

G. TALLEY HOLMAN

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EMPLOYMENT / APPOINTMENT

Consultant, Independent, Blakely, GA, 2002-2018

Adjunct Professor, University of Louisville, Louisville, KY, 2014-2018
Department of Industrial Engineering

Senior eHealth Systems Analyst, American Academy of Family Physicians, Leawood, KS,
2014-2016

Director, University of Louisville, Louisville, KY, 2009-2014
Center for Ergonomics

Assistant Professor, University of Louisville, Louisville, KY, 2009-2014
Department of Industrial Engineering

Research Associate (postdoctoral), University of Wisconsin-Madison, Wisconsin, 2008-2009
Center for Quality and Productivity Improvement (CQPI)

Graduate Teaching/Research Assistant, Auburn University, Auburn, AL
Department of Industrial & Systems Engineering, 2001-2007
Department of Marketing, 2003-2004

Manager / Supervisor, Shaw Industries, Inc., Andalusia, AL, 1995 – 2001

EDUCATION

Auburn University, Auburn, AL,

Ph.D. in Industrial & Systems Engineering, 2007

Specialization: Human Factors, Biomechanics, Ergonomics & Safety

Program: NIOSH Deep South Center Education & Research Center

M.S. in Industrial & Systems Engineering, 2004

M.B.A., 2004

Georgia Southern University, Statesboro, GA,

B.S., Physics, 1995

B.S. in Manufacturing, Industrial Management (Lean Manufacturing), 1995

CERTIFICATION

Professional Engineer (PE), 2017

RESEARCH INTERESTS

Analysis and quantification of healthcare environments, workflow, and procedures as it relates to primary care for defining best methods, error reduction, layout redesign, modeling, and standards development.

Proposed Research: A deep dive into meaningful use criteria associated with basic/routine patient care that were shown to have significant burden to complete for primary care physicians

Proposed Research: Assessment of the first 5 years of practice of a healthcare professional: physical, mental, professional - nationwide study

Proposed Research: Analysis of a day in the life of a primary care physician

Proposed Research: Development of an asthma management & monitoring app for patients

Preliminary Research: Development of internet-based software to get consensus/agreement between healthcare professional without direct interaction and across great distances

Continuing Research: Evaluating the benefit and burden of the federal meaningful use program on practicing physicians, nationwide study

Continuing Research: Design of a new extension limiting cervical collar

Continuing Research: Development of a "real world" primary care clinic simulation model based on multiple physician-nurse teams treating patients simultaneously

PUBLICATIONS**Manuscripts Pending Submission:**

1. Holman, G.T., Waldren, S.E., Beasley, J., Dardick, L.D., Fox, C.H., Marquard, J., Mullins, R., North, C.Q., Rafalski, M., Rivera, A.J., Wetterneck, T.B., Evaluating meaningful use as a medical intervention. *Annals of Family Medicine*
2. *Hoover, S.R., Holman, G.T., DePuy, G. Hardin, T., Montgomery, V., Workflow failures and recoveries in a hospital admissions unit. *BMJ Quality and Safety*
3. *Hoover, S.R., Holman, G.T., DePuy, G. Hardin, T., Montgomery, V., How an employee's position affects their perception of the workflow. *Applied Ergonomics*
4. *Wooldridge, A.R., *Hoover, S.R., Wetterneck, T.B., Holman, G.T., Development of a primary care nurse task list to evaluate clinic workflow. *BMJ Quality and Safety*
5. Gentry, E., *Hoover, S.R., Holman, G.T., DePuy, G., Why patient expectation should be managed: insights from emergency department studies. *International Journal of Collaborative Enterprise (IJCENT)*
6. *Hoover, S.R., *Wooldridge, A.R., Wetterneck, T.B., Holman, G.T., Need for alternative simulation methods for modeling a primary care physician. *IIE Transactions in healthcare*
7. Holman, G.T., Piper, A.K., Using Data Clustering of Short Survey Results to Identify Ergonomic Stressors Associated with Nursing Tasks. *Journal of Nursing Education and Practice (JNEP)*

Journal Articles:

1. Holman, G.T., Waldren, S.E., Beasley, J., Cohen, D., Dardick, L.D., Fox, C.H., Marquard, J., Mullins, R., North, C.Q., Rafalski, M., Rivera, A.J., Wetterneck, T.B., 2018, Meaningful Use's Benefits and Burdens for US Family Physicians. *JAMIA*, OCT158, 1-8
2. Holman, G.T., Beasley, J., Karsh, B.T., Stone, J.A. Smith, P., Wetteneck, T.B., 2015, The myth of workflow in the primary care. *JAMIA*, OCV107, 1-19
3. Piper, A.K., Holman, G.T., Davis, J.A., Sesek, R.F., Boelhouwer, E.J., 2015, Towards incorporating technology to enhance the stereotype production method in warning symbol design. *IIE Transactions on occupational ergonomics and human factors*, 3(3-4), 221-235.
4. Wetterneck, T.B., Lapin, J.A., Krueger, D.J., Holman, G.T., Beasley, J. Karsh, B.T. , 2011, Development of a Primary Care Physician Task List to Evaluate Workflow. *BMJ Quality and Safety*. Sept 2011 Epub ahead of print. doi: 10.1136/bmjqs-2011-000067.
 - Featured article in *AHRQ Research Activities*, February 2013
5. Holman, G.T., Blackburn, J.T., Maghsoodloo, S., 2010, The Effects of Restricted Space on Patient Handling, *Professional Safety, Professional Safety*, 6/2010, 38-46.
6. Holman, G.T., Ellison, K.J., Maghsoodloo, S., Thomas, R.E., 2010, Nurses' Perceptions of How Job Environment and Culture Influence Patient Handling, *Journal of Orthopaedic and Trauma Nursing*, 14(1), 18-29.
 - Featured as one of the journal's most cited articles since 2008
7. Holman, G.T., Thomas, R.E., Brown, K, 2009, A Health Comparison of Alabama Nurses versus U.S. and Canadian Normative Populations, *Journal of Orthopaedic and Trauma Nursing*, 13(4), 172-182.
8. Holman, G.T., Davis G.A., Maghsoodloo, S., 2008, Effect of Dynamic Reach on Seated Reach Arcs, *Ergonomics*, 51(5), 691-701.
9. Holman, G.T., Carnahan, B.J., Thomas, R.E., 2006, Using Surveys to Identify Stressors in Generalized Jobs, *International Journal of Industrial Ergonomics*, 36, 671-7.

**REFEREED
CONFERENCE
PROCEEDINGS**

Papers, Presentations, Posters:

1. Holman, G.T., 2017, Takeaways from a study of how meaningful use affects primary care physicians, *iPractice Conference*, Madison, WI, USA.
2. Holman, G.T., Waldren, S.E., Rivera, A.J., Dardick, L.D., 2016 Using Challenges Associated Meaningful-Use Criteria to Prioritize Needed Changes in Electronic Health Records, *HFES 2016 International Health-Care Symposium*, San Diego, CA.
3. Holman, G.T., Waldren, S.E., 2016, AAFP Commission on Quality and Practice, Study of Meaningful Use. AAFP, Kansas City, KS, USA
4. Holman, G.T., Waldren, S.E., 2016, Why designers continue to believe healthcare is a linear process, *iPractice Conference*, Madison, WI, USA.
5. Waldren, S.E., Holman, G.T., 2016, Preparing for the future of healthcare policy, *iPractice Conference*, Madison, WI, USA
6. Yang, L., Nazar, R. Holman, G.T., 2015, Custom cervical orthotic based on patient's anthropometry. KY EPSCoR 2015, Frankfurt, KY, USA
7. Holman, G.T., Mullins, R. 2015, Improving practice efficiency: a practical start to LEAN, *Family Medicine Experience Conference (FMX)*, Denver, CO
8. Holman, G.T., Waldren, S.E., 2015, Using science to inform policy & practice. *iPractice Conference*, Madison, WI, USA.
9. Wetterneck, T.B., Kelly, M., Carayon, P., Sesto, M., Tevaarwerk, A., Chui, M., Stone, J., Hoonakker, P., Musa, A., Holman, G.T., Beasley, J., 2014, *Panel Discussion: Human factors – healthcare collaborations: Improving quality and safety through a team approach with the systems engineering initiative for patient safety. HFES 2014 International Annual Meeting*, Chicago, IL, USA.
10. Holman, G.T., 2014, Benefits of doing a basic process workflow in healthcare: resetting personnel perspectives regarding what is being supported, *Lucien Brouha 2014*, Buffalo, NY, USA.
11. Holman, G.T., Wetterneck, T.B., Smith, P. Beasley, J., Karsh, B.T., 2014, Workflow? Schmerkflow! The Myth of Workflow in Primary Care. *iPractice Conference*, Madison, WI, USA.
12. Piper, A.K., Holman, G.T., 2014, Using symbols to improve patient comprehension during a provider's subjective assessment, *HFES 2014 International Symposium on Human Factors and Ergonomics in Health Care*, Chicago, IL, USA, poster
13. *Wooldridge, A.R., *Hoover, S.R. Holman, G.T., 2013, Evaluation of current simulation methods in healthcare and their impact. *Society for Health Systems Annual Meeting. New Orleans*, LA, USA, poster
14. Beasley, J., Stone, J., Krueger, D.J., Holman, G.T., Smith, P., Hagenauer, M.E., Karsh, B.T., Temte, J., Wetterneck, T.B., 2013, Workflow? Schmerkflow! The Myth of Workflow In Primary Care And Why It Matters for Health It Design And Implementation. *NAPCRG-PBRN Conference*, Bethesda, MD, USA, poster.
15. Holman, G.T., 2013, Healthcare collaborations: the nature of working with other professionals, *Lucien Brouha 2013*, Savannah, GA, USA.
16. Karsh, B.T., Beasley, J., Krueger, D.J., Holman, G.T., Smith, P., Wetterneck, T.B., Stone, J., 2012, Workflow? Schmerkflow! The Myth of Workflow In Primary Care And Why It Matters for Health It Design And Implementation. *NAPCRG 40th Annual Meeting*, New Orleans, LA, USA.
17. Wetterneck, T.B., Holman, G.T., 2011, Use of Tandem Observations in Ambulatory Primary Care to Evaluate Physician – Nurse Teamwork, *International Healthcare Systems, Ergonomics and Patient Safety International Conference*. Oviedo, Spain
18. Wetterneck, T.B. and Holman, G.T., 2011, Failures and Recovery- Medication Information Flow at Hospital Follow-up Visits, *WREN Wisconsin Primary Care Research & Quality Improvement Forum*, Madison, WI, USA.

19. *Rangi, H., Holman, G.T., 2011, Proposed technique to reduce inter-rater variability of pressure ulcer classifications. *Society for Health Systems Annual Meeting*. Orlando, FL, USA, poster.
20. Holman, G.T., 2010, A systematic approach of applying engineering principles to healthcare. Kentucky Hospital Association 5th Annual Quality Conference, Louisville, KY, USA.
21. Lapin, J., Krueger, D., Wetterneck, T., Holman, G.T., Beasley, J., Karsh, B.T., 2010, Workflow Schmerkflow. WREN Wisconsin Primary Care Research & Quality Improvement Forum, Middleton, WI, USA.
22. Wetterneck, T., Holman, G.T., 2009, Medication Information Management and Error Recovery in Primary Care Clinics. WREN Wisconsin Primary Care Research & Quality Improvement Forum, Wisconsin Dells, WI, USA, poster.
23. Piper, A.K., Boelhouwer, E.J., Davis, J., Holman, G.T., Montgomery, L.S., 2008, Using hand drawn images to determine warning symbol design parameters within interactive evolutionary computation software, *Proceedings of the Human Factors and Ergonomics Society 52nd Annual Meeting*, New York, NY, USA.
24. Wetterneck, T., Holman, G.T., Smith, P., 2008, Methods used to Assess Risk in Ambulatory Medication use after Hospital Discharge, WREN Wisconsin Primary Care Research & Quality Improvement Forum, Wisconsin Dells, WI, USA, poster.
25. Boelhouwer, E., Holman, G.T., 2007, Front-End Discharge Versus Rear-End Discharge Ready Cement Trucks, *Proceedings of the 2007 American Society of Safety Engineers Professional Conference*, Orlando, FL, USA, poster.
26. Holman, G. T., 2006, Decision Factors in Patient Handling, *Proceedings of the 4th Annual Regional National Occupational Research Agenda (NORA) Young/New Investigators Symposium*, Salt Lake City, UT, USA, ISBN: 0-9744324-3-1.
27. Holman, G.T., 2006, Patient Handling: Conditions and Restrictions, *2006 American Society of Safety Engineers Conference*, Seattle, WA, USA.
28. Holman, G.T., 2005, Patient Handling: Conditions & Restrictions, *National Institute for Occupational Safety and Health (NIOSH) Deep South Center Research Symposium*, Birmingham, AL, USA.
29. Holman, G. T., Carnahan, B. J., 2003, Using Linear Programming to Optimize Control Panel Design From an Ergonomic Perspective, *Proceedings of the Human Factors and Ergonomics Society 47th Annual Meeting*, Denver, CO, USA, 1317-1321.
30. Flynn, E. A., Dorris, N. T., Holman, G. T., Carnahan, B. J., Barker, K. N., 2002, Medical Dispensing Errors in Community Pharmacies: A Nationwide Study, *Proceedings of the Human Factors & Ergonomics Society 46th Annual Meeting*, Baltimore, MD, USA, 1448-1451.

**INVITED
SPEAKER**

1. Holman, G.T., 2014, Intersection of engineering and healthcare from a nursing prospective. *College of Nursing*, University of Tennessee, Knoxville, TN, USA
2. Holman, G.T., 2013, Analysis and redesign of a hospital admissions process. *Veterans Affairs*, Indianapolis, IN, USA.
3. *Hoover, S.R., Holman, G.T., 2013, Analysis and redesign of a rapid admissions process. *Kosair Children's Hospital*, Louisville, KY, USA.
4. Holman, G.T., 2013, Simulating physician-nurse teams in primary care clinics, *Department of Mechanical and Industrial Engineering*, Northeastern University, Boston, MA, USA.
5. *Hoover, S.R.,* Wooldridge, A.R., Wetterneck, T.B., Holman, G.T., 2012, Need for alternative simulation methods for modeling a primary care physician. *Center for Quality and Productivity Improvement and The Human Factors and Ergonomics Student Chapter*, University of Wisconsin-Madison, USA.

6. Holman, G. T., 2008, Patient Handling: Conditions and Restrictions, *Department of Industrial & Systems Engineering*, Auburn University, Auburn, AL, USA.
7. Holman, G.T., 2007, Patient Handling: Lack of functional environments in healthcare. *World Usability Day*, Auburn, AL, USA, online presentation.

GRANTS & CONTRACTS

Grants and Contracts:

- Evaluation of the benefit and burden of the federal meaningful use program on practicing physicians - nationwide study (2015-2016, \$75,000) Principle Investigator, Sponsored by AAFP
- Collaborative Effort to address methods and treatments associated with spinal pathologies (2014-2015, \$10,000) Co- Principal Investigator, Sponsored by Ky EPSCoR
- Ergonomics Workshop (2014, \$5000), Principal Investigator, Sponsored by Greenlee-Textron, Inc.
- Real-time decision support system for healthcare and public health sector protection. The goal of this study is to develop a real time decision support system to meet the needs of the HPH sector responding to a pandemic influenza outbreak (2011-2013, \$3,314,000), Co-investigator, Sponsored by National Institute for Hometown Security
- General Ergonomics Training (2013, \$1200), Principal Investigator, Sponsored by Greenlee-Textron, Inc.
- Workflow analysis and time study of a production line for the purpose of developing a time standard (2012-2013, \$27,303), Principal Investigator, Hussey Copper (Service Agreement OICN121346)
- Assessing Risk in Ambulatory Medication Use after Hospital Transitions. (2008-2009, \$411,000), Co-investigator, Sponsored by National Institute of Health / Agency for Healthcare Research and Quality, K08 HS17014
- Effects of Restricted Space on Patient Handling in Hospital Environments. (2005-2007, \$16,560), Principal Investigator, Sponsored American Society of Safety Engineers Foundation

Sub-contract(s):

- SPD-IE German Program (2009-2012, \$499,800), Instructor Sub-Contract, External doctoral program developed through Wuerth Akademie in Bad Mergentheim, Intakes 1 and 2.
- SPD-IE Panama Program (2009-2013, \$1,008,000), Instructor Sub-Contract, External masters program developed through Quality Leadership University en Panamá, Intake 10,11,12

Submitted Proposals (selected):

- Deeper dive: study of selected meaningful use criteria associated with basic/routine patient care that were shown to have significant burden to complete for primary care physicians (\$244,000) Co-Principle Investigator, Submitted to AAFP
- Evaluation and/or redesign of workstations based on ergonomic impact and soft tissue injury, and development and delivery of four workshops based on ergonomic principles and tools (\$225,012), Principal Investigator, Submitted to AGC Automotive
- Extension Prevention Semi-Rigid Cervical Orthotic with Adaptable Flexion Fixation (\$100,000), Co- Principal Investigator, Submitted to Coutler Group
- Ergonomic evaluation of workstations for the purpose of developing in-house ergonomic work and design standards (\$98,729), Principal Investigator, Submitted to Dynacraft Inc.
- Developing of a behavioral culture program (\$160,398), Principal Investigator, Submitted to Linak Inc.
- Workflow analysis and time study of facility operation for development of a tool to estimate cost basis by the order (\$246,000), Principal Investigator, Submitted to Hussey Copper
- Evaluation of case to case turnover times and how it affects efficiency in hospital operating rooms (\$51,871), Principal Investigator, Submitted to University of Louisville Hospital

TEACHING**Courses:**

Techniques in the Workplace (Graduate, Louisville) — A core class designed to teach approaches for evaluation of an area/facility/department to address human factors and ergonomics for the purpose of improving safety, efficiency, and/or worker satisfaction (2010–2014).

Lean Systems (Graduate, Louisville) — An elective class designed to bring together the core aspects of industrial engineering and World Class Manufacturing paradigms into a single LEAN system based on customer expectations (2011-2014).

Engineering Economics (Undergraduate, Louisville) — A core class designed to teach methods of economic evaluation of engineering projects including, time value of money, equivalence, cost estimation, selection of alternatives, depreciation, taxes, inflation and budgeting. (2014).

Work Design (Undergraduate, Louisville) — A core class designed to teach about engineering principles of work measurement, analysis, and design using engineering methods and time study for the purpose of creating standards. (2014).

Introduction to Human Factors and Ergonomics (Undergraduate/Graduate, Louisville) — A core class designed as an introductory overview of core concepts of physiology, biomechanics, anthropometry, and human factors related to job design and evaluation. (2009-2013).

Human Performance/Ergonomics-International (Graduate, Louisville) — A compressed course taught in Germany and Panama as a sub-contract that provides an overview of concepts in physiology, biomechanics, and human factors for job design and evaluation (2009-2013).

Research Methods (Graduate, Louisville) – An doctoral level elective class designed to teach the fundamental of research from literature review and design of the primary objective question to data collection and controls to final interpretation of findings. (2012)

Management of Human Systems (Graduate, Louisville) — A core class designed to teach basic concepts of the effects of the environment on human sensory, motor function, and information processes. Topics include heat, noise, light, vibration, sleep loss, illness, work load, work durations, work-rest scheduling, etc. (2009-2013).

Independent Study:

- Modeling the effectiveness of primary care clinic workflows, Wooldridge & Hoover (2011)
- Modeling Interactions and workflows of physician-nurse teams, Wooldridge & Hoover (2012)

Mentoring:***Doctoral Dissertation***

- Development of an international corporate compensation strategy to maximize worker motivation based on personal difference, job type, culture, and country, *Carsten Becker*, Expected Graduation 2019 (Chair)
- Repeatable Lap Times for Customers in Plugin Hybrid Sportscars: developing artificial feedback for driver performance, Thomas W. Gruenter, Expected Graduation 2019 (Chair)
- Evaluation of a hospital's in-take processes to reduce patient wait-times, *Scott Hoover*, Doctorate of Philosophy, August 2013 (Co-Chair)
 - 2014 Industrial Engineering Dissertation Award

Master's Thesis

- Evaluation of heel-strike relative to gait, *Nicole Knapp (ME)*, Masters of Engineering, May 2016 (Committee)
- Modeling of workflow of a primary care physician-nurse team, *Abby Wooldridge*, Masters of Engineering, May 2012 (Co-Chair)
 - 2011-12 Alpha Pi Mu Wolter J. Fabrycky award (national)
 - Speed School Outstanding Student, banner bearer commencement Spring 2012
- Performance of athletic cleated shoes in the sport of ultimate frisbee, *Andrew Johnson*, Masters of Engineering, May 2012 (Chair) Simulation analysis of resident and attending physician teaching methods at Kosair Children's Hospital, Scott Hoover, Masters of Science, December 2010 (Committee)

Master's Project

- Application of lean strategy to a pantry operation, *Andrew Dreisbach*, Masters of Engineering December 2014 (Chair)
- Understanding the difference in how an expert panel interoperates an image compared to what the subject intended, *Samantha Knight*, Masters of Engineering, May 2014 (Chair)
- Study the difference effectiveness between a person that works from 4 to 12 and a person that works from 8 to 5, *Laura Anzola* , Masters of Engineering, May 2014 (Chair)
- Approach for a wellness program in a construction company, *Ramón Avilés*, Masters of Engineering, May 2014 (Chair)
- Optimization of Acceleration Performance of a SAE Baja Vehicle based on Soil Saturation, *Brad Cottrell*, Master of Engineering (ME), August 2013 (Chair)
- Looking to the future for "Industrias Correagua", *Alessandro F. Reichert*, Masters of Engineering, December 2011 (Chair)
- Creation of a responsive system to handle all Material handling products utilizing lean methods, *Matt Stenger*, Masters of Engineering, May 2011 (Chair)

Other Funded Students on Projects

- Workflow analysis and time study of a production line for the purpose of developing a time standard, *Andrew Johnson, Michael Lewis & Samantha Knight*, 2012-2013

SERVICE**To the Profession***Journals& Conferences*

- Manuscript reviewer Journal of Applied Ergonomics (2012-2017)
- Manuscript reviewer Journal of Orthopedic and Trauma Nursing (2010-2015)
- Manuscript reviewer Human Factors and Ergonomics Society Conference (2012-2016)
- Manuscript reviewer Journal of Human Factors (2012)
- Manuscript reviewer Journal of Human Factors and Ergonomics in Manufacturing & Service Industries (2012)
- Manuscript reviewer Journal of Biomechanics (2009-2010)

Societies

- Alpha Pi Mu Honor Society (2006-2018)
 - Student Chapter Faculty Advisor (2009-2014)
- Delta Epsilon Iota Honor Society (2006-2018)
- Institute of Industrial Engineers (2009-2017)
- Human Factors and Ergonomics Society (2003-2017)
 - Student Chapter Faculty Advisor (2009-2014)
- Society for Health Systems (2008-2017)
 - Nominated for diplomate status (2015)

Organizations

- Grant reviewer NIOSH Deep South Center Seed Grant Program (2009-2017)
- Grant reviewer Kentucky Science and Engineering Foundation (2017)
- Grant reviewer National Science Foundation (2010-2012)
- I-Practise
 - National Advisory Council, guest/fill-in (2015-2016)

To the University*Recruitment*

- INSPIRE Program (2011-2012)
 - Minorities to Engineering
- Speed School Career Day (2010-2012)
- Speed School perspective student tours (2011-2013)
- E-expo (2010-2011)

Committees & Activities

- Graduate Curriculum Committee, Department (2013-2014)
- Continuing Education: Survivor's guide to on-line teaching (2013)
- Graduate Admissions Committee (2009-2014)
- ABET recertification (2009-2010, 2012)
- University ad-hoc committee for improving student evaluation response rates (2012)
- Critical thinking Initiative (2009-2011)
- Engineering Diversity Committee (2010)

**PROFESSIONAL/
ADMINISTRATIVE
EXPERIENCE****Consulting**, Independent, 2002-2018

Assessment, prototype design, or expert opinion based on ergonomics, human factors, or research/statistical methods are what I have been retained for across multiple industries.

- Evaluated procedures and environment working directly with management and employees
- Developed new techniques for on-site ergonomic assessment of general description jobs

Research Center Director, University of Louisville, Louisville, KY, 2009-2014

The Center for Ergonomics is a recognized research center housed in the College of Engineering. Its mission is one of community outreach and support of local industry. To be successful, resource acquisition and management are needed in combination with strong interpersonal skills and communication. These activities are supported by the day-to-day administrative duties, allowing associated personnel to propose, advance and succeed.

- Successfully completed board-of-trustees review, approval given five year continuation (2012)
- Initiated preliminary talks for developing a CRADA with the Naval Surface Warfare Center – Crane Division
- Provided workshops and training to local industries and organizations

Human Sciences Laboratory, University of Louisville, Louisville, KY, 2009-2014

Part of the Center for Ergonomics, the primary laboratory was designed and built in 2009-2011 for simultaneous collection of cognitive and physical human data. Integrated systems include real-time motion capture, EMG, EEG, ground-force, eye-tracking, time encoded video, instantaneous feedback event/instruction and photo-eye triggers with next stage integration of a smart board. This laboratory was the third that I have designed and/or built for different organizations.

Occupational Injury & Prevention Research & Training Program (OIPRT), NIOSH Deep South Education & Research Center, 2001-2007

- *Auburn University*, Interdisciplinary occupational safety and health training collaborative with nursing, occupational physicians, public health, and industrial hygiene
- *University of Alabama Birmingham*, Completed School of Public Health graduate core curriculum

Research Exchange Program, University of Algarve, Faro, Portugal, 2007

- A graduate exchange program grant to explore the cultural differences in performing research.

Network and Systems Administrator, Auburn University, Auburn, AL, 2003-2007

- Performed installation and maintenance of all equipment and computers in the Industrial & Systems Engineering Occupational Safety and Ergonomics laboratories and offices.