

Curriculum Vita (3/30/09)

**MICHAEL A. MULLENS, Ph.D., P.E.**

Engineering Consultant to the Homebuilding Industry

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**EDUCATION**

- Ph.D. **Georgia Institute of Technology**, 1979, Applied Operations Research.  
Dissertation: *The Design of Multi-Modal Freight Transportation Networks*
- M.S. **Georgia Institute of Technology**, 1976, Systems Engineering.  
Thesis: *An Analysis of a Hypothetical Public Sector Planning System with Respect to Expected Resistance to Plan Implementation*
- B.S. **Mississippi State University**, 1973, Industrial Engineering.

**PROFESSIONAL REGISTRATION**

State of Florida - PE-0052724.

**EMPLOYMENT HISTORY**

2007-Pres **Independent**

Position: Engineering Consultant to the Homebuilding Industry

Duties: Design and improvement of homebuilding operations

1990-2007 **University of Central Florida**, Orlando, FL.

Position: Associate Professor, etc.

Duties: Teaching, research and service as detailed below.

1988-1990 **Hicks and Associates, Consulting Industrial Engineers**, Orlando, FL.

Position: Vice President

Duties: Consulted with many Fortune 500 firms; specialized in the design and implementation of integrated material handling systems in manufacturing and distribution; responsible for marketing, long range planning, proposal development, project management, delivery, recruiting and personnel management.

1980-1988 **SysteCon, Division of Coopers and Lybrand**, Atlanta.

Position: Director, etc.

Duties: Consulted with many Fortune 500 firms; specialized in the design and implementation of integrated material handling systems in manufacturing and distribution; responsible for marketing, proposal development, project management, delivery, recruiting and personnel management.

- 1978-1980 **Detroit Diesel, Allison Division, General Motors Corporation**, Detroit.  
 Position: Senior Operations Research Analyst  
 Duties: Responsible for manufacturing problem solving using computer simulation and math modeling.
- 1975-1978 **Georgia Institute of Technology**, Atlanta, GA.  
 Position: Graduate Research Assistant  
 Duties: Developed, programmed, and implemented analytical procedures for intercity transport planning.
- 1971 (Summer) **Industrie Pirelli**, Milan, Italy.  
 Position: Exchange Student - Industrial Engineering  
 Duties: Methods and time studies.
- 1968-1971 **Monsanto Company**, Pensacola, FL.  
 Position: Cooperative Education Student  
 Duties: Quality Control Engineering.

## TEACHING

Teaching responsibilities have included the courses listed below.

- EGN 1006 Introduction to the Engineering Profession: Fall 1998
- EGN 3613 Engineering Economics: Summer 1990, Summer 1994, Spring 2007
- STA 3032 Probability and Statistics for Engineers: Summer 1990
- EIN 4116 Systems Analysis and Design: Fall 1998 - Fall 2006
- EIN 4364C Industrial Facilities Planning and Design: Spring 1992, Spring 1993
- EIN 4400 Concurrent Engineering: Spring 1997, Spring 1998, Spring 1999, Spring 2004, Spring 2005
- ESI 4523C Systems Simulation: Spring 1991
- EIN 4891C Industrial Engineering Senior Design Project: F90, F93, S94, F94, S95, F95, S96, F96, S97, F97, Spring 1998 – Spring 2007
- EIN 6357 Advanced Engineering Economic Analysis: Fall 1990 (ITV FEEDS), Fall 1991 (2 sections NASA-KSC), Fall 1992 (2 sections NASA-KSC), Fall 1993 (ITV FEEDS), Fall 1994 (ITV FEEDS), Fall 1995 (ITV FEEDS)
- EIN 6392C Manufacturing Systems Engineering: Spring 1992 (ITV FEEDS)
- EIN 5399 Concurrent Engineering: Spring 1993, Spring 1994, Spring 1995, Spring 1996
- EIN 6399 Concurrent Engineering: Spring 2000/2002/2005/2006

My primary contributions to the teaching enterprise have been in the areas of Concurrent Engineering and Senior Design. The Concurrent Engineering courses (EIN 4400 and EIN 6399) were developed in collaboration with Dr. Robert Armacost of UCF and Dr. Joseph Hughes of Georgia Tech. The course provided a number of unique learning experiences including a solar tower design exercise (developed by Motorola) and a semester-long, multi-disciplinary team design project culminating in an alpha prototype of a new product. We have also incorporated key research findings into course lectures. A two-year partnership with Colonial High School allowed our students to develop products for Colonial's severely handicapped students. The following papers describing the course have been published:

Armacost, R. and **M. Mullens**, "Teaching Concurrent Engineering at the University of Central Florida," *Journal of Engineering Education*, 84(4)389-394, October 1995.

Armacost, R. and **M. Mullens**, "A Design Project Approach to Teaching Concurrent Engineering," *Proceedings of the 1995 ASEE Annual Conference and Exposition*, Anaheim, CA, June 1995.

**Mullens, M.**, R. Hoekstra, and R. Armacost, "Using a Service Learning Strategy to Enhance a Course in Concurrent Engineering," *Proceedings of the 2000 ASEE Annual Conference and Exposition*, St. Louis, MO, June 2000.

The concurrent engineering course has generated three patents:

US 6,450,570 B1 Wheelchair Table with Ergonomic Aid

US 6,739,653 B1 Wheelchair Table with Ergonomic Aid

US 6,394,006 B1 Garden Table

Efforts in restructuring senior capstone engineering design have resulted in a two course design sequence. The courses allow students to work together as teams to solve tough, unstructured, real-world problems for local clients including **Walt Disney World, Universal Studios, Lockheed Martin, AT&T, UPS, RPS, NASA, Litton Laser, Schwartz Electro Optics, Frito Lay, Regal Marine, Winter Park Hospital, Health Central, Central Florida Family Health Centers, Orange County Public Schools, Orange County Sheriffs Department, Seminole County Environmental Services, Orange County Convention Center, and the Association to Preserve the Eatonville Community**. Student teams have tackled diverse, real-world problems including warehouse and factory design, white-collar business process re-engineering, emergency room patient flow improvements, and project planning for Eatonville's Zora Neale Hurston Festival. The instructor's role changed from instructor to coach and mentor. Each client also provided an engineering mentor to assist the team.

Student efforts resulted in a number of awards and a strengthened relationship with some of Central Florida's largest and most visible employers. The efforts also resulted in funding of about \$225,000 to strengthen our academic program and compensate students (see the following section). For a number of years we operated the Senior Design courses as a learning community with the Finance Department where IEMS and Finance faculty and students were integrated into classroom and design project activities. Several articles at both the local and national levels describe our senior design efforts:

- Sikes, L. "A Magical Metamorphosis: Student to Industrial Engineering Professional," *The Knight Engineer Magazine*, 1997 Summer Edition, University of Central Florida, College of Engineering, pp. 12-13.
- Hagstrom, S. "Students Try to Speed Up Hospital", *The Orlando Sentinel*, April 24, 1997, p. B-12.
- Field, K. and G. Forger, "The DC Managers of Tomorrow", *Modern Material Handling*, 52(8) p.40, July, 1997.
- Mullens, M., Pet-Edwards, J. and Bethel, J. "An Industry Partnership for Capstone Engineering Design," *1996 ABET Annual Meeting Proceedings*, pp. 192-196, San Diego, October, 1996.

I have also been involved with several other unique teaching experiences. Courses designated as "NASA-KSC" indicate courses taught at the Kennedy Space Center as part of the NASA Master's Program in Engineering Management. The program was jointly developed by the IEMS department and NASA management to create the next generation of NASA managers.

Beginning spring semester 1992, classes participated in a departmental TQM effort aimed at the continuing improvement of teaching effectiveness. As a result, the IEMS Department was awarded the 1993 Davis Productivity Award and the 1993 Public Sector Organization of the Year Award.

## **FUNDED TEACHING ACTIVITIES**

I believe in partnering to accomplish important learning objectives. A joint proposal with Walt Disney World entitled "An Industry-Academic Partnership for Capstone Engineering Design" was awarded a UCF AISP strategic planning grant and was implemented in the 1996-1997 Academic Year. Funding totaled \$50,000. In addition to funding additional instructor hours with each Senior Design team, the grant has allowed us to strengthen and document key elements of the partnership infrastructure. The paper "An Industry Partnership for Capstone Engineering Design" describing the partnership was presented at the 1996 ABET Annual Meeting. Walt Disney World continued the partnership for 5 years with annual funding ranging from \$15,000 to \$50,000.

Recognizing an opportunity to enhance student proficiency in professional soft-skills, Drs. Pet-Edwards, Reilly and I applied for and were accepted as an affiliate with the Product Realization Consortium, an NSF-funded engineering education consortium. Two proposals were developed and over \$4,000 awarded. As an affiliate, we have tested and integrated two modules, Teams, Teamwork, and the Engineering Enterprise and Problem Solving, into our curriculum.

## **M.S. and Ph.D. RESEARCH SUPERVISED**

Nahmens, I. *Mass Customization Strategies and Their Relationship to Lean Production in the Homebuilding Industry*. Ph.D. Dissertation, University of Central Florida, Orlando, FL, August, 2007.

Bethel, J. *Modeling Perceived Wait Time*. Master's thesis, University of Central Florida,

Orlando, FL, April, 1996.

Arif, M. *The Impact of the Objective Function on Product Design Problem Decomposition when Using Network Partitioning*. Master's thesis, University of Central Florida, Orlando, FL, April, 1996.

Gawlik, T. *A Method for Facilitating Axiomatic Design Using Network Partitioning*. Ph.D. Dissertation, University of Central Florida, Orlando, FL, March, 1996.

Nahmens, I. *Dimensions of Service Quality in Homebuilding*. Master's thesis, University of Central Florida, Orlando, FL, November, 2003.

Schmidt, M. *The Impact of Team Size on Consistency When Using the AHP*. Master's thesis, University of Central Florida, Orlando, FL, April, 1996.

Nippani, R. *A Two Phase Methodology for Evaluating Conceptual Designs*. Master's thesis, University of Central Florida, Orlando, FL, August, 1994.

Carlson, C. *An Integrated Methodology for Analyzing and Evaluating Manufacturing System Innovations*. Master's thesis, University of Central Florida, Orlando, FL, December, 1992.

Haas, P. *A Methodology for Evaluating Discrete Event Simulation Approaches*. Master's thesis, University of Central Florida, Orlando, FL, May, 1992.

Young, L. *Toward a Generic Simulator for the Industrialized Housing Industry*. Master's research report, University of Central Florida, Orlando, FL, December, 1990.

## FUNDED RESEARCH ACTIVITIES

### **Housing Research**

Served as Principal Investigator on the Energy Efficient Industrialized Housing (EEIH) research program sponsored by the **U.S. Department of Energy (DOE)**. The program was a multi-year, multi-disciplinary collaborative effort with the **University of Oregon Center for Housing Innovation** and the **Florida Solar Energy Center**. UCF research efforts focused on modeling and analysis of advanced manufacturing technologies in the homebuilding industry and field testing innovative homebuilding components for constructability. Research efforts involved most segments of the industrialized housing industry including HUD Code, modulars, panelizers, trusses and other component manufacturers. UCF funding for the EEIH program FY89-98 totalled about **\$ 1.6 million**.

In FY97 the UCF housing research team joined the Hickory Consortium, a DOE sponsored Building America research consortium. Hickory's goal is environmentally sound, energy efficient, healthy and affordable housing. Hickory actively developed community-scale projects that incorporated its systems innovations. Our role was to work with modular manufacturers and other consortium members to improve quality and productivity in the modular homebuilding industry. UCF funding through Hickory

totaled about **\$463,000**.

In 1999 the UCF housing research team co-founded (with FSEC, et al) the Industrialized Housing Partnership, a fifth Building America research consortium. UCF funding through the IHP totals about **\$851,000**. In 2005 the UCF housing research team again collaborated with FSEC to win a second 5 year contract for the IHP in the Building America program. The projected budget for this research is **\$686,000**, with **\$107,000** of this awarded in FY06.

Total DOE Research Awards to Date: **\$3.0 Million (not including projected FY07-10 IHP funding)**.

In 2003 UCF housing researchers formally constituted the UCF Housing Constructability Lab. The lab was formally accepted as a member of the National Consortium of Housing Research Centers. In 2003 the Lab received its first NSF grant - a cooperative project with the MIT School of Architecture for \$150,000 (\$300,000 total).

In 2004 the Lab entered a Partnership with the Manufactured Housing Research Alliance to bring Lean Production technology to the manufactured housing industry. The partnership has received funding of \$249,000.

In 2003 the Lab also received \$30,000 from the Orlando Sentinel and WESH TV to conduct a study to assess the current state of new home quality across central Florida. Results were reported in a week-long series of front-page articles in the Orlando Sentinel entitled "Building Homes: Building Problems and simultaneously reported as lead stories by the local NBC television affiliate WESH Channel 2. WESH was awarded a Peabody Award, a national broadcasting award, for their reporting and the Orlando Sentinel was the recipient of one of 3 top awards in the 2004 Society of American Business Editors and Writers Best in Business contest.

Total housing research funding: **\$3.2 Million**

#### **Other Funded Research**

"Proof of Simulation Concept." Sponsored by MiTek. Principal Investigator. 1996-1997. \$3,000.

"Martin Marietta Study Team." Sponsored by National Consortium for Technology in Business. Team member. 1992-1993. \$6,000.

"A Feasibility Study to Establish a County-Wide Materials Management System." Orange County (Florida) Government. Principal Investigator. 1991-1992. \$45,000.

#### **OTHER PROPOSAL ACTIVITIES**

"Collaborative Research: Modeling Mass Customization Strategies in Homebuilding", Submitted to NSF, PI, Collaborative proposal with MIT School of Architecture, \$300,000. *Declined*

"Hickory/Building America Rebid", Submitted to Hickory Consortium, PI,

Submitted May 2002, \$125,000. *Declined*

“Proposal for Florida Community/Higher Education/School Partnership Awards,” Submitted to Florida Alliance for Student Services, Co-PI, Submitted Sept. 2000. \$25,000. *Declined*

“A Proposal to Implement a Service Learning Strategy to Enhance a Project-Based Course in Concurrent Engineering.” Submitted to The National Collegiate Inventors and Innovators Alliance. Principal Investigator. Submitted 1999. \$12,000 *Declined*

“Curriculum Renewal at UCF: Undergraduate Curriculum for the Future (UCF 2K+).” Submitted to National Science Foundation. Co-Principal Investigator. Submitted 1998. \$750,000. *Declined*

“Multi-Media Enhancement of the Engineering Transition Courses.” Submitted to National Science Foundation. Co-Principal Investigator. Submitted 1998. \$450,000. *Declined*

“A Proposal to Burmek.” Submitted to BuildTech. Principal Investigator. Submitted September, 1996. \$17,326. *Declined*

“A Proposal to Makron.” Submitted to Makron. Principal Investigator. Submitted March, 1997. \$20,000. *Declined*

"Re-engineering Homebuilding -- A Panelized Approach." Submitted to National Renewable Energy Laboratory. Multi-year, collaborative project with Texas A&M, University of Texas at Arlington, University of Texas at Austin, Texas Tech, et al. Co-Principal Investigator. Submitted May, 1994. \$368,000 (Total \$3.8 million). *Declined*.

"Implementation of Systems Engineering to Further the Development of Manufactured Homes." Submitted to National Renewable Energy Laboratory. Multi-year, collaborative project with Washington State Energy Office, Idaho Department of Water Resources, et al. Co-Principal Investigator. Submitted May, 1994. \$168,000 (Total \$1.3 million). *Declined*.

"Intelligent Individualized Instruction: Preliminary Proposal." Submitted to National Science Foundation; final proposal in preparation. Co-Principal Investigator. Submitted June, 1994. \$1.25 million. *Declined*.

"Net-Shape Product Technology Program: Preliminary Proposal." Submitted to U.S. Department of Energy. Multi-year, collaborative project with MIT. Co-Principal Investigator. Submitted 1993. \$200,000 (Total \$.9 million). *Declined*.

"Technology Transfer of Military Know-how in Simulation and Training into the Industrial Manufacturing Arena." Submitted to ARPA. Co-Principal Investigator. Submitted 1993. \$1.1 million. *Declined*.

"Enhancing Judgement and Measurement in Concurrent Engineering." Submitted

to DARPA. Co-Principal Investigator. Submitted 1993. \$184,000. *Declined.*

"Intelligent Material Handling as a Facilitator for Concurrent Engineering in Industrialized Housing." Submitted to National Science Foundation. Co-Principal Investigator. Submitted 1991. \$340,000. *Declined.*

## PATENTS

The following patents were granted with Dr. Bob Hoekstra and student team members:

US 6,450,570 B1 Wheelchair Table with Ergonomic Aid

US 6,739,653 B1 Wheelchair Table with Ergonomic Aid

US 6,394,006 B1 Garden Table

## BOOKS

*Proceedings of the NSF Housing Research Agenda Workshop*, Feb. 12-14, 2004, Orlando, FL. Eds. Syal, M., **Mullens, M.** and Hastak, M.

## REFEREED PUBLICATION ACTIVITY

Nahmens, I. and **M. Mullens**, "The Impact of Product Choice on Lean Homebuilding," *Construction Innovation: Information, Process and Management*, 9(1)84-100, March 2009.

Dentz, J., I. Nahmens, and **M. Mullens**, "Applying Lean Production in Factory Homebuilding", *Cityscape*. 11(1)81-104, March 2009.

**Mullens, M.**, " Innovation in the U.S. Industrialized Housing Industry: A Tale of Two Strategies," *International Journal for Housing Science and Its Applications*. 32(3)163-178, May 2008.

Nasereddin, M., **M. Mullens**, and D. Cope, "Automated Simulator Development: A Strategy for Modeling Modular Housing Production", *Automation in Construction*. 16(2)212-223, March 2007.

Syal, M., M. Hastak, **M. Mullens**, and A. Sweaney, "U.S.-India Collaborative Research Directions in Urban Housing and Supporting Infrastructure", *ASCE Journal of Architectural Engineering*, 12(4)163-167, December 2006.

**Mullens, M.** and M. Arif, "Structural Insulated Panels: Impact on the Residential Construction Process", *The Journal of Construction Engineering and Management*, 132(7) 786-794, July 2006.

**Mullens, M.**, R. Armacoost, M. Arif, T. Gawlik, and R. Hoekstra, "Axiomatic Based Decomposition for Conceptual Product Design", *Production and Operations Management*, 14(3), Fall 2005.

Syal, M., M. Hastak, **M. Mullens**, S. Cramer, E. Burnett, T. Koebel, M. O'Brien, and C. Martin, "Housing Research Agenda for NSF-PATH", *ASCE Journal of Architectural*

*Engineering*, 11(1)1-7, March, 2005.

**Mullens, M.** and M. Kelley, "Lean Homebuilding Using Modular Technology," *Housing and Society*, 31(1)41-54, 2004.

**Mullens, M.** and R. Toleti, "A Four Day Study Helps Home building Move Indoors," *Interfaces*, 26(4)13-24, July, 1996

Armacost, R. and **M. Mullens**, "Teaching Concurrent Engineering at the University of Central Florida," *Journal of Engineering Education*, 84(4)389-394, October, 1995.

**Mullens, M.**, R. Armacost, and R. Nippani, "A Two Stage Approach to Concept Selection Using the AHP," *International Journal of Industrial Engineering: Applications and Practice*, 2(3)199-208, September, 1995.

**Mullens, M.**, R. Armacost, and W. Swart, "The Role of Object Oriented CAD in a Generic Simulator for the Industrialized Housing Industry," *Automation in Construction*, 4(1)29-43, March, 1995.

**Mullens, M.**, R. Armacost, W. Swart, and J. Crowley, "Benchmarking the Constructability of Innovative Net Shape Homebuilding Technologies," *International Journal for Housing Science and Its Applications*, 19(1)11-22, 1995.

**Mullens, M.**, R. Armacost, and W. Swart, "Benchmarking Construction Costs for Innovative Homebuilding Technologies," *Building Research Journal*, 3(2)81-102, Fall 1994.

Armacost, R., P. Componation, **M. Mullens**, and W. Swart, "An AHP Framework for Determining Customer Requirements in QFD: An Industrialized Housing Application," *IIE Transactions*, 26(4)72-79, July, 1994.

**Mullens, M.** "Urban Housing and Supporting Infrastructure: Summary and Recommendations," *Proceedings of the U.S – India Symposium on Urban Housing and Supporting Infrastructure, National Science Foundation, U.S.A and Ministry of Science and Technology, India*, Oct. 20-22, 2005, New Delhi, Construction Management Program, Michigan State University, MI.

**Mullens, M.** "Focus Area Two: Methods/Materials/Construction Management Techniques," *Proceedings of the U.S – India Symposium on Urban Housing and Supporting Infrastructure, National Science Foundation, U.S.A and Ministry of Science and Technology, India*, Oct. 20-22, 2005, New Delhi, Construction Management Program, Michigan State University, MI.

**Mullens, M.** "An Industrialized Solution for U.S. Urban Housing," *Proceedings of the U.S – India Symposium on Urban Housing and Supporting Infrastructure, National Science Foundation, U.S.A and Ministry of Science and Technology, India*, Oct. 20-22, 2005, New Delhi, Construction Management Program, Michigan State University, MI.

- Hastak, M., **M. Mullens**, and M. Syal, "National Housing Research Agenda for Construction Management and Production" *Proceedings of the Construction Research Congress*, April 5-7, 2005, San Diego, CA.
- Mullens, M.** and M. Hastak, "Defining a National Housing Research Agenda: Construction Management and Production" *Proceedings of the NSF Housing Research Agenda Workshop*, Feb. 12-14, 2004, Orlando, FL. Eds. Syal, M., Mullens, M. and Hastak, M. Vol 2.
- Mullens, M.** "Production flow and shop floor control: Structuring the modular factory for custom homebuilding" *Proceedings of the NSF Housing Research Agenda Workshop*, Feb. 12-14, 2004, Orlando, FL. Eds. Syal, M., Mullens, M. and Hastak, M. Vol 2.
- Mullens, M.** and I. Nahmens, "Lean Principles Applied to Pre-cast Concrete Homebuilding," *Industrial Engineering Research '04 Conference Proceedings*, Houston, May, 2004.
- Elshennawy, A., **M. Mullens**, I. Nahmens, "Quality-Based Compensation Schemes for Modular Homebuilding," *Industrial Engineering Research '04 Conference Proceedings*, Houston, May, 2004.
- Nahmens, I., **M. Mullens** and A. Elshennawy, "The Impact of Demographics on New Homebuyer Satisfaction," *Industrial Engineering Research '04 Conference Proceedings*, Houston, May, 2004.
- Broadway, R. and **M. Mullens**, "Shop Floor Information Systems for Industrialized Housing Production," *Industrial Engineering Research '04 Conference Proceedings*, Houston, May, 2004.
- Mullens, M.** and M. Kelley, "Lean Homebuilding Using Modular Technology," *NAHB International Builders Show: Conference Proceedings*, Las Vegas, Published by Michigan State University, East Lansing, MI, January, 2003.
- Nasereddin, M., **M. Mullens**, D. Cope, "The Development of A Reusable Simulation Model for the Modular Housing Industry Using ProModel and Visual Basic," *Industrial Engineering Research '02 Conference Proceedings*, Orlando, May, 2002.
- Mullens, M.** and M. Kelley, "Introducing Revolutionary Change in the Modular Housing Construction Process using a Kaizen Blitz," *Industrial Engineering Research '02 Conference Proceedings*, Orlando, May, 2002.
- Arif, M., **M. Mullens**, D. Espinal, R. Broadway, "Estimating, Planning and Controlling Labor in the Industrialized Housing Factory," *Industrial Engineering Research '02 Conference Proceedings*, Orlando, May, 2002.
- Elshennawy, A., **M. Mullens**, I. Nahmens, "Quality Improvement in the Modular

- Housing Industry," *Industrial Engineering Research '02 Conference Proceedings*, Orlando, May, 2002.
- Armocost, R., J. Pet-Armocost,, **M. Mullens**, and A. Salem, "Information Support for Efficient Assembly of Roof Trusses," in Khattab, M. (ed.), *Proceedings of the International Conference on Information Systems in Engineering and Construction (ISEC 2001)*, Cocoa Beach, FL, 2001, CD-ROM.
- Armocost, R., J. Pet-Armocost,, **M. Mullens**, and A. Salem, "Scheduling for Roof Truss Manufacturing," in Harris, R. (ed.), *Proceedings of the ICC&IE and IEMS 2001 Joint Meeting*, Cocoa Beach, FL 2001, pp. 644-649.
- Chandra, S., K. Fonorow, M. McCloud, N. Moyer, D. Beal, D. Chasar, J. McIlvaine, D. Parker, J. Sherwin, E. Martin, **M. Mullens**, M. Lubliner, and M. McSorley, "The Building America Industrialized Housing Partnership (BAIHP)", Symposium on Improving Building Systems in Hot, Humid Climates - Houston, Tx May 20-22, 2002
- Mullens, M.**, R. Hoekstra, and R. Armocost, "Using a Service Learning Strategy to Enhance a Course in Concurrent Engineering," *Proceedings of the 2000 ASEE Annual Conference and Exposition*, St. Louis, MO, June 2000.
- Eaglin, R., **M. Mullens**, R. Miller, J. Nayfeh, M. Chopra, D. Reinhart, "The Freshman Engineering Program at the University of Central Florida," *Proceedings of the 2000 ASEE Southeastern Section Conference*, Blacksburg, VA, 2000.
- Arif, M., **Mullens, M.**, Armocost, R. and Hoekstra, R., "Sequencing Partitioned Functional Requirements in New Product Design," *Industrial Engineering Research '99 Conference Proceedings*, Phoenix, May, 1999.
- Mullens, M.**, Pet-Edwards, J. and Bethel, J. "An Industry Partnership for Capstone Engineering Design," *1996 ABET Annual Meeting Proceedings*, pp. 192-196, San Diego, October, 1996.
- Mullens, M.**, "A Flexible Manufacturing Approach to Wood Frame Housing Construction," *Proceedings of the 13th International Symposium on Automation and Robotics in Construction*, Tokyo, Japan, June 1996.
- Armocost, R. and **M. Mullens**, "A Design Project Approach to Teaching Concurrent Engineering," *Proceedings of the 1995 ASEE Annual Conference and Exposition*, Anaheim, CA, June, 1995.
- Armocost, R. and **M. Mullens**, "A Design Focused Approach to Teaching Concurrent Engineering," *Proceedings of the 1995 Annual International Conference on Industry, Engineering, and Management Systems*, Cocoa Beach, FL, March, 1995.
- Armocost, R., **M. Mullens**, and W. Swart, "Structuring a Simulation Modeling Environment Using a Commercial Manufacturing Simulator," *Proceedings of the 1994 Winter Simulation Conference*, Orlando, FL, December, 1994.
- Armocost, R., **M. Mullens**, and W. Swart, "The Role of Object Oriented CAD in a Generic Simulator for the Industrialized Housing Industry," *Proceedings of the*

*Eleventh International Symposium on Automation and Robotics in Construction*, Brighton, England, May, 1994.

Rogers, R., **M. Mullens**, and R. Toleti, "Achieving and Using Autonomous, Intelligent Objects in System Simulation," *Proceedings of the 1994 SCS Simulation Multiconference*, San Diego, April, 1994.

Heileman, P., J. Van Bullington, and **M. Mullens**, "Reaction Control System Propellant Trade Study: An Application of the Analytic Hierarchy Process," *Proceedings of the 31st Space Congress*, Cocoa Beach, FL, April, 1994.

Armacost, R., **M. Mullens**, and W. Swart, "Integrated Systems Benchmarking for Industrialized Housing," *1993 2nd Industrial Engineering Research Conference Proceedings*, Los Angeles, May, 1993.

**Mullens, M.** and W. Swart, "Design Synergy: Incorporating Material Handling Considerations Into Concurrent Engineering," in Graves, Robert J., McGinnis, Leon F., and Medeiros, Debra J. (Eds.), *Progress in Material Handling Research: 1992*, Braun-Brumfield, Inc., Ann Arbor, MI, 1993, pp. 135-150.

Armacost, R., **M. Mullens**, and W. Swart, "Developing Energy-Efficient, Affordable Industrialized Housing," *1992 1st Industrial Engineering Research Conference Proceedings*, Chicago, 1992.

Mollaghasemi, M., **M. Mullens**, W. Swart, C. Carlson, and P. Haas, "Analysis of Simulation Approaches: What To Use For Industrialized Housing," *Modeling and Simulation Vol. 23: Proceedings of the Twenty-Third Annual Pittsburgh Conference on Modeling and Simulation*, Pittsburgh, 1992.

Mollaghasemi, M., **M. Mullens**, W. Swart, P. Haas and C. Carlson, "Modeling and Optimization of an Industrialized Housing Manufacturing Operation," *1992 1st Industrial Engineering Research Conference Proceedings*, Chicago, 1992.

**Mullens, M.** and W. Swart, "Enhancing Critical Professional Skills: The Role of the Senior Design Course," *Proceedings of the Gulf Southwest Section of the American Society for Engineering Education 1991 Annual Meeting*, New Orleans, March, 1991.

Elshennawy, A., W. Swart, **M. Mullens**, and S. Chandra, "A Concurrent Engineering Approach for Industrialized Housing," *Proceedings of the 1991 Design Productivity Institute and International Conference*, Honolulu, HA, February, 1991.

Elshennawy, A., W. Swart, **M. Mullens**, and S. Chandra, "A Model for the Factory of the Future for Industrialized Housing," *Proceedings of the 5th International Conference on CAD/CAM, Robotics and Factories of the Future*, Virginia, November, 1990.

## OTHER PUBLICATIONS

Manufactured Housing Research Alliance, *Pilot Study: Applying Lean to Factory Homebuilding*, U.S. Department of Housing and Urban Development, Office of

Policy Development and Research, Washington, D.C., July 2007.

**Mullens, M.,** B. Hoekstra, and I. Nahmens, *2006 Annual Report to Building America Industrialized Housing Partnership*, Report to Industrialized Housing Partnership & Building America Program - U.S. Department of Energy, University of Central Florida Housing Constructability Lab, Orlando, FL, January 2007.

**Mullens, M.,** *2006 Annual Report*, Report to National Consortium of Housing Research Centers, University of Central Florida Housing Constructability Lab, Orlando, FL, January 2007.

**Mullens, M.,** B. Hoekstra, I. Nahmens, and F. Martinez, *Water Intrusion in Central Florida Homes During Hurricane Jeanne in September 2004*, Report to U.S. DOE, University of Central Florida Housing Constructability Lab, August 2006.

**Mullens, M.,** *2005 Annual Report*, Report to National Consortium of Housing Research Centers, University of Central Florida Housing Constructability Lab, Orlando, FL, January 2006.

**Mullens, M.,** Hoekstra, R., and Nahmens, I. *An Integrated Interior Infill System for Mass Customized Housing*, Report to the National Science Foundation, Washington, D.C., September, 2005.

**Mullens, M.,** "Reconstruction in Sri Lanka", *IIE Construction Division Newsletter*, December, 2005.

Manufactured Housing Research Alliance, *Develop Innovations in Manufacturing Processes through Lean Production Methods*, U.S. Department of Housing and Urban Development, Affordable Housing Research and Technology Division, Washington, D.C., October 2005.

**Mullens, M.,** *2004 Annual Report*, Report to National Consortium of Housing Research Centers, University of Central Florida Housing Constructability Lab, Orlando, FL, January 2005.

**Mullens, M.,** *Progress Report: April 2003 – March 2004*, Report to Industrialized Housing Partnership & Building America Program - U.S. Department of Energy, University of Central Florida Housing Constructability Lab, Orlando, FL, June 2004.

**Mullens, M.,** *2003 Annual Report*, Report to National Consortium of Housing Research Centers, University of Central Florida Housing Constructability Lab, Orlando, FL, January 2004.

**Mullens, M.,** *Progress Report: April 2002 – March 2003*, Report to Industrialized Housing Partnership & Building America Program - U.S. Department of Energy, University of Central Florida Housing Constructability Lab, Orlando, FL, August 2003.

Hoekstra, R., **M. Mullens**, I. Nahmens, P. Dominguez, and K. Gallas , *Application of Lean Production Principles to Production of Pre-cast Concrete Panels: Implementation Test Results*, University of Central Florida Housing Constructability Lab, July 2003.

**Mullens, M.**, Burdick, J. and Moyer, N., Energy Test Results and Recommendations for All American Homes - Rutherfordton, NC, University of Central Florida Housing Constructability Lab, April 2003.

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**PRESENTATIONS AT SCHOLARLY MEETINGS (\* indicates presenting author)**

**Mullens, M.**, "Innovation in the U.S. Industrialized Housing Industry: A Tale of Two Strategies," Keynote presented to the *XXXV IAHS World Congress on Housing Science 2007*, Melbourne, Australia, September, 2007.

**Mullens, M.**, "Factory Produced Housing in America," Keynote presentation at *1<sup>st</sup> International ManuBuild Conference*, Rotterdam, April 2007.

**Mullens\*, M.** "An Industrialized Solution for U.S. Urban Housing," *Technical Papers of the 8<sup>th</sup> Convention on Construction, Volume 5: U.S.-India Joint Symposium on Urban Housing & Infrastructure*, Oct. 20-22, 2005, New Delhi, Construction Industry Development Council.

**Mullens, M.**, "Data Collection and Predictive Modeling in Industrialized Housing," Presented at *IFORS 2005 Conference*, Honolulu, July 2005.

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**Mullens, M.\***, "Flexible Manufacturing: An Innovative Strategy for Wood Frame Panelization," presented at the 1996 Summer Study on Energy Efficiency in Buildings, Pacific Grove, CA, August 1996.

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**Mullens, M.\***, "Simulating a Flexible Manufacturing System in the Industrialized Housing Industry," presented at INFORMS Fall >95 Annual Meeting, New Orleans, November, 1995.

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Armacost\*, R. and **M. Mullens**, "A Design Focused Approach to Teaching Concurrent Engineering," presented at the IEMS '95 Conference, Cocoa Beach, FL, March, 1995.

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Armacost\*, R., **M. Mullens**, and W. Swart, "Extending the Use of AHP in Quality Function Deployment," presented at ORSA/TIMS National Meeting, Detroit, October, 1994.

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Armacost, R., **M. Mullens\***, and W. Swart, "The Role of Object Oriented CAD in a Generic Simulator for the Industrialized Housing Industry," presented at the Eleventh International Symposium on Automation and Robotics in Construction, Brighton, England, May, 1994.

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Armacost\*, R., **M. Mullens**, and W. Swart, "AHP in Product Design: Concept Selection," presented at TIMS/ORSA Joint National Meeting, Boston, April, 1994.

Heileman\*, P., J. Van Bullington, and **M. Mullens**, "Reaction Control System Propellant Trade Study: An Application of the Analytic Hierarchy Process," presented at 31st Space Congress, Cocoa Beach, FL, April, 1994.

Armacost\*, R., **M. Mullens**, and W. Swart, "Concept Selection in Industrialized Housing Using the AHP," presented at 1994 International Conference on Industry, Engineering and Management Systems, Cocoa Beach, FL, March, 1994.

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**Mullens\***, **M.**, "Generic Industrialized Housing Manufacturing Simulator," presented at the 1993 Annual PROMODEL Users Conference, Park City, UT, August, 1993.

Armacost, R., **M. Mullens**, W. Swart\*, and S. Chandra, "Operations Research in Industrialized Housing," presented at XIII World Conference on Operations Research, Lisbon, Portugal, July, 1993.

Armacost, R., **M. Mullens\***, and W. Swart, "Energy Efficient Industrialized Housing (EEIH) Project: FY93-94 Progress," presented to EEIH Steering Committee and U.S. DOE, Washington, DC, June, 1993.

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Armacost\*, R., T. Shipley, **M. Mullens**, and W. Swart, "Extending the Use of AHP in Concurrent Engineering," presented at TIMS/ORSA Joint National Meeting, Chicago, May, 1993.

Armacost\*, R., **M. Mullens**, and W. Swart, "A Quality-based Approach to Industrialized Housing Using QFD and DFMA," presented at ORSA/TIMS National Meeting, San

Francisco, November, 1992.

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Armacost, R., **M. Mullens\***, and W. Swart\*, "Operations Research in Industrialized Housing," Presented at the Joint International Conference on Operational Research - Management Science, EURO XII - TIMS XXXI, Helsinki, June, 1992.

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Armacost, R., **M. Mullens\***, and W. Swart, "Developing Energy-Efficient, Affordable Industrialized Housing," Presented at 1992 1st Industrial Engineering Research Conference, Chicago, May, 1992.

Mollaghasemi, M., **M. Mullens\***, W. Swart, C. Carlson, and P. Haas\*, "Analysis of Simulation Approaches: What To Use For Industrialized Housing," Presented at the Pittsburgh Conference on Modeling and Simulation, Pittsburgh, April, 1992.

Armacost\*, R., P. Componation, **M. Mullens**, and W. Swart, "Using AHP for Quality Function Deployment," ORSA/TIMS Joint National Meeting, Orlando, April, 1992.

**Mullens, M.**, W. Swart\*, and P. Haas, "Evaluating Simulation Approaches," ORSA/TIMS Joint National Meeting, Anaheim, November, 1991.

**M. Mullens\*** and W. Swart\*, "Energy Efficient Industrialized Housing (EEIH) Project: FY90-91 Progress," presented to EEIH Steering Committee and U.S. DOE, Eugene, OR, June, 1991.

**Mullens\*, M.** and W. Swart, "Enhancing Critical Professional Skills: The Role of the Senior Design Course," Presented at the ASEE Gulf Southwest Section Annual Meeting, New Orleans, March 25, 1991.

Elshennawy, A., W. Swart\*, **M. Mullens**, and S. Chandra, "A Concurrent Engineering Approach for Industrialized Housing," Presented at the 1991 Design Productivity Institute and International Conference, Honolulu, HA, February, 1991.

Elshennawy\*, A., W. Swart, **M. Mullens**, and S. Chandra, "A Model for the Factory of the Future for Industrialized Housing," Presented at the 5th International Conference on CAD/CAM, Robotics and Factories of the Future, Virginia, November, 1990.

Farmer, P. and **M. Mullens\***, "Revitalizing an Outdated Distribution Center Operation: A Case Study," Presented at the 1988 Advanced Manufacturing Systems Conference,

Chicago, April, 1988.

**Mullens\*, M.**, "Control System Strategies in Automated Warehouses," Presented at the 7th International Conference of Automation in Warehousing," San Francisco, October, 1986.

**Mullens\*, M.** and D. Whitaker\*, "Designing and Implementing a National Distribution Center for Electrical Products," Presented at the Warehouse Education and Research Council (WERC) Forum, Atlanta, April, 1986.

White\*, J. and **M. Mullens\***, "Management Support Systems for Warehousing," Presented at the Annual Meeting of NCPDM, Dallas, September, 1984.

Branigan, M. and **M. Mullens\***, "Design of a Complex Conveyor Network Using GPSS," Presented at the Joint National ORSA/TIMS Meeting, San Francisco, May, 1984.

Bozer\*, Y. and **M. Mullens**, "Designing an Automated Sortation System Using Simulation," Presented at the Joint National ORSA/TIMS Meeting, Orlando, FL, November, 1983.

**Mullens, M.\***, "Estimation of Storage Requirements and Evaluation of Production Scheduling Policies by Simulation," Presented at the EURO V - TIMS XXV Meeting, Lausanne, Switzerland, July, 1982.

Bozer\*, Y., M. Branigan, and **M. Mullens**, "Designing Warehousing Systems," Presented at the Joint National ORSA/TIMS Meeting, Detroit, April 1982.

**Mullens\*, M.**, G. Sharp, and P. Jones, "The Improvement of Multi-Modal Freight Transport Networks," Presented at the Joint National ORSA/TIMS Meeting, Atlanta, November, 1977.

#### INVITED PRESENTATIONS AT EDUCATIONAL SEMINARS & WORKSHOPS

**Mullens, M.**, "Water Intrusion Through Stucco-Concrete Block Walls," presentation given at the *NAHB International Builders Show: Educational Session*, Orlando, FL, February, 2006.

**Mullens, M.**, "The Quality of Homebuilding in Central Florida," presentation given to *Rotary Club of Seminole County South*, Orlando, FL, August, 2005.

**Mullens, M.**, "Advances in Housing Production," presentation given at the U.S.-Mexico Forum on Public-Private Partnerships for Housing Innovation, Cancun, Mexico, February, 2005.

**Mullens, M.**, "Baselining the Quality of Conventional Homebuilding," presentation given at the *NAHB International Builders Show: Educational Session*, Orlando, FL, January, 2005.

- Mullens, M.** “Shop Floor Information Systems for the Modular Factory,” presentation given to the Building Systems Council 2003 Showcase, Homestead, VA, November 2003.
- Mullens, M.** and M. Kelley, “Lean Homebuilding Using Modular Technology,” presentation given at the *NAHB International Builders Show: Educational Session*, Las Vegas, January, 2003.
- Mullens, M.** “Research Results: Energy Benchmarking,” presentation given to the Quality Modular Building Task Force, Charlottesville, VA, November 2002.
- Mullens, M.** “Research Results for the Modular Homebuilder,” presentation given to the Quality Modular Building Task Force, Charlottesville, VA, November 2002.
- Mullens, M.** “Research Results for the Modular Factory,” presentation given to the Quality Modular Building Task Force, Charlottesville, VA, November 2002.
- Mullens, M.** “Role of Simulation in a Homebuilding Productivity Suite,” presentation given to the Central Florida Simulation Users Group, Orlando, FL, October 2002.
- Mullens, M.** “Quality and Efficiency Improvements in Modular Housing”, presentation given to Manufactured Housing Research Alliance, Washington, DC, June 2002.
- Mullens, M.** “Quality Systems and Improved Plant Design,” presentation given to the Quality Modular Building Task Force, Salem, MA, October 2001.
- Mullens, M.** “Results from Studies of the Module Set Process,” presentation given to the Quality Modular Building Task Force, Annapolis, October 2000.
- Mullens, M.** “Factory Layout,” presentation given to the Quality Modular Building Task Force, Annapolis, October 2000.
- Mullens, M.** “Measuring and Managing Quality at Alouette Homes,” presentation given to the Quality Modular Building Task Force, Annapolis, October 2000.
- Mullens, M.** “Engineering the Modular Factory,” presentation given to the Quality Modular Building Task Force, New Orleans, October 1999.
- Mullens, M.** “Simulating Advanced Housing Production Systems”; series of presentations given to Swedish housing manufacturers 8/12 - 8/16/96; Nassjo, Sweden; Sponsored by Burmek (a world leader in automated manufacturing equipment for the housing industry)
- Mullens, M.**, “Constructability Research in the EEIH Program,” presented to the Building Environment and Thermal Envelope Council Symposium, National Association of Home Builders Research Center, Upper Marlboro, MD, June 1995.

- Mullens, M.**, "Manufacturing Simulator for SIP; Benchmarking Innovative Homebuilding Technologies," presented to Provident Building Foundation, Arlington, TX, May, 1994.
- Mullens, M.**, "Using the Generic Industrialized Housing Manufacturing Simulator to Evaluate New Manufacturing Technologies," presented at the National Association of Home Builders - Building Systems Council Super Showcase 1993, New Orleans, October, 1993.
- Mullens, M.** and W. Swart, "Manufacturing and Construction Techniques," Presented at National Association of Home Builders - Building Systems Council Showcase 1992, Orlando, FL, November, 1992.
- Mullens, M.**, "Simulating Material Handling Systems," Presented at 39th Annual IIE Material Handling Management Course, Calloway Gardens, GA, June, 1992.
- Mullens, M.**, "Design for Engineering Equals Engineering by Design," Presented at National Association of Home Builders - Building Systems Council Showcase 1991, Atlantic City, November, 1991.
- Mullens, M.**, "Simulating Material Handling Systems in Manufacturing," Presented at 37th Annual IIE Material Handling Management Course, Calloway Gardens, GA, June, 1990.
- Mullens, M.**, "Simulating Manufacturing Systems," Presented at 35th Annual IIE Material Handling Management Course, Atlanta, June, 1988.
- Mullens, M.**, "Simulating Warehousing Systems," Presented at 38th Annual Georgia Tech Material Handling Short Course, Atlanta, April 1988.
- Mullens, M.**, "Simulating Manufacturing Systems," Presented at 38th Annual Georgia Tech Material Handling Short Course, Atlanta, April, 1988.
- Mullens, M.**, "Simulation Modeling of Material Handling Systems," Presented at 34th Annual IIE Material Handling Management Course, Lake Lawn Lodge, WI, June, 1987.
- Mullens, M.**, "Controlling Material Handling Systems in Manufacturing," Presented at 37th Annual Georgia Tech Material Handling Short Course, Atlanta, March, 1987.
- Mullens, M.**, "Controlling Warehousing Systems," Presented at 37th Annual Georgia Tech Material Handling Short Course, Atlanta, March, 1987.
- Mullens, M.**, "Bar Code Present and Future Applications - State of the Art," Presented at Institute for International Research 1986 Bar Coding Seminar, London, October, 1986.

**Mullens, M.**, "A Review of Systems Components Presently Available," Presented at Institute for International Research 1986 Bar Coding Seminar, London, October, 1986.

**Mullens, M.**, "Simulation Modeling," Presented at 33rd Annual IIE Material Handling Management Course, Airlie, VA, June, 1986.

**Mullens, M.**, "Material Handling Equipment Available for Discrete Part and Process Oriented Industries," Presented at APICS Conference on Improving Productivity through Computer Integrated Manufacturing and Automated Material Handling with an Emphasis on How-To, Bolling Green, KY, May, 1986.

**Mullens, M.**, "Implementing an Automated Material Handling System with Emphasis on Robotics, Conveyors and Automated Guided Vehicle Systems," Presented at APICS Conference on Improving Productivity through Computer Integrated Manufacturing and Material Handling with an Emphasis on How-To, Bolling Green, KY, May, 1986.

**Mullens, M.**, "Data and Computers in System Design," Presented at 1985 IIE/MHI Material Handling Management Course, Airlie, VA, June, 1985.

**Mullens, M.**, "Simulating Material Handling Systems," Presented at 33rd Annual Georgia Tech Material Handling Short Course, Atlanta, March, 1983.

**Mullens, M.**, "Using Computers in System Design," Presented at 1983 IIE/MHI Material Handling Seminar, Phoenix, January, 1983.

**Mullens, M.**, "Distribution System Design: A Case Study," Presented at 32nd Annual Georgia Tech Material Handling Short Course, Atlanta, March, 1982.

**Mullens, M.**, "A Career in Consulting," Presented at Professional Practices Seminar sponsored by Georgia Tech School of Industrial and Systems Engineering, Atlanta, November, 1981.

## **UNIVERSITY SERVICE**

### **State University System**

Advisory Committee of Faculty Senates, 2000-2003

### **University Committees**

UCF Board of Trustees – 2003

President's Advisory Staff – 2000 - 2003

Faculty Senate, Chair, 2000-2003; member 2004-2005  
Faculty Senate Steering Committee, Chair, 2000 – 2003; member, 2004-2005  
University Budget, 2000-2003  
Faculty Center for Teaching & Learning, Board Member, 2000-2003  
Provost Search Committee, 2003  
FSEC Director Search Committee, 2003 - 2004  
UCF Trustee Chair Advisory Committee, Chair, 2000 – 2003  
UCF Pegasus Professorship Selection Committee, 00 - 2003  
Faculty Center for Teaching & Learning, Search Committee for Director, 2002  
COE Dean, Five-Year Review, 1999  
Associate VP Student Affairs, Search, 1998  
Undergraduate Policy and Curriculum, F98-S99  
Pew Roundtable, F98-S99  
Faculty Senate, F96-S98, F99-S01  
Faculty Senate Steering, F99-S01  
Personnel, Chair, F99-S00  
Undergraduate Policy and Curriculum, Chair, F97-S98  
Southern Association of Colleges and Schools Accreditation Self Study, 1993-1994

#### **College of Engineering Committees**

Research 2003-2005  
Curriculum Renewal, F97-S99  
Co-op, 1997-2007  
Industry/UCF Partnership Development, 1997-1999  
Recruiting/Retention, 1997-1999  
Diversity Committee, 1994-1999  
Dean's Search, 1993-1994  
Strategic Planning, 1992-1993, 1996-2007  
Honors, 1991-1992  
Awards, 1990-1991

#### **Department of Industrial Engineering and Management Systems Committees**

Assessment, 1998-2001  
Personnel, 1998-Present, Chair (1998-2001)  
Undergraduate Curriculum, 1995-2004, Chair; 2004-2006, member  
Strategic Planning, 1994-1995  
Industry Advisory Group Planning, 1994-1995  
Graduate Curriculum Review - Manufacturing, 1993-1994  
Graduate Curriculum Review - Engineering Management, 1993-1994  
TQM, 1992-1993, 1993-1994

#### **PROFESSIONAL ASSOCIATION MEMBERSHIP**

Institute of Industrial Engineers (IIE), Senior Member, 1982-2007  
Society of Manufacturing Engineers, Senior Member, 1985-2007

Institute for Operations Research and the Management Sciences, Full Member, 1991-2007

Energy Efficient Building Association, Member, 1994-1997

## PROFESSIONAL SERVICE

Referee: *Research in Engineering Design*  
*IIE Transactions*  
*Computers and Industrial Engineering*  
*Proceedings of the International IEMS Conferences*  
*Housing and Society*

Previous Chair: National Consortium of Housing Research Centers

Member: Editorial Board – *Journal of Construction Innovation: Information, Process and Management*

Former Continuing Education Co-chair: Construction Division of IIE

Co-PI and Session Leader: NSF Housing Research Agenda Workshop, Feb. 12-14, 2004, Orlando, FL.

Session Leader: Pre-Conference Planning Summit for International Conference on Factory-Built Housing, sponsored by Manufactured Housing Research Alliance, April 13-16, Las Vegas.

Advisor, IIE Student Chapter 2005-2006

TD Waterhouse Centre Value Engineering /Retrofit Committee, Chair, 2001

Session Chair, IERC 02, Orlando.

Session Chair, New Orleans '95, INFORMS Meeting

Member, College-Industry Council on Material Handling Education, 1990-1994

Arrangements Chair, The Institute of Management Science/Operations Research Society of America (TIMS/ORSA) Joint National Meeting, Spring, 1992, Orlando, FL 1991-1992

Host Chairman, IIE 1991 Orlando Integrated Systems Conference, November, 1991, Orlando, FL, 1990-1991

Activities Chair, American Society of Civil Engineers (ASCE) Housing America in the 21st Century Conference, 1991, Orlando, FL (Cancelled)

Conference Chairman, Central Florida Chapter of IIE, 1990-1991

Newsletter Editor, IIE Facilities Planning and Design Division, 1989

**VOLUNTEER COMMUNITY SERVICE**

**Habitat for Humanity, Maui**

Volunteer

**Word Made Flesh (International Ministry)**

Former Member, Board of Directors

**Board of Higher Education for Campus Ministries (oversight board for United Methodist campus ministries in the state of Florida)**

Member, Board of Directors

**UCF Wesley Foundation (Methodist Ministry for UCF Students)**

President of the Board of Directors

Leader, Student Mission Trips to Lima, Peru and Rio, Brazil

**Town of Eatonville (oldest incorporated black community in U.S.)**

Member, Town of Eatonville Mayor's Task Force on Transportation, 1994-1995

Worked with P. McCauley-Bell to establish the "Association to Preserve the Eatonville Community (PEC) Fellowship in Industrial Engineering," 1994

**Asbury United Methodist Church**

Coord. & Team Leader, Coalition for the Homeless Dinner Program, 1991-Present

Coach, Reaching Across Ministries

Leader, Disciple Adult Bible Study, 1996-2004

Member, Staff Parrish Committee, 2000-2001

Member, Administrative Board, 1992-1999

Chair, Evangelism Committee, 1992-1998

6th grade Sunday School teacher, 1991-1996

**AWARDS AND HONORS**

College of Engineering 1998 Excellence in Undergraduate Teaching Award

IEMS Department Teacher of the Year, 1997-1998

1996-97 Academic Awards in Strategic Planning Grant

Teaching Incentive Program Award, 1995

College of Engineering 1995 Distinguished Researcher Award

IEMS Department Researcher of the Year, 1994-1995

IEMS Department Teacher of the Year, 1994-1995

Certificate of Appreciation, given by Walt Disney World, 1995

Community Service Award, given by Orange County Sheriff's Department, 1994

Senior Design Award (resulting in \$1,000 scholarship), given by UPS, 1994

IEMS Department Researcher of the Year, 1992-1993

Best in Show Award, Awarded to the EEIH Exhibit at the National Association of Home Builders Building Systems Council Super Showcase 1993, New Orleans, 1993

President's Fellow, Georgia Institute of Technology, 1973

Highest Distinction, Mississippi State University, 1973

Alpha Pi Mu, National Industrial Engineering Honor Society, 1972

Tau Beta Pi, National Engineering Honor Society, 1972

Phi Kappa Phi, National Scholastic Honor Society, 1972

## CONSULTING

### 2007-Present

Design and improve housing production operations  
**Manufactured Housing Research Alliance**  
**USG**  
**Stantec**  
**Unity Homes**  
**Cohen Brothers Homes**

### 1990-2007

**Material Handling Research Center, Georgia Institute of Technology**  
**National Consortium for Technology in Business, Auburn University**  
**Waste Management**  
**Coats and Clark**  
**Ram Center, Inc.**  
**Gencor**

### Pre-1990

Consulted with many Fortune 500 companies, specializing in the design and implementation of integrated material handling systems in manufacturing and distribution. A partial client list includes:

**Anchor Hocking**  
**AT&T**  
**Baxter Healthcare**  
**Burlington Industries**  
**Cooper Industries**  
**Formica**  
**General Dynamics**  
**General Motors**  
**GTE**  
**Hayes Microcomputer**  
**IBM**

**Interlake**  
**McDonnell Douglas**  
**Merideth/Burda**  
**Ralph Parsons**  
**Richardson Vicks**  
**Rockwell International**  
**Shell Chemical**  
**Tektronix**  
**Waste Management**  
**Westinghouse**  
**Xerox**