): Integrating statistical modeling with simulation to investigate social psychological analysis of demand response behaviors (Fall 2017-present)
    2. Sean Indelicato (Electrical Engineering): Incentive based demand response (Spring 2017-present)
    3. James Bates (Electrical Engineering): Analysis of behavioral patterns using Residential Household Energy Consumption Data and American Time Use Survey (Fall 2016-present)
    4. Roy Tan and Brian Lundell (Electrical Engineering): Using Twitter to analyzing energy issues (Spring 2017-present)
    5. Faiza Islam (Industry Engineering): Social-psychological factors and residential demand response programs (Fall 2016-present)
    6. Adam Foshie (Electrical Engineering): Data acquisition and analysis for residential probabilistic demand response modeling (May-August 2016)
    7. Taylor Woodward (Industry Engineering) and Diane Garcia (Electrical Engineering): Public acceptance of smart home management system (Spring 2016-present)
    8. Candice Patton (Electrical Engineering): incentives and demand response programs (Fall 2013-Summer 2014)

### **Award**

Distinguished Service Award, the IEA-EBC-Annex 66, September 2017.

### **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.

3. Who Is More Likely to Conserve Energy? Social Psychology Could Lead to Increased Energy Efficiency. Interviewed and research featured by American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) Journal newsletter published on September, 16, 2017.

[https://contentsharing.net/actions/email\\_web\\_version.cfm?recipient\\_id=3218364118&message\\_id=14689399&user\\_id=ASHRAE&group\\_id=3963397&jobid=38608859](https://contentsharing.net/actions/email_web_version.cfm?recipient_id=3218364118&message_id=14689399&user_id=ASHRAE&group_id=3963397&jobid=38608859).

### **Editorial Board**

*Energy Research and Social Science* starting January, 2018.

### **Peer Reviewer**

*Association and International Communication Association*

*American Sociology Association*

*Business, Strategy and the Environment*

*Energy Research and Social Science*

*Energy Efficiency*

*Energy and Buildings*

*Energy and Environment*

*Journal of American Sociology Review*

*Journal of Planning Education and Research*

*National Communication*

*Renewable and Sustainable Energy Reviews*