

Leidy Klotz
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HIGHLIGHTS

Advisor for 6 graduated Ph.D. students (5 more on track to graduate in summer, 2016), and 10 graduated M.S. thesis students – all with research topics in sustainable infrastructure

S.E. Liles Family Endowed Professorship

Awarded over \$4.8 million in research funding (personal share nearly \$3 million)

34 journal articles and 18 refereed conference proceedings published or in press (19 have at least one cross-disciplinary coauthor)

Book on systems and sustainability – final draft accepted and in production with University of California Press

Cross-disciplinary program development - established and lead Clemson's campus-wide Minor in Sustainability and Clemson's National Academy of Engineering Grand Challenge Scholars Program

ACADEMIC APPOINTMENTS *all at Clemson University

S.E. Liles Family Associate Professor of Civil Engineering, 2015 -

Courtesy appointment in Engineering and Science Education, 2015 -

Associate Professor of Civil Engineering, 2012 - 2015

Assistant Professor of Civil Engineering, 2008 – 2012

EDUCATION

Ph.D., Penn State, Architectural Engineering, 2008

M.S., University of Washington, Construction Engineering, 2005

B.S., Lafayette College, Civil Engineering, 2000

HONORS AND AWARDS

S.E. Liles Family Professorship, 2015

40 under 40 Professors who inspire, Nerdscholar, 2014

Award of Distinction, Clemson National Scholars Program, 2013, 2014

CAREER Award, National Science Foundation, 2011

Outstanding Teacher Award, Chi Epsilon, Clemson Civil Engineering Department, 2010, 2013

Academic All-American, National Soccer Coaches Association of America,
1998

PUBLICATIONS (* indicates graduate student, ** indicates undergraduate)

Refereed journal articles

Blizzard, J.*, Klotz, L., Potvin, G., Hazari, G., Cribbs, J. and Godwin, A.* (2015). "Survey questions to help identify and understand design thinkers." *Design Studies* 38: 92-110.

Shealy, E.* and Klotz, L. (2015). "Well-endowed sustainability rating systems?" *ASCE Journal of Construction Engineering and Management* (Available online ahead of press).

Chen, D.*, Ross, B., and Klotz, L. (2015). "Lessons from a Coral Reef: Biomimicry for structural engineers." *Journal of Structural Engineering* 141(4).

Shealy, E.*, Valdes, R., Klotz, L., Godwin, A., Hazari, Z., Potvin, G., and Cribbs, J. (2015). "Career Outcome Expectations Related to Sustainability Among Students Intending to Major in Civil Engineering." *ASCE Journal of Professional Issues in Engineering Education and Practice* (Accepted).

Klotz, L., Potvin, G., Cribbs, J., Godwin, A*, Hazari, Z., and Barclay, N. (2014). "Sustainability as a route to broaden participation in engineering." *Journal of Engineering Education* 103(1): 137-153.

Plumblee, J.* and Klotz, L. (2014). "Marlo's windows: Why it's a mistake to ignore hazard resistance in LCA." *International Journal of Life Cycle Assessment* 19: 1173-1178.

Nikou, T.* and Klotz, L. (2014). "Application of Multi-Attribute Utility Theory for Sustainable Energy Decisions in Commercial Buildings: A Case Study." *Smart and Sustainable Built Environment*. 3(3).

Valdes, R.*, Klotz, L., Shealy, E.*, Cribbs, J.*, Godwin, A*, Lock, R., Potvin, G., and Hazari, Z. (2014). "Just Like all the Rest? College Students who Exhibit Pro-Sustainability Attitudes and Behaviors." *Journal of College Admission* (In Press).

Valdes, R.* and Klotz, L. (2013). "Using the concept mapping method for empirical studies in construction research." *American Society of Civil Engineers Journal of Construction Engineering and Management* 139(10).

Cattano, C.*, Valdes, R.*, Plumblee, J.* and Klotz, L. (2013). "Potential solutions to common barriers to the delivery of building renovations for improved energy performance: A literature review and case study." *American Society of Civil Engineers Journal of Architectural Engineering*. 19 (Special Issue: Emerging Trends of Sustainable Engineering, Design, and Construction), 164-167.

Kruzner, K.*, Cox, K.*, Machmer, B*, and Klotz, L. (2013). "Trends in observable passive solar design strategies for existing homes in the U.S." *Energy Policy* 55: 82-94.

Valdes, R.* and Klotz, L. (2013). “Social sustainability considerations during planning and design: A framework of processes for construction projects.” *American Society of Civil Engineers Journal of Construction Engineering and Management*. 139(1): 80–89.

Klotz, L. (2013). “The Sustainability Generation: Why young people hold the key to a better future.” *Solutions Journal* <http://thesolutionsjournal.com/node/2441>.

Stanford, M.S.*, Benson, L., Alluri, P.*, Martin, W.*, Klotz, L., Ogle, J., Kaye, N., Sarasua, W., and Schiff, S. (2013). “Evaluating Student and Faculty Outcomes for a Real-World Capstone Project with Sustainability Considerations.” *American Society of Civil Engineers Journal of Professional Issues in Engineering Education and Practice*. 139(2), 123–133.

Blizzard, J.* and Klotz, L. (2012). “A framework for sustainable whole systems design.” *Design Studies*. 33(5): 456-479.

Plumlee, J.*, Cattano, C.*, Bell, L., and Klotz, L. (2012). “Fulfilling engineering program objectives through service learning campaigns in developing countries.” *American Society of Civil Engineers Journal of Leadership and Management in Engineering*. 12 (2): 46-52.

Blizzard, J.*, Klotz, L., Pradhan, A., and Dukes, M.* (2012). “Introducing whole-systems design to first-year engineering students with case studies.” *International Journal for Sustainability in Higher Education*. 13 (2).

Tupper, L.*, Chowdhury, M., Klotz, L., and Fries, R. (2012). “Measuring sustainability: How traffic incident management through Intelligent Transportation Systems has greater energy and environmental benefits than common construction-phase strategies for “green” roadways.” *International Journal of Sustainable Transportation*. 6 (5): 282-297.

Klotz, L. (2011). “Cognitive biases in energy decisions during the planning, design, and construction of commercial buildings in the United States: an analytical framework and prioritized research needs.” *Energy Efficiency*. 4 (2) 271-284.

Palanisamy, P.* and Klotz, L. (2011). “Delivery process attributes, common to India and the U.S., for more sustainable buildings.” *Journal of Green Building*. 6 (4).

Valdes, R.* and Klotz, L. (2011). “Incorporating the social dimension of sustainability into civil engineering education.” *American Society of Civil Engineers Journal of Professional Issues in Engineering Education and Practice*. 137 (4): 189-197.

Plumlee, J.*, Bell, L., and Klotz, L. (2011). “Meeting engineering program objectives through service learning opportunities in developing countries.” *Journal of Civil Engineering and Architecture*. 5 (2): 97-103.

Cattano, C.*, Nikou, T.*, and Klotz, L. (2011). “Teaching systems thinking and biomimicry to Civil Engineering students.” *American Society of Civil*

Engineers Journal of Professional Issues in Engineering Education and Practice. 137 (4): 176-182.

Klotz, L., Mack, D.**, Klaphor, B.**, Tunstall, C.** and Harrison, J.* (2010). “Unintended Anchors: Building Rating Systems and Energy Performance Goals for U.S. Buildings.” *Energy Policy*. 38 (7): 3557-3566.

Harrison, J.* and Klotz, L. (2010). “Women as Sustainability Leaders in Engineering: Evidence from Industry and Academia in the U.S.” *International Journal of Engineering Education*. 26 (3), 1–8.

Klotz, L. and Horman, M. (2010). “Counterfactual Analysis of Sustainable Project Delivery Processes.” *American Society of Civil Engineers Journal of Construction Engineering and Management*. 136 (5), 595-605.

Valdes, R.* and Klotz, L. (2010). “Considering the social aspects of sustainability during construction project planning and design.” *The International Journal of Environmental, Cultural, Economic, and Social Sustainability* 6 (6).

Zhou, Y.*, Tupper, L.*, Chowdhury, M., and Klotz, L. (2010). “Green credits vs. sustainable traffic operations: a comparison of contributions to energy and emissions reductions.” *Transportation Research Record, Journal of the Transportation Research Board*. 10-3928: 103-111.

Klotz, L., Horman, M., Riley, D., and Bechtel, J. (2009). “Process Transparency for Sustainable Building Delivery.” *International Journal of Sustainable Engineering* 2 (4): 298.

Klotz, L., Johnson, Ph., Leopard, T., Johnson, Pa., Maruszewski, S., Horman, M., and Riley, D. (2009). “Campus Construction as a Research Laboratory: A Model for Intra-Campus Collaboration.” *American Society of Civil Engineers Journal of Professional Issues in Engineering Education and Practice* 135 (4): 122-128.

Klotz, L., Loftness, V., Henze, G., Sailor, D. and Riley, D. (2009). “Technical Research Needs for Sustainable Buildings: Results from a Multidisciplinary NSF Workshop.” *Journal of Green Building*. 4 (4): 101-112.

Magent, C., Korkmaz, S., Klotz, L., and Riley, D. (2009). “A Design Process Evaluation Method for Sustainable Buildings.” *Architectural Engineering and Design Management*. 5 (1): 62-74.

Klotz, L., Horman, M., Bi, H. H., and Bechtel, J. (2008). “The Impact of Process Mapping on Transparency.” *International Journal of Productivity and Performance Management*. 57 (8): 623-636.

Klotz, L. and Horman, M. (2007). “A Modeling Protocol for Evaluating Green Project Delivery.” *Journal of Lean Construction*. 3 (1): 1-18.

Lantz, K.*, Klotz, L., and Chowdhury, M. (2014). “Leapfrogging to Sustainable Mobility in Emerging Cities through Intelligent Transportation Systems.” *IEEE Intelligent Transportation Systems Transactions* (In Review).

Klotz, L., Godwin, A.*, Cribbs, J., Potvin, G., Hazari, Z., and Barclay, N.* (2014). "High school experiences and climate change beliefs in the U.S." *Journal of Environmental Education* (In Review).

Shealy, E.*, Klotz, L., Moulton, E., Weber, E., Johnson, E., and Greenspan-Bell, R. (2015). "Choice architecture for delivery processes to encourage elegant infrastructure." *ASCE Journal of Infrastructure Systems* (In Review).

Godwin, A., Klotz, L., Hazari, Z., and Potvin, G. (2015). "Sustainability goals of students underrepresented in engineering: An intersectional study." *International Journal of Sustainability in Higher Education* (In Review).

Books

Klotz L. (2016). *Sustainability through Soccer: An Unexpected Approach to Saving the World*. Introductory systems and sustainability book accepted and in production with University of California Press (scheduled publication is summer 2016).

Conference proceedings (reviewed)

Godwin, A. and Klotz, L. (2015) "An intersectional approach to understanding underrepresented students' sustainability goals." *EEED15 – The Seventh International Conference on Engineering Education for Sustainable Development*. (Won best research methodology award).

Godwin, A., Potvin, G., Hazari, Z., and Klotz, L. (2015) "Comparison of Intended Engineering Majors at 2- and 4-year Post-Secondary Institutions: Backgrounds, High School Experiences, and Goals". *National Association of Research in Science Teaching Conference*, Chicago, IL.

Mahadeo, J.***, Potvin, G., Hazari, Z., and Klotz, L. (2014). "Impact of novel technologies on high school students' physics identities." *Physics Education Research Conference*, Minneapolis, MN.

Barclay, N* and Klotz, L. (2014). "Rationale for studying how institutional capacity can influence the adoption of decentralized approaches to stormwater infrastructure." *Creating infrastructure for a sustainable world*. Long Beach, CA.

Lantz, K.*, Klotz, L., and Chowdhury, M. (2014). "Social physics techniques for meeting ITS deployment challenges in cities of emerging economies." *Creating infrastructure for a sustainable world*. Long Beach, CA.

Shealy, E.* and Klotz, L. (2014). "Choice architecture defaults in the Envision rating system." *Creating infrastructure for a sustainable world*. Long Beach, CA.

Shealy, E.* and Klotz, L. (2014). "Simplicity on the other side of complexity: Can we meet our infrastructure needs with less?" *Construction Research Congress*, Atlanta, GA.

- Potvin, G., Hazari, Z., Klotz, L., Godwin, A.*, Lock, R., Cribbs, J., Barclay, N.* (2013). "Disciplinary Differences in Engineering Students' Aspirations." *ASEE Annual Conference and Exposition*, Atlanta, GA.
- Kruzner, K.*, Heine, U., and Klotz, L. (2012). "Low-Carbon Materials Management: A Case Study For A Net-Zero Energy House With Minimized Carbon Footprint." *International Conference for Sustainable Design, Engineering, and Construction*, Fort Worth, TX.
- Landis, A., Bilec, M., Pearce, A., and Klotz, L. (2011). "Lessons learned from a Distance Learning Research Methods Course co-taught by Clemson, University of Pittsburgh, and Virginia Tech." *ASEE Annual Conference and Exposition*, Vancouver, BC.
- Cattano, C.*, Valdes, R.*, and Klotz, L. (2011). "Barriers to the delivery of building renovations for improved energy performance: A literature review and case study." *International Conference for Sustainable Design and Construction*, Kansas City, MO.
- Plumblee, J.*, Bell, L., and Klotz, L. (2010). "Meeting engineering program objectives through service learning opportunities in developing countries." *Engineering Project Organizations Conference*, South Lake Tahoe, CA (Plenary presentation).
- Klotz, L. and Grant, D.* (2009). "A Balanced View of Sustainability in Civil Engineering and Construction." *Proceedings of ASCE Construction Research Congress*, Seattle, WA.
- Valdes, R.* and Klotz, L. (2009). "Integrating Social Aspects during the Design of Sustainable Projects." *6th International Conference on Environmental, Cultural, Economic and Social Sustainability*, Cuenca Ecuador.
- Zhou, Y.*, Tupper, L.*, Chowdhury, M., and Klotz, L. (2009). "Green Credits Vs. Sustainable Traffic Operations: A Comparison of Contributions to Energy and Emissions Reductions." *Transportation Research Board 2010*.
- Klotz, L., Horman, M., Riley, D., and Bechtel, J. (2007). "Exploring the Relationships between Transparency, Sustainable Building Delivery, and Process Mapping." *Proceedings of ASCE Construction Research Congress*, Grand Bahama Island.
- Klotz, L. and Horman, M. (2007). "Transparency, Process Mapping and Environmentally Sustainable Building Projects." *Proceedings of International Group for Lean Construction 15*, East Lansing, MI. 322-331.
- Horman, M., Riley, D., Klotz, L., Dahl, P., Phelps, A. and Luo, Y., (2006). "Engineering Leadership for High Performance Green Buildings," *ASCE and CIB 2nd Specialty Conference on Leadership and Management in Construction*, Grand Bahama Island.

Conference proceedings (unreviewed)

Klotz, L. (2013). “Flaming Camels and Road Diets: Why do we have such a hard time creating elegant, sustainable places.” *Engineering Sustainability*, Pittsburgh, PA.

Blizzard, J.* and Klotz, L. (2011). “A whole-systems approach for designing sustainable infrastructure.” *Engineering Sustainability*, Pittsburgh, PA.

Cattano, C.* and Klotz, L. (2011). “Identifying barriers to address during the delivery of sustainable renovation projects.” *Engineering Sustainability*, Pittsburgh, PA.

Nikou, T.* and Klotz, L. (2011). “Analysis of an HVAC system selection in a sustainable construction case study using multi-attribute utility theory.” *Engineering Sustainability*, Pittsburgh, PA.

Valdes, R.* and Klotz, L. (2011). “Categorizing processes of social sustainability during the design phases of construction projects.” *Engineering Sustainability*, Pittsburgh, PA.

Klotz, L. (2011). “Sustainability as a route to female recruitment in engineering.” *Engineering Sustainability*, Pittsburgh, PA.

Klotz, L. (2009). “Behavioral Influences on Professionals’ Energy Decisions during Building Delivery.” *Engineering Sustainability*, Pittsburgh, PA.

Valdes, R. and Klotz, L. (2009). “Integrating Social Elements into Sustainable Projects” *SACNAS - Improving the Human Condition: Challenges for Interdisciplinary Science*, Dallas, TX.

Klotz, L. and Horman, M. (2007). “Transparency and Sustainable Building Delivery.” *Associated Schools of Construction - Region 2 Conference*, Jacksonville, FL.

Klotz, L. (2006). “Continuously Improving Green Buildings: Using Quality Principles to Identify Valuable Green Building Delivery Process Features.” *Proceedings of Penn State College of Engineering Research Symposium*, University Park, PA.

Other publications

Lantz, K., Chowdhury, M., and Klotz, L. (2014) “Using inquiry to expose undergraduates to ITS.” *IEEE Intelligent Transportation Systems Magazine*. 6 (4): 80-83.

Klotz, L. (2014) “Don’t block up the hall: Bob Dylan’s advice on climate change?” *Change This* (over 15,000 unique visitors per month). February issue.

Klotz, L. (2013) “Rube Goldberg’s real lesson.” *American Society of Engineering Education Prism* (circulation to 12,700 ASEE members including over 10,000 engineering faculty members and over 400 engineering deans). October issue.

Klotz, L. (2013) “Where do we draw the line?” *Engineering News Record* (total paid circulation of 63,000). September issue.

Klotz, L. (2011) “Teaching wisdom from Central Station Café.” *The Teaching Professor* (circulation over 10,000), May issue.

Research advisor for Lizardo et. al. (2011) “Big pipes, small pumps: Interface, Inc.” *Rocky Mountain Institute*. White Paper.

Cattano, C. and Klotz, L. (2010) “Biomimicry.” *Center for Sustainable Engineering Electronic Library*. Refereed teaching module.

Valdes, R. and Klotz, L. (2009) “Considering the Social Dimensions of Sustainability during Construction Project Design.” *Center for Sustainable Engineering Electronic Library*. Refereed teaching module.

Nikou, T. and Klotz, L. (2010) “Systems thinking” *Center for Sustainable Engineering Electronic Library*. Refereed teaching module.

Klotz, L. (2008) “Considering Sustainability in Construction.” *South Carolina Transportation Technology Transfer Service Newsletter*. 19 (3), Summer 2008.

SAMPLE PRESENTATIONS

Sample presentations for external groups

Resilience and sustainability for homes, *Greenprints Conference*, Atlanta, GA, 2014, 2015

Diversity in research, *CRC*, Atlanta, GA, 2014

Sustainability education, *Footbills Sierra Club*, Clemson, SC, 2014

Sustainable infrastructure, *Earth Dialogue*, Clemson, SC, 2014

Why do we have such a hard time creating elegant, sustainable places? *Engineering Sustainability*, Pittsburgh, PA, 2013

Sustainability topics as a route to female recruitment in engineering. *Engineering and Science Education Seminar*, Clemson/Virginia Tech Webinar, 2011

ESSo research group and infrastructure life cycle assessment, *Your Day Radio* - NPR, 2010

Decision making for sustainability in engineering, *Mascaro Center for Sustainable Innovation Speaker Series*, University of Pittsburgh, 2010

Incorporating resilience into life cycle assessments (with Jeff Plumblee), *IEEE International Symposium on Sustainable Systems and Technology (ISSST)*, Washington, D.C., 2010

The social dimension of sustainability in project planning and design (with Rodolfo Valdes), *Michael Horman Green Building Research Symposium*, Virginia Tech, 2010

Alternatives to wood-framed construction (with Jeff Plumblee), *Gulf Coast Home Show*, Gulfport, MS, 2010

Biomimicry, *Savannah River Environmental Sciences Field Station*, Aiken, SC, 2009

Guest Speaker in Environmental Science Classes, *Cross Creek High School*, Augusta, GA, 2009-2012

Behavioral influences and professionals' energy decisions, *Engineering Sustainability*, Pittsburgh, PA, 2009

Graduate school opportunities, *Lafayette College*, Easton, PA, 2008

Energy and buildings, *University of New Hampshire Energy Conference*, Durham, NH, 2008

Improving project delivery: One owner's collaborative journey (with Mark Bodenschatz), *Construction Owner's Association of America Spring Conference*, New Orleans, LA, 2007

Process mapping for sustainable project delivery, *Quality Research Symposium*, University Park, PA, 2007

Process mapping for sustainable project delivery, *Architectural Engineering Graduate Lecture Series*, University Park, PA, 2007

Penn State collaboration (with John Bechtel), *Partnership for Achieving Construction Excellence Spring Conference*, University Park, PA, 2007

Sample presentations for other groups at Clemson

Career development, *Keynote speaker - Clemson FIRE program for underrepresented groups*, 2015

Massive open online courses and service-learning, *Clemson Service Learning Webcast*, 2014

Diversity in the disciplines, *Clemson Engineering Post-Doc Recruitment*, 2014

Elegant solutions, *Biosystems Engineering Club*, 2013

Flaming camels and road diets: Why do we have such a hard time creating elegant, sustainable solutions, *Calboun Honors College Thoughts Worth Thinking*, 2013

Divestment details, *Students for Environmental Action*, 2013

Sustainability education, *Earth Day*, 2012, 2013

The sustainability generation, *Sustainability Café*, 2012

Building a successful research program, *New Faculty Orientation*, 2012

My creative inquiry experiences, *Will to Lead Campaign Meeting*, 2012

Clemson's sustainability plan – education, *Clemson Sustainability Week*, 2011

Clemson's sustainability plan, *National Teach-In*, 2011, 2012

Teaching sustainability across the curriculum, *Clemson Science and Technology in Society Workshop*, 2010

Sustainable infrastructure model (with Jennifer Ogle), *Civil Engineering Advisory Board Meeting*, 2010

Sustainability education at Clemson (with Gabriel Fair), *Clemson Student Senate*, 2010

Teaching sustainability across the curriculum, *Clemson Office of Teaching Effectiveness and Innovation*, 2009, 2010

Creative inquiry, *Clemson PEER/WISE*, 2009

Sustainability in civil engineering, *Clemson ASCE Student Chapter*, 2009

Sustainability in engineering education, *Picture Green*, 2009

Sustainability for service learning projects, *Engineers Without Borders*, 2009

Climate control to create jobs, *National Teach-In on Global Warming Solutions*, 2009

Sample guest lectures in courses

Rating systems for sustainable infrastructure, *Materials Graduate Course*, 2012

Negawatts in buildings and transportation, *Biosystems Engineering Sustainable Energy Course*, 2012

Grand challenges for engineering, *First-year Engineering Courses*, 2010, 2011, 2012, 2015

Sustainable infrastructure processes, *Architecture Graduate Course*, 2009, 2010, 2012

Sustainable infrastructure processes, *Environmental Design and Planning Doctoral Colloquium*, 2009

OTHER DISSEMINATION

Developed and maintain website for our research group (www.essoresearch.org) that currently has ~300 unique visitors per month.

Developed and offer two massively open online courses on canvas.net which are offered for free and have enrolled over 700 students in their first offering. When running, these courses have ~5,000 page views per day.

Approximately 650 followers on twitter.

SPONSORED RESEARCH

“INSPIRE: Intentional defaults for more sustainable infrastructure: Studying interventions to alleviate biases in upstream, multi-stakeholder decisions,” National Science Foundation, PI, \$994,447, 2015-2019

“Resilience Code Reviews & Comparison,” Federal Alliance for Safe Homes, PI, \$20,000, 2014

“College Education for Building Codes: Course Development,” Federal Alliance for Safe Homes, PI, \$40,000, 2013

“Wind Delphi study for RESCU Rating system,” Federal Alliance for Safe Homes, PI, \$25,000, 2013

“GAANN: Resilient and Sustainable Infrastructure,” Department of Education, Co-PI, \$799,596, 2013-2016

“REU Supplement to CAREER: Modeling irrationalities of designers to support their decisions for net-zero energy buildings,” National Science Foundation, PI, \$11,600, 2013

“College Education for Building Codes: Current Status and Best Practices,” Federal Alliance for Safe Homes, PI, \$15,000, 2012

“CAREER: Modeling irrationalities of designers to support their decisions for net-zero energy buildings,” National Science Foundation, PI, \$400,000, 2011-2016

“Energy innovation for campus carbon neutrality,” National Collegiate Inventors and Innovators Alliance, PI, \$24,500, 2011-2014

“GSE: Sustainability topics as a route to female recruitment in engineering,” National Science Foundation, PI, \$498,414, 2010-2014

“A whole-systems approach to design engineers of the future (Jackie Blizzard graduate research fellowship),” National Science Foundation, Major Advisor, \$123,000, 2010-2012

“Incorporating resilience into life-cycle assessments (Jeff Plumblee graduate research fellowship),” National Science Foundation, Major Advisor, \$123,000, 2010-2012

“Science Master's program: Sustainable and resilient infrastructure,” National Science Foundation, Co-PI, \$700,000, 2010-2013

“Resilient Homes Program,” Oak Ridge National Laboratory, PI for Clemson’s portion of the project, \$1,060,000, 2009-2012

“The Relationships between Transparency, Process Mapping, and Sustainable Building Delivery,” Joseph M. Juran Center, PI, \$10,000, 2007-2008

“Continuously Improving Green Buildings,” Joseph M. Juran Center, PI, \$5,000, 2006-2007

OTHER SPONSORED ACTIVITY

Conference Travel Grant (with 8 students), NSF Construction Engineering, \$2,300, 2010

Workshop Grant, NSF EDI Design for Sustainability, ~\$250, 2010

Workshop Grant, NSF Sustainability in Engineering Education, ~\$500, 2009

Travel Grant, NSF CMMI Grantee Conference, \$2,700, 2009

Workshop Grant, NSF CMMI CAREER-Writing, ~\$500, 2009

Travel Grant, NSF Engineering Sustainability Conference, \$1,500, 2009

Travel Grant, NSF CMMI Grantee Conference, \$800, 2008

Research Assistant, Penn State Office of Physical Plant, ~\$60,000, 2005-2008

GRADUATE STUDENT ADVISING

Ph.D. graduates

Shealy, E. (Ph.D.). “Framing for subtractive elegance in infrastructure projects,” (May 2015). Major Advisor.

Young, D.M. (Ph.D.), “Decision support framework for energy management at wastewater pumping stations,” (May 2014). Major Advisor.

Cattano, C. (Ph.D.), “Comparison of methods to obtain public and expert feedback on resilience measures,” (August 2013). Major Advisor.

Blizzard, J. (Ph.D.), “A whole-systems approach to design engineers of the future,” (August 2013). Major Advisor.

Plumlee, J. (Ph.D.), “Incorporating hazard resistance into the life cycle assessment framework,” (May 2013). Major Advisor.

Valdes, R. (Ph.D.), “Social Sustainability during Planning and Design: An expert-based framework of processes for construction projects,” (August 2011). Major Advisor.

M.S. thesis graduates

Osell, E. (M.S.). “Assessment of a Master’s degree program in sustainable and resilient infrastructure,” (May 2014). Major Advisor (co-advisor with Ron Andrus).

Almond, C. (M.S.). “Prevention through design in Naval facilities,” (August 2013). Major Advisor.

Shealy, E. (M.S.). “Residential building code education: Current status and best practices,” (May 2013). Major Advisor.

Sprague, K. (M.S.), “Materials management for a net-zero energy home,” (May 2012). Major Advisor (co-advisor with Ulrike Heine - Architecture).

Blizzard, J. (M.S.), “A Design Framework for Sustainable Infrastructure,” (August 2011). Major Advisor.

Nikou, T. (M.S.), “Application of Multi-Attribute Utility Theory to Heating and Cooling System Selection for a Sustainable Building Project,” (May 2011). Major Advisor.

Cattano, C. (M.S.), “Barriers to the Delivery of Sustainable Renovation Projects,” (December 2010). Major Advisor.

Harrison, J. (M.S.), “Women as Sustainability Leaders in Engineering,” (May 2010). Major Advisor.

Palanisamy, P. (M.S.), “Identifying and Comparing Key Process Attributes for Sustainable Building Delivery in India and the U.S.,” (December 2009). Major Advisor.

Dukes, M. (M.S.), “Sustainable Engineering Education Casebook Evaluation,” (December 2009). Major Advisor.

Current graduate advising

Barclay, N. (Ph.D.). “Systems dynamics of community engagement in low-impact development stormwater infrastructure projects,” (August 2016). Major Advisor.

Paige, F. (Ph.D.). “Ways that interactions with the home shape how people learn, share, and apply fundamental energy concepts,” (August 2016). Co-advisor with Julie Martin (in Engineering and Science Education).

Lantz, K. (Ph.D.). “A model for evaluating the feasibility of deploying intelligent transportation systems in developing cities,” (August 2016). Co-advisor with Ronnie Chowdhury.

Chen, D. (Ph.D.). “Biomimetic investigation of seashells to determine implications for adaptability of infrastructure systems,” (August 2016). Co-advisor with Brandon Ross.

Kiesling, A. (Ph.D.). “Perceptions vs. reality in individual and community-scale resilience,” (August 2016). Major Advisor.

Lopes, S. (Ph.D.). “Building energy retrofit processes – precise topic tbd,” (2018).

Research team members who entered faculty positions

Shealy, E. (Ph.D. '15). Virginia Tech, Blacksburg, VA. Major Advisor.

Godwin, A. (Ph.D. '14), Purdue University, West Lafayette, IN. Committee Member.

Simmons, D. (Ph.D. '12), Virginia Tech, Blacksburg, VA. Committee Member.

Bos, C. (M.S. '12), Medicine Hat College, Alberta CA. Major Advisor.

Valdes, R. (Ph.D. '11), Colorado State University, Fort Collins, Co. Major Advisor.

Stanford, M. (M.S. '11), Air Force Academy, Colorado Springs, Co. Major Advisor.

TEACHING

Courses taught

CE 436/636, Sustainable Construction, 2008-
CE 437/637, Sustainable Project Planning & Design, 2011-
HON 206, Sustainable Energy Innovation, 2011-
CE 893, Sustainable Restoration, 2009-
CE 893, Sustainable Infrastructure Systems, 2011
CE 893, Research Processes in Civil Engineering, 2009-2011
CE 299/399/499, Mentored Undergraduate Research, Engineers' Behavior and Energy Efficiency, 2008-2013
CE 299/399/499, Mentored Undergraduate Research, Sustainable Clemson Capital Improvement, 2010-2012
AE 124, Architectural Engineering Orientation, (At Penn State), 2007

New Course Development

CE 436/636, Sustainable Construction
CE 437/637, Sustainable Project Planning & Design
CU 2010, Sustainability Leadership
HON 206, Sustainable Energy Innovation
CE 893, Sustainable Infrastructure Systems
CE 893, Sustainable Restoration
CE 893, Research Processes in Civil Engineering
CE 299/399/499, Creative Inquiry, Engineers' Behavior and Energy Efficiency
CE 299/399/499, Creative Inquiry, Sustainable Clemson Capital Improvement

NEW PROGRAM DEVELOPMENT

National Academy of Engineering Grand Challenge Scholars Program – Clemson Chapter, 2014-
Clemson cross-disciplinary Minor in Sustainability, 2013-

Partnership with the Savannah River Environmental Sciences Field Station, which serves top students from Historically Black Colleges and Universities in the Southeast, 2009-2012

SERVICE

Service to the academic community

National Science Foundation Environmental Sustainability Program, Panelist and External Reviewer, 2009, 2010, 2011, 2012, 2015

Venturewell, Faculty Grants Reviewer, 2015

Columbia University Center for Research on Environmental Decisions, Choice Architecture Workshop Invited Participant, 2013

Michael Horman Green Building Research Symposium (Co-Founder) 2010-

National Science Foundation Engineering Design and Innovation - Design for Sustainability, Invited Workshop Participant, 2010

National Science Foundation CMMI Green Building, Invited Workshop Participant, 2009

Reviewing: Design Studies, 2013-
Energy Policy, 2011-
American Society of Civil Engineers Journal of Architectural Engineering, 2011-
American Society of Civil Engineers Journal of Professional Issues in Engineering Education and Practice, 2009-
American Society of Civil Engineers Journal of Construction Engineering and Management, 2008-
Construction Research Congress, 2008-
International Group for Lean Construction, 2007-2010
Journal of Green Building, 2006-

Committee service at Clemson

University: Strategic Planning (Graduate Education), 2015
Chair, President's Commission on Sustainability, 2012-2015
Quality Enhancement Plan, 2011-2013
College: Advisory - Associate Dean for Research and Graduate Studies, 2014-
Advisory - First-year Engineering, 2010-2011

Department: Curriculum, 2011-2013
Faculty Search, 2010-2012
Advisory, 2010-
Graduate Program, 2009-
ABET Accreditation, 2008-2009

PRIOR EMPLOYMENT

Imperial Construction Group, Project Manager, 2004-2005
Bovis Lend-Lease Inc., Project Engineer, 2001-2004
Pittsburgh Riverhounds, Professional Soccer Player, 2000-2001

PROFESSIONAL REGISTRATION AND MEMBERSHIPS

Engineer in Training, Pennsylvania
Leadership in Energy and Environmental Design (LEED) Accredited Professional
Envision Sustainability Professional
American Society of Civil Engineers
American Society of Engineering Education

MISCELLANEOUS

Completed 20 teaching workshops (>50 hours), Clemson Office of Teaching Effectiveness and Innovation, 2008-
College Teaching Certificate, Penn State Graduate School, 2007
Lead Grant Preparation, United States Department of Agriculture grant awarded to Chief Dull Knife Tribal College (\$300,000), 2006

10/26/2015