PAMELA R. MCCAULEY, PH.D., C.P.E.

INNOVATIVE ENGINEERING LEADER

LEADER / INNOVATOR / ENGINEER / EDUCATOR

Nationally and internationally recognized expert in Ergonomics, Biomechanics, High-Consequence Disaster Management, Fuzzy Set Theory, and Engineering Leadership Research. Public and private industry leader, author, keynote speaker, mentor and teacher with a track record of success in both analytics and human factors in the field of industrial engineering. University leader including Associate Dean in the Wilson College of Textiles at NCSU and previously Professor of Engineering at the University of Central Florida (UCF). High-tech entrepreneur, STEM and DEI advocate and innovator, plus former Program Director at National Science Foundation (NSF). Former Martin Luther King, Jr. Visiting Professor of Aeronautics and Astronautics at the Massachusetts Institute of Technology (MIT). Successful and impactful experiences as a Jefferson Science Fellow at the US Department of State and ASEE Faculty Fellow with Kennedy Space Center.

University Community Impact

- **Widener University – Dean**, School of Engineering
- **North Carolina State University** –Wilson College of Textiles: Associate Dean of Academic Programs–DEIB (Diversity, Equity, Inclusion, Belonging)
- **UCF College leader for graduating minority Ph.D. students, ~20 years, with 50%+ undergraduate mentees/protégés then earning graduate degrees and thriving professionally**; recruited, mentored, and supported cross-level students and junior faculty.
- **Grow productivity, performance, and processes completed**, by recognizing and valuing excellence in contributions from all

Key Role in Visionary Leadership

- **National Science Foundation I-Corps (Innovation Corps)** Program Director; earlier, Jefferson Science Fellow, US State Department Fellow and Researcher with the World Bank; earlier MIT Visiting Associate Professor,
- **Original NSF funded research opened the "Human Impact in Information Security" field**
- **Strategically expand innovation and entrepreneurship in promotion and tenure considerations in the academy**
- **National conferences chair/co-chair; interdisciplinary, multi-university research teams; University committee chair**

High-Impact Research Excellence

- **Optimize human well-being / system performance** by applying theoretical design principles, data, methods, NSF research
- **Developed Fuzzy Set Theory** based mathematical models; human engineering; ergonomics; biomechanics
- **Authored 100+** technical papers, book chapters, conference proceedings, and best-selling ergonomics textbook

Innovation & Entrepreneurship – start-ups CTO / CEO:

- Transforming Your STEM Career, Inc. 2016 – present
- Tech-Solutions, Inc. (Tech-Solutions.net) 1999 -2015

Education

- **STEM Engineering** leader; exceptional track-record of developing M.S. and Ph.D. students through graduation and career
- **Collaborate with colleagues across sciences/arts disciplines on NSF research**, projects/initiatives, and education proposals
- **Areas:** Ergonomics, Human Factors, Biomechanics, Fuzzy Set Theory Foundations/Applications, Probability/Statistics, AI

Professional Service & Outreach –

- **Community Professional Service Contributions** at University, Community, National, and International Service
- **Board:** AWIS (Association for Women in Science); Presidents Research Advisory Board, College of The Bahamas; others.
- **International/national Keynote Speaker**, STEM success strategies: ICSEM; IEEE; FE/IT; IJ; Portuguese Ergonomic Society

Advocacy

- **Long track-record of persuasively promoting culturally responsive/inclusive community, programs, and interests**; role model/spokesperson for under-represented in STEM/Engineering education, innovation, and entrepreneurship.
- **Represent the College at a skilled, politically astute level** concerning campus resources and issue

Forging Strategic Collaborations – across colleges and within; with industry and community regionally and nationwide

EDUCATIONAL CREDENTIALS & CERTIFICATIONS

UNIVERSITY OF OKLAHOMA | Norman, OK

Ph.D. (1993), M.S., and B.S. in ***Industrial Engineering***
Note: *first African American/Black woman to earn a Ph.D. in Engineering in the State of Oklahoma.*

Certification: Certified Professional Ergonomist (CPE) 2008 – Present

PROFESSIONAL EXPERIENCE WITH EXCEPTIONAL ACCOMPLISHMENTS

LEADERSHIP / ACADEMIC / TEACHING POSITIONS

Develop/execute strategic plans, financial management using $15.5M/year budget experience, communicating decision-making processes, development and management of outstanding academic programs, and providing total transparency in management. Foster inclusive environment; build teams; advance DEIB.

WIDENER UNIVERSITY – CHESTER, PA July 2023 - present

Dean, School of Engineering

Leading the School of Engineering by providing creative vision and fiscal stewardship for the School while also serving as a member of the President's Executive Team, demonstrating leadership throughout the greater Philadelphia region, and on the national and global stages. Operating as a highly collaborative leader, the to nurture and shape mutually beneficial internal and external partnerships that enhance student, faculty, and industry knowledge development and further the School's positive momentum and growth. The following are the goals as Dean of the School of Engineering

- Develop and lead the implementation of a shared strategic vision for the School of Engineering
- Lead the development of outstanding academic programs that fully prepare students for the
- challenges of the professional world and society in the 21st century
- Building new and deepen existing external partnerships in order to expand opportunities for students and faculty and raise the School's visibility
- Lead undergraduate enrollment success by continuing to attract and retain a bright and diverse student body
- Promote diversity, inclusion, and belonging at all levels within the School of Engineering
- Support, mentor, and provide professional development opportunities for faculty and staff in all of the School's departments, at all stages of their careers
- Secure additional resources for the School through effective fundraising and partnerships
- Serve as a positive, inspiring leader within the School and a collaborative colleague to fellow leaders and deans across the University

NORTH CAROLINA STATE UNIVERSITY—WILSON COLLEGE OF TEXTILES | Raleigh, NC 2020 – June 2023

Associate Dean for Academic Programs, Diversity, Equity, and Inclusion (ADAPDEI)

College-wide, oversee academic programs, lead strategic plan and culture charter implementation; operations; champion and manage DEIB initiatives, innovation, and entrepreneurship university-wide. Primary Advisor and representative for Dean, and for College interests.

- **Direct the College's:**
  - **Academic assessment reports and program accreditations** preparations coordination
  - **Culture Charter implementation, with strategic priorities including DEIB** to demonstrate an inclusive and engaging workplace, and community
  - **ACSS (Academic, Career, and Student Services) Center**; plan mission, implement, and administrate
- Partner closely across colleges and departments' for academic and research initiatives; including faculty engagement and leadership on new curricula and academic programs, approaching issues astutely
- Interact continuously with leadership, educators, and students; manage stakeholder relations and enrollment across levels.

Exceptional Contributions:

- **Collaborate with colleagues campus-wide**, across sciences/arts disciplines, to submit NSF research/education proposals
- **Represent the College with skilled political astuteness** regarding campus resources and issues.
- **Accepted 2022 invitation to chair university's Faculty Senate DEIB committee**; collaborate with multi-level colleagues university-wide to address faculty/staff concerns, student/community needs, and university perceptions/branding

NSF (NATIONAL SCIENCE FOUNDATION)'S INNOVATION-CORPS SITES PROGRAM, CISE | Alexandria, VA 11/2017 – 5/2020

Program Director – I-Corps CISE (Computer Information Science & Engineering) (1/2018 – 5/2020)
Directed I-Corps program, preparing scientists and engineers beyond university laboratory, and accelerating NSF-funded, basic-research projects' economic and societal benefits with movement toward commercialization. Managed $15.5M/year budget.

- **Determined 99 I-Corps Sites' additional resources and research** needed via projects/activities including:
  - Immersive detailed customer discovery to identify needs of National Innovation Network grantees
  - Ultimately interpreting outcomes to support future I-Corps Program directions and strategic initiatives
- **Politically astute diplomat on issues and resources**; collaborate and meet regularly with three other program officers leading I-Corps, on innovation and core program needs' resource use including sites and notes.

Exceptional Contributions:

- In first year, designed and led pioneering I-Corps Innovation Inclusion Summit for facilitating collaborative innovation:
  - Engaged national innovation community to promote and secure funding
  - Pioneered I-Corps Innovation Inclusion Summit that drew 260+ academic institution conference participants including I-Corps grantees, HBCUs, Hispanic Serving Institutions, and Tribal Colleges
- Improved research's transition from academic to useful products and innovations, setting next level goals, program metrics, and outreach to scientific, entrepreneurial, and academic communities
- Initiated nationwide dialogue to consider adapting academic scholarly criteria including innovation and entrepreneurial activities in promotion and tenure decisions

Expert – I-Corps CISE (Computer Information Science & Engineering) (11/2017 – 1/2018)
Spearheaded initiative to develop strategy identifying next level goals, program metrics, and participation expansion.

Exceptional Contributions:

- Developed plans to perform internal and external analysis of NSF I-Corps Sites' impact.

UNIVERSITY OF CENTRAL FLORIDA (UCF) | Orlando, FL 1993 – 2020

Professor | Director of Ergonomics Laboratory, Industrial Engineering, & Management Systems Department
Faculty member; designed and led Faculty Development initiative for College of Engineering and Computer Science. Coordinated with college and university leadership; worked collaboratively with faculty and external SMEs.

- Created/implemented program supporting and aligned with Dean's vision, CECS goals, and dynamic faculty needs.
- Researched: Human factors/ergonomics, including safety and occupational risks identification and measurement, FST, AI.
- Partnered with *Human Engineering Committee* Industry Alliance -- local companies interested in addressing workplace ergonomics and safety.
- Taught and developed undergraduate and graduate courses including Ergonomics, Safety, Expert Systems, Statistics, Fuzzy Set Theory, and Introduction to Industrial Engineering; advised students.

Exceptional Contributions:

- Built industry advisory board; partnerships facilitated student and lab project, and internship, funding opportunities.
- **College leader for graduating minority Ph.D. students for ~20 years**, while actively recruiting, mentoring, and comprehensively supporting diverse graduate students, undergraduates, and junior faculty
- Extensive public service role contributing across university and community, and to professional organizations
- Developed novel data collection process.

MASSACHUSETTS INSTITUTE OF TECHNOLOGY (MIT) | Cambridge, MA 1/1998 – 7/1999

Martin Luther King, Jr. Visiting Associate Professor of Aeronautics and Astronautics
Taught, researched, and evaluated service of Information Security's human factors issues:

- Developed methodologies for classifying risks, training, and automation to anticipate and mitigate human factors related information security risks associated with users

Exceptional Contributions:

- **Original research opened the study of "Human Impact in Information Security".**

STEM Entrepreneurial Leadership Positions – Consulting

Led detailed field analysis to define STEM corporations' strategic vision, mission, and strategy for attaining organizations' technical and managerial goals, in ergonomics and biomechanics focused technical support services and technical product development.

Founder & CEO

Transforming Your STEM Career, Inc. (T-STEM Inc.) | Orlando, FL / Raleigh, NC 2016 – Present

Led establishment of dual-focus niche firm: High-end worldwide expert resource for human engineering knowledge and expertise; thought leader in transforming career opportunities' innovation and entrepreneurship, particularly for women.

- **Ergonomics, biomechanics, human engineering, and more:** Technical consultancy with support and product development; Expert Witness with product liability, and occupational safety; all continuing a career from 1993 and following.
- **Program Evaluation Consulting:** Federal funded STEM education, diversity, and innovation grants and projects leadership
- **Corporate/agency career expertise guidance and publishing** on education, diversity, innovation, leadership principles and development training, academic and entrepreneurial workshops, and focused keynote addresses

Tech-Solutions, Inc. (Tech-Solutions.net) | Orlando, FL 1999 – 2015

Strategically established firm for ergonomics and biomechanics technical support services and product development. Oversaw research projects; obtained funding; established collaborations and projects. Managed 12 employees.

- Engaged partnerships and opportunities with corporate executives, government officials, and senior military officers

Research

(See Addendum B for expanded *Research* information.)

Research Topic Areas: Ergonomics / Ergonomic Design – Biomechanics; Human Factors in Disaster Management | Cumulative Trauma | Fuzzy Set Theory & Modeling | Engineering Leadership and Women's Leadership

Evidence of International Reputation: **Expert, World Intellectual Property Organization (WIPO) (self-funding UN agency)**
Invited expert/consultant, innovation-related topics; global education and innovation STEM equity advocate 2016 – Present

- **Highly sought CPE**; nationally recognized Expert Witness in biomechanics, human factors, and ergonomic design
- **Provisional patent for scientific technology promoting online collaborative innovation** (USPTO #62/572,994)
- **Awards for strong teaching**, including: UCF Teaching Incentive Program (TIP), and Society of Women Engineers

Recognition, Awards, & Appointments

(See Addendum C for expanded *Recognition, Awards, & Appointments* information.)

Professional Awards (including for strong teaching commitment)

- **Fulbright Scholar (US-New Zealand) Specialist**, federally sponsored flagship purposed to "increase mutual understanding." Topic: Human Engineering & Mobile Technology in High Consequence Emergency Management 2012

Fellowships include:

- **American Institute for Medical & Biological Engineering** (AIMBE) *2021*
- **Institute of Industrial & Systems Engineers** (IISE) *2019*
- **Jefferson Science Fellowship (JSF)** prestigious U.S. Department of State, from program that serves as innovative model for engaging American academic science and engineering communities in U.S. foreign policy. 2015 – 2016
  - **Distinguished Senior Academics appointment** based on scientific/engineering communities' stature, recognition, and rapid, accurate understanding of external discipline advancements and integrate into USDS/USAID policy discussions.
  - **Research Topic:** The Ergonomics of Ebola and Infectious Diseases for Healthcare Workers on a Global Level
- **American Society of Engineering Education Research Fellow** at **NASA** 5/1997 – 8/1997
  Led Kennedy Space Center, NASA management development initiative metrics and guidelines production, with long-range objective a knowledge-based system offering career development guidance and management.

International Collaborations

Projects

Human Factors in Disaster Management area: Established project, New Zealand's Massey University (2011 – 2014) and two Romanian universities (2010 – Present); led NSF funded international workshop, New University), Lisbon, Portugal (2012)

International Keynote Speaker

Numerous, including **WIRES II** in Athens, Greece (2013); **IEEE** Soft Computing in Romania (2009)

SERVICE

- **Elected US Representative**, International COST Research Committee on Critical Infrastructure 2010 – present
- **Editorial Board** for **International Journal of Advanced Intelligent Paradigms (IJIAP)** 2016 - 2020

PUBLICATIONS

(See Addendum D for expanded *Publications* information.)

EDITOR, ASSOCIATE EDITOR, OR MEMBER OF EDITORIAL BOARD

- **Inaugural Series Editor,** *Women of STEM: Innovation and Leadership*. Taylor & Francis Group–CRC Press 2019 – Present
- **Series Editor, Human Factors & Ergonomics,** CRC Press, Taylor & Francis Group 2016 – Present
- **Editorial Board Member**
  - International Journal of Advanced Intelligent Paradigms 2009 – Present
  - Theoretical Issues in Ergonomics Science 1999 – 2003, 2015
- **Associate Editor**, Industrial and Systems Engineering, CRC Press, 2006 Handbook 2006

COMMUNITY PROFESSIONAL SERVICE CONTRIBUTIONS

University, Community, National, and International Service | Ergonomics, Disaster Management, Leadership Research Areas

(See Addendum E for expanded *Community Professional Service* information.)

DEPARTMENT, COLLEGE AND UNIVERSITY, INCLUDING

University

- Chair, DEIB Committee for NC State Faculty Senate 2022 - 2023
- President (Co-President with Dr. P. Delfyett), Black Faculty and Staff Assembly 1998 – 1999
- Search Committee Member, Vice Provost of Information Technology 1994 – 1995

College

Co-Faculty Advisor, Society of Women Engineers 2008 – Present

PROFESSION, EXTERNALLY – SCHOOL & INDUSTRY BOARDS, NSF PANELS, INCLUDING

International

- **Advocate, International Network of Engineers and Scientists** (INES) for global responsibility; continuously promote study of STEM engineering, innovation, and leadership opportunities for underrepresented groups
- **United States Representative –** Management Committee Member, International Committee on Science and Technology (COST) for Critical Infrastructure 2009 – Present
- **IEEE:**
  - **Program Committee,** International Systems Man and Cybernetics Conference, Orlando, FL 2005
  - **Vice-Chair,** Computer Society Standards Activities Committee, Virtual Intelligence: Fuzzy Systems Definitions 2006
- **Editorial boards**; elected to **international disaster management committee** 2009+

National

- **US Department of State,** President's Emergency Plan for AIDS Relief (PEPFAR) *2015-2016*
  - Researched developing nations' HIV/AIDS healthcare delivery system, to improve efficiencies and integrate technology
  - Created new Innovations, Methods, Processes and Critical Technologies (IMPACT) Model, assessing opportunities
- **Executive Board Member: American Women in Science (AWIS)** 2015 – 2018
- **Engineering Education Panelist, National Science Foundation (NSF)** 2014
- **Principal Investigator** at **NSF Women's International Research in Engineering Summit** (WIRES) 2010 – 2011
- **Annual Reviewer, Engineering Research Center Review Panel, National Science Foundation (NSF)** 2006 – 2011
- **Board member, including** ***Women of Color in Technology Conference*** and ***Alumni Association*** 2004 – Present

State and Regional (Board Member), including:

- **Central Florida Boy Scouts** 2015 – 2017
- **CITE Lighthouse for the Blind** in Orlando, FL 2005
- **Florida Research Consortium** 2001 – 2004

ADDENDUM A: EDUCATIONAL CONTRIBUTIONS

PAMELA R. MCCAULEY, PH.D., C.P.E.

INNOVATIVE ENGINEERING LEADER

ERGONOMICS / DISASTER MANAGEMENT / STEM ADVOCACY

COLLABORATIONS & PARTNERSHIPS

- Interdisciplinary collaboration on Human Factors, Social Science in Disaster Management with Massey University, New Zealand – Fulbright proposal awarded for research collaboration in NZ (8/2012)
- Chair, NSF funded workshop at New University of Lisbon, Portugal: *Human Factors, Sensor Technology and Logistics in Disaster Management* (1/2012)
- College of the Bahamas – research and educational, with proposal development, joint research, and student projects, on *Human Factors Issues in Disaster Management* (2009 – Present)
- Human Engineering Committee – IEMS Department Industry Alliance Liaison for Boeing / Lockheed Martin
  - Organized collaboration of 11 local organizations to address common Central FL area ergonomics and safety problems
  - Results: 3 thesis topics, practicing engineers' guest lectures, and site visits for entire class of students (1999-2004)
- Armstrong Laboratories, Wright Patterson AFB, Dayton, Ohio.
  - Applied fuzzy techniques to human factors problems via data and information sharing
  - Results: A funded project and a conference proceeding (1994 – 1996)
- Institute for Simulation and Training, University of Central Florida
  - Applied fuzzy techniques to modeling decision-making process in military applications' target acquisition
  - Results: A funded project, conference proceeding, and referred journal article (1995 – 1997)

COURSE DEVELOPMENT

Extensively redesigned Human Engineering core courses to include comprehensive lab experience.

- Created Ergonomics Laboratory to supplement existing courses (graduate)
- Graduate School:
  - Created Ergonomics Laboratory to supplement existing courses
  - *Introduction to Fuzzy Set Theory in Industrial Engineering*; created Ergonomics Laboratory to supplement existing course
  - *Biomechanics* course and laboratory
- Undergraduate:
  - *Introduction to Industrial Engineering*
  - *Human Engineering*, and laboratory
  - *Introduction to Engineering*
- Continuing Education, for local industry:
  - *Introduction to Statistical Analysis with JMP*

TEACHING INNOVATIONS

- **Undergraduate Engineering Design Projects (2014 – 2015)**
  With NASA Kennedy Space Center, designed and facilitated engineering design projects for undergraduates in *Introduction to Industrial Engineering* and *Human Engineering* classes
- **Service Learning Projects (2009 – 2010)**
  Per UCF community service mission, instituted applied learning across *Statistics* and *Human Engineering* classes.
  - Spring 2010: Two courses, STA3032 and EIN4243; community based Engineering projects, Zora Neale Hurston festival
- **Chair, Human Factors Committee (1994 – 2015)**
  Developed unique series of laboratories for each *Human Engineering* class: 400-level *Human Engineering*, 500-level *Ergonomics*, *EIN Work Physiology*, and 600-level *Biomechanics*:

- Initially developed labs 1994 – 1995; revised Spring 2004 and again Spring 2010, developing material into Lab Manual
- Ensured consistent quality across Human Engineering courses by providing colleagues access to labs and all course notes

- **Developed interactive teaching techniques: (2005 – 2006)**
  Developed specific new strategies for successful *Statistics* courses taught to on-site and remote interactive site students:
  - Created integrated lectures requiring all sites' specific-issue discussion and problem-solution input.
  - Outstanding remote and in-class student reviews; administration recognition as "the model faculty member in teaching distance learning courses."

- **Developed courses:**
  - **Undergraduate-level, *Introduction to Engineering* (1995 – 2003)**
    Targeted under-represented minority engineering students; team-taught with two other faculty members.
    - Designed course to address all entering engineering students' basic concerns about college, and on issues that literature indicated as minority students' stumbling blocks.
    - Students' retention rate after first year in program ~87.5% (taught 1995 – 2003).
  - **Graduate-level, *Fuzzy Set Theory* (*c*.*years* – *?*)**
    Capitalizing on current research projects' success, provided Industrial Engineering theoretical foundations, development techniques, and research applications.
    - Led to chapter in Handbook of Industrial and Systems Engineering (2006).

ADDENDUM B: GRANTS AND CONTRACTS – RESEARCH FUNDED

PAMELA R. MCCAULEY, PH.D., C.P.E.

INNOVATIVE ENGINEERING LEADER

LEADER / INNOVATOR / ENGINEER / EDUCATOR

Active in proposal submission throughout career. Elicited and awarded grants and contracts from funding agencies including National Science Foundation, Department of Defense (DoD), and NASA, while research project Principal Investigator (PI) or Co-PI.

EXTERNAL RESEARCH PROJECTS

Principal Investigator:

- **National Science Foundation (NSF)**

African American Female Engineering Faculty in the Academy: What Does It Take to Succeed? A Workshop of Senior Women in the Academy. **($49,999)** (6/15/2017 – 5/30/2018)

- Convened senior Afro-American women in Engineering Academy "think tank," initiating systemic change strategies discussion to positively impact under-represented women: Initially, Afro-American; in future, all under-represented.

NSF EArly-concept Grants for Exploratory Research (EAGER) ($35,884):
Initiated *US-New Zealand Human Factors in Disaster Management Research Collaboration* (8/13/2012 – 7/31/2013):
To potentially transform approach to catastrophic event human needs response, for first responders:

- Established ergonomically sound Emergency Management Response task performance guidelines / e-comm protocols
- Research outcomes: Efficient, safe methods use, maximizing relief efforts communication resources and significantly improving quality of aid rendered

Principal, **Phase I ($88,230)** (7/2010 – 6/2011) | **($17,646) – Phase II** (7/2011 – 8/2012)
A human centered assessment of wireless computing devices in high consequence emergency management environments.

- Established baseline and human factors centered principles for wireless communication devices' use in high consequence emergency management environments, including but not limited to hurricanes and terrorist attacks.

Proposal ($111,142), collaborative with Georgia Institute of Technology (total funding $223,142). (9/2010 – 8/2011)
WIRE (Women's International Research Exchange):

- Researchers' summit for global collaborative opportunities in energy systems, micro/nanotechnology, disaster management research, and simulation-based engineering
- Promotes leadership in women's international Engineering and Technology faculty collaborations

Romanian & I-COST Committee Travel Grant ($6,635). (8/2009 – 7/2010)
Funding supported:

- Election to International Committee on Science and Technology on Critical Infrastructure
- Establishing US/Romania Human Factors in Disaster Management research collaboration

Human Factors in Disaster Management Research initiative **($126,896).** (5/2007 – 7/2009)

- Addressed hurricane season emergencies
- Captured ephemeral data to define research gaps and emerging related physical ergonomics, communications, and cognitive demands

POWRE [Research] Grant ($50,000). (1/1998 – 12/1998)
Elephant: Development & Analysis of an Intelligent Tool to Mitigate Risks of User Overload in Authentication.

- **Launched "Human Impact in Information Security" field, with research evaluating Information Security's human side.**

Development of a Methodology for Fuzzy Modeling of Human Performance. **($18,000)** (8/1994 –5/1995).
Evaluated Fuzzy Set Theory (FST) use as modeling tool to:

- Identify primary elements necessary to describe human performance
- Evaluate linguistic hedges' feasibility in human computer interaction

- **World Bank ($65,180).** Component of initiative supporting infectious diseases care. (8/1/2016 – 6/30/2017)
Malawi Time & Motion Study for Efficiency in HIV/AIDS Healthcare Service Delivery.
  - Use time/motion studies related industrial engineering principles to analyze Malawi's healthcare service delivery system.
  - Goals included determining task elements and studying performance, conducting time and motion studies to identify process and efficiency improvements opportunities, and engaging task supporting technology.

- **NASA (National Aeronautical and Space Administration)**

  Human Factors Symposium ($121,978). (4/1/2015 – 3/30/2016)
  A Human Centric Approach to Research, Design and Development of Innovative Workstation Modules for NASA Kennedy Space Center Firing Room
  - Comprehensively applied human engineering principles and innovation improving technologies to design 21st century NASA Firing Rooms console and facility layout.

  Human Factors Symposium ($6,000). (7/03 – 8/04).
  International meeting, bringing together professionals worldwide to discuss current issues, emerging trends, current methodologies and best practices for human factors and ergonomic issues in space.

- **Environmental Research & Education Foundation ($180,271).** (7/2010 – 12/2011).
Ergonomic Study of Solid Waste Collection.
  - Examined critical physical ergonomic issues of varied waste collection automation levels; collected empirical data
  - Established environmental/ergonomic industry guidelines for national and international application

- **Lockheed Martin Company ($35,000), Enterprise Information Systems *¿is that part of LM?*, Orlando, FL; and Corporate Information Security Department, Bethesda, MD.** (9/1998 – 8/1999).
Developed Multiple Agent System (MAS):
  - Of passive and active intelligent agents to monitor and interact with existing systems within a network.
  - Searches for attempts to exploit known system vulnerabilities; multi-level hierarchy designed to detect and monitor ports while the agent code responds to trigger events and initiates a response.

- **Defense Information Systems Agency ($39,476).** (8/1996 – 4/1997).
Project used Fuzzy Set Theory to:
  - Develop methodology for creating generic fuzzy agents that engage in dialogue and coordinate information transfer.
  - Apply technique developed with Wright-Patterson AFB, Human Factors lab for managing uncertainty in information.

- **Hinkley Florida Center for Solid and Hazardous Waste Management (30,964) – Phase II.** (4/1995 – 12/1995).
  - Developed Expert System to Facilitate Municipal Solid Waste Composition Studies
  - Associated data collection, management, and analysis

- **Simulation Training Instrumentation Command (STRICOM) ($8,000).)** 8/1995 – 5/1996; **UCF Simulation & Training Institute**
Researcher; project with UCF Institute for Simulation and Training. *Fuzzy Set Theory in Computer Generated Forces.*
  - Evaluated Fuzzy Set Theory use in addressing uncertainty associated with decision making, dynamic obstacle avoidance, and target prioritization in computer generated forces.

Co-Principal Investigator:

- **NSF (National Science Foundation)**

  A Workshop to Review Pedagogical Practices in Engineering Leadership Education. **($49,635).** (9/2010 – 10/2012)
  - Extended earlier NSF funded project establishing research baseline including pedagogical practices review
  - Results provided substantive guidance on educational techniques' effectiveness in accomplishing objectives

  Engineering Leadership in Reengineering the Undergraduate Industrial Engineering Program. **($103,219).** (7/2007 – 8/2008)
  - Study determined foundational principles associated with educating students in engineering leadership
  - Resulted in development of Center for Engineering Leadership and Learning (CELL).

- **NASA (National Aeronautical and Space Administration)**

  Investigation of Risk Management Methodologies, Techniques and Tools **($166,418).** (2/2000 – 12/2000)
  - Investigated risk management suitable for human mission spaceport operational environment application.

  Funded student project(?), *Development of Crew Restraints System for Long Duration Task.* **($4,000).** (2/2000 – 12/2000)

- Taught ergonomic students to research/design sound crew restraint systems for International Space Station astronauts.
- UCF student design, which won competition with five other universities', on display at NASA Johnson Space Center.

EPSS Research and Applications **($120,000).** (4/1994 – 4/1995)

- Involved evaluation of current methodologies used for imagery in engineering applications at Kennedy Space Center.

- **Marion County Principal Investigator ($14,983).** (2/2000 – 12/2000).
  Designed expert system:
  - Based methodology, for environmental/industrial engineering evaluation of municipal solid waste composition studies
  - Successful model, and validated
- **Hinkley Florida Center for Solid & Hazardous Waste Management ($50,581).** (4/1995 – 12/1995)
  Phase I, Development of a Systems Approach to Municipal Solid Waste Composition Studies & Associated Data Collection, Management and Analysis.

JOINT PROJECT: NSA + FAMU - FSU COLLEGE OF ENGINEERING + UCF INDUSTRIAL ENGINEERING

National Security Agency / Florida Agricultural & Mechanical University -Florida State University—College of Engineering and University of Central Florida Industrial Engineering

Developed Neuro-Fuzzy approach:

- For detecting distributed computer systems' anomalous activities
- Prototype internet-connected file server demonstrating effectiveness of distributed, neuro-fuzzy DIO (defensive information operation) paradigm to detect anomalous computer activities
  - **($110,380, $313,096 total project budget) – Phase I.** (5/1999 – 5/2002)
  - **($27,002) – Phase II.** (5/2000 – 5/2001)
  - **($10,000) – Phase III.** (5/2001 – 8/2001)

PROJECTS INTERNALLY FUNDED

EIES – ($11,000) University of Central Florida (UCF)
Sponsored research, study, and analysis to evaluate *Fuzzy Set Theory Use in Multi-Criteria Decision Making Analysis* (5/1993)

Principal Investigator / Expert Advisor *University of Central Florida*
Research to develop knowledge based Academic Advisement system, using Fuzzy Set Theory to improve user interface (8/1993)

ADDENDUM C: RECOGNITION, AWARDS, AND APPOINTMENTS

PAMELA R. MCCAULEY, PH.D., C.P.E.

INNOVATIVE ENGINEERING LEADER

LEADER / INNOVATOR / ENGINEER / EDUCATOR

RESEARCH RELATED

- Fellowships
  - **American Institute for Medical and Biological Engineering (AIMBE)** 2020
  - **Institute of Industrial and Systems Engineers (IISE)** 2018, 2019
  - **Jefferson Science / United States Department of State** Aug 2015 – Jul 2016
  - **NASA** and **American Society of Engineering Education (ASEE)** 1997
- Technologist of the Year, Career Communications Group 2019
- Wall of Fame, Oklahoma City Public School System 2019
- Fulbright Specialist Award for New Zealand, U.S. Fulbright Scholar Program Aug 2012
- Presidents Research Advisory Board, College of the Bahamas, Nassau, Bahamas Aug 2010 – Present
- United States Representative to International COST Research Committee 2009 – Present
- Distinguished Graduate Society, University of Oklahoma College of Engineering 2009
- Engineer of the Year, Florida Engineering Society, Technology Category 2007
- Best Paper Award, Industrial Engineering Research Conference 2006
- Invited Speaker, Air Force Research Laboratory 2002
- International Guest Lecture Series, Portuguese Ergonomics Society, Lisbon, Portugal 1998

TEACHING RELATED

Awards:

- Black Engineer of the Year Educational Leadership 2015
- Top Woman in Technology, Connected World Magazine 2013
- Distinguished Engineering Educator of the Year – Central Florida Chapter, Society of Women Engineers 2003
- Teaching Incentive Program (TIP) 1997
- UCF College of Engineering, Excellence in Undergraduate Teaching 1997

IIE Solutions: *Infinite Possibilities* – cover story 2002

SERVICE RELATED

- Women with MORE Award, Category: Ambition, MORE Magazine 2015
- Top Woman in Technology Award, Connected World Magazine 2013
- University of Oklahoma
- College of Engineering Distinguished Graduate Society 2007
- Distinguished Alumni Award 2004
- Woman of Distinction in Technology, Central Florida Girl Scout Council 2006
- Make Mine a Million$ Business Award 2005
- Society of Women Engineers, Award of Appreciation & Keynote, Space Coast Chapter 2004
- Rising Star Award, Women's Diversity Council, Washington, D.C. 2004
- Top Ten Small Business Women of the Year by the Orlando Business Journal 2003
- Louisiana Alliance for Minority Participation Speakers Award 2003
- Awardee, One of Ten Most Influential Republican Women of Central Florida 2003
- Summit Award, Orlando, FL 2001
- Millennium Woman of the Year Award 2001
- Saturn-Glamour Magazine Women Making a Difference Award 2000
- Outstanding Woman of Color in Technology: Educational Leadership 1999
- Publishers Award: Women Looking Award, Atlanta, GA 1998
- Nation's 50 Top Women in Science and Engineering, National Technical Association 1997
- Finalist, NASA Space Shuttle Astronaut Program 1994

PAMELA R. MCCAULEY, PH.D., C.P.E.

INNOVATIVE ENGINEERING LEADER

LEADER / INNOVATOR / ENGINEER / EDUCATOR

Nationally and internationally recognized expert in Ergonomics, Biomechanics, Disaster Management, and Engineering Leadership Research. Public and private industry leader, author, keynote speaker, mentor and teacher with a track record of success in both analytics and human factors in the field of industrial engineering. University leader including Associate Dean of at NCSU and previously Professor at University of Central Florida (UCF). High-tech entrepreneur, STEM and DEI advocate and innovator, plus former Program Director at National Science Foundation (NSF). Successful short stint projects at MIT and NASA.

Key Role in Visionary Leadership –

- **National Science Foundation I-Corps (Innovation Corps)** Program Director; earlier, Jefferson Science Fellow, US State Department and Researcher with the World Bank; earlier MIT Visiting Associate Professor,
- **Original NSF funded research opened the "Human Impact in Information Security" field**
- **Strategically expand innovation and entrepreneurship in promotion and tenure considerations in the academy**
- **National conferences chair/co-chair; interdisciplinary, multi-university research teams; University committee chair**

University Community Impact –

- **NCSU**–Wilson College of Textiles: Associate Dean of Academic Programs–DEIB (Diversity, Equity, Inclusion, Belonging)
- **UCF College leader for graduating minority Ph.D. students, ~20 years, with 50%+ undergraduate mentees/protégés then earning graduate degrees and thriving professionally**; recruited, mentored, and supported cross-level students and junior faculty.
- **Grow productivity, performance, and processes completed**, by recognizing and valuing excellence in contributions from all

High-Impact Research Excellence –

- **Optimize human well-being / system performance** by applying theoretical design principles, data, methods, NSF research
- **Developed Fuzzy Set Theory** based mathematical models; human engineering; ergonomics; biomechanics
- **Authored 100+** technical papers, book chapters, conference proceedings, and best-selling ergonomics textbook

Entrepreneurship – start-ups CTO / CEO: **Transforming Your Stem Career, Inc.**; **Tech-Solutions, Inc.** (Tech-Solutions.net)

Education –

- **STEM Engineering** leader; exceptional track-record of developing M.S. and Ph.D. students through graduation and career
- **Collaborate with colleagues across sciences/arts disciplines on NSF research**, projects/initiatives, and education proposals
- **Areas:** Ergonomics, Human Factors, Biomechanics, Fuzzy Set Theory Foundations/Applications, Probability/Statistics, AI

Professional Service & Outreach –

- **Community Professional Service Contributions** at University, Community, National, and International Service
- **Board:** AWIS (Association for Women in Science); Presidents Research Advisory Board, College of The Bahamas; others.
- **International/national Keynote Speaker**, STEM success strategies: ICSEM; IEEE; FE/IT; IJ; Portuguese Ergonomic Society

Advocacy –

- **Long track-record of persuasively promoting culturally responsive/inclusive community, programs, and interests**; role model/spokesperson for under-represented in STEM/Engineering education, innovation, and entrepreneurship.
- **Represent the College at a skilled, politically astute level** concerning campus resources and issue

Forging Strategic Collaborations – across colleges and within; with industry and community

EDUCATIONAL CREDENTIALS & CERTIFICATIONS

1

UNIVERSITY OF OKLAHOMA | Norman, OK

Ph.D. (1993), M.S., and B.S. in ***Industrial Engineering***

Note: *first African American/Black woman to earn a Ph.D. in Engineering in the State of Oklahoma.*

Certification: Certified Professional Ergonomist (CPE) 2008 – Present

PROFESSIONAL EXPERIENCE WITH EXCEPTIONAL ACCOMPLISHMENTS

ACADEMIC TEACHING LEADERSHIP POSITIONS

Develop/execute strategic plans, financial management using $15.5M/year budget experience, communicating decision-making processes and providing total transparency in management. Foster inclusive environment; build teams; advance DEIB.

NORTH CAROLINA STATE UNIVERSITY—WILSON COLLEGE OF TEXTILES | Raleigh, NC 2020 – Present

Associate Dean for Academic Programs, Diversity, Equity, and Inclusion (ADAPDEI)

College-wide, oversee academic programs, lead strategic academic planning/operations; champion and manage DEIB initiatives, innovation, and entrepreneurship university-wide. Primary Advisor and representative for Dean, and for College interests.

- **Direct the College's:**
  - **Academic assessment reports and program accreditations** preparations coordination
  - **Culture Charter implementation, with strategic priorities including DEIB** to uplift mind, workplace, and community
  - **ACSS (Academic, Career, and Student Services) Center**; plan mission, implement, and administrate
- Partner closely across departments' faculty/leadership on new curricula and academic programs, approaching issues astutely.
- Interact continuously with leadership, educators, and students; manage stakeholder relations and enrollment across levels.

Exceptional Contributions:

- **Collaborate with colleagues campus-wide**, across sciences/arts disciplines, to submit NSF research/education proposals
- **Represent the College with skilled political astuteness** regarding campus resources and issues.
- **Accepted 2022 invitation to chair university's Faculty Senate DEIB committee**; collaborate with multi-level colleagues university-wide to address faculty/staff concerns, student/community needs, and university perceptions/branding

NSF (NATIONAL SCIENCE FOUNDATION)'S INNOVATION-CORPS SITES PROGRAM, CISE | Alexandria, VA 11/2017 – 5/2020

Program Director – I-Corps CISE (Computer Information Science & Engineering) (1/2018 – 5/2020)

Directed I-Corps program, preparing scientists and engineers beyond university laboratory, and accelerating NSF-funded, basic-research projects' economic and societal benefits with movement toward commercialization. Managed $15.5M/year budget.

- **Determined 99 I-Corps Sites' additional resources and research** needed via projects/activities including:
  - Immersive detailed customer discovery to identify needs of National Innovation Network grantees
  - Ultimately interpreting outcomes to support future I-Corps Program directions and strategic initiatives
- **Politically astute diplomat on issues and resources**; collaborate and meet regularly with three other program officers leading I-Corps, on innovation and core program needs' resource use including sites and notes.

Exceptional Contributions:

- In first year, designed and led pioneering I-Corps Innovation Inclusion Summit for facilitating collaborative innovation:
  - Engaged national innovation community to promote and secure funding
  - Pioneered I-Corps Innovation Inclusion Summit that drew 260+ academic institution conference participants including I-Corps grantees, HBCUs, Hispanic Serving Institutions, and Tribal Colleges
- Improved research's transition from academic to useful products and innovations, setting next level goals, program metrics, and outreach to scientific, entrepreneurial, and academic communities
- Initiated nationwide dialogue to consider adapting academic scholarly criteria including innovation and entrepreneurial activities in promotion and tenure decisions

Expert – I-Corps CISE (Computer Information Science & Engineering) (11/2017 – 1/2018)

Spearheaded initiative to develop strategy identifying next level goals, program metrics, and participation expansion.

Exceptional Contributions:

- Developed plans to perform internal and external analysis of NSF I-Corps Sites' impact.

UNIVERSITY OF CENTRAL FLORIDA (UCF) | Orlando, FL 1993 – 2020

Professor | Director of Ergonomics Laboratory, Industrial Engineering, & Management Systems Department

Faculty member; designed and led Faculty Development initiative for College of Engineering and Computer Science. Coordinated with college and university leadership; worked collaboratively with faculty and external SMEs.

- Created/implemented program supporting and aligned with Dean's vision, CECS goals, and dynamic faculty needs.
- Researched: Human factors/ergonomics, including safety and occupational risks identification and measurement, FST, AI.
- Partnered with *Human Engineering Committee* Industry Alliance -- local companies interested in addressing workplace ergonomics and safety.
- Taught and developed undergraduate and graduate courses including Ergonomics, Safety, Expert Systems, Statistics, Fuzzy Set Theory, and Introduction to Industrial Engineering; advised students.

Exceptional Contributions:

- Built industry advisory board; partnerships facilitated student and lab project, and internship, funding opportunities.
- **College leader for graduating minority Ph.D. students for ~20 years**, while actively recruiting, mentoring, and

comprehensively supporting diverse graduate students, undergraduates, and junior faculty
- Extensive public service role contributing across university and community, and to professional organizations
- Developed novel data collection process.

MASSACHUSETTS INSTITUTE OF TECHNOLOGY (MIT) | Cambridge, MA 1/1998 – 7/1999

Martin Luther King, Jr. Visiting Associate Professor of Aeronautics and Astronautics

Taught, researched, and evaluated service of Information Security's human factors issues:

- Developed methodologies for classifying risks, training, and automation to anticipate and mitigate IS field risks

Exceptional Contributions:

- **Original research opened the field of "Human Impact in Information Security".**

EDUCATIONAL CONTRIBUTIONS

(See Addendum A for expanded *Educational Contributions* information.)

STEM ENTREPRENEURIAL LEADERSHIP POSITIONS – CONSULTING

Led detailed field analysis to define STEM corporations' strategic vision, mission, and strategy for attaining organizations' technical and managerial goals, in ergonomics and biomechanics focused technical support services and technical product development.

Founder & CEO

TRANSFORMING YOUR STEM CAREER, INC. (T-STEM INC.) | Orlando, FL 2012 – Present

Led establishment of dual-focus niche firm: High-end worldwide expert resource for human engineering knowledge and expertise; thought leader in transforming career opportunities' innovation and entrepreneurship, particularly for women.

- **Ergonomics, biomechanics, human engineering, and more:** Technical consultancy with support and product development; Expert Witness with product liability, and occupational safety; all continuing a career from 1993 and following.
- **Program Evaluation Consulting:** Federal funded STEM education, diversity, and innovation grants and projects leadership
- **Corporate/agency career expertise guidance and publishing** on education, diversity, innovation, leadership principles and development training, academic and entrepreneurial workshops, and focused keynote addresses

TECH-SOLUTIONS, INC. (TECH-SOLUTIONS.NET) | Orlando, FL 1999 – 2012

Strategically established firm for ergonomics and biomechanics technical support services and product development. Oversaw research projects; obtained funding; established collaborations and projects. Managed 12 employees.

- Engaged partnerships and opportunities with corporate executives, government officials, and senior military officers

RESEARCH

(See Addendum B for expanded *Research* information.)

Research Topic Areas: Ergonomics / Ergonomic Design – Biomechanics; Human Factors in Disaster Management | Cumulative Trauma | Fuzzy Set Theory & Modeling | Engineering Leadership and Women's Leadership

Evidence of International Reputation: **Expert, World Intellectual Property Organization (WIPO) (self-funding UN agency)**

Invited expert/consultant, innovation-related topics; global education and innovation STEM equity advocate 2016 – Present

- **Highly sought CPE**; nationally recognized Expert Witness in biomechanics, human factors, and ergonomic design
- **Provisional patent for scientific technology promoting online collaborative innovation** (USPTO #62/572,994)
- **Awards for strong teaching**, including: UCF Teaching Incentive Program (TIP), and Society of Women Engineers

RECOGNITION, AWARDS, & APPOINTMENTS

(See Addendum C for expanded *Recognition, Awards, & Appointments* information.)

Professional Awards (including for strong teaching commitment)

- **Fulbright Scholar (US-New Zealand) Specialist**, federally sponsored flagship purposed to "increase mutual understanding." Topic: Human Engineering & Mobile Technology in High Consequence Emergency Management 2012

Fellowships include:

- **American Institute for Medical & Biological Engineering** (AIMBE) *2021*
- **Institute of Industrial & Systems Engineers** (IISE) *2019*
- **Jefferson Science Fellowship (JSF)** prestigious U.S. Department of State, from program that serves as innovative model for engaging American academic science and engineering communities in U.S. foreign policy. 2015 – 2016
  - **Distinguished Senior Academics appointment** based on scientific/engineering communities' stature, recognition, and rapid, accurate understanding of external discipline advancements and integrate into USDS/USAID policy discussions.

- **Research Topic:** The Ergonomics of Ebola and Infectious Diseases for Healthcare Workers on a Global Level

➢ **American Society of Engineering Education Research Fellow** at **NASA** 5/1997 – 8/1997
Led Kennedy Space Center, NASA management development initiative metrics and guidelines production, with long-range objective a knowledge-based system offering career development guidance and management.

INTERNATIONAL COLLABORATIONS

PROJECTS

Human Factors in Disaster Management area: Established project, New Zealand's Massey University (2011 – 2014) and two Romanian universities (2010 – Present); led NSF funded international workshop, New University), Lisbon, Portugal (2012)

INTERNATIONAL KEYNOTE SPEAKER

Numerous, including **WIRES II** in Athens, Greece (2013); **IEEE** Soft Computing in Romania (2009)

SERVICE

- **Elected US Representative**, International COST Research Committee on Critical Infrastructure 2010 – present
- **Editorial Board** for **International Journal of Advanced Intelligent Paradigms (IJIAP)** 2016 - 2020

PUBLICATIONS

(See Addendum D for expanded *Publications* information.)

EDITOR, ASSOCIATE EDITOR, OR MEMBER OF EDITORIAL BOARD

- **Inaugural Series Editor,** *Women of STEM: Innovation and Leadership.* Taylor & Francis Group–CRC Press 2019 – Present
- **Series Editor, Human Factors & Ergonomics,** CRC Press, Taylor & Francis Group 2016 – Present
- **Editorial Board Member**
  - International Journal of Advanced Intelligent Paradigms 2009 – Present
  - Theoretical Issues in Ergonomics Science 1999 – 2003, 2015
- **Associate Editor**, Industrial and Systems Engineering, CRC Press, 2006 Handbook 2006

COMMUNITY PROFESSIONAL SERVICE CONTRIBUTIONS

University, Community, National, and International Service | Ergonomics, Disaster Management, Leadership Research Areas

(See Addendum E for expanded *Community Professional Service* information.)

DEPARTMENT, COLLEGE AND UNIVERSITY, INCLUDING

University

- Chair, DEIB Committee for NC State Faculty Senate 2022 - 2023
- President (Co-President with Dr. P. Delfyett), Black Faculty and Staff Assembly 1998 – 1999
- Search Committee Member, Vice Provost of Information Technology 1994 – 1995

College

Co-Faculty Advisor, Society of Women Engineers 2008 – Present

PROFESSION, EXTERNALLY – SCHOOL & INDUSTRY BOARDS, NSF PANELS, INCLUDING

International

- **Advocate, International Network of Engineers and Scientists** (INES) for global responsibility; continuously promote study of STEM engineering, innovation, and leadership opportunities for underrepresented groups
- **United States Representative –** Management Committee Member, International Committee on Science and Technology (COST) for Critical Infrastructure 2009 – Present
- **IEEE:**
  - **Program Committee,** International Systems Man and Cybernetics Conference, Orlando, FL 2005
  - **Vice-Chair,** Computer Society Standards Activities Committee, Virtual Intelligence: Fuzzy Systems Definitions 2006
- **Editorial boards**; elected to **international disaster management committee** 2009+

National

- **US Department of State,** President's Emergency Plan for AIDS Relief (PEPFAR) *2015-2016*
  - Researched developing nations' HIV/AIDS healthcare delivery system, to improve efficiencies and integrate technology

- Created new Innovations, Methods, Processes and Critical Technologies (IMPACT) Model, assessing opportunities

- **Executive Board Member: American Women in Science (AWIS)** 2015 – 2018
- **Engineering Education Panelist, National Science Foundation (NSF)** 2014
- **Principal Investigator** at **NSF Women's International Research in Engineering Summit** (WIRES) 2010 – 2011
- **Annual Reviewer, Engineering Research Center Review Panel, National Science Foundation (NSF)** 2006 – 2011
- **Board member, including** *Women of Color in Technology Conference* and *Alumni Association* 2004 – Present

State and Regional (Board Member), including:

- **Central Florida Boy Scouts** 2015 – 2017
- **CITE Lighthouse for the Blind** in Orlando, FL 2005
- **Florida Research Consortium** 2001 – 2004

ADDENDUM A: EDUCATIONAL CONTRIBUTIONS

PAMELA R. MCCAULEY, PH.D., C.P.E.

INNOVATIVE ENGINEERING LEADER

ERGONOMICS / DISASTER MANAGEMENT / STEM ADVOCACY

COLLABORATIONS & PARTNERSHIPS

- Interdisciplinary collaboration on Human Factors, Social Science in Disaster Management with Massey University, New Zealand – Fulbright proposal awarded for research collaboration in NZ (8/2012)
- Chair, NSF funded workshop at New University of Lisbon, Portugal: *Human Factors, Sensor Technology and Logistics in Disaster Management* (1/2012)
- College of the Bahamas – research and educational, with proposal development, joint research, and student projects, on *Human Factors Issues in Disaster Management* (2009 – Present)
- Human Engineering Committee – IEMS Department Industry Alliance Liaison for Boeing / Lockheed Martin
  - Organized collaboration of 11 local organizations to address common Central FL area ergonomics and safety problems
  - Results: 3 thesis topics, practicing engineers' guest lectures, and site visits for entire class of students (1999-2004)
- Armstrong Laboratories, Wright Patterson AFB, Dayton, Ohio.
  - Applied fuzzy techniques to human factors problems via data and information sharing
  - Results: A funded project and a conference proceeding (1994 – 1996)
- Institute for Simulation and Training, University of Central Florida
  - Applied fuzzy techniques to modeling decision-making process in military applications' target acquisition
  - Results: A funded project, conference proceeding, and referred journal article (1995 – 1997)

COURSE DEVELOPMENT

Extensively redesigned Human Engineering core courses to include comprehensive lab experience.

- Created Ergonomics Laboratory to supplement existing courses (graduate)
- Graduate School:
  - Created Ergonomics Laboratory to supplement existing courses
  - *Introduction to Fuzzy Set Theory in Industrial Engineering*; created Ergonomics Laboratory to supplement existing course
  - *Biomechanics* course and laboratory
- Undergraduate:
  - *Introduction to Industrial Engineering*
  - *Human Engineering*, and laboratory
  - *Introduction to Engineering*
- Continuing Education, for local industry:
  - *Introduction to Statistical Analysis with JMP*

TEACHING INNOVATIONS

- **Undergraduate Engineering Design Projects (2014 – 2015)**
  With NASA Kennedy Space Center, designed and facilitated engineering design projects for undergraduates in *Introduction to Industrial Engineering* and *Human Engineering* classes
- **Service Learning Projects (2009 – 2010)**
  Per UCF community service mission, instituted applied learning across *Statistics* and *Human Engineering* classes.
  - Spring 2010: Two courses, STA3032 and EIN4243; community based Engineering projects, Zora Neale Hurston festival
- **Chair, Human Factors Committee (1994 – 2015)**
  Developed unique series of laboratories for each *Human Engineering* class: 400-level *Human Engineering*, 500-level *Ergonomics*, *EIN Work Physiology*, and 600-level *Biomechanics*:

- Initially developed labs 1994 – 1995; revised Spring 2004 and again Spring 2010, developing material into Lab Manual
- Ensured consistent quality across Human Engineering courses by providing colleagues access to labs and all course notes

- **Developed interactive teaching techniques: (2005 – 2006)**
  Developed specific new strategies for successful *Statistics* courses taught to on-site and remote interactive site students:
  - Created integrated lectures requiring all sites' specific-issue discussion and problem-solution input.
  - Outstanding remote and in-class student reviews; administration recognition as "the model faculty member in teaching distance learning courses."

- **Developed courses:**
  - **Undergraduate-level, *Introduction to Engineering* (1995 – 2003)**
    Targeted under-represented minority engineering students; team-taught with two other faculty members.
    - Designed course to address all entering engineering students' basic concerns about college, and on issues that literature indicated as minority students' stumbling blocks.
    - Students' retention rate after first year in program ~87.5% (taught 1995 – 2003).
  - **Graduate-level, *Fuzzy Set Theory* (*c years – ?*)**
    Capitalizing on current research projects' success, provided Industrial Engineering theoretical foundations, development techniques, and research applications.
    - Led to chapter in Handbook of Industrial and Systems Engineering (2006).

ADDENDUM B: GRANTS AND CONTRACTS – RESEARCH FUNDED

PAMELA R. MCCAULEY, PH.D., C.P.E.

INNOVATIVE ENGINEERING LEADER

LEADER / INNOVATOR / ENGINEER / EDUCATOR

Active in proposal submission throughout career. Elicited and awarded grants and contracts from funding agencies including National Science Foundation, Department of Defense (DoD), and NASA, while research project Principal Investigator (PI) or Co-PI.

EXTERNAL RESEARCH PROJECTS

Principal Investigator:

- **National Science Foundation (NSF)**

African American Female Engineering Faculty in the Academy: What Does It Take to Succeed? A Workshop of Senior Women in the Academy. **($49,999)** (6/15/2017 – 5/30/2018)

- Convened senior Afro-American women in Engineering Academy "think tank," initiating systemic change strategies discussion to positively impact under-represented women: Initially, Afro-American; in future, all under-represented.

NSF EArly-concept Grants for Exploratory Research (EAGER) ($35,884):
Initiated *US-New Zealand Human Factors in Disaster Management Research Collaboration* (8/13/2012 – 7/31/2013):
To potentially transform approach to catastrophic event human needs response, for first responders:

- Established ergonomically sound Emergency Management Response task performance guidelines / e-comm protocols
- Research outcomes: Efficient, safe methods use, maximizing relief efforts communication resources and significantly improving quality of aid rendered

Principal, **Phase I ($88,230)** (7/2010 – 6/2011) | **($17,646) – Phase II** (7/2011 – 8/2012)
A human centered assessment of wireless computing devices in high consequence emergency management environments.

- Established baseline and human factors centered principles for wireless communication devices' use in high consequence emergency management environments, including but not limited to hurricanes and terrorist attacks.

Proposal ($111,142), collaborative with Georgia Institute of Technology (total funding $223,142). (9/2010 – 8/2011)
WIRE (Women's International Research Exchange):

- Researchers' summit for global collaborative opportunities in energy systems, micro/nanotechnology, disaster management research, and simulation-based engineering
- Promotes leadership in women's international Engineering and Technology faculty collaborations

Romanian & I-COST Committee Travel Grant ($6,635). (8/2009 – 7/2010)
Funding supported:

- Election to International Committee on Science and Technology on Critical Infrastructure
- Establishing US/Romania Human Factors in Disaster Management research collaboration

Human Factors in Disaster Management Research initiative **($126,896).** (5/2007 – 7/2009)

- Addressed hurricane season emergencies
- Captured ephemeral data to define research gaps and emerging related physical ergonomics, communications, and cognitive demands

POWRE [Research] Grant ($50,000). (1/1998 – 12/1998)
Elephant: Development & Analysis of an Intelligent Tool to Mitigate Risks of User Overload in Authentication.

- **Launched "Human Impact in Information Security" field, with research evaluating Information Security's human side.**

Development of a Methodology for Fuzzy Modeling of Human Performance. **($18,000)** (8/1994 –5/1995).
Evaluated Fuzzy Set Theory (FST) use as modeling tool to:

- Identify primary elements necessary to describe human performance
- Evaluate linguistic hedges' feasibility in human computer interaction

- **World Bank ($65,180).** Component of initiative supporting infectious diseases care. (8/1/2016 – 6/30/2017)
Malawi Time & Motion Study for Efficiency in HIV/AIDS Healthcare Service Delivery.
  - Use time/motion studies related industrial engineering principles to analyze Malawi's healthcare service delivery system.
  - Goals included determining task elements and studying performance, conducting time and motion studies to identify process and efficiency improvements opportunities, and engaging task supporting technology.

- **NASA (National Aeronautical and Space Administration)**

  Human Factors Symposium ($121,978). (4/1/2015 – 3/30/2016)
  A Human Centric Approach to Research, Design and Development of Innovative Workstation Modules for NASA Kennedy Space Center Firing Room
  - Comprehensively applied human engineering principles and innovation improving technologies to design 21st century NASA Firing Rooms console and facility layout.

  Human Factors Symposium ($6,000). (7/03 – 8/04).
  International meeting, bringing together professionals worldwide to discuss current issues, emerging trends, current methodologies and best practices for human factors and ergonomic issues in space.

- **Environmental Research & Education Foundation ($180,271).** (7/2010 – 12/2011).
Ergonomic Study of Solid Waste Collection.
  - Examined critical physical ergonomic issues of varied waste collection automation levels; collected empirical data
  - Established environmental/ergonomic industry guidelines for national and international application

- **Lockheed Martin Company ($35,000), Enterprise Information Systems *¿is that part of LM?*, Orlando, FL; and Corporate Information Security Department, Bethesda, MD.** (9/1998 – 8/1999).
Developed Multiple Agent System (MAS):
  - Of passive and active intelligent agents to monitor and interact with existing systems within a network.
  - Searches for attempts to exploit known system vulnerabilities; multi-level hierarchy designed to detect and monitor ports while the agent code responds to trigger events and initiates a response.

- **Defense Information Systems Agency ($39,476).** (8/1996 – 4/1997).
Project used Fuzzy Set Theory to:
  - Develop methodology for creating generic fuzzy agents that engage in dialogue and coordinate information transfer.
  - Apply technique developed with Wright-Patterson AFB, Human Factors lab for managing uncertainty in information.

- **Hinkley Florida Center for Solid and Hazardous Waste Management (30,964) – Phase II.** (4/1995 – 12/1995).
  - Developed Expert System to Facilitate Municipal Solid Waste Composition Studies
  - Associated data collection, management, and analysis

- **Simulation Training Instrumentation Command (STRICOM) ($8,000).)** 8/1995 – 5/1996; **UCF Simulation & Training Institute**
Researcher; project with UCF Institute for Simulation and Training. *Fuzzy Set Theory in Computer Generated Forces.*
  - Evaluated Fuzzy Set Theory use in addressing uncertainty associated with decision making, dynamic obstacle avoidance, and target prioritization in computer generated forces.

Co-Principal Investigator:

- **NSF (National Science Foundation)**

  A Workshop to Review Pedagogical Practices in Engineering Leadership Education. **($49,635).** (9/2010 – 10/2012)
  - Extended earlier NSF funded project establishing research baseline including pedagogical practices review
  - Results provided substantive guidance on educational techniques' effectiveness in accomplishing objectives

  Engineering Leadership in Reengineering the Undergraduate Industrial Engineering Program. **($103,219).** (7/2007 – 8/2008)
  - Study determined foundational principles associated with educating students in engineering leadership
  - Resulted in development of Center for Engineering Leadership and Learning (CELL).

- **NASA (National Aeronautical and Space Administration)**

  Investigation of Risk Management Methodologies, Techniques and Tools **($166,418).** (2/2000 – 12/2000)
  - Investigated risk management suitable for human mission spaceport operational environment application.

  Funded student project(?), *Development of Crew Restraints System for Long Duration Task.* **($4,000).** (2/2000 – 12/2000)

- Taught ergonomic students to research/design sound crew restraint systems for International Space Station astronauts.
- UCF student design, which won competition with five other universities', on display at NASA Johnson Space Center.

EPSS Research and Applications **($120,000).** (4/1994 – 4/1995)

- Involved evaluation of current methodologies used for imagery in engineering applications at Kennedy Space Center.

- **Marion County Principal Investigator ($14,983).** (2/2000 – 12/2000).
  Designed expert system:
  - Based methodology, for environmental/industrial engineering evaluation of municipal solid waste composition studies
  - Successful model, and validated
- **Hinkley Florida Center for Solid & Hazardous Waste Management ($50,581).** (4/1995 – 12/1995)
  Phase I, Development of a Systems Approach to Municipal Solid Waste Composition Studies & Associated Data Collection, Management and Analysis.

JOINT PROJECT: NSA + FAMU - FSU COLLEGE OF ENGINEERING + UCF INDUSTRIAL ENGINEERING

National Security Agency / Florida Agricultural & Mechanical University -Florida State University—College of Engineering and University of Central Florida Industrial Engineering

Developed Neuro-Fuzzy approach:

- For detecting distributed computer systems' anomalous activities
- Prototype internet-connected file server demonstrating effectiveness of distributed, neuro-fuzzy DIO (defensive information operation) paradigm to detect anomalous computer activities
  - **($110,380, $313,096 total project budget) – Phase I.** (5/1999 – 5/2002)
  - **($27,002) – Phase II.** (5/2000 – 5/2001)
  - **($10,000) – Phase III.** (5/2001 – 8/2001)

PROJECTS INTERNALLY FUNDED

EIES – ($11,000) University of Central Florida (UCF)
Sponsored research, study, and analysis to evaluate *Fuzzy Set Theory Use in Multi-Criteria Decision Making Analysis* (5/1993)

Principal Investigator / Expert Advisor *University of Central Florida*
Research to develop knowledge based Academic Advisement system, using Fuzzy Set Theory to improve user interface (8/1993)

ADDENDUM C: RECOGNITION, AWARDS, AND APPOINTMENTS

PAMELA R. MCCAULEY, PH.D., C.P.E.

INNOVATIVE ENGINEERING LEADER

LEADER / INNOVATOR / ENGINEER / EDUCATOR

RESEARCH RELATED

- Fellowships
  - **American Institute for Medical and Biological Engineering (AIMBE)** 2020
  - **Institute of Industrial and Systems Engineers (IISE)** 2018, 2019
  - **Jefferson Science / United States Department of State** Aug 2015 – Jul 2016
  - **NASA** and **American Society of Engineering Education (ASEE)** 1997
- Technologist of the Year, Career Communications Group 2019
- Wall of Fame, Oklahoma City Public School System 2019
- Fulbright Specialist Award for New Zealand, U.S. Fulbright Scholar Program Aug 2012
- Presidents Research Advisory Board, College of the Bahamas, Nassau, Bahamas Aug 2010 – Present
- United States Representative to International COST Research Committee 2009 – Present
- Distinguished Graduate Society, University of Oklahoma College of Engineering 2009
- Engineer of the Year, Florida Engineering Society, Technology Category 2007
- Best Paper Award, Industrial Engineering Research Conference 2006
- Invited Speaker, Air Force Research Laboratory 2002
- International Guest Lecture Series, Portuguese Ergonomics Society, Lisbon, Portugal 1998

TEACHING RELATED

Awards:

- Black Engineer of the Year Educational Leadership 2015
- Top Woman in Technology, Connected World Magazine 2013
- Distinguished Engineering Educator of the Year – Central Florida Chapter, Society of Women Engineers 2003
- Teaching Incentive Program (TIP) 1997
- UCF College of Engineering, Excellence in Undergraduate Teaching 1997

IIE Solutions: *Infinite Possibilities* – cover story 2002

SERVICE RELATED

- Women with MORE Award, Category: Ambition, MORE Magazine 2015
- Top Woman in Technology Award, Connected World Magazine 2013
- University of Oklahoma
- College of Engineering Distinguished Graduate Society 2007
- Distinguished Alumni Award 2004
- Woman of Distinction in Technology, Central Florida Girl Scout Council 2006
- Make Mine a Million$ Business Award 2005
- Society of Women Engineers, Award of Appreciation & Keynote, Space Coast Chapter 2004
- Rising Star Award, Women's Diversity Council, Washington, D.C. 2004
- Top Ten Small Business Women of the Year by the Orlando Business Journal 2003
- Louisiana Alliance for Minority Participation Speakers Award 2003
- Awardee, One of Ten Most Influential Republican Women of Central Florida 2003
- Summit Award, Orlando, FL 2001
- Millennium Woman of the Year Award 2001
- Saturn-Glamour Magazine Women Making a Difference Award 2000
- Outstanding Woman of Color in Technology: Educational Leadership 1999
- Publishers Award: Women Looking Award, Atlanta, GA 1998
- Nation's 50 Top Women in Science and Engineering, National Technical Association 1997
- Finalist, NASA Space Shuttle Astronaut Program 1994

ADDENDUM D: PUBLICATIONS

PAMELA R. MCCAULEY, PH.D., C.P.E.

INNOVATIVE ENGINEERING LEADER

LEADER / INNOVATOR / ENGINEER / EDUCATOR

REFEREED PRINT PUBLICATIONS

Books, edited books, and monographs

- Clapp, Steven & McCauley, Pamela & Karwowski, Waldemar & Hancock, Peter. (2021). The seat of happiness? The effect of seat comfort on the achievement of psychological flow during transactional work. Applied Ergonomics. 96. 103508. 10.1016/j.apergo.2021.103508.
- Palaniappan, K., & McCauley, P. Occupational Wellbeing, InTech Open Publishing (2021).
- McCauley, P. Engineering for Teens: A Beginner's Book for Aspiring Engineers, Callisto Media, Inc. (2021)
- Mziray, Elizabeth & Gorgens, Marelize & McCauley, Pamela. (2017). Analysis of Human Resources for Health in Malawi: Implementation of WISN Study in Seventy-Five Facilities. 10.1596/33307.
- McCauley, P. Essentials of Engineering Leadership and Innovation, Taylor & Francis, CRC Press (2016)
- McCauley Bush, P. Transforming Your STEM Career Through Leadership and Innovation: Inspiration and Strategies for Women, Elsevier Publishers, New York, NY; ISBN-10: 012396993X (2013)
- McCauley Bush, P., Ergonomics: Foundational Principles, Applications and Technologies, Taylor & Francis, CRC Press (2011) 331 pp
- McCauley Bell, P., Winners Don't Quit: Today They Call Me Doctor

Chapters in edited books

- McCauley, P. and Lee, E. Chapter 10: A Call to Leadership, Success Strategies from Women in STEM (Second Edition) A Portable Mentor (2015) Edited by: Peggy A. Pritchard and Christine Grant, ISBN: 978- 0-12-397181-4
- Nunes, I. and McCauley Bush, P. Chapter 1: Work-Related Musculoskeletal Disorders Assessment and Prevention, Ergonomics – A Systems Approach, Edited by Isabel L. Nunes, 4/2012, In Tech Publishers, pp. 1-30.
- McCauley Bush, P., S. Gaines, F. Gammoh and S. Wooden, Chapter 4: A Comparison of Software Tools for Occupational Biomechanics and Ergonomic Research, In Ergonomics A Systems Approach, Edited by Isabel L. Nunes, 4/2012, In Tech Publishers, pp. 65-118.
- Butler, C., Jones, R., & McCauley-Bush, P. (2010). "Future Challenges of Mobile Learning in Web- based Instruction". *In Web-Based Engineering Education: Critical Design and Effective Tools,* edited by D. Russell and A. Haghi. Engineering Science Reference 2010 (accepted for publication 7/2009)
- McCauley-Bell, P., and Crumpton-Young, L (2006), "Introduction to Applications of Fuzzy Set Theory in Industrial Engineering," Chapter 25, *Handbook of Industrial and Systems Engineering,* CRC Press, San Diego, CA. pp. 25-1, 25-21.
- McCauley-Bell, P., "Ergonomics in Virtual Reality, (2002)," *Handbook of Virtual Environments: Design, Implementation, and Applications*. Mahwah, NJ: Lawrence Erlbaum Associates, Edited by Kay Stanney, pp. 807-826.
- McCauley-Bell, P., Crumpton-Young, L. and Badiru, A. (1999) "Techniques and Applications of Fuzzy Theory in Quantifying Risk Levels in Occupational Injuries and Illnesses," in *Fuzzy Theory Systems: Techniques and Applications*, Vol. 1, Cornelius Leondes, Editor, Academic Press, pp. 223- 265.
- Soh, T, Crumpton, L., and McCauley-Bell, P. (1996). The Use of Fuzzy Logic to Develop a Mathematical Model to Quantify Fatigue. *Advances in Occupational Ergonomics and Safety* Vol. I. pp. 123-128.

Journal papers

Highly ranked scientific periodical journal publications including: *IEEE Journals* (acceptance rate (25-35%); *Journal of Information Science* (acceptance rate ~30%); and *Fuzzy Sets & Systems (acceptance rate ~17%).*

- Clapp, Steven & McCauley, Pamela & Karwowski, Waldemar & Hancock, Peter. (2021). The seat of happiness? The effect of seat comfort on the achievement of psychological flow during transactional work. Applied Ergonomics. 96. 103508. 10.1016/j.apergo.2021.103508.
- Mziray, Elizabeth & Gorgens, Marelize & McCauley, Pamela. (2017). Analysis of Human Resources for Health in Malawi: Implementation of WISN Study in Seventy-Five Facilities. 10.1596/33307.
- Wang, D., He, T., Li, Z., Cao, L., Dey, N., Ashour, A.S., Balas, V.E., McCauley, P., Lin, Y., Xu, J. and Shi, F., Image feature-based affective retrieval employing improved parameter and structure identification of adaptive neuro-fuzzy inference system. Neural Computing and Applications, 29(4), (2018) pp.1087-1102.

- Li, Zairan, Nilanjan Dey, Amira S. Ashour, Luying Cao, Yu Wang, Dan Wang, Pamela McCauley, Valentina E. Balas, Kai Shi, and Fuqian Shi. "Convolutional neural network based clustering and manifold learning method for diabetic plantar pressure imaging dataset." Journal of Medical Imaging and Health Informatics 7, no. 3 (2017): 639-652.

- Li, Z., Shi, K., Dey, N., Ashour, A. S., Wang, D., Balas, V. E., McCauley, P. and Shi, F. (2017). Rule-based back propagation neural networks for various precision rough set presented KANSEI knowledge prediction: a case study on shoe product form features extraction. Neural Computing and Applications, 28(3), 613-630.

- Wang, D., Li, Z., Cao, L., Balas, V. E., Dey, N., Ashour, A. S McCauley, P. and Shi, F. (2016). Image fusion incorporating parameter estimation optimized Gaussian mixture model and fuzzy weighted evaluation system: A case study in time-series plantar pressure data set. IEEE Sensors Journal, 17(5), 1407-1420.

- Li, Z., He, T., Cao, L., McCauley, P., Balas, V. E., & Shi, F. Multi-source information fusion model in rule-based Gaussian-shaped fuzzy control inference system incorporating Gaussian density function. Journal of Intelligent & Fuzzy Systems, (Preprint), 1-10, 12/8, 2015

- He, T., Cao, L., Balas, V. E., McCauley, P., & Shi, F. (2015). Curvature manipulation of the spectrum of Valence-Arousal-related fMRI dataset using Gaussian-shaped Fast Fourier Transform and its application to fuzzy KANSEI adjectives modeling. Neurocomputing, 1/2016, pp. 1049–1059

- Shi, F. & McCauley Bush, P. A Gaussian-mixed Fuzzy Clustering Model on Valence-Arousal-related fMRI Data – Set, Acta Poly. H., Vol. 10, No. 8, pp. 85-104, 2013 (IF=0.588)

- Rusnock, C. & McCauley Bush, P. "An Evaluation of Restaurant Noise Levels and Contributing Factors", Journal of Occupational and Environmental Hygiene Volume 9 Issue 6, 2012, pp. 108-113.

- Soyler, A., Bull, M., Zhu, Y, Sharawi A. & McCauley-Bush, P. "A research-based approach to simulation in disaster management", International Journal of Advanced Intelligence Paradigms, Volume 4, Issue 1- 2012, pp. 2-21. doi: 10.1504/IJAIP.2012.046963

- McCauley-Bush, P., Jeelani, M., Gaines, S., Curling, L., Armbrister, P., Watlington, A., Major, R., Role, L. & Sarah C. "Assessment of communication needs for emergency management officials in high-consequence", Journal of Emergency Management, 1-2/ 2012 pp. 15-25.

- Ahram, T., McCauley-Bush, P. & Karwowski, W., "Estimating intrinsic dimensionality using the multi-criteria decision weighted model and the average standard estimator." Journal of Information Science (2010), doi:10.1016/j.ins.2010.04.006

- Reid, C.R., McCauley-Bush, P.M., Cummings, N., McMullin, D.L., Durrani, S.K., A "Review of Occupational Knee Disorders." Journal of Occupational Rehabilitation, doi: 10.1007/s10926-010-9242-8. pp. 489-501, 2010.

- Reid, C.R., McCauley-Bush, P.M., Karwowski, W., Durrani, S.K. "Occupational Postural Activity and Lower Extremity Discomfort: A Review." International Journal of Industrial Ergonomics, doi:10.1016/j.ergon.2010.01.003. pp. 247-256, 2010.

- Crumpton-Young, L., McCauley-Bush, P. Rabelo, L., Menza, K., Ferreras, A. Rodriguez, B, Millan, A., Miranda, D. & Kelarestani, M. "Engineering Leadership D e v e l o p m e n t Programs a Look at What is Needed and What is Being Done." Journal of STEM Education: Research and Innovations, "Special Issues on Engineering Leadership" Pamela McCauley Bush, Guest Editor, Volume 11, Issues 3 & 4. 5/2010.

- Cornett, J. McCauley-Bush, P. and Cummings, N. "An 8-Factor Model for Evaluating Crew Race Performance." International Journal of Sports Science and Engineering, (2008) Vol. 2 Number 3, 9/2008 pp. 169-184.

- Carstsens, D., Malone, L. & McCauley-Bell, P. "Applying Chunking Theory in Organizational Password Guidelines." Journal of Information, Information Technology, and Organizations Vol. 1, 2006 pp. 97-113.

- Kari Babski-Reeves Ph.D., Sabrina Williams, Ph.D., Tzer Nan Waters, M.S, Lesia L. Crumpton-Young, Ph.D., & Pamela McCauley-Bell, Ph.D. (2005). "A Model to Predict Accommodations Needed by Disabled Persons." IEEE Transactions on Neural Systems & Rehabilitation Engineering 1/2005 pp. 292-301.

- Carstens, D., McCauley-Bell, P., Malone, L. and Demara, R., "Human Factors Issues in Information Security." Journal of Informing Science, Volume 7, 2004 pp. 67-85

- McCauley-Bell, P. & Crumpton-Young, L. (2000). "A Fuzzy Linguistic Model for the Prediction of Carpal Tunnel Syndrome Risks in an Occupational Environment." IBM Journal of Research and Development, Vol. 44(5), pp. 759-770.

- Sfeir, H., D. R. Reinhart, P. McCauley-Bell (1999) "An Evaluation of MSW Composition Study Bias Sources," Air and Waste Management Association Journal, 49, pp. 174-185.

- McCauley-Bell, P. (1999) "Intelligent Management Agent Characterization and Uncertainty with Fuzzy Set Theory: A Tool to Support Early Supplier Integration." Journal of Intelligent Manufacturing, Vol. 10, pp. 135-147.

- McCauley-Bell, P., Crumpton L., & Wang H. "Measurement of Cumulative Trauma Disorder Risk in Clerical Tasks Using Fuzzy Linear Regression." IEEE Transactions on Systems Man and Cybernetics, Volume 29C Number 1, 2/1999, pp. 1-14.

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- McCauley-Bell, P. & Badiru, A. "Fuzzy Modeling and Analytic Hierarchy Processing to Quantify Risk Levels Associated with Occupational Injuries Part I: The Development of Fuzzy Linguistic Risk Levels." IEEE Transactions on Fuzzy Systems, 5/1996, pp. 124-131

- McCauley-Bell, P & Wang, H., "Fuzzy Regression Analysis to Predict Risk of Occupational Injuries." Fuzzy Sets and Systems, Vol. 92/3, pp. 317-340, 12/1997.

- McCauley-Bell, P. & Badiru, A. "Fuzzy Modeling and Analytic Hierarchy Processing as a Means to Quantify Risk Levels Associated with Occupational Injuries Part II: The Development of a Fuzzy Rule-Based Model for the Prediction of Injury." IEEE Transactions on Fuzzy Systems, May, 1996. V 4, n 2, p 132-138, 5/1996.

- McCauley-Bell, P., Reinhart, D. Sfier, H. & Ryan, B. "The Development of a Methodology and Expert System for Municipal Solid Waste Composition Studies". ASCE Practice Periodical of Hazardous, Toxic, and Radioactive, Waste, May, 1997 Volume 1, Issue 4, pp. 158-163. 10/1997.

- Wang, H. & McCauley-Bell, P. "Fuzzy Clustering Analysis and Multifactorial Evaluation for Students' Imaginative Power in Physics Problem Solving." Fuzzy Sets and Systems, Vol. 78, 1996, pp. 95-105.

Guest Editor in Refereed Journals

- McCauley Bush, P.,Journal of Advanced Intelligent Paradigms: "Special Issue on Research Based Approaches to Simulation in Disaster Management" Pamela McCauley-Bush, Guest Editor, Volume 4, Issue 1-2012

- McCauley-Bush, P., Journal of STEM Education: Research and Innovations, "Special Issues on Engineering Leadership" Pamela McCauley-Bush, Guest Editor, Volume 11, Issues 3 & 4. 5/2010

Conference Proceedings

Invited speaker and keynote speaker at international IEEE conferences, Fuzzy Engineering and Intelligent Transportation (FEIT) and Human Factors & Ergonomics Society Annual Meetings

Invited to present research in numerous conferences worldwide including National Science Foundation supported workshops and Portuguese Ergonomic Society Annual Meeting.

- Khan, N., McCauley, P., Almuflih, A., Mohamed, H., & Bahaitham, H. An Overview of the Effectiveness of mHealth Technology in the Developing Countries. Proceedings of the 5th NA International Conference on Industrial Engineering and Operations Management Detroit, Michigan, USA, 8/10–14, 2020

- Khan, N., McCauley, P., Alshaibi, M., Mohamed, H., & Bahaitham, H. Development of an Ergonomics Model to Enhance Healthcare in Developing Nations. Proceedings of the 5th NA International Conference on Industrial Engineering and Operations Management Detroit, Michigan, USA, 8/10–14, 2020

- Khan, N., McCauley, P., Bahaitham, H., & Mohamed, H. A. (2018). Addressing the Sustainability and Engineering Goals by Evaluating the Gender Inequality in the Workplace. Proceedings of the 2018 IEMS Conference

- Banisakher, M., McCauley-Bush, P., Geiger, C., & Shi, F. Improving map-based post-disaster management system using Gaussian multisource Data fusion algorithm. 2013 4th International Conference on System Science, Engineering Design and Manufacturing Informatization (ICSEM 2013).

- Banisakher, M., McCauley-Bush, P. & Shi, F. Gaussian Shaped Fuzzy Similarity Inference for Semantic Cell: An Affective Computing in Valence-Arousal Space. Proceedings of Fifth International Conference on Intelligent Human-Machine Systems and Cybernetics, (pp. 280-284). IEEE CPS: USA, 2013.

- Bush, P., S. Gaines, A. Watlington, M. Jeelani, L. Curling & P. Armbrister Chapter 52. The Development of a Device Selection Model for Wireless Computing Devices in High Consequence Emergency Management. Advances in Usability Evaluation Part I, edited by Francisco Rebello, CRC Press 2012, pp. 486-499.

- McCauley-Bush & Gaines, S., A Human Centered Methodology for the Identification of Communication Needs and the Assessment of Hand-held Communication Devices Used to Support Communication Flow in High Consequence Emergency Management, HFES Europe 2011, p. 9.

- McCauley-Bush, P., Bull, M., Soyler, A. Zhu, Y., Diaz, S. & Kanjanapongpaisal, P. "A research based approach to predictive simulation in disaster management." Proceedings – 2009 3rd International Workshop on Soft Computing Applications, SOFA 2009, p 23-24, 2009.

- Reid, C.R., Bush, P.M., Karwowski, W., McMullin, D.L. (2009). "The Need for a Lower Extremity Risk Assessment Model." (2009). Proceedings of the Human Factors & Ergonomics Society 53rd Annual Meeting, San Antonio, TX, pp. 887-891.

- Durrani, S.K., McCauley-Bush, P.R., Pfeifer, P., Crawford, K., Sprehn, K., Monroe, R. "Methodology for Human Error Experimentation on Handheld QWERTY Communication Devices." Proceedings of the Institute of Industrial Engineers Annual Conference and Industrial Engineering Research Conference, Miami, Florida, 5/30- 6/3, 2009. Location on Proceedings CD: H:\IIE2009\Res741.html

- Reid, C., Bush, P. M., & Karwowski, W. "A Methodology for Validating a Knee Risk Analysis Model." (2009), Proceedings of the Institute of Industrial Engineers Annual Conference and Industrial Engineering Research Conference, Miami, Florida, 5/30- 6/3, 2009. Location on Proceedings CD H:\IIE2009\Res935.html

- McCauley-Bell, P. , Durrani, S. Jacobson, M. Hemphill, A., & Vaughn, S. "Human Factors and Ergonomic Issues in Large Scale Disaster Management." Proceedings of the Institute of Industrial Annual Conference and Industrial Engineering Research Conference, 2008, pp. 1429-1432.

- McCauley-Bell, P., S. Durrani & L. Fantauzzi, "A Study on the Needs and Perceptions for Formal Engineering Leadership Programs." "Proceedings of the Institute of Industrial Annual Conference and Industrial Engineering Research Conference", Vancouver, Canada, 5/17-21, 2008, CD-ROM., Location on Proceedings

CDH:\IIE08\Res666.html

- McCauley-Bell, P., K. Williams, S. Durrani, M. Jacobsen, A. Hemphill & S. Vaughn, "Disaster Management Information Exchange Mapping.", Proceedings of the Institute of Industrial Annual Conference and Industrial Engineering Research Conference"' Vancouver, Canada, 5/17-21, 2008, CD-ROM. Location on Proceedings CD: H:\IIE08\Res668.html

- Malala, John; Major, Anthony; Maunez-Cuadra, Jose; McCauley-Bell, P. "The Use of Rewards in Instructional Digital Games: An Application of Positive Reinforcement." published in online Proceedings of Annual Conference of the International Academy of Business Disciplines, 2007, pp. 1-7.

- Schubert, S. Meza, K. Rodriguez B. Sprehn, K. Crumpton-Young, L. McCauley-Bell, P. and Rabelo, L. "The Center for Engineering Leadership and Learning (CELL): Towards the Development of a National Model for Engineering Leadership.", 2007, Proceedings of the Institute of Industrial Annual Conference and Industrial Engineering Research Conference, (2007) Location on Proceedings CD: H:\IIE07\Res604.html

- Sharma, S, Millan, A. Lamia, C., Crumpton-Young, L., McCauley- Bell, P. Proceedings of the Institute of Industrial Annual Conference and Industrial Engineering Research Conference, (2007) "Total Body Fatigue Estimator"; Location on Proceedings CD: H:\IIE07\Res605.html

- Babski-Reeves, K. McCauley-Bell, P. & Bertmaring, I. "Thermographic assessment of the anterior deltoid during overhead static exertions." ,2006, Proceedings of the Institute of Industrial Annual Conference and Industrial Engineering Research Conference; CD Paper # 1790, Location on Proceedings CD: H:\IIE06\Research\1790.pdf

- Joyner, C., Chen, J. & McCauley-Bell, P. "Robotic Control in a Multitasking Environment." Proceedings of the Institute of Industrial Annual Conference and Industrial Engineering Research Conference, Orlando, FL, 5/2006., Winner of Best Paper Award – Human Factors; 2006, CD Paper#: 1174 Location on Proceedings CD: H:\IIE06\Research\1774.pdf

- Ferreras, Ana, Hampton, Edward, Williams, Kent, Crumpton-Young, Lesia, Rabelo Luis, McCauley-Bell, Pamela & Furterer, Sandra "The Development of a Curriculum to Instil Engineering Leadership & Management Skills in Undergraduate Students." ASEE Annual Conference and Exposition, Conference Proceedings, 2006, ASEE Annual Conference and Exposition.

- McCauley-Bell, P. Relvini, K., "The Human Element Part of Confined Space Operations. Proceedings of the Institute of Industrial Annual Conference and Industrial Engineering Research Conference, Georgia, 2005, CD-ROM.

- McCauley-Bell, P. R. & Crumpton-Young, L., "The Development of a Methodology to Categorize Usability Issues in Networked Information Systems", MANUTECH International Conference, 2004, Port Harcourt, Nigeria, CD-ROM.

- Mortimer, C. & McCauley-Bush, P. "An Ergonomic Analysis of Scale Pits." Human Factors and Ergonomics Society Annual Meeting Proceedings, 2002, pp. 1232-1236(5).

- Carstens, D., McCauley-Bell, P. Malone, L. "Development of a Model for Determining the Impact of Password Authentication Practices on Information Security" Proceedings of the XIVth Triennial Congress of the International Ergonomics Association and 44th Annual Meeting of the Human Factors and Ergonomics Association, 'Ergonomics for the New Millennium', 2000, p 342-345.

- Carstens, D. & McCauley-Bell, P. "The Importance of Human Error on Logistics Information Systems." Society of Logistics Engineers Annual Conference, 2/2000, Orlando, FL, CD-ROM.

- McCauley-Bell, P. R. & Crumpton, L. (1998) "The Human Factors Issues in Information Security: What Are They and Do They Matter?" Proceedings of the Human Factors and Ergonomics Society 42nd Annual Meeting, pp. 439-442.

- McCauley-Bell, P. "A Holistic Paradigm for Evaluating the Role of Humans in the Security of Networked Information Systems." Sandia National Laboratories High Consequence Conference, 11/11-14, 1999, CD-ROM.

- McCauley-Bell, P., Walters, M. & Waltensperger, G. "Human Factors Needs and Requirements in High Consequence Biological Agent Detection Systems." Sandia National Laboratories High Consequence Conference, 11/11-14, 1999, CD- ROM.

- McCauley-Bell, P., Carstens, D., Wilson, T. and Grimsley, E. "Development of a Model for Deterring the Impact of Password Authentication on Information Security." World Automation Conference, Maui, HI, 2000, CD-ROM.

- McCauley-Bell, P. & Malek, M. "The Quantification of the Safety Criteria in the Construction Industry," published in Proceedings of the Annual Industry, Engineering, & Management Systems Conference, Cocoa Beach, FL, 1997, CD-ROM.

- McCauley-Bell, P. & Freeman, R. "Uncertainty management in Information Warfare." Proceedings of the IEEE International Conference on Systems, Man and Cybernetics, 1997, Vol. 2, pp. 1942-1947

- McCauley-Bell, P. & Stuckey, L. "An Ergonomics Test Tool – An Integration of Current Techniques." Proceedings of the ISCA 9th International Conference 12/11-13, 1996, Orlando, FL, pp. 36-40.

- Cisneros, J., Clark, K., McCauley-Bell, P. & Rajput, S. "Threat Analysis using Fuzzy Set Theory". Proceedings of the Sixth Conference on Computer Generated Forces and Behavioral Representation, 7/23-25, 1996, Orlando, FL. pp. 455-461.

- McCauley-Bell, P. & Freeman, R. "Quantification of Belief and Knowledge Systems in Information Warfare." Proceedings of the Fifth IEEE International Conference on Fuzzy Systems. New Orleans, LA, 1996, pp. 1579-1585.

- McCauley-Bell, P. & Freeman, R. "Fuzzy logic as a modeling development tool in computer generated forces for use in distributed interactive simulation." Proceedings of the International Fuzzy Systems and Intelligent Control Conference, 1996, Maui, HI pp. 323-331.

- McCauley-Bell, P. "Quantification of various types of natural language imprecision: An algorithm for multiple attribute risk evaluation." Proceedings of the International Fuzzy Systems Association World Congress, Sao Paulo, Brazil, 1995, pp. 125–132.

- McCauley-Bell, P. & Freeman, R. "Qualitative and quantitative indices for simulation systems in distributed interactive simulation." Proceedings of the International Symposium on Uncertainty Modeling Analysis Annual Conference and the North American Fuzzy Information Processing Society, 1995, pp. 745-748.

- McCauley-Bell, P. & Freeman, R. "Fidelity differences among interactive simulators." Proceedings of the Semi-Annual DIS Workshop, 9/1995, Orlando, FL, pp. 171-174.

- McCauley-Bell, P. "Evaluation of the differentials in Distributed Interactive Simulation Environments." Proceedings of the North American Fuzzy Information Processing Society (NAFIPS) Conference, 9/1995. College Park, MD.

- McCauley-Bell, P. & Freeman, R., "A theoretical basis for linguistic variables in fidelity definition for distributive interactive simulation." The DIS Standards Workshop, Orlando, FL 1995, pp. 965-970.

- McCauley-Bell, P., Mowatt, J., Sutton, C., Crumpton, L, and Killough, M. (1995). "Fuzzy Set Theory and Natural Language in Cumulative Trauma Disorder Evaluation for Construction Workers." Proceedings of the Second Industrial Engineering and Management Systems Research Conference. pp. 214-218.

- Hielaman, M. & McCauley-Bell, P. "Ergonomic considerations in launch vehicle design and processing for operational efficiency." 31st Space Congress Research, Cocoa Beach, FL, CD- ROM.

- McCauley-Bell, P. & Heng, W. "Development of Human Factors Criteria for Screen Usability." Proceedings of the IEMS '94 Conference, pp. 221-226, 3/14-16, 1994, Cocoa Beach, FL.

- Oser, R. & McCauley-Bell, P. "Alarm Systems in Modern Aircraft: Ergonomic and Human Performance Issues." Proceedings of the IEMS '94 Conference, pp. 203-208, 3/14-16, 1994, Cocoa Beach, FL.

- McCauley-Bell, P. & Badiru, A. "Concept Mapping as a Knowledge Acquisition Tool in the Development of a Fuzzy Rule-Based Expert System." Proceedings of the Computers and Industrial Engineering Conference, Vol. 25, No. 1-4, pp. 115-118, 1993.

- McCauley-Bell, P. & Badiru, A., "A Fuzzy Linguistic Model for Job Related Injury Risk Assessment." Proceedings of the Computers and Industrial Engineering Conference. Vol. 23, pp. 209-212, 1992.

- Purswell, J., McCauley, P. & Merrick, C. "Job Related Physical Performance Tests for Firefighters." Advances in Industrial Ergonomics and Safety III, pp. 577-581, 1991.

Publications in International Conference/Workshop/Symposia without proceedings (for example, abstracts only)

- McCauley-Bush, P. "A Human Centered Methodology for the Development of a Fuzzy Model to Assess Mobile Communication Devices in High Consequence Emergency Management", 2011 International Joint Conference on Fuzzy Engineering and Intelligent Transportation, Xi'an, China. 12/11, 2011
- McCauley-Bush, P. "A Human Centered Methodology for the Identification of Communication Needs and the Assessment of Hand-held Communication Devices Used to Support Communication Flow in High Consequence Emergency Management", HFES Europe Chapter Meeting, Leeds, UK, 10/19-21, 2011 p. 9
- McCauley-Bush, P., M. Jeelani, S. Gaines, L. Curling, P. Armbrister, A. Watlington, R. Major, L. Rolle & S. Cohen. "A Human Centered Methodology for the Identification of Communication Needs and the Assessment of Hand-Held Communication Devices Used to Support Communication Flow in High Consequence Emergency Management", International Research Committee on Disasters Research Meeting, Natural Hazards Annual Workshop, Broomfield, CO. 7/2011
- McCauley-Bush, P. & S. Gaines, "Bahamian Emergency Management Officials Utilizing Wireless Technology", International Research Committee on Disasters Research Meeting, Natural Hazards Annual Workshop, Broomfield, CO 7/2011

Non-refereed publications and non-referred conference proceedings

- McCauley-Bell, P., Demara, R., & Costas, C. The Development of Autonomous Agents for Supporting Virus Protection Tools in a Large Corporate Network. Lockheed Martin, Enterprise Information Systems, Orlando, FL and Lockheed Martin Corporate Information Security Division, Bethesda, MD. 5/1999.
- McCauley-Bell, P. & Freeman, R. Uncertainty Management in Evidence Accrual for Information Warfare. Prepared for Logicon Technical Services, Incorporated, Wright- Patterson Air Force Base, OH. 1/1997.
- Karr, C., Cisneros, J. & McCauley-Bell, P. Target Analysis and Threat Analysis using Fuzzy Set Theory. Prepared for the U.S. Army, STRICOM, Orlando, FL. 11/1995.
- Reinhart, D. McCauley-Bell, P. Ryan, B. & Sfeir, H. Municipal Solid Waste Composition Studies. Prepared for the Department of Environmental Protection, Tallahassee, FL. 11/1995.
- Ragusa, J., McCauley-Bell, P. & Brill, R. Sep,1995 A Survey and Analysis of Group Decision Making Activities at the Kennedy Space Center. Prepared for NASA, Kennedy Space Center, FL.

SELECT INVITED PRESENTATIONS

International

- Invited Presenter. UN Women, UNESCO, WIPO joint initiative on Gender and the SDGs, Expert Meeting 3/30, 2017, United Nations, NYC, NY.

- ISMTEC 10/19 – 22, 2016 Opening Keynote Speaker Presentation: "The Criticality of Women in STEM: A Global Imperative!" Bangkok, Thailand

- Presenter/Panel Moderator: Global Humanitarian Technology Conference – STEM professionals Seattle, WA, 10/13–16, 2016. Presentation: "Innovation and Efficiency to Support Sustainability in HIV/AIDS Healthcare Service Delivery."

- XSEDE16 Plenary Keynote Speaker Miami Conference: *DIVERSITY, BIG DATA, & SCIENCE AT SCALE Enabling the Next-Generation of Science and Technology,* Miami, FL 7/19/2016, Presentation: "Innovation Nation: The Critical Impact of Innovation and Why It Matters to You!"

- Presenter: The National Academies of Sciences, Engineering, and Medicine Committee on the Future of Center-Based, Multidisciplinary Engineering Research, Washington, DC, 6/29, 2016 Presentation: "Diversity in NSF Engineering Research Centers."

- Keynote Speaker, Multi-Stakeholder Forum on Science, Technology and Innovation for the Sustainable Development Goals Convened by the President of ECOSOC at the UN, New York City, NY 6/6, 2016

- Panelist and Presenter, National Coalition for Women and Girls in Education on *Women in STEM: Ways to Address Gender Inequity to Advance U.S. Global Competitiveness*. Senate Briefing – Capitol Hill – Washington, DC, 5/13, 2016. Presentation: "What Addressing Sexual Harassment Means for STEM."

- Keynote Speaker, 2015 Women's Global Leadership Conference in Energy, Houston, TX 10/28, 2015 Presentation: "Transforming Your STEM Career Through Leadership and Innovation: Inspiration and Strategies for Women."

- Keynote Speaker, International Conference on Operations Excellence and Service Engineering Orlando, FL, 9/11, 2015 Keynote: "The Ergonomics of Ebola for Healthcare Workers"

- Massachusetts Institute of Technology Public Lecture Series Keynote Speaker, 4/3, 2014 Presentation: "True Diversity: A Multiplier in Global STEM Innovation."

- Keynote Speaker, 2011 International Joint Conference on Fuzzy Engineering & Intelligent Transportation, Xi'an, China, 12/10-11, 2011. Presentation: "A Human Centered Methodology for the Development of a Fuzzy Model to Assess Mobile Communication Devices in High Consequence Emergency Management."

- Plenary Speaker; IEEE SOFA 2009. "A research based approach to predictive simulation in disaster management." 3rd International Workshop on Sooft Computing Applications, Romania-Sized Arad, SOFA 2009

- Keynote Speaker: "Ergonomics and Legislation in America" - Keynote Speaker, Portuguese Ergonomic Society International Conference: Ergonomics and Quality, Lisbon, Portugal. 4/2000

- Plenary Speaker: McCauley-Bell, P. "Fuzzy Applications in Uncertainty for Computer Generated Forces" Proceedings of the SOUTHCON Technical Conference, 6/1996, Orlando, FL.

- McCauley-Bush, P. "A Human Centered Methodology for the Development of a Fuzzy Model to Assess Mobile Communication Devices in High Consequence Emergency Management", 2011 International Joint Conference on Fuzzy Engineering and Intelligent Transportation**,** Xi'an, China. 12/11, 2011

- McCauley-Bush, P. "A Human Centered Methodology for the Identification of Communication Needs and the Assessment of Hand-held Communication Devices Used to Support Communication Flow in High Consequence Emergency Management", HFES Europe Chapter Meeting, Leeds, UK. 10/19-21, 2011 **–** *International*

- McCauley-Bush, P., M. Jeelani, S. Gaines, L. Curling, P. Armbrister, A. Watlington, R. Major, L. Rolle and S. Cohen. "A Human Centered Methodology for the Identification of Communication Needs and the Assessment of Hand-Held Communication Devices Used to Support Communication Flow in High Consequence Emergency Management," International Research Committee on Disasters Research Meeting, Natural Hazards Annual Workshop, Broomfield, CO. 7/2011

- McCauley-Bush, P. and S. Gaines, "Bahamian Emergency Management Officials Utilizing Wireless Technology", International Research Committee on Disasters Research Meeting, Natural Hazards Annual Workshop, Broomfield, CO. 7/2011

Service Related Publications

- McCauley-Bell, P. "An Engineering Challenge: Expanding our Territory as Engineers," *Florida Engineering Society Journal,* 5/2003, p. 17-18

Features in Popular Publications

- ELSEVIER's SciTech Connect, C. York, *"Bravo to Lego!" Q & A with Dr. Pamela McCauley*, 6/2014
- Industrial Engineer, *"The Biomechanics of Women in Combat,"* 5/2014, pp. 51-53
- Connected World Magazine, Big Thinkers: Professor Pamela McCauley-Bush, 2-3/2014, p. 7
- Woman's Day Magazine, A. Dizi, *"How to Stay Comfortable at Your Desk,"* 1/2014
- Central Florida Future, A. Merwin, *"UCF Professor Encourages Women in STEM,"* 11/2013

ADDENDUM E: COMMUNITY PROFESSIONAL SERVICE CONTRIBUTIONS

PAMELA R. MCCAULEY, PH.D., C.P.E.

INNOVATIVE ENGINEERING LEADER

LEADER / INNOVATOR / ENGINEER / EDUCATOR

University, Community, National, and International Service | Ergonomics, Disaster Management, Leadership Research Areas

KEYNOTE & BREAKOUT SESSIONS SPEAKER ON STEM

Regular invited speaker on STEM Initiatives and STEM educational programming for local, national and international associations, colleges, industry, and government agencies. Special emphasis on the human factors related to STEM and the significance of STEM to executives, employees, educators, and students alike.

DEPARTMENT, COLLEGE AND UNIVERSITY

University:

- Chair, NC State Faculty Senate, Special Select Diversity, Equity, Inclusion and Belonging Committee 2022 - 2023
- Member, NC State, Association of Women Faculty 2002 - 2023
- President (Co-President with Dr. P. Delfyett), Black Faculty and Staff Assembly 1998 – 1999
- Search Committee Member, Vice Provost of Information Technology 1994 – 1995

College:

- NC State Wilson College Committee Service 2020-2023
  - Chair, Graduate Studies Committee
  - Co-Chair, Diversity, Equity and Inclusion Committee
  - Member, Dean's Council – Core
  - Member, Courses and Curricula Committee
  - Member, Undergraduate Recruitment Committee – Core
  - Member, Pope Industrialist-in-Residence Funding Allocation Committee
  - Member, Scholarship Committee: Scholarship Advisory Board
  - Member, Committee on Awards
  - Member, Community Engagement Committee
  - Member, Scholarship Committee
  - Member, Committee on Committees
- Co-Faculty Advisor, Society of Women Engineers 2008 – Present
- Faculty advisor, National Society of Black Engineers 2000 – 2009
- Committee Chair, Minority Engineering Program Committee Chair 1997 – 2004

Department:

- UCF IEMS Human Engineering 1999 – 2007
- UCF Committee Chair: Assistant Department Chair Search 2004
- UCF IEMS Undergraduate Recruitment 2003 – 2004

Student Mentoring:

More than 50% of undergraduate mentees/protégés earned graduate degrees (see Addendum for specifics):

University of Central Florida (UCF):

Official UCF mentor to two **Kennedy Space Center NASA** scholars 1995 - 2000

Graduate Student Summer Mentoring Program 2006, 2007, 2008, 2011

RAMP and EXCEL Programs mentor: Undergraduate female engineering students 2010 – 2014

Ronald McNair [federal] Undergraduate Research Program mentor and speaker *c.years.?*

Ten minority and/or female graduate students at UCF and nationwide 1993 – 2012

PROFESSION – INDUSTRY/SCHOOL BOARDS: PANELS INCLUDING NSF (NATIONAL SCIENCE FOUNDATION)

International:

- **Advocate, International Network of Engineers and Scientists** (INES) for global responsibility; continuously promote study of STEM engineering, innovation, and leadership opportunities for underrepresented groups *c.years.?*

- **US Representative –** Management Committee On Science & Technology (COST), Critical Infrastructure 2009 – Present
- **IEEE:**
  - **Program Committee,** International Systems Man and Cybernetics Conference, Orlando, FL 2005
  - **Vice-Chair,** Computer Society Standards Activities Committee, Virtual Intelligence: *Fuzzy Systems Terms Definitions*
- **International Conference Committee,** MANUTECH International Engineering Conference 2004 – 2005
- Selected to attend **Women's International Research in Engineering (WIRES)** *I Summit*, Barcelona, Spain (2009)

National:

- **Panelist – NSF (National Science Foundation)**
  - **Engineering Education** 2014
  - **Center for Compact and Efficient Fluid Power (CCEFP)** 2007, 2004, 1999, 1995, 1993
- **Executive Board Member: American Women in Science (AWIS)** 2015 – 2018
- **Annual Reviewer, Engineering Research Center Review Panel, National Science Foundation (NSF)** 2006 – 2011
- **Board member**
  - ***Women of Color in Technology Conference*** and ***Alumni Association*** 2004 – present
  - ***National Center for Simulation (NCS)*** 2004 – 2007
  - **Women in Engineering Program Advocates Network (WEPAN),** 1999 – 2002
- **Symposium Chair,** *NASA/UCF Human Factors Tools & Research in Space* Symposium 2004
- **Conference Co-Chair,** *WEPAN* National Conference, San Juan Puerto Rico 2002
- **Planning Committee**, *International Industry Engineering and Management Systems* Conference 1994

Regional/State:

Central Florida Boy Scouts Organization, Board Member 2015 - 2017
CITE Lighthouse for the Blind, Orlando, FL 2005
Florida Research Consortium - Appointed to this Consortium by former Governor Jeb Bush 2001 – 2004

Local:

- **Board Member:**
  Blue Ribbon Panel Orange County Public Schools - Appointed by Orlando Mayor Buddy Dyer to evaluate/develop public education recommendations *c.years?*
  BETA Teen Parent program, Orlando, FL 1994 – 2004
  Central Florida YMCA *c.1994?*
- **Science Advisory Council Member,** Orlando Science Center 1995

EDITOR, ASSOCIATE EDITOR, OR EDITORIAL BOARD MEMBER

- **Inaugural Series Editor**, *Women of STEM: Innovation and Leadership*. CRC Press, Taylor & Francis Group 2019 – Present
- **Series Editor, Human Factors & Ergonomics** CRC Press, Taylor & Francis Group (2016 – Present)
- **Editorial Board Member**
  - International Journal of Advanced Intelligent Paradigms 2009 – Present
  - Theoretical Issues in Ergonomics Science 1999 – 2003, 2015
- **Associate Editor**, *Industrial and Systems Engineering*, CRC Press, 2006 Handbook 2006

INDUSTRY CONSULTING

Transforming Your STEM Career, Inc. 2012 – Present
Ergonomics and biomechanics focused technical support services and technical product development.
- Expert Witness: Product liability, biomechanics, ergonomics, human engineering, occupational safety
- Program Evaluation Consulting: STEM education, leadership, diversity and innovation initiatives

Tech Solutions, Inc. 1999 – 2012
Ergonomics and biomechanics focused technical support services and technical product development.

Expert Witnessing 1993 – Present
Areas: Product liability, biomechanics, ergonomics, human engineering, occupational safety.

Kirtland Air Force Base, Albuquerque, NM 1999

TASC/Litton, Inc. 1998
Provided technical guidance for development of information warfare intelligent systems.

Wright-Patterson Air Force Base, Dayton, OH 1996
Developed Uncertainty Management model for aircraft personnel information processing