JIN WEN
Professor, Ph. D
Department of Civil, Architectural, and Environmental Engineering
Drexel University
3141 Chestnut Street, Philadelphia, PA 19104
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PROFESSIONAL EXPERIENCE

- **Professor,** Department of Civil, Architectural, and Environmental Engineering, Drexel University, Philadelphia, Pennsylvania, September 2016 to present
- **Associate Professor,** Department of Civil, Architectural, and Environmental Engineering, Drexel University, Philadelphia, Pennsylvania, September 2010 to August 2016
- **Assistant Professor,** Department of Civil, Architectural, and Environmental Engineering, Drexel University, Philadelphia, Pennsylvania, September 2003 to September 2010
- **Research Assistant**, Iowa Energy Center Energy Resource Station, Ankeny, Iowa, September 2000 to August 2003
- **Research Assistant**, Department of Mechanical and Industrial Engineering, The University of Iowa, Iowa City, Iowa, August 1998 to August 2003
- **Engineer and Training Officer**, Johnson Controls (Beijing) Ltd., Beijing, China, July 1997 to May 1998

EDUCATION

- **Ph.D.**, Dept. of Mechanical and Industrial Engineering, The University of Iowa, 2003
- **M.S.**, Dept. of Flying Vehicles Design and Applied Mechanics, Beijing University of Aeronautics and Astronautics, 1997
- **B.S.**, Dept. of Flying Vehicles Design and Applied Mechanics, Beijing University of Aeronautics and Astronautics, 1995

RESEARCH INTERESTS

- Sustainable built environment
- Building energy efficiency, measurement and verification
- Building control, operation, and fault detection
- Alternative energy

RESEARCH ACTIVITIES

Dr. Wen is actively engaged in teaching and research in the architectural engineering disciplines. She is examining energy-efficient control and operation algorithms for buildings and exploring the opportunities to improve indoor air quality and building safety. She has been the primary investigator on various research and educational projects sponsored by the National Science Foundation, The Department of Energy, National Institute of Standards and Technology, American Society of Heating, Ventilating, and Air Conditioning Engineers (ASHRAE), and

others.

JOURNAL PUBLICATIONS

1. Wen, J. and Smith, T. F., "Absorption of Solar Energy in a Room," Solar Energy, Vol. 72, No. 4, pp. 283 - 297, 2002.
2. Wen, J. and Smith, T. F., "Development and Validation of Online Parameter Estimation for HVAC Systems," Journal of Solar Energy Engineering, Vol. 125, No. 3, pp. 324 - 330, 2003.
3. J. Gao, Y. Sun, J. Wen, and T. F. Smith, "An experimental study of energy consumption and thermal comfort for electric and hydronic reheats," Energy and Buildings, Vol. 37, No. 3, pp. 203 - 214, 2004.
4. Yu., X., Wen, J., and Smith, T. F., "A Model for the Dynamic Response of a Cooling Coil," Vol. 37, No. 12, pp. 1278 – 1289, Energy and Buildings, 2005.
5. Chebihi, A., Byun, K., Wen, J., and Smith, T. F., "Radiant Cooling of an Enclosure," Vol. 47, No. 3, pp. 229 – 252, Energy Conversion and Management, 2005.
6. Wen, J. and T. F. Smith, "Development and Validation of Online Models with Parameter Estimation for Building Zone with VAV System," Energy and Buildings, Vol. 39, Issue 1, pp. 13-22, 2007.
7. Chen, Y. and Wen, J., "Sensor System Design for Building Indoor Air Protection," Building and Environment, Vol. 43, pp. 1278-1285, 2008.
8. Commerford, E., Gurian, P. L., Wen, J., and Cook, S. R., “Design of a Site-Built Integrated Collector Storage Solar Water Heater Under Uncertainty,” The Open Renewable Energy Journal, Vol. 1, pp. 17-25, 2008.
9. Wen, J., W. Sun, and S. Dost, "Impact of Pressurization on Energy Consumption for Laboratories and Cleanrooms," ASHRAE Transactions, Vol. 115, Pt 1, pp. 496 - 506, 2009.
10. Chen, Y. and Wen, J., “Comparison Of Sensor Systems Designed Using Multizone, Zonal, And CFD Data For Protection Of Indoor Environments”, Building and Environment, Vol. 45, No. 4, pp. 1061-1071, 2010.
11. Li, S. and J. Wen, “Development and Validation of a Dynamic Air Handling Unit Model - Part I (RP 1312) ”, ASHRAE Transactions, Vol. 116, Pt. 1, pp. 45 - 56, 2010.
12. Li, S., J. Wen, X. Zhou, and C. J. Klaassen, “Development and Validation of a Dynamic Air Handling Unit Model - Part II (RP 1312) ”, ASHRAE Transactions, Vol. 116, Pt 1, pp. 57 - 73, 2010.
13. Ng, Y. L. C., and Wen, J., “Estimating Building Airflow Network using CO2 Measurements from a Distributed Sensor Network”, Invited Paper, HVAC&R Research, Vol. 17, Issue 3, pp. 344-365, 2011.
14. Langevin, J., Jin Wen & Patrick L. Gurian, “Relating occupant perceived control and thermal comfort: Statistical analysis on the ASHRAE RP-884 database”, Invited Paper, HVAC&R Research, Vol. 18:1-2, 179-194, 2012.
15. Ng, Y. L. C., and J. Wen, “Inverse estimation of indoor airflow patterns using singular value decomposition”, Applied Mathematical Modeling, Vol. 36, Issue 6, pp. 2627–2641, 2012.

16. Chen, Y. Lisa and Jin Wen, "The selection of the most appropriate airflow model for designing indoor air sensor systems." Building and Environment, Vol. 50, pp. 34–43, 2012.
17. Langevin, J., P. L. Gurian, and Jin Wen, Reducing energy consumption in low income public housing: Interviewing residents about energy behaviors", Applied Energy, Vol. 102, pp. 1358–1370, 2012.
18. Liu R, Wen J, Zhou X, and Klaassen C, "Stability and Accuracy of VAV Box Control at Low Flows Part 1 Laboratory Test Setup and VAV Sensor Test", HVAC&R Research, 20:1, 3-18, 2014.
19. Liu R, Wen J, Zhou X, Klaassen C, and Regnier A, "Stability and Accuracy of VAV Box Control at Low Flows Part 2: Controller Test, System Test, and Field Test", HVAC&R Research, 20:1, 19-35, 2014.
20. Langevin, J., J. Wen, and P. L. Gurian, "Modeling Thermal Comfort Holistically: Bayesian Estimation of Thermal Sensation, Acceptability, and Preference Distributions for Office Building Occupants", Building and Environment, 69: 202 – 226, 2013.
21. Li, S., and J. Wen, "A Model Based Fault Detection and Diagnostic Methodology based on PCA Method and Wavelet Transform", Vol 68, Part A, pp. 63 - 71, Energy & Buildings, 2014.
22. Liu, R., J. Wen, M. Waring, " Improving Airflow Measurement Accuracy in VAV Terminal Units using Flow Conditioners ", Building and Environment, 71: 81-94, 2014.
23. Xiao, F., Y. Zhao, J. Wen, and S. W. Wang, "Bayesian network based FDD strategy for variable air volume terminals," Automation in Construction, 41: 106-118, 2014.
24. Li, S. and J. Wen, "Application of Pattern Matching Method for Detecting Faults in Air Handling Unit System", Automation in Construction, 43:49–58, 2014.
25. Li X., and Wen J. Review of building energy modeling for control and operation. Renewable and Sustainable Energy Reviews, 2014. 37: p. 517-537.
26. Li X., and Wen J. Building Energy Consumption On-line Forecasting Using Physics Based System Identification. Energy and Buildings, 2014. 82: p. 1-12.
27. Zhao, Y., F. Xiao, J. Wen, Y. Lu, S. Wang, "A Robust Pattern Recognition-based Fault Detection and Diagnosis (FDD) Method for Chillers", HVAC&R Research, 20 (7), 2014, p. 798-809.
28. Langevin, J., P. L. Gurian, and J. Wen, "Tracking the human-building interaction: Findings from a longitudinal field study of occupant behavior in air-conditioned offices," Journal of Environmental Psychology, 42, 2015, 94-115.
29. Zhao, Y., J. Wen, and S. Wang, "Diagnostic Bayesian networks for diagnosing air handling units faults - Part II: Faults in coils and sensors," Applied Thermal Engineering, 90, 2015, 145-157.
30. Langevin, J., J. Wen, and P. L. Gurian, "Simulating the human-building interaction: Development and validation of an agent-based model of office occupant behaviors", Building and Environment, 88, 2015, 27-45. (**2015 B&E BEST PAPER AWARD**)
31. Langevin, J., J. Wen, and P. L. Gurian, "Quantifying the human-building interaction: Considering the active, adaptive occupant in building performance simulation", Energy and Buildings, 117, 2016, 372-386.
32. Li, X., J. Wen, and E. Bai, "Developing a Whole Building Cooling Energy Forecasting Model for On-line Operation Optimization using Proactive System Identification", Applied Energy, 164, 2016, 69–88.

33. Zhao, Y., J. Wen, F. Xiao, X. Yang, and S. Wang. "Diagnostic Bayesian networks for diagnosing air handling units faults -Part I: faults in dampers, fans, filters and sensors." Applied Thermal Engineering ,90, 2015, 145-157
34. Li, X., Wen, J., Liu, R., & Zhou, X. Commercial building cooling energy forecasting using proactive system identification: A whole building experiment study. *Science and Technology for the Built Environment* , 22(6), 2016, 674-691.
35. Li, X., Wen, J., System identification and data fusion for on-line adaptive energy forecasting in virtual and real commercial buildings, Energy and Buildings 129, 2016, 227-237.
36. Pourarian, Shokouh, et al. "Efficient and robust optimization for building energy simulation." Energy and Buildings 122, 2016, 53-62.
37. Li, X., Wen, J. and Malkawi, A., An operation optimization and decision framework for a building cluster with distributed energy systems. Applied Energy, 178, 2016, 98-109.
38. Odonkor, P., Lewis, K., Wen, J., and Wu, T., "Adaptive Energy Optimization in Net Zero Building Clusters," ASME Journal of Mechanical Design, Vol. 138, 2016, doi:10.1115/1.4033395
39. Pourariana, S., Wen, J., Veronica, D., Pertzborn, A., Zhou, X., and Liu, R. "A Tool for Evaluating Fault Detection and Diagnostic Methods for Fan Coil Units", Energy and Buildings, 136, 2017, 151-160.
40. Li, X., J. Wen, "Net-zero energy building clusters emulator for energy planning and operation evaluation", Computers Environment and Urban Systems, 62, 2017, 168-181.

OTHER PUBLICATIONS

Wen, J. and A. L., Regnier, "Chapter: AHU AFDD", in book **Automated Diagnostics and Analytics for Buildings**, by B. L. Capehart, and M. R. Brambley, CRC Press, 2014, ISBN 9781498706117.

CONFERENCE PUBLICATIONS since 2011

1. J. Langevin, J. Wen, S. Hsieh, D. Novosel, and M. S. Waring , "Occupant Comfort, Productivity, and Personal Control in Ten Normative and High Performance Office Buildings, " : Indoor Air 2011; June 5-10, 2011; Austin, TX.
2. Hendricken, L., J. Wen, and A. Persily. Framework and Case Study for Understanding Factors Impacting Outdoor Contaminant Entry into Commercial Buildings. The Department of Homeland Security Science Conference, Washington, D.C. 2011. Poster.
3. Hendricken, L., Otto, K., Wen, J., Gurian, P.L. and Sisson, W. (2012). Capital Costs and Energy Savings Achieved by Energy Conservation Measures for Office Buildings in the Greater Philadelphia Region. Paper presented at SimBuild 2012, Madison, WI
4. Langevin, J., Wen, J., Gurian, P.L., Hsieh, S. & Novosel, D. (2012, July). Behavior in the Built Environment: Findings from a Survey of Occupants in Twenty Air-Conditioned Office Buildings. Paper presented at Healthy Buildings 2012, Brisbane, AUS
5. Langevin J, Wen J and Gurian P L. Tracking Long-Term Occupant IEQ Outcomes: A Longitudinal Survey Tool. Presented at: IAQ 2013; October 15-18, 2013; Vancouver, CAN.
6. Taylor, R., P. Casey, L. Hendricken, K. Otto, W. Sisson, P. Gurian, J. Wen. The Simulation of Long Term Trends in Building Energy Consumption Due to the Impact of Market-Based Policies to Encourage Adoption of Energy Conservation Measures. CLIMA 2013 - 11th REHVA World Congress and 8th International Conference on IAQVEC, Prague, Czechoslovakia, 2013.
7. Taylor, Russell, Patrick Casey, Liam Hendricken, William Sisson, Patrick Gurian, Jin Wen, Vivian Loftness, Erica Cochran. Projections of Paths to Transformative Change in the Built

Environment through Quantitative Modeling of Policies, Market Mechanisms and Behavior.FutureBuild Conference, Bath, England, 2013.

8. Hendricken, Liam, Russell Taylor, Patrick Casey, Michael Hamilton, Patrick Gurian, Jin Wen, Vivian Loftness, Erica Cochran, Alex Waegel, William Sisson. Pareto Efficient Retrofit Package Selection for Multi-Family Low-Rise buildings in the Philadelphia Metropolitan Region.FutureBuild Conference, Bath, England, 2013.
9. Langevin, J., "Simulating the human-building interaction: Development and validation of an agent-based model of office occupant behaviours" Windsor 2014 conference, April 10-13, 2014, Windsor Great Park, UK.
10. Li, X., Wen, J. & Wu, T. (2014) Net-Zero Energy Impact Building Clusters Emulator for Operation Strategies Assessment, Paper presented at the ASHRAE 2014 Annual conference; Jun. 2014, Seattle, WA, USA.
11. Li, X., J. Wen, "System Identification for Building Energy Estimation," IEEE CASE, August, 2014, Taipei, Taiwan.
12. Langevin, J., J. Wen, and P. L. Gurian, "Including Occupants in Building Performance Simulation: Integration of an Agent-Based Occupant Behavior Algorithm with EnergyPlus", ASHRAE/IBPSA- USA 2014 Simulation Conference, September, 2014, Atlanta, GA.
13. Pourarian, S., J. Wen, X. Li, D. Veronica, X. Zhou, R. Liu, "Tools for Evaluating Air Flow Network of Dual Duct Double Fan Systems," ASHRAE/IBPSA- USA 2014 Simulation Conference, September, 2014, Atlanta, GA.
14. Li, X., J. Wen, "Building Energy Consumption On-Line Forecasting Using System Identification and Data Fusion," ASME 2014 Dynamic systems and Control Conference, October, 2-14, San Antonio, TX.
15. Regnier, A., J. Wen, J. Schwakoff, "Automated Diagnostics for AHU-VAV Systems using Pattern Matching", Proceedings of the 1st ACM Conference on Embedded System for Energy-Efficient Buildings, November, 2014, Memphis, TN.
16. Li, X., Wen, J., Bai, E.W. "Building Energy Forecasting Using System Identification based on System Characteristics Test", in 2015 Workshop on Modeling and Simulation of Cyber-Physical Energy Systems; Apr. 13-17, 2015,Seattle, WA, USA
17. Li, X., Wen, J., Wu, T. "Comparison of On-line Building Energy Forecasting Model Using System Identification Method and Other Inverse Modeling Methods", in ASHRAE 2015 Annual Conference; Jun. 27 –Jul. 1, 2015, Atlanta, GA, USA.
18. Zhang, L., and J. Wen, "Experiment Design and Training Data Quality of Inverse Model for Short-term Building Energy Forecasting," 2016 Purdue High Performance Buildings Intelligent Building Operation Session, West Lafayette, IN, July 2016.
19. Regnier, A. and Wen, J., "Automated Fault Diagnostics for AHU-VAV Systems: A Bayesian Network Approach," 2016 Purdue High Performance Buildings Intelligent Building Operation Session, West Lafayette, IN, July 2016.
20. Z. Chen, J. Wen, A. J Kearsly, and A. J Pertzborn. 2016. "Scaling Methods for Dynamic Building System Simulation in an HVACSIM+ Environment." Poster presented at NIST ITL Science Day, NIST, Gaithersburg, MD, Oct 13th, 2016.
21. Y. Chen, J. Wen, A. Reigner. "Using Pattern Matching and Principal Component Analysis Method for Whole Building Fault Detection." 2017 ASHRAE Annual Conference. Long Beach, CA, June 25th-28th, 2017
22. L. Zhang, J. Wen. 2017. "A Systematic Feature Selection Procedure for Data-driven Building Energy Forecasting Model Development." ASHRAE Annual Conference. Long Beach, CA, July 26th, 2017.
23. Z. Chen, J. Wen, A. J Kearsly, and A. J Pertzborn. 2017. "Scaling Methods for Dynamic Building System Simulation in an HVACSIM+ Environment." 15th IBPSA conference, San Francisco, CA, August 7th-9th, 2017.
24. Y. Chen, J. Wen. 2017, "Whole Building System Fault Detection Based on Weather Pattern Matching and PCA Method." 3rd International Conference on Control Science and Systems Engineering (ICCSSE 2017). Beijing, China. August 18th-19th, 2017

25. Y. Chen, J. Wen. 2017, "A Whole Building Fault Detection Using Weather Based Pattern Matching and Feature Based PCA Method", IEEE Big Data, December 11th - 14th, 2017, Boston, MA.

INVITED PRESENTATIONS since 2011

2018	Wen, J., and J. Langevin, "Human-Building Thermal Interaction Modeling and Validation" NSF RCN-SEES: Predictive Modeling Network for Sustainable Human - Building Ecosystems Workshop, May 17-18, Carnegie Mellon University (https://www.shbe.org/forms/call_for_abstratcs_workshop-8.pdf).
2016	Wen, J., "From Big Data to Big Energy Saving - Improving Building Energy Efficiency and Building-Human interactions through Advanced Control, Operation and Data Analytics," Invited Presentation, ASHRAE Philly Chapter, Philadelphia, PA, November, 2016.
2016	Wen, J., "From Big Data to Big Energy Saving - Improving Building Energy Efficiency and Building-Human interactions through Advanced Control, Operation and Data Analytics," Invited Seminar, Beijing University of Civil Engineering and Architecture, Beijing, China, August, 2016.
2016	Wen, J., A. Regnier, and Y. Chen, "Automated Diagnostic Developments & Case Studies - VOLTTRON-Compatible AHU Diagnostic System,", Invited Presentation, 2016 Purdue High Performance Buildings Intelligent Building Operation Session, West Lafayette, IN, July.
2015	Wen, J., "From Big Data to Big Energy Saving - Improving Building Energy Efficiency through Advanced Operation and Building Analytics", Invited Seminar**, The U.S. Department of Energy, Building Technologies Office**, Washington D.C., July 22nd.
2015	A. Regnier, and J. Wen, "Automatic Fault Detection and Diagnostics for Air-Handling Units", Invited Speaker, DOE VOLTTRON Workshop, Arlington, VA, July 23rd.
2015	A. Regnier and J. Wen, "FDD for AHUs: A Value Proposition for Building Operators?", Invited Speaker, ASHRAE Summer Conference, Atlanta, GA, July 1st.
2015	Wen, J., "Leaping from Smart Buildings to Smart Cities", Invited Seminar, 2015 UTEP Industrial, Manufacturing and Systems Engineering Day, University of Texas at El Paso, April 22nd.
2014	Pourarian, S., J. Wen, "Tools for Evaluating Fault Detection and Diagnostic Methods for HVAC Secondary Systems of a Net Zero Building", Invited Presentation, National Institute of Standard Technology, Gaithersburg, MD, November 14th.
2014	Wen, J., Invited Seminar, "Improving Building Energy Efficiency through Advanced Building Operation and Modeling Development", Donghua University, Shanghai, China, October 30th.
2014	Wen, J. and J. Langevin, "Human Behavior and Low Energy Architecture: Linking Environmental Adaptation, Personal Comfort, and Energy Use in the Built Environment", **Invited Noted Speaker**, 4th IAJC/ISAM Joint International Conference, Orlando, FL, September 26th.

2014 Wen, J. and A. Regnier, "Building Operation Challenges and Opportunities: Automated Fault Detection and Diagnosis for AHU-VAV Systems," **Invited Panel Speaker**, 2014 Biennial Workshop in Service Engineering Energy-Aware Operations in Manufacturing and Service Enterprises, Philadelphia, PA, September 16th.

2014 Regnier, A., J. Wen, and X. Yang, "Automated Fault Detection and Diagnosis for AHU-VAV Systems", Invited Presentation, ASHRAE Winter Conference, NYC, NY, January 21st.

2013 Regnier, A., Yang, X.B., and Wen, J., "Pattern Matching PCA for Fault Detection in Air Handling Units", Invited Presentation, IEEE CASE, Madison, WI, August.

2013 Wen, J. and X. Li, "Achieving NetZero Energy Building Clusters Through a Smarter Building Decision Framework and Fault Detection and Diagnosis Technology", Invited Presentation, Siemens Research Center, Princeton, NJ, April 12th.

2013 Gurian, P. L., M. Hamilton, L. Hendricken, M. Waring, J. Wen, S. Youssefi, "Investing in Energy Efficiency in Buildings: Opportunities and Pitfalls" Invited Presentation to De Lage Landen, Valley Forge, PA, February 21st.

2013 Wen, J., "Challenges and Opportunities of Improving Building Energy Efficiency through Building Energy Modeling, Diagnosis and Occupant Behavior", Invited Seminar, Beijing University Shen Zhen Campus Graduate Student Seminar Series, Shen Zhen, China, January.

2012 Wen, J., "Research and Applications of Building Energy Modeling, Diagnosis and Occupant Behavior ", **Invited Seminar**, Hong Kong Polytechnic University FCE Seminar Series, Hong Kong, December.

2011 Wen, J., "Focusing on Buildings - Key Policy and Research Issues, Invited Presentation, Sustainable Energy Management and the Built Environment: sharing Anglo-American Best Practice", University College London, London, UK, February, **I was invited by the British government for this presentation**.

Other Presentations since 2011:

2018 Wen, J., Y. Chen, "VOLTTRON Compatible Whole Building root-Fault Detection and Diagnosis," DOE Building Technology Office Project Peer Review, Arlington, VA, May, 2018.

2017 Wen, J., Y. Chen, "VOLTTRON Compatible Whole Building root-Fault Detection and Diagnosis," DOE Building Technology Office Project Peer Review, Arlington, VA, March, 2017.

2015 Wen, J. and A. Regnier, "CBEI: VOLTTRON Compatible and Cost-effective Fault Diagnostic Solutions for AHU-VAV and AHU-CAV Systems," DOE Building Technology Office Project Peer Review, Vienna, VA, April 15th.

2014 Wu, T., J. Wen, K. Lewis, "SMARTER -Smart Manager for Adaptive and Real-Time decisions in building clustERs", NSF CPS PI Conference, Arlington, VA, November.

2014 Wen, J. and A. Regnier, "Penn State Consortium: VOLTTRON Compatible and Cost-Effective Fault Diagnostic Solutions for AHU-VAV and AHU-CAV Systems," DOE Building Technology Office Project Peer Review, Arlington, VA, April 23rd.

2014 Liu, R., J. Wen, X. Zhou, C. Klaassen, A. Regnier, " RP-1353 Stability and Accuracy of VAV Box Control at Low Flows I", ASHRAE Winter Conference, NYC, NY, January.

2014 Liu, R., J. Wen, X. Zhou, C. Klaassen, A. Regnier, " RP-1353 Stability and Accuracy of VAV Box Control at Low Flows II", ASHRAE Winter Conference, NYC, NY, January.

2013 Wu, T., J. Wen, K. Lewis, "SMARTER -Smart Manager for Adaptive and Real-Time decisions in building clustERs", NSF CPS PI Conference, Arlington, VA, November.

2013 A. Regnier, J. Wen, and X. Yang, "Automated Fault Detection and Diagnosis in AHU-VAV Systems", Intelligent Building Operation Workshop, IBPSA, Boulder, CO, June.

2013 Hamilton, M. P.L. Gurian, L. Hendricken, J. Wen. "Metrics and Hurdles for Investing in Energy Efficiency in Buildings" Wharton Energy Efficiency Conference, SAP America, Newtown Square, PA, May.

2011 Hendricken, L., J. Wen, and A. Persily "Framework and Case Study for Understanding Factors Impacting Outdoor Contaminant Entry into Commercial Buildings", The Department of Homeland Security Science Conference, Washington, D.C. Poster.

PROFESSIONAL SOCIETIES AND SERVICES

- American Society of Heating, Refrigerating and Air-Conditioning Engineers, member
  - Past chair for TC 7.5 Smart Building – Fault Detection and Diagnosis subcommittee
  - Past research chair for TC 7.5 Smart Building
  - Vice chair for TC 7.5 Smart Building
- American Society of Mechanical Engineering, member
- International Solar Energy Society, member
- **Reviewer for Funding Agencies**
  - National Science Foundation: 2004, 2005, 2007, 2009, 2012, 2015, 2016, 2017
  - Department of Energy: 2006, 2014, 2015, 2016
  - Iowa Energy Center: 2007, 2013, 2014, 2015, 2016
  - HongKong Research Council: 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017
  - HongKong Central Policy Unit Public Policy Funding: 2014
- **Reviewer for Journals**
  - Applied Energy, continuously since 2013
  - ASHRAE Transactions, continuously since 2004
  - Energy and Building, continuously since 2009
  - Building and Environment, continuously since 2009
  - HVAC&R, continuously since 2007
  - International Journal of Heat and Mass Transfer, 2005
  - ASME Transactions, 2005, 2009, 2010
  - ASME Solar Engineering Journal, 2004, 2013

- Journal of Infrastructure Systems 2007

- **Editor or Session Chair for the following Conferences:**
  - Associate Editor, IEEE CASE Conference 2013
  - Session Chair, SPIE, 2004; Purdue High Performance Building Conference, 2010; ASHRAE Winter Conference, 2008, 2014; ASHRAE Summer Conference, 2014; ASHRAE Summer Conference, 2015.
  - Program Committee member for ACM International Conference on Embedded Systems For Energy-Efficient Built Environments (BuildSys) since 2015
- **University and Department Committees since 2010:**
  - Department Graduate committee, member, 2010-2012
  - COE Dean's search committee, member, 2011-2012
  - Department faculty search committee member, 2011, 2014, 2015
  - Dept. strategic planning committee， member， 2011
  - COE strategic planning committee, member, 2011-2012
  - IEXE director search committee, member, 2013-2014
  - Department head search committee, member, 2014
  - Department tenure and promotion committee, chair and/or member, 2014, 2016, 2017

CURRENT and Recently Accomplished RESEARCH PROJECTS

Project Title: VOLTTRON Compatible Whole Building root-Fault Detection and Diagnosis
Sponsor: U.S. Department of Energy Total Award Amount: $200,000
Total Award Period Covered: 10/1/2015 – 9/30/2017 PI

Project Title: Advanced Solver and Interface Development for HVACSIM+
Sponsor: National Institute of Standard Technology
Total Award Amount: $240,500 Total Award Period Covered: 8/1/2015 – 7/31/2017 PI

Project Title: Intelligent Multi-Criteria Building Ventilation Control within Dynamic Urban Environments,
Sponsor: National Science Foundation Total Award Amount: $ 299,666
Total Award Period Covered: 9/1/2015 – 8/31/2018
PI: M. Waring; CO-PI: J. Wen

Project Title: CPS: Synergy: Collaborative Research: SMARTER - Smart Manager for Adaptive and Real-Time decisions in building clustERs
Source of Support: NSF Total Award Amount: $ 400,000.00
Total Award Period Covered: 10/1/2012 – 9/30/2015 PI of the Drexel team

Project Title: Energy Efficient Building Hub: 1) Task 4.3 Component and Sub-System Diagnostics; 2) Task 6.3 Energy Utility Regulatory Policy
Source of Support: DOE Total Award Amount: $ 1,999,717
Total Award Period Covered: 2/1/2011 – 1/31/2016 PI

AWARDS

- 2004 Fellowship for ExcEEd 6-days Engineering teaching workshop
- 2005 Fellowship (for Travel Support) for China-US Special Workshop on Multiple Hazards Resistant Strategy and Monitoring Technologies for Large Public Buildings
- 2006 Fellowship (for Travel Support) for NSF US-Taiwan Workshop on Smart Structural Technology for Seismic Hazard Mitigation
- 2006 Fellowship for NSF Nano for Educator Workshop
- 2006 Fellowship for NSF CMS/BES Divisions Workshop for the Advancement and Retention of Underrepresented & Minority Engineering Educators (WEE 06)
- 2006 PhD Student Y. Lisa Chen was awarded the NSF GRFP
- 2009 Drexel Engineering Cities Initiatives Concept Paper Finalist, Paper title "Daylighting, Daylight Simulation and Public Health: Low-Energy Lighting for Optimal Vision/Visual Acuity and Health/Well-being", Authors: Eugenia V Ellis, Neal B Handly, Donald L McEachron, Caroline L Schauer, and Jin Wen
- 2009 Drexel Engineering Cities Initiatives Concept Paper Finalist, Paper title "Reducing Climate-Change Impacts of the Information Age: Optimizing Data Center Operations", Authors: Sabrina Spatari, Nagarajan Kandasamy, Eugenia V. Ellis, and Jin Wen
- 2010 Fellowship (Travel Support) for the first US-Israel Workshop on Sustainable Buildings – Material and Energy, Haifa, Israel
- 2011 Invited by the British Government as one of the seven American experts (including Steve Selkowitz, then the Department Head of the LBNL Building Technology Group), attending the UCL Anglo – American Symposium: Sustainable Energy Management and the Built Environment - Sharing Anglo-American Best Practice
- 2011 PhD student J. Langevin was awarded the NSF GRFP
- 2013 PhD candidate J. Langevin was awarded the ASHRAE Grant in Aid and was featured in the ASHRAE Society Newspaper
- 2014 PhD candidate J. Langevin was awarded the 1st Place at Drexel IEEE Graduate Poster Competition
- 2014 PhD J. Langevin was awarded the Drexel's Best Dissertation Award
- 2014 PhD candidate A. L. Regnier was awarded "Best Demo" at the 2014 ACM BuildSys Conference, for his demonstration titled Automated Diagnostics for AHU-VAV Systems Using Pattern Matching

CURRENT AND PAST PHD Students

Past: Shun Li, graduated in 2010; Y. Lisa Chen, graduated in 2011; Ran Liu, graduated in 2012; Jared Langevin, graduated in 2014; Xiwang Li, graduated in 2015; Shokouh Pourarian, graduated in 2016.
Current: Yimin Chen (candidate); Zhelun Chen (candidate); Daniel Chung (part-time, candidate, past proposal defense); Liam Hendricen (candidate, past proposal defense); Adam Regnier (candidate, past proposal defense); Steve Snyder (part-time); Liang Zhang (candidate).