

RAVI SHANKAR SRINIVASAN

Ph.D., Certified Energy Manager, LEED-AP, GGP

Director, UrbSys Lab (Urban Building Energy Sensing, Controls, Big Data Analysis, and Visualization)

M.E. Rinker, Sr. School of Construction Management, University of Florida

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PROFESSIONAL PREPARATION

- 2011 **Ph.D. in Architecture (Building Technology)**
University of Pennsylvania, Philadelphia, PA
Dissertation Committee:
Dr. William Braham, Professor of Architecture, University of Pennsylvania
Dr. Daniel Campbell, Office of Research & Development, U.S. EPA
Dr. Charlie Curcija, Windows & Daylighting Group, LBNL, U.S. DOE
- 2004 **M.S. in Architecture (Building Technology)**
University of Pennsylvania, Philadelphia, PA
Title: Indoor Data Visualization of Indoor Air Flow using Augmented Reality
Thesis Committee Chair: Dr. Ali Malkawi, Professor of Architecture, Harvard University
- 2002 **M.S. in Civil Engineering**
University of Florida, Gainesville, FL

ACADEMIC AWARDS: Research & Scholarship, Teaching

- 2019-2022 Holland Professor, \$10,000 per year
2019-2022 University Term Professorship, \$5,000 per year
2017-2019 University Term Professorship, \$5,000 per year
2017 Mentor / Teacher of the Year Award, \$2,000
2016 Excellence Award for Assistant Professors Award, \$5,000
2014 Nancy Perry Teaching Excellence Award, \$5,000

PROFESSIONAL REGISTRATIONS

- 2019-present FAA Certified Remote Pilot (Drone), USA
2015-present OSHA Certification, Occupational Safety & Health Administration, USA
2012-present Certified Green Globes Professional (GGP), USA
2010-2012 Instructor, Building Energy Simulation Analyst, Association of Energy Engineers, USA
2008-present Certified Energy Manager (CEM), Association of Energy Engineers, USA
2008-present Certified Instructor for CEM, Association of Energy Engineers, USA
2004-present LEED Accredited Professional (LEED AP), United States Green Building Council, USA
2001-present Licensed Architect, Council of Architecture, India
2001-present Licensed Architect, Indian Institute of Architects, India

BOARD MEMBERSHIPS

Academic Journals

- 2016-present Member, Editorial Board, Buildings MDPI (Editor-In-Chief: Dr. Arditi)
2016-present Member, Editorial Board, Journal of Power & Energy Engg. (Editor-In-Chief: Dr. Stefanakos)
2019-present Guest Editor, Sustainability MDPI: "Building Energy Prediction & Sustainable Design"

National Organizations

- 2019-2022 Secretary, Executive Board, National Fenestration Rating Council (NFRC)
2015-2016 Member, Board of Directors, NFRC
2015-2016 Member, Audit Committee, NFRC
2017-present Member, American National Standards (ANS) Committee, NFRC
2012-2014 Member, ANS Committee, NFRC
2010 Member, Certification Board, Building Energy Simulation Analyst (BESA)
2006 Member, Board of Directors, Delaware Valley Green Building Council
2004 Student Member, Committee on Research, University of Pennsylvania
2004 Vice Chair – Public Relations, Graduate Students Union, University of Pennsylvania

EMPLOYMENT

ACADEMIC APPOINTMENTS

- 2018-present **University of Florida**
M.E. Rinker, Sr. School of Construction Management
Associate Professor of Low/Net Zero Energy Buildings
Director, UrbSys (Urban Building Energy, Sensing, Controls, Data Analysis, and Visualization) Lab
Member, Norman Fixel Institute of Neurological Diseases, College of Medicine
- 2011-2018 **University of Florida**
M.E. Rinker, Sr. School of Construction Management
Assistant Professor of Low/Net Zero Energy Buildings
Member, Powell Center for Construction & Environment, Rinker School

ARCHITECTURAL, CIVIL & ENVIRONMENTAL ENGINEERING POSITIONS HELD

- 2009-2010 **The Green Roundtable, Boston, MA**
Director of Technology & Innovation
- 2011-2018 **Cross Creek Initiative, Gainesville, FL**
Research Associate
- 2002 **Chen-Moore & Associates, Ft. Lauderdale, FL**
Associate Engineer – Civil & Environmental Engineering
- 1998-2000 **RSA Architects & Engineers, India**
Principal Architect
- 1997-1998 **Kennedy Bowen Associates, Singapore**
Architect & Project Manager
- 1996-1997 **Bharath & Associates, India**
Architect

AWARDS & HONORS: SCHOLARLY RESEARCH & INVITED CONTEXT EXPERT

INTERNATIONAL: Keynote Speaker

- 2018, Invited Keynote Speaker, Workshop on Improving Building Energy Efficiency, The Indo-US Science and Technology Forum (IUSSTF), Indian Institute of Technology (IIT), Roorkee and Central Building Research Institute (CBRI), India, Dec 20-21, 2018.
- 2018, Invited Keynote Speaker, International Conference on SMART CITY Innovation, Bandung, Indonesia, Oct 25-26, 2018.

INTERNATIONAL: Invited Speaker

- 2020, Invited Speaker, Sustainable Environment and Architecture (SENVAR), University of Pendidikan, Bandung, Indonesia, Nov 10, 2020.
- 2018, Invited Speaker, Department of Architecture, University of Pendidikan, Bandung, Indonesia, Nov 26, 2018.
- 2018, Invited Mentor & Speaker, Academic Writing Short Course and Research Design, SMART CITY – University of Indonesia, Jakarta, Indonesia, Nov 19-24, 2018.
- 2016, Invited Speaker, Cool Surfaces Impact on Energy Savings of South African Notional Buildings, University of Pretoria, Pretoria, South Africa. June 2016.
- 2016, Invited Speaker, Dynamic- Sustainability Information Modeling (D-SIM) Workbench, School of Geography and Planning, Cardiff University, Cardiff, UK. May 23-27, 2016.
- 2015, Invited Speaker, Powering South Africa with Cleaner & Smarter Energy Conference, Pretoria, South Africa.
- 2013, Invited Speaker and Member of Scientific Organizing Committee, Advances in Building Simulation Conference, Indian Institute of Technology (IIT-Madras), Chennai, India.
- 2012, Invited Speaker, Session Chair (Energy Simulations), and Member of International Organizing

INTERNATIONAL: Honors & Awards

- 2015, Invited Program Committee Member, Empirical Modeling Conference, Brussels, Belgium.
- 2014, No. 1 Reviewer and Certificate of Excellence, Building and Environmental Journal, Elsevier B.V., Amsterdam.
- 2013, Best Paper – Runner up, International Society of Management Science and Engineering Management Conference, Philadelphia, PA, USA.
- 2011, Invited Session Chair (Limitations of Simulations in Practice, III & IV), Building Simulation Conference, Sydney, Australia.
- 2006, Young CAADRIA Award, Computer-Aided Architectural Design Research in Asia Conference, New Delhi, India.

INTERNATIONAL: Founder & Organizer

- 2019, Founder and Organizer, The First International Workshop on Building Energy Sensing, Controls, Big Data Analysis, and Visualization (UrbSys), ACM BuildSys, Nov 10, 2019, New York, NY

NATIONAL: Invited Speaker

- 2016, Invited Speaker, 47th Winter Simulation Conference, Washington, DC.
- 2016, Invited Presenter | Global Health + Megacities, UF Innovations in Global Health Workshop Series, Theme: Information + Technology as Agents of Change.
- 2015, Invited Graduate Seminar Presenter, Department of Architecture, University of Pennsylvania, Philadelphia, PA (presented since 2011 every year)
- 2015, Invited Presenter & Poster, NIST Global City Challenge Festival, Washington, DC
- 2015, Invited Presenter and Track Coordinator (Project Management and Construction), 46th Winter Simulation Conference, Huntington Beach, CA
- 2014, Invited Presenter, Track Coordinator (Project Management and Construction) and Session Chair (Energy, Water & Crowd Simulations), 45th Winter Simulation Conference, Savannah, GA
- 2011, Invited Presenter & Session Chair (Construction Project Process Modeling & Simulation), 42nd Winter Simulation Conference, Phoenix, AZ.
- 2011, Invited Presenter, National Health and Environmental Effects Research Laboratory, US Environmental Protection Agency, Narragansett, RI. Title: "Re(de)fining Net Zero Energy: Renewable Energy Balance of Environmental Building Design."
- 2010, Invited Panelist. State of MA Building Stretch Code Appendix 120 AA Adoption for Town of Brookline
- 2010, Invited Presenter, Net Zero Energy Design – Engineering, at ASHRAE Boston Product Show.
- 2010, Invited Presenter, Net Zero Energy Building Design, at AIA MetroWest, Needham, MA.
- 2010, Invited Presenter, Introduction to NZE Buildings, at Wentworth Institute of Technology, Boston, MA.
- 2010, Invited Presenter, Q&A session – NESEA Net Zero Energy Competition, Boston, MA.
- 2009, Invited Presenter, Net Zero Energy Building Studies, to the Leading By Example Program Team, Office of Energy and Environmental Affairs, State of Massachusetts, Boston, MA.
- 2009, Invited Panelist, State of MA Building Stretch Code Appendix 120 AA for City of Cambridge, MA.
- 2009, Invited Presenter, LEED and its Impact on Civil Engineering, at American Society of Civil Engineers, Palm Coast, FL.

NATIONAL: Honors & Awards

- 2016, Finalist, Energy Project of the Year Award | Project title, "Energy Modeling Project for the Development of Energy Performance Levels in Buildings in the Republic of South Africa," South African Association of Energy Efficiency, 8 & 9 November, 2016, Gauteng, South Africa.
- 2015 & 2016 NSF Panel Reviewer, National Science Foundation Division of Computer and Network Systems, Cyber-Physical Systems in Smart Cities.
- 2015, NSF Early-Career Investigators Stipend & Position Paper Presenter, National Science Foundation Division of Computer and Network Systems, Cyber-Physical Systems in Smart Cities Workshop, Seattle, WA
- 2014, #1 Reviewer + Certificate of Excellence, Buildings and Environment, Elsevier.
- 2014, Invited External Reviewer for Graduate Theses, Graduate School of Design, Harvard University, Boston
- 2014, Co-Organizer and Session Chair, iiSBE Net Zero Built Environment Symposium and 17th Rinker International Conference, University of Florida, Gainesville, FL
- 2013, Best Paper, runner-up | Kibert, C.J., Srinivasan, R.S. Net Zero: Rational Performance Targets for High Performance Buildings, International Society of Management Science and Engineering Management Conference, Philadelphia, PA.
- 2011, Invited Subject Matter Expert, National Renewable Energy Laboratory (NREL) Commercial Workforce Development, Boulder, CO
- 2011, Sustainability Fellow, Prairie Creek Project, University of Florida, FL

2010, Innovation in Green Design Award, Development of Net Zero Energy Training Series, US Green Building Council, Massachusetts Chapter, Boston, MA
2007, Chartered Legend in Energy Award, Association of Energy Engineers, Atlanta, GA
2007, Top 24 Emerging Environmental Leader, Environmental Leadership Program, Philadelphia, PA
2006, Young CAADRIA Award, Srinivasan, R.S., Malkawi, A.M. Reinforcement Learning and Real-time Thermal Performance Visualization in Buildings, CAADRIA Conference.

EXTERNAL RESEARCH GRANTS & CONTRACTS

Secured \$2+ Million in External Funding

- 2020-2021 **National Science Foundation**
SCC-PG: Flood Hazard Management & Practitioner Information Network (PI), Division of Computer & Network Systems
- 2019-2021 **Nesta Enterprises, UK: Million Cool Roof Challenge**
Cool Roofs Indonesia (Co-PI)
- 2018-2021 **U.S. Housing & Urban Development**
The Re-envision Project (Co-PI)
- 2019-2021 **U.S. Housing & Urban Development**
Rapid Manufacturing Post-Disaster Housing (Co-PI)
- 2019-2022 **City of Gainesville, FL**
BIM-based Automated Code Checking (PI)
- 2018-2020 **Veteran Affairs**
CO-Design for You (CODY): Assistive Technology for SAH Assessments (Co-PI)
- 2018-2021 **WinBuild**
UAV-based Window Energy Measurement System (PI)
- 2019-2021 **UF-City of Gainesville, FL**
Urban Energy Model for Smart City Informatics (PI)
- 2019-2022 **National Research Council of Canada**
Impact of Thermal Bridging on Climate Resilient Roofs (PI)
- 2016-2018 **National Science Foundation**
EAGER: Collaborative: Predictive Maintenance of HVAC Systems using Audio Sensing (PI), Division of Computer & Network Systems
- 2016-2017 **U.S. Department of Energy – International & WinBuild**
EnergyPlus™ Training with a Focus on Cool Surfaces Impact on Energy Savings of South African Notional Buildings (PI)
- 2016-2017 **Disney Development Company**
Roofing Thermal Analysis with HEAT3 (PI)
- 2016-2017 **U.S. Department of Energy – International & WinBuild**
EnergyPlus™ Training at University of Pretoria (PI)

- 2015 **National Science Foundation**
Early-Career Investigators Workshop on CPS in Smart Cities (PI)
- 2016-2018 **U.S. Department of Energy – International & WinBuild**
Powering South Africa with Cleaner & Smart Energy (PI)
- 2015-2018 **U.S. Department of State**
Global Innovation Initiative; A Critical Regionalist Approach to Sustainable Urban Development through the Transformative Use of Green Infrastructure (Co-PI)
- 2015-2016 **Department of Energy – International & WinBuild**
Impact Analysis of South African RDP Housing: Energy Savings Potential (PI)
- 2014-2015 **Florida Energy Systems Consortium**
Buildings & Energy: Design and Operation vs. Sustainability, an Energy Engineering Course Development for Florida-specific Building Design & Operation (Co-PI)
- 2014-2015 **Green Building Initiative**
Energy Performance Options of Green Globes (PI)

INTERNAL RESEARCH GRANTS & CONTRACTS

Secured \$250,000+ in Internal Funding

- 2020-2021 **UF Innovate**
Provisional Patent Application with U.S. Patent & Trademark Office: Portable Smart Air Quality Multisensory System Equipped Carrying Case for Asthma Inhalers (Lead Inventor)
- 2020-2021 **UF Innovate**
Provisional Patent Application with U.S. Patent & Trademark Office: UAV-based Non-Intrusive Building Envelope (Windows, Walls, & Roofs) Temperature, Velocity, Emissivity, and Reflectance Measurement System for Community-wide Energy Mapping (Lead Inventor)
- 2020-2021 **UF Innovate**
Commercialization Fund: Health Impact Indoor Environmental Quality Smart Air Multi-sensor Device; University-wide Competitive Award selected for prototyping product (PI); \$30,000
- 2020-2021 **G.W. Robinson Award**
Integrated Assessment of Buildings in D-BIM Workbench; Award supports a graduate student for two years (PI)
- 2019-2021 **G.W. Robinson Award**
Extended Ecologically-based Life Cycle Assessment of Buildings; Award supports a graduate student for two years (PI)
- 2019-2022 **UF Office of Research Seed Fund**
A Dynamic-Building Information Modeling (D-BIM) Workbench for Low / Net Zero Energy Buildings; University-wide Competitive Award (PI); \$100,000
- 2018-2020 **G.W. Robinson Award**
System Analysis and Design of Component-based Routines for Building Envelope and Internal Loads; Award supports a graduate student for two years (PI)

PRODUCTS

PATENTS – PROVISIONAL, U.S. Patents & Trademark Office

1. Srinivasan, R.S., Shahriar, N., Hegde, S., and Ahrentzen, S. *Portable Smart Air Quality Multisensory System Equipped Carrying Case for Asthma Inhalers*.
2. Srinivasan, R.S. and Shah, B. *UAV-based Non-Intrusive Building Envelope (Windows, Walls, & Roofs) Temperature, Velocity, Emissivity, and Reflectance Measurement System for Community-wide Energy Mapping*.

CITATIONS: Google Scholar | ResearchGate | ORCID

BOOKS

1. Song, H., Srinivasan, R.S., Sookoor, T., Jeschke S. (Eds.) *Smart Cities: Foundations, Principles, and Applications*. John Wiley & Sons Inc., July 2016. ISBN: 978-1-1119-22639-0
2. Srinivasan, R.S., Moe, Kiel. *The Hierarchy of Energy in Architecture: Energy Analysis*. PocketArchitecture: Technical Design Series (Smith, R.J., Series Ed.), Routledge 2015. ISBN:978-1138803534

BOOK CHAPTERS, PROCEEDINGS, WHITE PAPER & THOUGHT-PIECE

1. Srinivasan, R.S., Manoharan, B., Issa, R.R.A. Urban Building Energy CPS (UBE-CPS): Realtime Demand Response using Digital Twin. CPS in the Built Environment. Springer 2019.
2. Srinivasan, R.S., Bhandari, M. UrbSys '19: Proceedings of the 1st ACM International Workshop on urban Building Energy Sensing, Controls, Big Data Analysis, and Visualization; BuildSys '19, New York NY USA, November, 2019. ISBN: 978-1-4503-7014-1
3. Nirjon, S., Srinivasan, R.S., Sookoor, T. SASEM: Smart Audio SEnsing based HVAC Maintenance. Chapter in Song, H., Srinivasan, R.S., Sookoor, T., Jeschke, S. (Eds.) *Smart Cities: Foundations, Principles and Applications*, Wiley 2017.
4. Komeily, A., Srinivasan, R.S. Smart Cities Sustainability Assessment: Balancing Social, Economic, and Environmental Performance. Chapter in Song, H., Srinivasan, R.S., Sookoor, T., Jeschke, S. (Eds.) *Smart Cities: Foundations and Principles*, Wiley 2016.
5. Morrison, M., Srinivasan, R.S., Dobbs, C., Nagi, J. "Smart Ecology of Cities: Integrating Development Impacts on Ecosystem Services for Land Parcels." Chapter in Song, H., Srinivasan, R.S., Sookoor, T., Jeschke, S. (Eds.) *Smart Cities: Foundations and Principles*, Wiley 2016.
6. Kibert, C.J., Srinivasan, R.S., Sustainable Construction: The Cutting Edge and Emerging Challenges," Chapter in Jiang, Y. *Analytics for Building-Scale Sustainable Ecosystems*, Begell House, 2013.
7. Srinivasan, R.S., Energy Assessment & Building Energy Performance Options of Green Globes for New Construction, White Paper, Green Building Initiative, 2013.
8. Srinivasan, R.S., Building Energy Analysis – The Present and Future, Thought-Piece in Kibert, C.J. *Sustainable Construction: Green Building Design and Delivery*, 3rd Edition (John Wiley & Sons), 2012.

REFEREED JOURNAL ARTICLES

1. Zhang, J., Srinivasan, R.S., Peng, C. (2020). A Systematic Approach to Calculate Unit Energy Values of Cement Manufacturing in China Using Consumption Quota of Dry and Wet Raw Materials. *Buildings*, 10(7): 128; <https://doi.org/10.3390/buildings10070128>
2. Jia, M., Srinivasan, R.S. (2020). Building Performance Evaluation Using Coupled Simulation of EnergyPlus™ and an Occupant Behavior Model. *Sustainability*, 12: 4086; <https://doi:10.3390/su12104086>

3. Jia, M., Srinivasan, R.S., Ries, R., Weyer, N., Bharathy, G. (2019). A systematic development and validation approach to a novel agent-based modeling of occupant behaviors in commercial buildings. *Energy and Buildings*, 199: 352-367; <https://doi.org/10.1016/j.enbuild.2019.07.009>
4. Jia, M., Komeily, A., Wang, Y., Srinivasan, R.S. (2019). Adopting Internet of Things for the Development of Smart Buildings: A Review of Enabling Technologies and Applications. *Automation in Construction*, 101: 111-126; <https://doi.org/10.1016/j.autcon.2019.01.023>
5. Wang, Z., Wang, Y., Srinivasan R.S. (2018). Random Forest-based Hourly Building Energy Prediction. *Energy and Buildings*, 171 (15): 11-25; <https://doi.org/10.1016/j.enbuild.2018.04.008>
6. Wang, S., Zheng, P., Srinivasan, R.S. (2017). A Novel Ensemble Learning Approach to Support Building Energy Use Prediction. *Energy and Buildings*, 159(15): 109-122; <https://doi.org/10.1016/j.enbuild.2017.10.085>
7. Wang Z, Srinivasan R.S. (2017). A Review of Artificial Intelligence based Building Energy Use Prediction: Contrasting the Capabilities of Single and Ensemble Prediction Models. *Renewable and Sustainable Energy Reviews*. 75:796-808; <https://doi.org/10.1016/j.rser.2016.10.079>
8. Jia M, Srinivasan R.S., Raheem A.A. (2017). From Occupancy to Occupant Behavior: An Analytical Survey of Data Acquisition Technologies, Modeling Methodologies, and Simulation Coupling Mechanisms for Building Energy Efficiency. *Renewable and Sustainable Energy Reviews*, 68(1): 525-540; <https://doi.org/10.1016/j.rser.2016.10.011>
9. Yi, H., Srinivasan, R.S., Braham, W.W., Tilley, D.R. (2017). An Ecological Understanding of Net Zero Energy Building: Evaluation of Sustainability based on Emergy Theory. *Journal of Cleaner Production*, 143(1): 654-671; <https://doi.org/10.1016/j.jclepro.2016.12.059>
10. Yi, H., Braham, W.W., Tilley, D.R., Srinivasan, R.S. (2017). Measuring Ecological Characteristics of Environmental Building Performance: Suggestion of an Information-Network Model and Indices to Quantify Complexity, Power, and Sustainability of Energetic Organization. *Ecological Indicators*, 83:201-277; <https://doi.org/10.1016/j.ecolind.2017.07.056>
11. Yi, H., Braham, W.W., Tilley, D.R., Srinivasan, R.S. (2017). A Metabolic Network Approach to Building Performance: Information Building Modeling and Simulation of Biological Indicators. *Journal of Cleaner Production*, 165(1): 1133-1162; <https://doi.org/10.1016/j.jclepro.2017.07.082>
12. Manan, S., Gulati, R., Srinivasan, R.S., Bhandari, M. (2016). Impact Study of Metal Fasteners in Roofing Assemblies using Three-Dimensional Heat Transfer Analysis. *Buildings*, 6(4): 49; <https://doi.org/10.3390/buildings6040049>
13. Wang, Z., Srinivasan, R.S. (2017). A Review on Applications of Artificial Intelligence based Building Energy Use Prediction with a Focus on Single vs Ensemble Prediction Models – Contrasting their Capabilities. *Renewable & Sustainable Energy Reviews*, 75: 796-808; <https://doi.org/10.1016/j.rser.2016.10.079>
14. Mahajan, V., Srinivasan, R.S., Chini, A., Ries, R. (2017). Space- Level Plug Load Densities for Energy Analysis: Educational Buildings in University Campus. *ASCE Journal of Energy Engineering*, 143(2); [https://doi.org/10.1061/\(ASCE\)EY.1943-7897.0000388](https://doi.org/10.1061/(ASCE)EY.1943-7897.0000388)
15. Zeng, P., Chini, A., Srinivasan, R.S., Jiang, P. (2017). Energy Efficiency of Smart Windows Made of Photonic Crystal. *International Journal of Construction Management*, 17(2):100-112; <https://doi.org/10.1080/15623599.2016.1207368>
16. Wang, Z., Srinivasan, R.S., Shi, J. (2016). Artificial Intelligence Models for Improved Prediction of Residential Heating. *ASCE Journal of Energy Engineering*, 142(4) <https://ascelibrary.org/doi/abs/10.1061/%28ASCE%29EY.1943-7897.0000342>
17. Morrison, M., Srinivasan, R.S., Ries, R. (2016). Complementary Life Cycle Assessment of Wastewater Treatment Plants: An Integrated Approach to Comprehensive Upstream and Downstream Impact Assessments and its Extension to Building-level Wastewater Generation. *Sustainable Cities and Society*, 23: 37-49; <https://doi.org/10.1016/j.scs.2016.02.013>

18. Salcido, J.C., Raheem, A.A., Srinivasan, R.S. (2015). Comparison of Embodied Energy and Environmental Impacts of Alternative Materials used in Reticulated Dome Construction. *Building and Environment*, 96(1) 22-34; <https://doi.org/10.1016/j.buildenv.2015.11.010>
19. Yi H., Srinivasan, R.S., Braham W.W. (2015). An Integrated Energy-Energy Approach to Building Form Optimization: Use of EnergyPlus, Energy Analysis, and Taguchi-Regression Method. *Building and Environment*, 84: 89-104; <https://doi.org/10.1016/j.buildenv.2014.10.013>
20. Komeily A. Srinivasan R.S. (2015). A Need for Balanced Approach to Neighborhood Sustainability Assessment Tools: A Critical Review and Analysis. *Sustainable Cities and Society*, 18: 32-43. <https://doi.org/10.1016/j.scs.2015.05.004>
21. Wang Z., Srinivasan R.S. (2015). Classification of Household Appliance Operation Cycles: A Case-study Approach, *Energies*, 8: 10522-10536; <https://doi.org/10.3390/en80910522>
22. Srinivasan R.S., Campbell D.E. Wang W. (2015). Renewable Substitutability Index: Maximizing Renewable Resource Use in Buildings. *Buildings*, 5(2): 581-596; <https://doi.org/10.3390/buildings5020581>
23. Agdas D., Srinivasan R.S., Frost K., Masters F.J. (2015). Energy Use Assessment of Education Buildings: Toward a Campus-wide Sustainable Energy Policy. *Sustainable Cities and Society*, 17(1): 15-21; <https://doi.org/10.1016/j.scs.2015.03.001>
24. Srinivasan R.S., Ingwersen W., Trucco C., Ries R.J., Campbell D.E. (2014). Comparing Energy-based Indicators used in Life Cycle Assessment Tools for Buildings. *Building and Environment*, 79: 138-151; <https://doi.org/10.1016/j.buildenv.2014.05.006>
25. Srinivasan R.S., Braham W.W., Campbell D.E., Curcija C.D. (2012). Re(de)fining Net Zero Energy: Renewable Energy Balance of Environmental Building Design. *Building and Environment*, 47: 300-315; <https://doi.org/10.1016/j.buildenv.2011.07.010>
26. Srinivasan R.S., Lakshmanan J., Santosa E., Srivastav D. (2011). Plug Load Densities for Energy Analysis: K-12 Schools. *Energy and Buildings*, 43 (11): 3289-3294; <https://doi.org/10.1016/j.enbuild.2011.08.030>
27. Srinivasan, R.S., Malkawi, A.M. (2006). Real-time Simulations using Learning Algorithms for Immersive Data Visualization in Buildings. *International Journal of Architectural Computing*, 3(3):256-280.
28. Malkawi, A.M., Srinivasan, R.S. (2005). A New Paradigm for Human-Building Interaction: The Use of CFD and Augmented Reality. *Automation in Construction*, 14(1):71-84. Elsevier, B.V.
29. Malkawi, A.M., Srinivasan, R.S. (2005). Interfacing with the Real Space and its Performance. *International Journal of Architectural Computing*, 3(1):43-56. UK
30. Malkawi, A.M., Srinivasan, R.S., Yi, Y., Choudhary, R. (2005). Decision Support and Design Evolution: Integrating Genetic Algorithms, CFD and Visualization. *Automation in Construction*, 14(1):33-44; <https://doi.org/10.1016/j.autcon.2004.06.004>

PEER-REVIEWED CONFERENCE PROCEEDINGS

1. Im, H., Srinivasan, R., Jia, M. Energy Consumption Scenarios to Prepare for the Climate Change with Regression Model. Construction Research Congress (CRC), Tempe, AZ, March 8-10, 2020.
2. Im, H., Srinivasan, R., Jia, M. Building Energy Use Prediction owing to Climate Change: A Case Study of a University Campus. The 1st Urban Building Energy Sensing, Controls, Big Data Analysis, and Visualization (UrbSys) Workshop, ACM BuildSys, Nov 10-14, New York, NY, US.
3. Fathi, S., Srinivasan, R. Climate Change Impacts on Campus Buildings Energy Use: An AI-based Scenario Analysis. The 1st Urban Building Energy Sensing, Controls, Big Data Analysis, and Visualization (UrbSys) Workshop, ACM BuildSys, Nov 10-14, New York, NY, US.
4. Fathi, S., Srinivasan, R., Ries, R. Campus Energy Demand Prediction (CEDP) Using Artificial Intelligence to Study the Effect of Climate Change. Building Simulation 2019, Rome, Italy.

5. Messaoudi, M., Nawari, N., Srinivasan, R. Virtual Building Permitting Framework for the State of Florida: Data Collection and Analysis. The 2019 ASCE International Conference on Computing in Civil Engineering, GeorgiaTech, Atlanta, US.
6. Jia, M., Srinivasan, R., Ries, R., Bharathy, G. Exploring the Validity of Occupant Behavior Model for Improving Office Building Energy Simulation. Winter Simulation Conference 2018, Gothenburg, Sweden.
7. Jia, M., Srinivasan, R., Ries, R., Bharathy, G. A Framework of Occupant Behavior Modeling and Data Sensing for Improving Building Energy Simulation. SimAUD 2018 Conference, Delft, The Netherlands.
8. Srinivasan, R.S., Islam, M. T., Islam, B., Wang, Z., Sookoor, T., Nirjon, S. Preventive Maintenance of Centralized HVAC Systems: Use of Acoustic Sensors, Feature Extraction, and Unsupervised Learning. Building Simulation 2017.
9. Mengda, J., Srinivasan, R.S., Bharathy, G., Silverman, B.S., Weyer, N. An Agent-based Model Approach for Simulating Interactions between Occupants and Building Systems. Building Simulation 2017.
10. Komeily, A., Srinivasan, R.S. What Is Neighborhood Context and Why Does It Matter In Sustainability Assessment? Intl. Conference on Sustainable Design, Engineering and Construction, 18-20, May 2016.
11. Komeily Ali, Salili, S.M., Srinivasan, R.S., Shahsavan, H., Jakli, A. Application of Wide-Band Liquid Crystal Reflective Windows in Building Energy Efficiency: A Case-study of Educational Buildings. Winter Simulation Conference, Arlington, VA, 2016.
12. Kim, Dong-Soo, Srinivasan, R.S., Chini, A.R. "Toward Urban-scale Assessments of Building Environmental Impacts: A Review." ICCCBCE 2016, Japan.
13. Kim, Dong-Soo, Srinivasan, R.S. "Prediction of Building Energy Use and Emissions for Implementing Energy Efficiency and Renewable Energy Programs: Toward Sustainable Cities." ICCCBCE 2016, Japan.
14. Gulati, R., Suddapalli, S., Srinivasan, R.S. "Energy Impacts of Roof Fasteners for Metal Deck Roofing Systems during Re-roofing and Re-Cover Scenarios." RCI Conference (Roofing Consultants Institute), Orlando, 2016.
15. Komeily A, and Srinivasan R S. "Geographic Information Systems (GIS)- based Decision Support System for Smart Project Location." In Proceedings of the American Society Civil Engineers' International Workshop on Computing in Civil Engineering, June 21-23, 2015, Austin, TX, USA.
16. Wang, Z., Srinivasan, R.S. "A Review of Artificial Intelligence-based Building Energy Prediction with a Focus on Ensemble Prediction Models." Winter Simulation Conference, Huntington, CA, December 6-9, 2015.
17. Jia, M., Srinivasan, R.S. "Occupant Behavior Modeling for Smart Buildings: A Critical Review of Data Acquisition Technologies and Modeling Methodologies." Winter Simulation Conference, Huntington, CA, December 6-9, 2015.
18. Fathi, S., Srinivasan, R.S. "Critical Analysis of Energy Performance of Educational Buildings in a University Campus Setting using Statistical and Energy Modeling Approaches." Winter Simulation Conference, Huntington, CA, December 6-9, 2015.
19. Wang, Z., Srinivasan, R.S. "Artificial Intelligence- based Prediction of Residential Space Heating: Use of Dynamic Human Behaviors for Improving Prediction Accuracy." American Society of Civil Engineers International Workshop on Computing in Civil Engineering, 2015.
20. Komeily, A., Srinivasan, R.S. "Geographic Information Systems (GIS)- based Decision Support System for Smart Project Location." American Society of Civil Engineers International Workshop on Computing in Civil Engineering, 2015.
21. Srinivasan, R.S., Thakur, S., Parmar, M., Ahmed, I. "Towards the Implementation of a 3D Heat Transfer Analysis in Dynamic-BIM Workbench." In Proceedings of 45th Winter Simulation Conference to be held in Savannah, GA, 7-10 December, 2014. Invited Paper.
22. Agdas, D., Srinivasan, R.S. "Parallel Computing in Building Energy Simulation." In Proceedings of 45th Winter Simulation Conference to be held in Savannah, GA, 7-10 December, 2014. Invited Paper.

23. Pasunuru, R., Hakim, H., Sakhalkar, A., Kibert, C., Srinivasan, R.S. "Towards New Zero Energy Schools – A Case Study Approach." In Proceedings of 45th Winter Simulation Conference to be held in Savannah, GA, 7-10 December, 2014
24. Srinivasan, R.S., Lakshmanan, J. "Dynamic- Sustainability Information Modeling (Dynamic-SIM) Workbench." In Proceedings of iiSBE Net Zero Built Environment Symposium held in Gainesville, FL,6-7 March, 2014.
25. Pasunuru, R., Hakim, H., Sakhalkar, A., Kibert, C.J., Srinivasan, R.S. "Analysis of Meadowbrook Elementary School Energy Performance: Towards Net Zero." In Proceedings of iiSBE Net Zero Built Environment Symposium held in Gainesville, FL,6-7 March, 2014.
26. Kim, D., Srinivasan, R.S. "Urban Performance Simulations – A Review." In Proceedings of iiSBE Net Zero Built Environment Symposium held in Gainesville, FL,6-7 March, 2014.
27. Kibert, C.J., Srinivasan, R.S. "Net Zero: Rational Performance Targets for High Performance Buildings," In Proceedings of the International Society of Management Science and Engineering Management, Philadelphia, PA, 2013.
28. Kibert, C.J., Srinivasan, R.S. "Net Zero: A Novel Approach for Setting Sustainability Targets for the Built Environment," In Proceedings of the Advances in Building Sciences Conference, Indian Institute of Technology, Madras, India, 2013. (Keynote Presentation)
29. Srinivasan, R.S., Kibert, C., Fishwick, P., Thakur, S., Lakshmanan, J., Ezzell, Z., Parmar, M., Ahmed, I. "Dynamic-BIM (D-BIM) Workbench for Integrated Building Performance Assessments," In Proceedings of the Advances in Building Sciences Conference, Madras, India, 2013.
30. Srinivasan, R.S., Campbell, D., Lakshmanan, J., Trucco, C., Acosta, P. "Emergy-LCA Synthesis Models for Built Environments: Challenges and Opportunities," In Proceedings of the Advances in Building Sciences Conference, Madras, India, 2013.
31. Srinivasan, R.S., Kibert, C.J., Fishwick, P., Ezzell, Z., Thakur, S., Ahmed, I., Lakshmanan, J. "Preliminary Researches in Dynamic-BIM (D-BIM) Workbench Development," In Proceedings of Winter Simulation Conference, Berlin, Germany, 2012.
32. Bhandari, M., Srinivasan, R.S. "Window-Wall Interface Correction Factors: Thermal Modeling of Integrated Fenestration and Opaque Envelope Systems for Improved Prediction of Energy Use." In Proceedings of SimBuild Conference, Madison, WI, USA, 2012.
33. Srinivasan, R.S., Braham, W.W., Campbell, D.E., and Curcija, D.C. "Re(de)fining Net Zero Energy: Renewable Emergy Balance of Environmental Building Design." In Proceedings of the Twelfth International Building Performance Simulation Association Conference, Sydney, Australia, 2011.
34. Srinivasan, R.S., Braham, W.W., Campbell, D.E., and Curcija, D.C. "Building Envelope Optimization using Emergy Analysis in Environmental Building Design." In Proceedings of the Twelfth International Building Performance Simulation Association Conference, Sydney, Australia, 2011.
35. Srinivasan, R.S., Braham, W.W., Campbell, D.E., and Curcija, D.C. "Sustainability Assessment Frameworks, Evaluation Tools and Metrics for Building and Environment – A Review." In Proceedings of the Twelfth International Building Performance Simulation Assoc. Conference, Sydney, Australia, 2011.
36. Srinivasan, R.S., Lakshmanan, J., and Srivastav, D. "Calibrated Simulation of an Existing Convention Center Building: The Role of Event Calendar and Energy Modeling Software." In Proceedings of the Twelfth International Building Performance Simulation Association Conference, Sydney, Australia, 2011.
37. Srinivasan, R.S., Lakshmanan, J., Srivastav, D., and Santosa, E. "Benchmarking Plug-load Density for K-12 Schools." In Proceedings of the Twelfth International Building Performance Simulation Association Conference, Sydney, Australia, 2011.
38. Srinivasan, R.S., Braham, W.W., Campbell, D.E., and Curcija, D.C. "Energy Balance Verification Protocol for Net Zero Energy Buildings." In Proceedings of 2011 Winter Simulation Conference, Phoenix, AZ, USA, 2011.

39. Srinivasan, R.S., and Malkawi, A. "Toward Real-Time Airflow Simulations for Immersive Visualization using Adaptive Localization Method." In Proceedings of the Tenth International Building Performance Simulation Association (IBPSA) Conference held in Beijing, China, Sept 3-6, 2007.
40. Malkawi, A., and Srinivasan, R.S., "Energy Based Decision Support System for Facilities Management: Integration of Data/Web Mining, Knowledge Base and Thermal Simulation." In Proceedings of the Tenth International IBPSA Conference Held in Beijing, China, Sept 3-6, 2007. ("IBPSA Student Travel Award")
41. Srinivasan, R.S., and Malkawi, A. "Adaptive Localization Method: An Approach to Real-Time Airflow Simulation and Immersive Visualization." In Proceedings of the Seventeenth International Conference on Computer Graphics and Vision (GRAPHICON) Held in Moscow, Russia, 23-27 June 2007.
42. Lakaemper, R., Malkawi, A., Srinivasan, R.S. and Latecki, L.J. "Mobile Robot Mapping and Immersive Building Simulation." In Proceedings of the Sixteenth International Conference on Computer Graphics and Vision Held in Moscow, Russia, 1-5 July 2006, Novosibirsk Akademgorodok, Russia, 2006.
43. Malkawi, A., Srinivasan, R.S., and Veer, V.J. "Interfacing with Building Data: Toward an Integrated Mobile Augmented Environment." In Proceedings of the Ninth International Building Performance Simulation Association Conference Held in Canada, 15-18 August 2005, Montreal, Canada, 2005.
44. Srinivasan, R.S. and Malkawi, A. "Reinforcement Learning and Real-time Thermal Performance Visualization in Buildings." In Proceedings of the Tenth Association for Computer-Aided Architectural Design Research in Asia (CAADRIA) Conference Held in New Delhi, India, 28-30 April 2005, edited by A. Bhatt. New Delhi: CAADRIA, 2005. ("Young CAADRIA Award" for best research)
45. Malkawi, A. and Srinivasan, R.S. "Building Performance Visualization Using Augmented Reality." In Proceedings of the Fourteenth International Conference on Computer Graphics and Vision Held in Moscow, Russia, 6-10 September 2004, 122-127. Moscow, Russia: Moscow State University, 2004.
46. Malkawi, A. and Srinivasan, R.S. "Multimodal Human-Computer Interaction for Immersive Visualization: Integrating Speech-Gesture Recognitions and Augmented Reality for Indoor Environments." In Proceedings of the Seventh International Association of Science and Technology for Development (IASTED) Conference on Computer Graphics and Imaging Held in Kauai, Hawaii, 17-19 August 2004, edited by M.H. Hamza, 171-175. Calgary, Canada: ACTA Press, 2004.
47. Malkawi, A., Srinivasan, R.S., Jackson, B., Yi, Y., Chan, K.H. and Angelov, S. "Interactive, Immersive Visualization for Indoor Environments: Use of Augmented Reality, Human-Computer Interaction and Building Simulation." In Proceedings of the Eight International Conference on Information Visualization Held in London, England, 14-16 July 2004, 833-838. London, England: IEEE Press, 2004.
48. Srinivasan, R.S. and Malkawi, A. "The Use of Learning Algorithms for Real-time Immersive Data Visualization in Buildings." In Proceedings of the Eighth Iberoamerican Congress of Digital Graphic (SIGRADI) Conference Held in Sao Leopoldo, Brazil, 10-12 November 2004, edited by C. Scaletsky, 793-798, Sao Leopoldo, Brazil: 2004.
49. Malkawi, A., Srinivasan, R.S., Yi, Y. and Choudhary, R. "Performance-based Design Evolution: The Use of Genetic Algorithms and CFD." In Proceedings of the Eighth IBPSA Conference Held in Eindhoven, Netherlands, 11-14 August 2003, edited by G. Augenbroe and J. Hensen, Vol. 2: 793-798. Eindhoven, The Netherlands: IBPSA, 2003.
50. Srinivasan, R.S. and Najafi, F. "Visual Construction Information System to Retrieve Necessary Construction Data for a Typical Mid-size Construction Project." In Proceedings of the Eighty Second Annual Meeting of Transportation Research Board (TRB) Conference Held in Washington D.C., 12-16 January 2003.
51. Najafi, F.T., Fukai, D., Ross, D., and Srinivasan, R.S. "Public Works Engineering Education Through Setting up An International Public Works Center at the University of Florida," In Proceedings of the American Society of Engineering Education (ASEE), held in Montreal, Canada, 2002.

52. Srinivasan, R.S. et al., "Visual Pattern Database (VIPD): New Understanding of the Sequences in Design and Construction," In Proceedings of the Fourth Transportation Speciality Conference of the Canadian Society for Civil Engineering, held in Montreal, Canada, 5-8 June, 2002.
53. Fukai, D. and Srinivasan, R.S. "Piece-based Construction Information System (PCIS) Revisited: A Visual Database for Design and Construction." In Proceedings of the Twenty First Annual Conference of the Association for Computer-Aided Design in Architecture (ACADIA) Held in Buffalo, New York, 11-14 October 2001, edited by W. Jabi, 372-379. Buffalo, NY: ACADIA, 2001.
54. Fukai, D. and Srinivasan, R.S. "PCIS Revisited: A Visual Decision Tool for Design and Construction Management." In Proceedings of the Sixth International Conference on Information Visualization Held in London, England, 25-27 July 2001, 376-381. London, England: IEEE Press, 2001.

CONFERENCE PRESENTATIONS: Non-Paper

1. Valipoor, S., Srinivasan, R., Ahrentzen, S. Virtual Reality for Older Adults with Movement Disorders: A Tool for Co-Designing Homes. IAPS Conference, Québec City, Canada. June 2020.
2. Ahrentzen, S., Srinivasan, R., Valipoor, S. CODY: Using Virtual Reality for Co-Designing Residential Interiors for People with Parkinson's Disease presented at AMPS Conference, Tallahassee, FL. Jan 2020.

TECHNICAL REPORTS

1. Srinivasan, R.S., et al., "A Net Zero Energy Study of Old Colony Redevelopment: Preliminary Assessment Report," prepared for Boston Housing Authority's first public housing Net Zero Energy project. 2010
2. "Energy-based Decision Support System for National Park Service's Facility Management." University of Pennsylvania and Independence National Historic Park Partnership. Washington D.C.: U.S. Department of Energy. 2006
3. Srinivasan, R.S. "Thermal Heat Transfer Routines: An Object Oriented Approach to Access Transfer Function Method Simulation Engine." School of Design, University of Pennsylvania. 2006
4. Malkawi, A.M., Srinivasan, R.S. "Fire Evacuation Study for World Trade Center Using STEPS and EXODUS." School of Design, University of Pennsylvania. 2005

GRADUATE COMMITTEE ADVISING

PH.D. STUDENTS: ADVISED AS COMMITTEE CHAIR – GRADUATED

1. Dr. Ali Komeily; May 2017. Sr. Data Analyst, McKinsey & Partners, Boston, MA, USA
2. Dr. Zeyu Wang; May 2017. Associate Professor of Civil Engineering, Guangzhou University, China
3. Dr. Dongsoo Kim; August 2018. Sr. Project Manager, Samsung Construction, NC, USA
4. Dr. Mengda Jia; December 2018. Data Scientist, Feedzai, San Francisco, CA, USA
5. Dr. Soheil Fathi; May 2019. VDC Engineer, Clark Construction, San Francisco, CA, USA

PH.D. STUDENTS: ADVISING AS COMMITTEE CHAIR

1. Haekyung Im; Urban Energy Forecasting, ML, Statistical Analysis. Expected graduation 2021
2. He Zhang; Indoor Air Quality, Sensors, Data Analysis. Expected graduation 2021
3. Jithin Gopinadhan; Haptic-enabled Interactive Virtual Environments, BIM. Expected graduation 2022
4. Deepak Balakrishnan; BIM, Building Permitting/ Codes Automation. Expected graduation 2023

M.S. STUDENTS: ADVISED AS COMMITTEE CHAIR - GRADUATED

Vishal Chundawat, May 2018; Kalieshwar Chella, May 2017; Utsav Parakh, May 2016; Vishal Mahajan, December 2014; Kurt Strauss, August 2012; Brain Bennet, August 2011

LED COLLABORATIVE AGREEMENTS WITH INTERNATIONAL UNIVERSITIES

2017-Present UNIVERSITY OF PRETORIA, SOUTH AFRICA

Department of Electrical, Electronics, and Computer Engineering

Research Agenda: Building Energy Use, Machine Learning, Energy Estimation

2018-Present SOUTHEAST UNIVERSITY, NANJING, CHINA

Department of Architecture

Research Agenda: Embodied Energy, Energy Analysis of Building Materials, Unit Energy Values

INTERNATIONAL VISITING SCHOLARS TO URBSYS LAB

2020-2021 Kishor Kumar, Ph.D., Central Building Research Institute, Roorkee

Supported by Indo-US Science & Tech. Forum (IUSSTF); 6 months

2019-2020 Junxue (Jerry) Zhang, Ph.D. Student, Dept. of Arch., Southeast University, Nanjing, China

Supported by Chinese National Science Foundation; 12 months

2019 Tarun Kumar, Ph.D. Student, Dept. of Arch., Indian Institute of Science, Bangalore

Supported by Indo-US Science & Tech. Forum (IUSSTF); 6 months

2018 Rajasekar Elangovan, Ph.D., Dept. of Arch., Indian Institute of Technology, Roorkee

Supported by Chinese National Science Foundation; 3 months

REVIEW WORK

2018-Present, Technical Program Committee, ACM BuildSys

2015- Present, Reviewer, Journal of Power & Energy Engineering

2014, Reviewer, Building Research & Information (BRI)

2014, Reviewer, ASME Intl. Design Engineering Technical Conference (New York).

2014, Reviewer, iiSBE Net Zero Built Environment Symposium

2014, Reviewer, Winter Simulation Conference

2013 - 2017, Reviewer, Energy and Buildings, Elsevier.

2013, Reviewer, GreenBuild Conference, Philadelphia, PA.

2013, Reviewer, Energy Journal, Elsevier.

2013, Reviewer, Advances in Building Sciences Conference, Chennai, India.

2012, Reviewer, Applied Energy Journal, Elsevier.

2012, Reviewer, International Journal of Strategic Property Management, Taylor & Francis.

2011 - 2017, Reviewer, Building and Environment, Elsevier.

2011, Reviewer, Winter Simulation Conference, Phoenix, AZ, USA.

2011, Reviewer, GreenBuild Conference, Toronto, Canada.

PROFESSIONAL MEMBERSHIPS

2014 – Present, National Fenestration Rating Council (NFRC), USA (Board of Directors)

2012 – Present, Energy Society, USA

2012 – Present, Green Building Initiative (GBI), USA

2011 – Present, Association of Computing Machinery (ACM), USA

2011 – 2014, American Society for Quality (ASQ), USA

2010 – 2014, American Society of Civil Engineers (ASCE), USA

2003 – 2014, International Building Performance Simulation Association (IBPSA), USA

2007 – 2010, 2019 – Present, American Society of Heating, Refrigerating & Air-Conditioning Eng. (ASHRAE)

2007 – Present, Associate of Energy Engineers (AEE), USA

2007 – 2008, Delaware Valley Green Building Council (DVGBC), USA

TEACHING

NEW COURSES DEVELOPED & DELIVERED

- 2020 **Foundations, Principles and Applications of Sustainable Development**, IDS 2935, 3 credit hours
Co-developed new course that fills Social and Behavioral Sciences and International Gen Ed Requirements at University of Florida. This interdisciplinary course provides an understanding of human interventions on the environment in various forms that has led to the destruction of natural resources. In this course, the key concepts related to sustainable development worldwide, gain familiarity with key environmental and resource issues and the effects on humankind if present population and consumption trends remain unchanged. This course will address core questions about culture and nature with a special focus on human interventions on the environment.
- 2011-Present **Buildings Energy Modeling**, BCN 4594 & BCN 6584, 3 credit hours
Instrumental in developing a new course during my first year at University of Florida. These courses were, then, approved by the State of Florida University System: BCN 4594 Undergraduate and BCN 6584 Graduate courses. These courses build essential knowledge of building energy and sustainability, and provides necessary background to use building energy simulation software tools. The goal of this course is to use building performance modeling as an investigative tool to improve overall energy efficiency of the building. Among others, students will learn to use DOE approved eQuest software to create a detailed energy model of an existing building from Construction Documents (Architectural, MEP) and calibrate using actual energy use data.
- 2014-Present **Buildings & Energy: Design and Operation vs. Sustainability**, EML 4930 and EML 6934, 3 credit hours
Co-developed new courses that were approved by State of Florida University System: EML4930 Undergraduate and EML 6934 Graduate courses in the Department of Mechanical & Aerospace Engineering, College of Engineering in 2014. Currently, these courses were offered as online course via UF Edge Program.
- 2014-Present **International Sustainable Development**, BCN 1582 Online
Co-developed new 100% online course owing to increased enrollment. This course fills Social and Behavioral Sciences and International Gen Ed Requirements at UF.
- 2009-2010 **Net Zero Energy Training Series**
18 Short Courses from concepts to advanced energy and daylight modeling, 175 professionals attended; offered AIA, IES & USGBC continuing credits.
- 2009-2010 **Building Energy Simulation Analyst (BESA) Certification Exam & Preparatory Course**
Association of Energy Engineers; covers the theory and practice of computerized building energy modeling. Conducted 3-day workshop in Dallas, TX. Attendees included industry professional (KEMA, Alcatel-Lucent), US Department of State, Oregon Department of Energy.
- 2010 **Building Energy Modeling Training Program**
For LEED EAc1 / ASHRAE Standard 90.1 Appendix G Compliance for WSP Flack + Kurtz, Boston MA.

COURSES TAUGHT

2020

Doctoral Core II

DCP 7911: 3 credit hours

This mandatory course for doctoral students is designed to help PhD students navigate the dissertation process. It is also intended to provide opportunities for students to become critical and astute readers of other people's research. DCP 7911 is a survey course that covers the basic elements of academic research, including (1) research formulation and design, (2) research approaches and methods, and (3) quantitative data analysis. As well, the semester-long course project involves learning how to formulate and write a major component of a research proposal – a NSF-style research that is closely related to your dissertation proposal.

2011-Present

Building Energy Modeling

BCN 4594 and BCN 6584: 3 credit hours

Uses DOE approved software, refers ASHRAE 90.1, and ASHRAE Fundamentals for engineering calculations

International Sustainable Development

BCN 1582: 3 credit hours

This course fills Social and Behavioral Sciences and International Gen Ed Requirements at University of Florida.

2012-2019

Integrated Project Delivery (IPD) Studio & Practicum

BCN 4787 & 4905; BCN 5789 & 5905, 6 credit hours

The integrated studio format will include students from Construction Management, Architecture, Landscape Architecture, and Interior Design working in teams. Every year, the teams are posed with new challenging projects;

2012: Multi-use Building Program with a site in Singapore

2013: Mobile Outreach Hut for University of Florida Office of Sustainability

2014: Design, Build, and Operate Solar-Powered House

2015: Solar Decathlon

2016: Integrated Neighborhood Infrastructure for the 21st Century

2017: Extreme Coastal Adaptation Studio with a focus on sea level rise, in Miami

2018: Good Will Reconsidered, Community of Newton, Sarasota, Florida

2019: San Felasco Tech City Tower

2014-Present

Buildings & Energy: Design and Operation vs. Sustainability, EML 4930 and EML 6934, 3 credit hours

To achieve higher standards in building design and operation, a solid foundation of energy engineering and sustainability principles is essential. At UF engineering, there are no courses offered to students and industry professionals in energy topics particularly related to buildings, specifically for the design and operation in Florida climate conditions. This project fills this void through the development of an energy engineering course.

- 2011 **Sustainable Construction**
 BCN 6985, 3 credit hours
 This course addressed the application of the sustainable development paradigm to the built environment. It also discussed environmental ethics and environmental justice; ecological / environmental economics including Life Cycle Costing; building assessment (frameworks) and ecolabels.
- 2009-2010 **Building Energy Simulation Analyst (BESA) Certification Exam & Preparatory Course**
 Association of Energy Engineers; covers the theory and practice of computerized building energy modeling. Conducted 3-day workshop in Dallas, TX. Attendees included industry professional (KEMA, Alcatel-Lucent), US Department of State, Oregon Department of Energy.
- 2010 **Building Energy Modeling Training Program**
 For LEED EAc1 / ASHRAE Standard 90.1 Appendix G Compliance for WSP Flack + Kurtz, Boston MA.

UNIVERSITY GOVERNANCE AND SERVICE

UNIVERSITY SERVICE

2020-2022, Elected Faculty Senator
 2016-2019, Elected Faculty Senator
 2013-2019, Sustainability Committee

COLLEGE SERVICE

2017-2020, Elected Faculty Council
 2017-2019, Elected Administrative Council
 2018-2020, Witters Competition Committee

DEPARTMENTAL SERVICE

2019-2021, Elected Endowment Committee
 2019-2021, Elected Merit Pay Committee
 2014-2021, Elected Faculty Advisory Committee
 2017, Rinker School Director Search Committee
 2013-2017, Computing Committee
 2011-2021, Graduate Research Committee