

Summary of Teaching, Research, and Outreach Interests

I am interested in several interdisciplinary domains including: (1) fostering resilience and cultivating adaptive capacity across the natural-to-urban transect; (2) exploring complexity and regime shifts within linked social-ecological systems; (3) improving human and community health in the built environment, especially within the emerging ancestral health paradigm; (4) engendering social justice in community development form and function; and (5) integrating organizational leadership, conservation behaviors, energy efficiency, and renewable energy as mitigation strategies for the dual global challenges of climate change and energy transition. My current work branches building-to-city scales and involves: (1) modeling the geospatial resource impacts of alternative urban land use scenarios; (2) evaluating social equity in housing, transportation, and neighborhood opportunities; and (3) deciphering energy use patterns and building performance via nonlinear analytical methods, such as multifractal detrended fluctuation analysis (MFDFA) and cross recurrence quantification analysis (CRQA).

Teaching and Mentoring Experience

For the 2018/2019 school year, I will be teaching 11 credit hours in Fall 2018 (DCP 3200, DCP 4945, and URP 4000), nine credit hours in Spring 2019 (DCP 1241, DCP 3210, and DCP 3220), and six credit hours in Summer 2019 (DCP 3210 and a yet-to-be numbered course tentatively titled “Exploring Patterns in Nature”). I have also been the lead instructor for the DCP 4941 – Practicum in SBE, a six credit course (Fall 2015, Fall 2016, and Spring 2018) and EVR 2001 – Introduction to Environmental Science, a three credit course (Fall 2017). Since the Spring 2016 semester, I have served several students as their project mentor for the DCP 4290 Capstone Project in SBE. In 2017/2018, I served on an M.S. thesis committee for a student in the Department of Family, Youth, and Community Sciences. During the 2018/2019 school year, I am actively serving on one M.S. thesis committee and one Ph.D. dissertation committee within the Department of Urban and Regional Planning. In recent years, I have also been invited to give 42 separate guest lectures, across 18 courses, within 11 departments, at two universities.

Research, Writing, and Content Development Experience

My publications include chapter sections in four books (contributing author), four refereed journal articles (plus another two in development for submission), and 46 non-refereed publications (38 of which I was first or sole author). I have also led development of, and delivered, nine instructional multimedia curricula and related course materials for professionals and lay audiences across Florida. My experience in web-based communication and teaching includes project management and principal content development for two websites and conceptual co-developer, collaborator, and analytical consultant for two websites, one of which has grown tenfold since its launch in June 2013 and has served over 48,000 users with 86% as new sessions.

Project Funding and Achievements

From 2005 through 2017 at the UF Program for Resource Efficient Communities, I contributed to 42 funded projects totaling approximately \$2.46 million, including the following: \$152,735 as PI/Manager/Instructor; \$1,024,760 as Co-PI; \$376,959 as Investigator; and \$908,710 as Senior Personnel. In 2016, I earned my Ph.D. and was promoted to Associate In faculty status within the UF College of Agricultural and Life Sciences. In 2018, I was named one of two [Florida Climate Institute Faculty Fellows](#).

Speaking and Conference Experience

Since 2005, I have spoken at 43 professional events: two international (both selected), six national (three invited, three selected), 27 state (18 invited, nine selected), and eight local (five invited, three selected). Additionally, I served as lead event planner and facilitator for GreenTrends 2006, the statewide annual conference for the Florida Green Building Coalition.

Education

- Ph.D. 2016 | Interdisciplinary Ecology | School of Natural Resources and Environment | University of Florida
- M.S. 2004 | Interdisciplinary Ecology | School of Natural Resources and Environment | University of Florida
- B.S. 1997 | Building Construction | M.E. Rinker, Sr. School of Construction Management | University of Florida

Professional Experience

- **College of Design, Construction, & Planning Faculty (Lecturer & Change Agent)**

Program in Sustainability and the Built Environment, University of Florida, Gainesville, FL. 08/2018 – Present.

- Teach core courses and electives within the DCP Program in Sustainability and the Built Environment (SBE) and the Department of Urban and Regional Planning (URP). Teaching responsibilities include:
 - DCP 1241 | Introduction to Spatial Thinking
 - DCP 3200 | Methods of Inquiry in SBE
 - DCP 3210 | Social & Cultural SBE
 - DCP 3220 | Solutions in SBE
 - DCP 4930 | Community Resilience
 - DCP 4945 | Geodesign Practicum I
 - URP 4000 | Preview of URP
 - TBD | Exploring Patterns in Nature
- Mentor undergraduate students on their SBE Capstones.
- Advise graduate students on their master theses and doctoral dissertations.
- Collaborate with interdisciplinary faculty across campus on sustainability, resilience, and/or community health related applied research projects.
- Contribute to SBE, URP, and DCP faculty committees.
- Serve in the betterment of campus and community via volunteer outreach and engagement.

- **Cooperative Extension Faculty (Associate In & Change Agent)**

Program for Resource Efficient Communities, University of Florida, Gainesville, FL. 12/2010 – 06/2016 (Assistant In), 07/2016 – 08/2018 (Associate In).

- Promoted the adoption of best green planning, design, construction, and operational practices through public/private partnerships to *measurably* reduce energy and water consumption and environmental degradation in new residential communities.
- Created and delivered extension education materials to improve energy efficiency, renewable energy generation, water conservation, and community health through more sustainable food systems, building systems, transportation systems, and community systems for Florida citizens.
- Performed geospatial modeling and visualizing the natural resource impacts of alternative urban land use scenarios and the balance of social equity associated with community development patterns.
- Applied multifractal detrended fluctuation analysis (MFDFA) to electric utility smart meter data to decipher the complexity of residential energy use patterns through time.
- Applied cross recurrence quantification analysis (CRQA) to ambient outdoor temperature and electric utility smart meter data to decipher the complexity and coupling of residential energy use and weather patterns through time.
- Explored, developed, and delivered energy efficiency financing and household empowerment products and services for the residential building sector.

- **Graduate Research Assistant**

Office of Sustainability, University of Florida, Gainesville, FL. 08/2008 – 08/2009.

- Coordinated development of the University of Florida Climate Action Plan in accordance with the American College and University Presidents Climate Commitment (ACUPCC) and the Association for the Advancement of Sustainability in Higher Education (AASHE).
- Facilitated the transfer of responsibility for the University of Florida Greenhouse Gas Emissions Inventory from a subcontractor to an internally managed process.
- Assisted with various energy efficiency strategies under the direction of the Office of the Vice President for Business Affairs including: green information technology, enterprise building management systems (EBMS), building assessment and commissioning, and others.

- **Graduate Research Associate**

Program for Resource Efficient Communities, University of Florida, Gainesville, FL. 08/2007 – 12/2010.

- Engaged consumers and key decision makers on the interface of political science, social science, and building science within the context of home energy efficiency.
- Researched and developed innovative ways to accelerate energy efficiency improvements in the residential building sector including carbon market products, social networking, and other means.
- Served as a CSA Greenhouse Gas Inventory Quantifier, USGBC LEED Accredited Professional, and/or an FGBC green development consultant for various development projects around the state.

- **Cooperative Extension Faculty (Assistant In & Program Coordinator)**

Program for Resource Efficient Communities, University of Florida, Gainesville, FL. 08/2004 – 08/2007.

- Coordinated program operations and activities including, but not limited to, the following: (1) business development; (2) project management; (3) meeting and charrette facilitation; (4) event planning; (5) collaborative grant writing; and (6) industry networking to supplement program-related, soft-money revenue streams.
- Developed and delivered extension education curricula and programs for diverse audiences (e.g., building contractors, landscape architects, engineers, land developers, local governmental staff) and topical areas (e.g., home energy performance, wildlife habitat conservation, stormwater low impact development, property hazard preparedness and mitigation) for board-approved continuing education units associated with licensure renewal from the Florida Department of Business and Professional Regulation (FDBPR) and/or the Florida Department of Agriculture and Consumer Services (FDACS).

- **Graduate Research Assistant**

Program for Resource Efficient Communities, University of Florida, Gainesville, FL. 08/2002 – 08/2004.

- Developed and delivered “Preserving Wildlife Habitat in Residential Developments,” a four hour continuing education unit (CEU) course for licensure renewal credits for building professionals within Florida.

- **Research Associate**

Powell Center for Construction and Environment, University of Florida, Gainesville, FL. 01/2002 – 08/2002.

- Co-planned and co-managed the international urban renewal design competition for the Gainesville Eco-History Trail along the abandoned 6th Street rail corridor.
- Co-wrote competition materials, co-produced a 15-minute documentary about Gainesville’s railroad history and the future rail-trail, and coordinated the creation of a competition website.
- Conducted interviews of community leaders and neighborhood residents and co-facilitated the competition event including jury hosting, jury deliberations, and the public awards ceremony.

- **Business Development Manager**

T&G Constructors, Orlando, FL. 2001.

- Promoted the viability of sustainable development within T&G as a growth opportunity and incorporated sustainability concepts into project proposals and corporate marketing materials.

• **Project Engineer**

The Whiting-Turner Contracting Company, Orlando, FL. 11/1998 – 01/2001.

- Created databases and protocols to store and track archival information; Fostered teamwork and productivity for diverse projects while handling time constraints and external pressures.
- Produced preliminary cost and schedule estimates with architects and engineers to create practical design solutions which prevented delays in schedule progress and minimized cost impacts.
- Supervised field operations for a \$100,000 retail renovation.
- Organized and managed the owner punch list for a \$40 million theme park project.

• **Undergraduate Research Assistant**

Powell Center for Construction and Environment, University of Florida, Gainesville, FL. 08/1997 – 05/1998.

- Supported pre-construction activities for the Environmental Education and Resource Center at the Kanapaha Botanical Gardens.

Publications and Manuscripts: Book Chapter Contributing Author (4)

Reviewed by peers, business representatives, and/or industry group representatives

1. Porter, W. A., & **Knowles III, H.** (2017). Climate change impacts on Florida's energy supply and demand. In E. P. Chassignet, J. W. Jones, V. Misra, & J. Obeysekera (Eds.), *Florida's climate: Changes, variations, & impacts* (pp. 153–177). Gainesville, FL: Florida Climate Institute. <https://doi.org/10.17125/fci2017.ch05>
2. Miller, C.R., Ahrentzen, S., and Sullivan, J. *Energy Efficient Building Construction in Florida*, 7th Edition. University of Florida Shimberg Center for Housing Studies; M.E, Rinker, Sr. School of Building Construction, College of Design, Construction and Planning; and the Program for Resource Efficient Communities (PREC), Institute of Food and Agricultural Sciences (IFAS). Gainesville, FL. ISBN: 978-0-9852487-0-3. 2012. 252 pp.
 - a. **Knowles, III, H.S.** contributed “to the updates of [several sections of the book, over the years],” and was principal author on the “Financing Energy Efficiency” section in “Chapter 2: Why Build Efficiently?” (pp. 22-26)
3. D’Arelli, P., P.H. Jones, and L.L. Ostema. *Options for Clean Energy Financing Programs: Scalable Solutions for Florida’s Local Governments*. University of Florida, Program for Resource Efficient Communities (PREC), Institute of Food and Agricultural Sciences (IFAS). Gainesville, FL. ISBN-13 978-0-9852487-2-7. Version 2.0, 2010/October. 148 pp.
 - a. **Knowles, III, H.S.** contributed content and research support.
4. D’Arelli, P., U. Vyas, P.H. Jones, and D. Gilkey. *Greenhouse Gas Reduction and Energy Conservation: Development Impacts Under Florida’s HB 697*. University of Florida, Program for Resource Efficient Communities (PREC), Institute of Food and Agricultural Sciences (IFAS). Gainesville, FL. ISBN-13 978-0-9852487-1-0. Version 2.0, 2010/May. 112 pp.
 - a. **Knowles, III, H.S.** contributed “the case studies on the required elements in the Planning Policies and Criteria section,” as principal author of the following case studies:
 - i. “Moving Toward More Resource Efficient Communities – A Systems Approach to Reducing GHG Emissions” (pp. 42-43)
 - ii. “Mass Transit Strategies – Relevant HB 697 Element: Transportation Requirement #1” (p. 44)
 - iii. “Fuel Switching and Alternative Transportation Success Stories – Relevant HB 697 Element: Transportation Requirement #1” (p. 47)
 - iv. “Energy Conservation Mapping Options-Walk Score – Relevant HB 697 Elements: Transportation Requirement #1, Conservation Requirement #2” (p. 48)

- v. “Carbon Sequestration Capacity of Lands – Relevant HB 697 Element: Conservation Requirement #1” (p. 51)
- vi. “Energy Conservation Mapping Options-Gainesville Green – Relevant HB 697 Element: Conservation Requirement #2” (p. 52)
- vii. “Energy Efficiency and Conservation vs. Solar PV – Relevant HB 697 Elements: Housing Requirements #1 and #2” (p. 54)
- b. **Knowles, III, H.S.** contributed as co-author of the following Appendices:
 - i. “Appendix 6: Potential Developer Approaches to Meeting HB 697 Requirements” (pp. 90-96)
 - ii. “Appendix 7: University of Florida Carbon Inventory” (pp. 97-98).

Publications and Manuscripts: Refereed Journal Articles (4 Published, 2 In Development)*Refereed by peers*

1. **Knowles, III, H.S.**, L.M. Jarrett, B.C. Larson, P.H. Jones, and M.E. Hostetler. *Planning Support Systems and Urban Sustainability: Measuring and Modeling Alternative Futures in Alachua County, Florida*. (In Development for Submission).
2. **Knowles, III, H.S.**, M.E. Hostetler, and L.S. Liebovitch. *Examining and Explaining the Cross Recurrent Dynamics in Weather and Residential Building Systems Before and After Energy Efficiency Improvements*. (In Development for Submission).
3. **Knowles, H. S.**, Hostetler, M. E., & Liebovitch, L. S. (2018). *Describing the dynamics, distributions, and multiscale relationships in the time evolution of residential building energy consumption*. *Energy and Buildings*, 158, 310–325. <https://doi.org/10.1016/j.enbuild.2017.09.071>
4. **Castell-Perez, E.**, C. Gomes, J. Tahtouh, R. Moreira, E.S. McLamore, & **H.S. Knowles, III**. *Food Processing and Waste Within the Nexus Framework*. *Current Sustainable/Renewable Energy Reports*. Volume 4, Number 3. 2017. pp. 99–108. <https://doi.org/10.1007/s40518-017-0079-z>
5. **Jones, P.H.**, N.W. Taylor, M.J. Kipp, and **H.S. Knowles**. *Quantifying Household Energy Performance Using Annual Community Baselines*. *International Journal of Energy Sector Management* 4.3. 2010. pp. 593-613. Print and online at <http://www.emeraldinsight.com/10.1108/17506221011092797>
6. **Hostetler, M.**, P. Jones, M. Dukes, **H. Knowles**, G. Acomb, and M. Clark. *With One Stroke of the Pen: How Can Extension Professionals Involve Developers and Policymakers in Creating Sustainable Communities?* *Journal of Extension*. Volume 46, Number 1. February 2008. Print and online at <http://www.joe.org/joe/2008february/tt1.php>

Publications and Manuscripts: Conference Proceedings and White Papers (3)

1. Tahtouh, J., E. **Castell-Perez**, C. Gomes, R. Moreira, S. Searcy, E. McLamore and **H.S. Knowles, III**. *Food Processing and Waste within the Nexus Framework*. Water, Energy, and Food (WEF) Nexus Symposium, Texas A&M University, College Station, Texas. 2017/01/28.
2. **Knowles, III, H.S.** *Realizing Residential Building Greenhouse Gas Emissions Reductions: The Case for a Web-Based Geospatial Building Performance and Social Marketing Tool*. Paper presented at the U.S. Environmental Protection Agency – 17th Annual International Emission Inventory Conference "Inventory Evolution - Portal to Improved Air Quality", Portland, Oregon. 2008/06/04. 24 pp. <http://www.epa.gov/ttn/chief/conference/ei17/>
3. **Knowles, III, H.S.**, C. Manning, and T.T. Ankersen. *Climate Change, Peak Oil, and Greenhouse Gas Emissions Reductions: Mitigating the Convergence via Energy Efficiency in the Built Environment*. Unpublished white

paper prepared for the Conservation Clinic at the University of Florida, Levin College of Law. 2008/April. 44 pp.
<https://www.law.ufl.edu/pdf/academics/centers-clinics/clinics/conservation/resources/EmissionsReductions.pdf>

Publications and Manuscripts: Magazine Articles (1)

Reviewed by editors

1. **Knowles, III, H.S.** *Incentivizing Green Building: It's Time for Florida to Follow the Lead*. Florida Real Estate Journal. 2005/10/16.

Publications and Manuscripts: Major Project Reports (7)

1. Kury, Ted, **H.S. Knowles, III**, L. Holt, and M.J.K. Searcy. *Integrating Planning Maintenance, Building Performance, and Utility Services: An Exploration of Institutional and Operational Paths Forward*. (In Progress)
2. **Knowles, III, H.S.** and L. Jarrett. *Alachua County Racial Inequality Study: Housing, Transportation, and Neighborhood Baselines*. 2017 (In Client Review). pp. 83.
3. **Goodison, C., H.S. Knowles, III**, and W.C. Whiteford. 2016. *Adapting to Rising Tides – Coastal Resilience in St. Augustine: Baseline of Our Past, Beacon for Our Future*. Report to the City of St. Augustine, Florida by the University of Florida Resilient Communities Initiative. 2016/April. 19 pp. (Narrative)
http://www.citystaug.com/document_center/Publicworks/Engineering/AdaptingtoRisingTidesStudyNarrative-April2016.pdf and 37 pp. (Appendices)
http://www.citystaug.com/document_center/Publicworks/Engineering/AdaptingtoRisingTidesAppendix-April2016.pdf.
4. **Knowles, III, H.S.**, L.M. Jarrett, B.C. Larson, and P.H. Jones. 2014. *Envision Alachua: Resource Efficiency – A Regional Study of Measured and Modeled Key Urban Development Impacts*. Report to Plum Creek Timber Company, Inc. by the University of Florida, Program for Resource Efficient Communities. 2014/March. 232 pp.
http://buildgreen.ufl.edu/Analysis/2014-03-10%20EnvisionAlachua_KeyUrbanDevelopmentImpacts_FinalReport.pdf
5. **Larson, B.C., H.S. Knowles, III**, P.H. Jones, and J. Engström. *Conservation Design and Planning Studio – The Gilchrist Club: Gilchrist County, Florida – Section 6. Comparative Resource Efficiency Analysis of Gilchrist Club Site Plans (PREC)*. 2013/04/19. pp. 167-195.
6. **Knowles, III, H.S.**, K.C. Ruppert, and B.C. Larson. 2012. *Envision Alachua UF/DCP 4941 – From Food to Community: A Systems Perspective for Urban Development*. Report to Plum Creek Timber Company, Inc. by the University of Florida, Program for Resource Efficient Communities. 2012/May. 94 pp.
7. **Knowles, III, H.S. (Project Manager and Principal Author)** with Primary Contributions from: E. Poppell, D. O'Brien, C. Walker, A. Prizzia-Taylor, D. Delongpré-Johnston, J. Lawson, F. Phillips, K. Ponitz, S. Sims, and M. van Soestbergen (Primary Contributors and Administrators). *University of Florida Climate Action Plan (CAP) v1.0*. University of Florida, Office of Sustainability. Gainesville, FL. 2009/September. 32 pp.

Publications and Manuscripts: Educational Training Materials and Modules (5)

Reviewed by peers, business representatives, and/or industry group representatives

1. **Knowles, III, H.S.**, K. Ziewitz, and K.C. Ruppert. (Cooperative Extension Principal Content Developer / Invited Lecturer). *Energy: A Life Story (2-Hour Core Module in the Statewide Sustainable Floridians Program)*. University of Florida Institute of Food and Agricultural Sciences (UF/IFAS), Program for Resource Efficient Communities (PREC). Gainesville, FL. Published 2013/July, Last revised 2015/March. 150 pp.
2. **Knowles, III H.S.** *Green Redevelopment: SW/SE 2nd Avenue Corridor in Gainesville, FL*. University of Florida, Program for Resource Efficient Communities (PREC), Institute of Food and Agricultural Sciences (IFAS). Gainesville, FL. Published 2012/October. 13 pp.

3. **Knowles, III H.S.** *Three Building Envelope Construction Methods for Increased Windstorm Resistance: Case Studies and Practices*. University of Florida, Program for Resource Efficient Communities (PREC), Institute of Food and Agricultural Sciences (IFAS). Gainesville, FL. Version 1.0, 2005/June. 106 pp.
4. **Knowles, III, H.S.** and M.E. Hostetler. (Continuing Education Principal Content Developer / Lecturer / Facilitator). *Preserving Wildlife Habitat in Residential Developments – 4-Hour Continuing Education Unit (CEU) Course*. University of Florida Institute of Food and Agricultural Sciences (UF/IFAS), Program for Resource Efficient Communities (PREC), Department of Wildlife Ecology and Conservation (WEC). Gainesville, FL. 2005.
 - a. Participant Handbook 158 pp. Instructor Handbook 190 pp.
 - b. Slide Deck – Part 1: Florida Natural Community Types (54 slides), Part 2: Strategies for Success (50 slides), Part 3: Resolving Wildlife / Human Conflicts (39 slides), and Part 4: Florida Friendly Design (35 slides).
5. **Knowles, III, H.S.** and C.R. Miller. *Florida Building Code Advanced Training: Performance Under Pressure: Strengthened Homes for Enhanced Resistance to Wind Loads Participant Guide*. University of Florida, Program for Resource Efficient Communities (PREC), Institute of Food and Agricultural Sciences (IFAS). Gainesville, FL. Version 1.0. Florida Building Commission. 2004. 174 pp.

Publications and Manuscripts: UF/IFAS Electronic Data Information Source (EDIS) and Florida Energy Systems Consortium (FESC) Fact Sheets (30)

Reviewed by peers, business representatives, and/or industry group representatives

1. **Knowles, III, H.S.** *Solar PV at Home*. Florida Energy Systems Consortium (FESC) Fact Sheet. University of Florida, Gainesville, FL. Published 2015/June. 22 pp.
<http://www.myfloridahomeenergy.com/help/library/energy-services/home-solar-pv/>
2. **Jarret, L., N. Taylor, and H.S. Knowles, III.** *Guidance for Renters*. Florida Energy Systems Consortium (FESC) Fact Sheet. University of Florida, Gainesville, FL. Published 2015/June. 19 pp.
<http://www.myfloridahomeenergy.com/help/library/choices/guidance-renters/>
3. **Miller, C., K.C. Ruppert, and H.S. Knowles, III.** *Weatherization Best Practices*. Florida Energy Systems Consortium (FESC) Fact Sheet. University of Florida, Gainesville, FL. Published 2015/April. 10 pp.
<http://www.myfloridahomeenergy.com/help/library/weatherization/weatherization-practices/>
4. **Knowles, III, H.S., C. Miller, J.G. Sullivan, and S. Ahrentzen.** *Financing*. Florida Energy Systems Consortium (FESC) Fact Sheet. University of Florida, Gainesville, FL. Published 2013/June. Last revised 2015/June. 7 pp.
<http://www.myfloridahomeenergy.com/help/library/financing-incentives/financing/>
5. **Knowles, III, H.S., L. Jerome, and N. Taylor.** *Home Energy: Glossary*. Florida Energy Systems Consortium (FESC) Fact Sheet. University of Florida, Gainesville, FL. Published 2013/June. Last revised 2015/June. 11 pp.
<http://www.myfloridahomeenergy.com/help/library/choices/glossary/>
6. **Knowles, III, H.S., L. Jerome, and N. Taylor.** *Home Energy: Tour Tips*. Florida Energy Systems Consortium (FESC) Fact Sheet. University of Florida, Gainesville, FL. Published 2013/June. Last revised 2015/May. 13 pp.
<http://www.myfloridahomeenergy.com/help/library/choices/tips/>
7. **Knowles, III, H.S.** *Selecting Contractors*. Florida Energy Systems Consortium (FESC) Fact Sheet. University of Florida, Gainesville, FL. Published 2013/June. Last revised 2015/May. 6 pp.
<http://www.myfloridahomeenergy.com/help/library/contractors-certifications/contractors/>

8. **Knowles, III, H.S.** and B. Haldeman. *Water Heating: Tankless*. Florida Energy Systems Consortium (FESC) Fact Sheet. University of Florida, Gainesville, FL. Published 2010/July. Last revised 2015/April. 20 pp. <http://www.myfloridahomeenergy.com/help/library/water/water-heating-tankless/>
9. **Knowles, III, H.S.**, P. D'Arelli, and P. Jones. *Property Assessed Financing*. Florida Energy Systems Consortium (FESC) Fact Sheet. University of Florida, Gainesville, FL. Published 2010/June. Last revised 2015/June. 18 pp. <http://www.myfloridahomeenergy.com/help/library/financing-incentives/property-assessed-financing/>
10. **Knowles, III, H.S.** *Green Jobs*. Florida Energy Systems Consortium (FESC) Fact Sheet. University of Florida, Gainesville, FL. Published 2011/April. Last revised 2015/May. 12 pp. <http://www.myfloridahomeenergy.com/help/library/contractors-certifications/green-jobs/>
11. **Knowles, III, H.S.**, Searcy, Jennison Kipp, and Taylor, Nicholas W. *Demand-Side Management: Gainesville Regional Utilities Case Study*. Florida Energy Systems Consortium (FESC) Fact Sheet. University of Florida, Gainesville, FL. Published 2011/February. Last revised 2015/June. 10 pp. <http://www.myfloridahomeenergy.com/help/library/highlights/gru/>
12. **Knowles, III, H.S.** *GHG Case Study: Reducing the Area and Inputs of Managed Landscapes (Restoration, FL)*. Florida Energy Systems Consortium (FESC) Fact Sheet. University of Florida, Gainesville, FL. Published 2011/February. 6 pp.
13. **Knowles, III, H.S.** and M. Hostetler. *GHG Case Study: Preserving Natural Areas for Carbon Sequestration (Restoration, FL)*. Florida Energy Systems Consortium (FESC) Fact Sheet. University of Florida, Gainesville, FL. Published 2011/January. 5 pp.
14. **Knowles, III, H.S.** *GHG Case Study: Reducing Road Infrastructure via Clustered Development (Restoration, FL)*. Florida Energy Systems Consortium (FESC) Fact Sheet. University of Florida, Gainesville, FL. Published 2011/January. 5 pp.
15. **Knowles, III, H.S.** *GHG Case Study: Reducing VMT via Clustered Development (Restoration, FL)*. Florida Energy Systems Consortium (FESC) Fact Sheet. University of Florida, Gainesville, FL. Published 2011/January. 5 pp.
16. **Knowles, III, H.S.** *GHG Case Study: Reducing Landscape Inputs (Lathrop and Associates, Inc. Office Retrofit)*. Florida Energy Systems Consortium (FESC) Fact Sheet. University of Florida, Gainesville, FL. Published 2010/December. 4 pp.
17. **Knowles, III, H.S.** *Net Zero Energy Homes (ZEHS)*. Florida Energy Systems Consortium (FESC) Fact Sheet. University of Florida, Gainesville, FL. Published 2010/April. 4 pp.
18. **Knowles, III, H.S.** *Carbon Challenge*. Florida Energy Systems Consortium (FESC) Fact Sheet. University of Florida, Gainesville, FL. 2010/February. 2 pp.
19. **Knowles, III, H.S.**, P.A. Rocha, T.K. Das, and J. Harrington. *Carbon Cap and Trade*. Florida Energy Systems Consortium (FESC) Fact Sheet. University of Florida, Gainesville, FL. Published 2010/January. Last revised 2015/June. 14 pp. <http://www.myfloridahomeenergy.com/help/library/carbon-challenge/carbon-cap-and-trade/>
20. **Hostetler, M.** and **H. Knowles, III.** *Conservation Subdivision: Design Phase – Patch Size and Shape of Conserved Open Spaces*. Fact Sheet WEC 275, University of Florida Cooperative Extension Service, Institute of Food and Agricultural Sciences (IFAS). Gainesville, FL. Published 2009/December. Last revised 2012/October. 5 pp. <http://edis.ifas.ufl.edu/uw320>
21. **Knowles, III, H.S.**, and Taylor, Nicholas. *Whole-House Improvements*. Florida Energy Systems Consortium (FESC) Fact Sheet. University of Florida, Gainesville, FL. Published 2009/May. Last revised 2015/June. 29 pp. <http://www.myfloridahomeenergy.com/help/library/choices/whole-house/>

22. **Ruppert, K.C., H.S. Knowles, III**, K.A. Lenfesty, and C.R. Miller. *How Wind Affects Homes*. Fact Sheet ABE 379, University of Florida Cooperative Extension Service, Institute of Food and Agricultural Sciences (IFAS). Gainesville, FL. Published 2007/April. Last revised 2013/October. 3 pp. <http://edis.ifas.ufl.edu/ae415>
23. **Knowles, III, H.S.**, K.C. Ruppert, K.A. Lenfesty, B. Haldeman, and C.R. Miller. *Decreasing Door Danger Zones*. Fact Sheet ABE 378, University of Florida Cooperative Extension Service, Institute of Food and Agricultural Sciences (IFAS). Gainesville, FL. Published 2005/November. Last revised 2013/October. 3 pp. <http://edis.ifas.ufl.edu/ae414>
24. **Knowles, III, H.S.**, K.C. Ruppert, K.A. Lenfesty, and B. Haldeman. *How Safe Is Your Home?* Fact Sheet ABE 374, University of Florida Cooperative Extension Service, Institute of Food and Agricultural Sciences (IFAS). Gainesville, FL. Published 2005/November. Last revised 2013/July. 2 pp. <http://edis.ifas.ufl.edu/ae410>
25. **Knowles, III, H.S.**, K.C. Ruppert, K.A. Lenfesty, B. Haldeman, and C.R. Miller. *Install Window Shutters*. Fact Sheet ABE 375, University of Florida Cooperative Extension Service, Institute of Food and Agricultural Sciences (IFAS). Gainesville, FL. Published 2005/November. Last revised 2013/July. 3 pp. <http://edis.ifas.ufl.edu/ae411>
26. **Knowles, III, H.S.**, K.C. Ruppert, K.A. Lenfesty, B. Haldeman, and C.R. Miller. *Protect with Plywood*. Fact Sheet ABE 376, University of Florida Cooperative Extension Service, Institute of Food and Agricultural Sciences (IFAS). Gainesville, FL. Published 2005/November. Last revised 2013/October. 3 pp. <http://edis.ifas.ufl.edu/ae412>
27. **Knowles, III, H.S.**, K.C. Ruppert, K.A. Lenfesty, B. Haldeman, and C.R. Miller. *Reinforcing Your Roof*. Fact Sheet ABE 377, University of Florida Cooperative Extension Service, Institute of Food and Agricultural Sciences (IFAS). Gainesville, FL. Published 2005/November. Last revised 2013/October. 3 pp. <http://edis.ifas.ufl.edu/ae413>
28. **Knowles, III, H.S.** *Performance Under Pressure: Cast-In-Place (CIP) Concrete Walls*. University of Florida, Program for Resource Efficient Communities (PREC), Institute of Food and Agricultural Sciences (IFAS). Gainesville, FL. Published 2005/05/04. 4 pp. <http://flash.org/resources/files/CIP2005-05-04.pdf>
29. **Knowles, III, H.S.** *Performance Under Pressure: Insulated Concrete Form (ICF) Walls*. University of Florida, Program for Resource Efficient Communities (PREC), Institute of Food and Agricultural Sciences (IFAS). Gainesville, FL. Published 2005/05/04. 4 pp. <http://flash.org/resources/files/ICF2005-05-04.pdf>
30. **Knowles, III, H.S.** *Performance Under Pressure: Structural Insulated Panel (SIP) Walls*. University of Florida, Program for Resource Efficient Communities (PREC), Institute of Food and Agricultural Sciences (IFAS). Gainesville, FL. Published 2005/05/04. 4 pp. <http://flash.org/resources/files/SIP2005-05-04.pdf>

Creative Works or Activities: Instructional Multi-Media Presentations (9)

1. **Knowles, III, H.S.**, K. Ziewitz, and K. Ruppert. (Cooperative Extension Principal Content Developer / Invited Lecturer). *Energy: A Life Story (2-Hour Core Module in the Statewide Sustainable Floridians Program)*. University of Florida Institute of Food and Agricultural Sciences (UF/IFAS), Program for Resource Efficient Communities (PREC). Gainesville, FL. Published 2013/July, Last revised 2015/March. 150 slides.
2. **Knowles, III, H.S.** (Continuing Education Principal Content Developer / Invited Lecturer). *GHG Accounting: Implications of Florida HB 697*. Workforce Training – Florida Works and the Santa Fe Seed Center. Gainesville, FL. 2010/04/15.
3. **Knowles, III, H.S.** (Continuing Education Coordinating Content Developer / Lecturer / Facilitator). *HB 697 8-Hour CEU Course*. (Co-Presented and Co-Developed By: G. Acomb, E. Bean, G. Boles, M. Clark, M. Dukes, P.

- Jones, M.J. Kipp, H.S. Knowles, S. Lang, B. Larson, C. Martinez, B. Philpot, K. Ruppert, T. Ruppert, B. Rushton, O. Wells). Various Counties, FL. Published 2009, Presented Various Dates 2009 – 2010.
4. **Knowles, III, H.S.** (Continuing Education Principal Content Developer / Invited Lecturer). *GHG Accounting: Built Environment*. Greenhouse Gas Accounting CEU Course (TREEO Center). Gainesville, FL. 2009/08/20.
 5. **Knowles, III, H.S.** (Continuing Education Principal Content Developer / Lecturer / Facilitator). *Green Development 101: 6-Hour CEU Course*. Duval County, FL. 2008/06/27.
 6. **Knowles, III, H.S.** (Continuing Education Coordinating Content Developer / Lecturer / Facilitator). *Stormwater Low Impact Development (LID): 8-Hour CEU Course*. (Co-Presented and Co-Developed By: G. Acomb, E. Bean, G. Boles, M. Clark, M. Dukes, P. Jones, M.J. Kipp, H.S. Knowles, S. Lang, B. Larson, C. Martinez, B. Philpot, K. Ruppert, T. Ruppert, B. Rushton, O. Wells). Various Counties, FL. Published 2006, Presented Various Dates 2006 – 2009.
 7. **Knowles, III, H.S.** (Continuing Education Coordinating Content Developer / Lecturer / Facilitator). *Stormwater Low Impact Development (LID): Half-Day Local Government Workshop*. (Co-Presented and Co-Developed By: G. Acomb, E. Bean, G. Boles, M. Clark, M. Dukes, P. Jones, M.J. Kipp, H.S. Knowles, S. Lang, B. Larson, C. Martinez, B. Philpot, K. Ruppert, T. Ruppert, B. Rushton, O. Wells). Various Counties, FL. Published 2006, Presented Various Dates 2006 – 2009.
 8. **Knowles, III, H.S.** (Continuing Education Principal Content Developer / Lecturer / Facilitator). *Three Building Envelope Construction Methods for Increased Windstorm Resistance: Case Studies and Practices*. Palm Beach County, FL. Published 2005/June, Presented 2006/October. 97 slides.
 9. **Knowles, III, H.S.** and M.E. Hostetler. (Continuing Education Principal Content Developer / Lecturer / Facilitator). *Preserving Wildlife Habitat in Residential Developments – 4-Hour Continuing Education Unit (CEU) Course*. Various Counties, FL. Various Dates 2005 – Present.

Creative Works or Activities: Web-Based Communication and Teaching (5)

1. Florida Energy Efficiency Loan (FEEL) Program. Online from 2013-2016.
 - a. **Knowles, III, H.S.** Role: Project Manager and Principal Content Developer
 - b. Purpose: Leveraged lending
 - c. Funding Agency: Osceola County as funded by Florida Department of Consumer Agriculture and Consumer Services (FDACS), Office of Energy through a federal American Recovery and Reinvestment Act (ARRA) grant program
 - d. URL: <https://www.fairwinds.org/personal/loans/other-loans/florida-energy-efficiency-loan.html>
2. My Florida Home Energy (MFHE). Online since 2013/06/30.
 - a. **Knowles, III, H.S.** Role: Project Manager and Coordinating Content Developer
 - b. Purpose: Interactive self-audit tool and consumer education portal
 - c. Funding Agency: Florida Department of Consumer Agriculture and Consumer Services (FDACS), Office of Energy
 - d. URL: www.MyFloridaHomeEnergy.com
3. **Knowles, III, H.S.** (Writer, Director, Instructor). Day in the Life of IFAS – Hal Knowles (Assistant In and PhD Student). A 10-Part Series on the UF/IFAS Solutions for Your Life YouTube Channel. University of Florida Institute of Food and Agricultural Sciences. Online since 2013/03/19.
 - a. Part 1 of 10: Waking Up (00:00:39)
 - b. Part 2 of 10: Morning Mindfulness (00:00:34)
 - c. Part 3 of 10: Breakfast (00:00:33)

- d. Part 4 of 10: Morning Meeting (00:00:51)
 - e. Part 5 of 10: Bike Commuting (00:00:32)
 - f. Part 6 of 10: Office Projects (00:00:47)
 - g. Part 7 of 10: Community by Bus (00:00:28)
 - h. Part 8 of 10: Lunch Meeting (00:00:41)
 - i. Part 9 of 10: CSA Pickup (00:01:31)
 - j. Part 10 of 10: Value of Family Time (00:01:00)
4. Tools for Tenants. Online since 2010/10/27.
- a. **Knowles, III, H.S.** Role: Collaborator / Analytical Consultant
 - b. Purpose: Multifamily energy consumption visualization tool
 - c. Funding Agency: Technology start-up created by Accelerated Data Works in collaboration with the UF Program for Resource Efficient Communities, partially funded through Gainesville Regional Utilities (GRU), the City of Gainesville, and the US Department of Energy via the Small Business Innovation Research (SBIR) program
 - d. URL: www.ToolsForTenants.com
5. Gainesville Green. Online since 2008/05/30.
- a. **Knowles, III, H.S.** Role: Conceptual Co-Developer / Collaborator / Analytical Consultant
 - b. Purpose: Home energy and water consumption and carbon footprint visualization tool
 - c. Funding Agency: Technology start-up created by Accelerated Data Works in collaboration with the UF Program for Resource Efficient Communities, partially funded through Gainesville Regional Utilities (GRU)
 - d. URL: www.Gainesville-Green.com

Teaching Responsibilities: Full Courses (Number of Terms Taught, Course Credits)

1. DCP 1241: Introduction to Spatial Thinking (1, 3)
2. DCP 3200: Methods of Inquiry in Sustainability and the Built Environment (1, 3)
3. DCP 3210: Sustainable Solutions for the Built Environment (1, 3)
4. DCP 3220: Social and Cultural Sustainability (1, 3)
5. DCP 4930: Community Resilience (To be taught in Fall 2019)
6. DCP 4941: Practicum in Sustainability and the Built Environment (2, 6)
7. DCP 4945: Geodesign Practicum I (1, 5)
8. EVR 2001: Introduction to Environmental Science (1, 3)
9. URP 4000: Preview of Urban and Regional Planning (1, 3)

Teaching Responsibilities: Invited Guest Lectures (Number of Course Periods Covered)

1. ALS 2410: Challenge 2050 – Global Uncertainty (1)
2. BCN 4905 / 5905: Sustainable Housing (6)
3. BCN 4905 / 5905: Building Energy Modeling (1)
4. CGN 4905: Sustainable Engineering (13)
5. DCP 1010: Geodesign Colloquium (3)
6. DCP 3210: Sustainable Solutions in the Built Environment (1)
7. DCP 4941: Practicum in Sustainability and the Built Environment (5)
8. ENV 6935 / SWS 4932 / SWS 6931: Water, Wetlands, and Watersheds Seminar (1)
9. EVR 6933: School of Natural Resources and Environment (SNRE) Seminar (1)

10. EVS 3000L: Environmental Science (2)
11. LAA 2532: Landscape Management (1)
12. LAA 4260 / 6931: Water Conservation through Site Design and Green Roofs (1)
13. LAA 6382: Ecological and Environmental Policy (1)
14. JOU 4930: Environmental Journalism (1)
15. University of North Florida Environmental Center Student Houseboat Retreat (1)
16. URP 6341: Urban Planning Project (1)
17. URP 6931: Natural Resources Planning (1)
18. WIS 4523 / 6578: Human Dimensions of Natural Resource Conservation (2)

Lectures, Speeches, or Posters Presented at Professional Events (43)*International (2 selected)*

1. **Knowles, III, H.S.** Selected Presenter – *Norms, Networks, and Negawatts: Conspicuity in a Carbon Constrained Future (Topic 3E: Empowering Home Management)*. Behavior, Energy, and Climate Change (BECC) – 2009 Annual Conference. Washington, DC. 2009/11/17. <http://beccconference.org/archives/>
2. **Knowles, III, H.S.** Selected [Paper](#) and [Presenter](#) – *Realizing Residential Building Greenhouse Gas Emissions Reductions: The Case for a Web-Based Geospatial Building Performance and Social Marketing Tool (Session 5: Greenhouse Gases)*. U.S. Environmental Protection Agency – 17th Annual International Emission Inventory Conference – Inventory Evolution: Portal to Improved Air Quality. Portland, OR. 2008/06/04. <http://www.epa.gov/ttnchie1/conference/ei17/>

National (3 invited, 3 selected)

1. **Knowles, III, H.S.** alongside S. Ahrentzen, R. Ries, L. Lorusso, and R. Steiner, moderated by A. Landreneau. Invited Presenter – *Measuring and Matching Complexity in the Rhythms of Our Buildings, Bodies, and Biomes. Aging in Places 2.0 Workshop* – Hosted by the AIA Design and Health Research Consortium, the University of Florida, and HOK. Atlanta, GA. 2016/10/21.
2. Jones, P.H. and **H.S. Knowles, III**. Selected Presenter – *Quantifying Development Impacts Using ArcGIS and CommunityViz*. Growth and Infrastructure Consortium: Impact Fees, Capital Planning, and Public Finance – 21st Annual Conference: Resilient Infrastructure for a Changing World. Portland, OR. 2015/10/16. <http://growthandinfrastructure.org/GIC2015program.pdf>
3. **Knowles, III, H.S.** alongside S. Lachnicht, R. Hirsekorn, P. Zwick, and F. Merrill, moderated by M. Carr. Invited Panelist – [Session V: Sustainable Development](#). Florida Climate Institute (FCI) – *Sustaining Economies and Natural Resources in a Changing World: Key Role of Land Grant Universities*. Gainesville, FL. 2013/04/03. <http://conference.ifas.ufl.edu/landgrant/>
4. **Knowles, III, H.S.** alongside L. Ness, T. Roxey, and B. Tolone, moderated by F. Roberts. Invited Presenter and Panelist – *Visual Analytics for the Energy Sector*. Visual Analytics Community (VAC) Consortium – *Broadening Our Horizons: August 2010 Seasonal Workshop*. Hyattsville, MD. 2010/09/01.
5. **Knowles, III, H.S.** Selected Presenter – *Norms, Networks, and Negawatts: Conspicuity in Distributed Demand Management (Session 8B: Hands-On Efficiency)*. National Energy Utility Affordability Conference (NEUAC) – 2010 Annual Workshop (Presented by the National Fuel Funds Network and the National Low Income Energy Consortium). San Antonio, TX. 2010/06/16.
6. **Knowles, III, H.S.**, N.W. Taylor, P.H. Jones, and B. Larson. Selected Presenter – *Applying Energy Consumption Baselines to Inform and Incentivize Household Energy Efficiency Decisions*. Public Policy Research Center

(PPRC) and Public Utilities Research Center (PURC) – U.S. Energy Policy in Transition. Gainesville, FL. 2010/03/19.

State (18 invited, 9 selected)

1. **Knowles, III, H.S.** Selected Poster and [Presenter](#) – *Home Is Where the Heart Is: Complexity, Pattern, and Meaning in Short Interval Residential Electric Smart Meter Data*. Florida Energy Systems Consortium (FESC) – 2015 Annual Workshop. Orlando, FL. 2015/05/21. <http://floridaenergy.ufl.edu/fesc-conferences/fesc-may-2015-workshop/>
2. **Knowles, III, H.S.**, **Jarrett, L.M.**, and B.C. Larson. Selected Poster / [Presentation](#) – *Planning for Urban Sustainability: Comparing the Impacts of Residential Alternatives*. Florida Energy Systems Consortium (FESC) – 2015 Annual Workshop. Orlando, FL. 2015/05/21. <http://floridaenergy.ufl.edu/fesc-conferences/fesc-may-2015-workshop/>
3. **Knowles, III, H.S.** Invited Module Presenter – *Energy: A Life Story*. University of Florida Institute of Food and Agricultural Sciences (UF/IFAS) In-Service Training (IST) – The Sustainable Floridians Program: From Soup to Nuts. Gainesville, FL. 2015/04/16.
4. **Knowles, III, H.S.**, N.W. Taylor, and **L.A. Jerome**. Selected Poster / [Presentation](#) – *MyFloridaHomeEnergy.Com: A Website to Help Citizens Interact, Plan, Find Support, and Save*. Florida Energy Systems Consortium (FESC) – 2014 Annual Workshop. Orlando, FL. 2014/05/12. <http://floridaenergy.ufl.edu/fesc-conferences/florida-energy-systems-consortium-fesc-workshop/>
5. **Miller, C.R.**, **H.S. Knowles, III**, and E. Foerste. Selected Poster / [Presentation](#) – *FloridaEnergyEfficiencyLoan.Com: A New Residential Lifestyle Literacy and Leveraged Lending Program*. Florida Energy Systems Consortium (FESC) – 2014 Annual Workshop. Orlando, FL. 2014/05/12. <http://floridaenergy.ufl.edu/fesc-conferences/florida-energy-systems-consortium-fesc-workshop/>
6. **Knowles, III, H.S.** and C.R. Miller. Invited Module Presenter – *FloridaEnergyEfficiencyLoan.Com: A New Residential Lifestyle Literacy and Leveraged Lending Program*. University of Florida Institute of Food and Agricultural Sciences (UF/IFAS) In-Service Training (IST) – Aging Well in Florida: Update 2014. Gainesville, FL. 2014/02/12.
7. **Knowles, III, H.S.** Invited Module Presenter – *Energy: A Life Story*. University of Florida Institute of Food and Agricultural Sciences (UF/IFAS) In-Service Training (IST) – The Sustainable Floridians Program. Gainesville, FL. 2013/02/11.
8. **Knowles, III, H.S.** Invited Module Presenter – *The Critical Thinker's Guide to Personal Ecological Footprinting and Resource Budgeting*. University of Florida Institute of Food and Agricultural Sciences (UF/IFAS) In-Service Training (IST) – Emerging Energy Issues and Topics. Gainesville, FL. 2011/09/29.
9. **Knowles, III, H.S.**, P.H. Jones, and C.R. Miller. Selected Presenter (Parts [1](#), [2](#), and [3](#)) – *Saving Energy and Jobs Through Effective Revolving Loan Programs in the Residential Retrofit Sector*. Florida Energy Systems Consortium (FESC) – 2011 Annual Workshop. Gainesville, FL. 2011/09/27. <http://floridaenergy.ufl.edu/fesc-conferences/fesc-summit/2011-summit-preliminary-schedule/>
10. **Knowles, III, H.S.** alongside B. Lear, and S. Ehrenberg, moderated by R. Vieira. Invited Presenter and Panelist – *Energy Efficiency: The Lowest Cost Resource*. U.S. Department of Energy – Jobs in the Clean Energy Supply Chain: Securing Florida's Energy Independence. Gainesville, FL. 2011/09/26.
11. **Knowles, III, H.S.** Selected Presenter – *Osceola County's Energy Efficient Loan Program*. Florida Local Environmental Resource Agencies, Inc. (FLERA) – 2011 Annual Conference: Protecting Natural Resources in a Changing Regulatory Environment. Sarasota, FL. 2011/07/29.

12. Kipp Searcy, M.J., D. Bracciano, E. Foerste, P.H. Jones, B. Larson, and **H.S. Knowles, III**. Selected Presenter – *Water Supply and Land Development: Florida Case Studies*. Florida Local Environmental Resource Agencies, Inc. (FLERA) – 2011 Annual Conference: Protecting Natural Resources in a Changing Regulatory Environment. Sarasota, FL. 2011/07/28.
13. **Knowles, III, H.S.** Invited Presenter – *Clean Energy Financing Programs: Lessons from the Building and Social Sciences*. State of Florida Regional Planning Councils – Executive Directors Annual Meeting. Orlando, FL. 2011/06/23.
14. **Knowles, III, H.S.** Invited Presenter – *Conservation Behaviors: Actions at the Home*. University of Florida Institute of Food and Agricultural Sciences (UF/IFAS) In-Service Training (IST) – Emerging Energy Issues and Topics. Gainesville, FL. 2010/11/11.
15. **Knowles, III, H.S.** Session Chair, Buffet Lunch Roundtable Leader, Selected Presenter, and Field Tour Guide – *Energy and Climate Outreach in Florida: FESC Now and Into the Future*. Florida Energy Systems Consortium (FESC) – 2010 Annual Workshop. Orlando, FL. 2010/09/29. <http://floridaenergy.ufl.edu/fesc-conferences/fesc-summit/2010-summit/>
16. **Knowles, III, H.S.** and **M.J. Kipp**. Invited Speaker – *Florida's Energy-Water Nexus: Foundations and Methods*. University of Florida Institute of Food and Agricultural Sciences (UF/IFAS) In-Service Training (IST) – Sustainable Floridians. Gainesville, FL. 2010/07/15.
17. **Knowles, III, H.S.** Invited Module Presenter and Field Tour Guide – *Conservation Behaviors, Energy Efficiency, and Renewable Energy: Actions and Technologies at the Home*. University of Florida Institute of Food and Agricultural Sciences (UF/IFAS) In-Service Training (IST) – Emerging Energy Issues and Topics. Gainesville, FL. 2010/03/18.
18. **Knowles, III, H.S.** Invited Tabling Presenter – *Plug-in Hybrid Electric Vehicle (PHEV) Demonstration and Tabling*. University of Florida Institute of Food and Agricultural Sciences (UF/IFAS) In-Service Training (IST) – Emerging Energy Issues and Topics. Gainesville, FL. 2010/03/18.
19. **Knowles, III, H.S.** Invited Keynote Presenter (via Polycom) – *Greenhouse Gas Emissions Considerations: Built Environment*. University of Florida Institute of Food and Agricultural Sciences (UF/IFAS) In-Service Training (IST) – South Florida District. Orlando, FL. 2009/10/21.
20. **Knowles, III, H.S.** Invited Presenter – *Brytan LEED-ND Case Study*. Florida Green Building Coalition (FGBC) – Designing and Developing Green Communities 2009: Surviving Now and Thriving Later with Green Infrastructure (Panel 3). Orlando, FL. 2009/03/18.
21. **Knowles, III, H.S.** Selected Presenter – *Norms, Networks, and Negawatts: Conspicuity in a Carbon Constrained Future*. Campus and Community Sustainability Conference. Orlando, FL. 2008/10/20.
22. **Knowles, III, H.S.** Invited Presenter – *Going In-Depth on Innovative Green Practices: Green Buildings*. Florida Association of Counties and ICLEI Local Governments for Sustainability – Beyond Lightbulbs and Hybrids: Local Government Solutions to Global Climate Change. Tampa, FL. 2008/08/14.
23. **Knowles, III, H.S.** Invited Presenter – *Of Climate Change, Oil Depletion, and Carbon Markets: Converging Challenges and Building Efficiency*. University of Florida Levin College of Law – 14th Annual (2008) Public Interest Environmental Conference (PIEC) – Reducing Florida's Footprint: Stepping Up to the Global Challenge. Gainesville, FL. 2008/02/29.
24. **Knowles, III, H.S.** Invited Presenter – *Housing and Mobility: Why Local Government Leadership and Consumer Choices Matter*. 2007 Florida Renewable Energy Expo (Sponsored by the Florida Renewable Energy Association, Orange County Government, OneWorld Sustainable, OUC: The Reliable One, Progress Energy, and City of Orlando). Orlando, FL. 2007/10/13.

25. **Knowles, III, H.S.** Invited Presenter and Panel Moderator – *Green Building in the Public and Private Sector*. Florida Association of Counties – 2007 Annual Conference – Our County Legacy: A Florida Designed to Last. Orlando, FL. 2007/06/13.
26. **Knowles, III, H.S.** Invited Speaker – *Florida Natural Resources Leadership Institute: Developing Skills in Rising Leaders to Build Consensus Around Contention*. 2006 Campus and Community Sustainability Conference. Gainesville, FL. 2006/10.
27. **Knowles, III, H.S.** Invited Speaker – *Program for Resource Efficient Communities: A Synthesis of Dwelling, Lot, and Community*. GreenTrends 2005: Second Annual Florida Statewide Green Building Conference and Tradeshow. Sarasota, FL. 2005/05.

Local (5 invited, 3 selected)

1. **Knowles, III, H.S.** Invited Speaker – *Harboring Habits & Habitats for Human Health by Measuring and Matching Complexity in the Rhythms of Our Buildings, Bodies, and Biomes*. American Planning Association (APA), Florida Chapter, San Felasco Section. Gainesville, FL. 2017/05/10.
2. **Knowles, III, H.S.** Selected and Judged Top 10 Finalist [Presenter](#) – *Home Is Where the Heart Is: Complexity, Pattern, and Meaning in Short Interval Residential Electric Smart Meter Data*. University of Florida Graduate School – 2016 Annual Three Minute Thesis (3MT) Research Communication Competition. Gainesville, FL. 2016/03/29. <http://graduateschool.ufl.edu/about-us/events/3mt/>
3. **Knowles, III, H.S.** alongside J. Leary, W-L. Bartels, and C. Porter, moderated by N. Nelson. Invited Panelist – Non Tenure Track Careers Roundtable. University of Florida Department of Agricultural and Biological Engineering. Gainesville, FL. 2015/11/04.
4. **Knowles, III, H.S.** Selected [Poster](#) and Presenter – *Home Is Where the Heart Is: Complexity, Pattern, and Meaning in Short Interval Residential Electric Smart Meter Data*. University of Florida Graduate Student Research Day 2015. Gainesville, FL. 2015/10/27. <http://ufdc.ufl.edu/IR00007271/00001/citation>
5. **Knowles, III, H.S.** Selected Preliminary Heat Presenter – *Home Is Where the Heart Is: Complexity, Pattern, and Meaning in Short Interval Residential Electric Smart Meter Data*. University of Florida Graduate School – 2015 Annual Three Minute Thesis (3MT) Research Communication Competition. Gainesville, FL. 2015/03/11.
6. **Knowles, III, H.S.** Invited Keynote Presentation – *Investing in Our Future: Green Economic Pathways and Partnerships*. Sarasota County – 2011 Sustainable Communities Workshop. Sarasota, FL. 2011/10/06.
7. **Knowles, III, H.S.** Invited Keynote Presenter and Panelist – *Florida's Increasing Water Shortage*. Flagler County Rotary – Water Symposium at Flagler County Town Meeting. Palm Coast, FL. 2008/02/22.
8. **Knowles, III, H.S.** and [G. Golgowski](#). Invited Speakers – *Harmony, FL: A Case Study in Environmental Planning*. Seeing Green in Your Future Development: A Low Impact Development Workshop, sponsored by Lakes Education/Action Drive. Lakeland, FL. 2005/06.

Service to Schools (8)

1. **Knowles, III, H.S.** Volunteer Vice President of Football Parking – *Parent Teacher Association (PTA)*. J.J. Finley Elementary. Alachua County, Florida. 2018-Present.
2. **Knowles, III, H.S.** Invited Judge – *Challenge 2050 – Global Uncertainty (ALS 2410) Final Class Presentations*. University of Florida. Gainesville, Florida. 2017/11/29.
3. **Knowles, III, H.S.** Volunteer Speaker – *Fourth Grade Science Symposium*. Hidden Oak Elementary. Alachua County, Florida. 2017/05/26.

Hal S. Knowles, III, Ph.D.

Curriculum Vitae

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4. **Knowles, III, H.S.** Volunteer Builder at Solar Car Day – Ms. Lauren Hopkins Second Grade Class. J.J. Finley Elementary. Alachua County, Florida. 2017/03/07.
5. **Knowles, III, H.S.** Invited Judge – Florida Climate Institute Three Minute Thesis (3MT) and Two Minute Video (2MV) Annual Competition. University of Florida. Gainesville, Florida. 2017/02/28.
6. **Knowles, III, H.S.** Volunteer Judge – Middle School Science Fair. Westwood Middle School. Alachua County, Florida. 2015/12/10.
7. **Knowles, III, H.S.** Interactive Speaker – Lecture on green building and development for Earth Week activities for Ms. Brittany Juarez's Kindergarten class. J.J. Finley Elementary School. Alachua County, Florida. 2015/04/20.
8. **Knowles, III, H.S.** Invited Speaker – Green Building and the Florida Cooperative Extension Service: A Distance Education Seminar for Students. Satellite High School. Satellite Beach, FL. 2007/10/10.

Memberships in the Profession (4)

State (2)

1. Florida Natural Resources Leadership Institute: Alumnus (2006) and Board Member (2006-2007).
2. Florida Green Building Coalition (FGBC): Member (2003 – present); Board Member and Treasurer (2003-2005).

Local (1)

1. Community Weatherization Coalition Executive Board: Member Invited (2016-Present).
2. Gainesville Energy Advisory Committee: Member Appointed by City Commission (2006-2008).

Activities in the Profession (4)

International (2)

1. Certified Greenhouse Gas Emissions Inventory Quantifier (GHG-IQ) (2010-2013).
2. Green Building Certification Institute, Leadership in Energy and Environmental Design (LEED) Green Building Rating System Accredited Profession (LEED-AP) Version 2.0.

Local (2)

1. [Vital By Design](#), University of Florida. Core Faculty Member (2016-Present).
2. [Florida Resilient Communities Initiative](#), University of Florida, Faculty Member (2015-Present).

Honors, Awards, and Accomplishments (10)

National (6)

1. National Extension Association of Family and Consumer Sciences (NEAFCS): Environmental Education Award for 3rd Place National Winner – Sustainable Floridians (2014).
2. National Wildlife Federation: Campus Ecology Fellow (2009).
3. Association of Natural Resource Extension Professionals (ANREP): Achievement Award for Outstanding Team – UF Program for Resource Efficient Communities (2007).
4. Association of Natural Resource Extension Professionals (ANREP): Achievement Award for Innovative Program – UF Program for Resource Efficient Communities (2007).
5. Association of Natural Resource Extension Professionals (ANREP): Outstanding Educational Materials Gold Award for Computerized Graphic Presentation – Preserving Wildlife Habitat in Residential Developments (2005).

6. Association of Natural Resource Extension Professionals (ANREP): Outstanding Educational Materials Bronze Award for Long Publication – Preserving Wildlife Habitat in Residential Developments (2005).

Regional (1)

1. National Extension Association of Family and Consumer Sciences (NEAFCS): Environmental Education Award for 3rd Place Southern Region Winner – Sustainable Floridians (2014).

State (3)

1. Florida Climate Institute Faculty Fellow (three year term from 2018/19 through 2020/21).
2. University of Florida Institute of Food and Agricultural Sciences (IFAS) Extension: Professional Enhancement Award for Extension Initiative Innovation Team Award – Sustainable Floridians (2012).
3. University of Florida Institute of Food and Agricultural Sciences (IFAS) Extension: Silver Award for Marketing and Communication (2005).

Local (1)

1. University of Florida Graduate School – Three Minute Thesis (3MT) Top 10 Campus Finalist (2016).

Technical Skills (12)

Geospatial (2)

1. Intermediate to advanced user of Spatial Analyst, Network Analyst, and related tools in Esri ArcGIS v10.2.2.
2. Advanced user of comparative land use analysis in City Explained (formerly Placeways) Community Viz Scenario 360 v4.4.

Statistical (3)

1. Intermediate user of multifractal detrended fluctuation analysis (MFDFA) in Matlab R2014a.
2. Intermediate user of data ingesting, screening, cleaning, and summary statistics in SAS Enterprise Guide v6.1.
3. Intermediate user of cross recurrence quantification analysis (CRQA) in Cran-R.

Web Development (2)

1. Intermediate user of website development and deployment in WordPress v4.4.
2. Intermediate user of automated form development and deployment in Gravity Forms v1.9.6.

Office Productivity (2)

1. Proficient user of Word, Excel, and PowerPoint in Microsoft Office 2013.
2. Proficient user of citation management and literature archiving in Zotero v4.0.

Visual Arts (3)

1. Amateur photographer and cinematographer.
2. Advanced user of still image post-production in Adobe Creative Cloud: Lightroom CC and Photoshop CC.
3. Intermediate user of video post-production in Adobe Creative Cloud: Premiere Pro CC and Speedgrade CC.

Projects and Funding Agencies

Available upon request.