

# Maranda E. McBride, Ph.D., CPIM

## Work Address:

Department of Management  
North Carolina A&T State University  
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## FORMAL EDUCATION

*Doctor of Philosophy, Industrial Engineering, Dec 2003*

North Carolina Agricultural and Technical State University, Greensboro, NC

Dissertation Title: “Debiasing and Trust Enhancement Techniques: Their Influence on Human Acceptance of Automated Decision Aid Information”

Research Summary: This research sought to contribute to a body of knowledge regarding trustworthy computing through an initiative intended to transform the work place, home, and leisure into a true socio-technical system. The primary objective was to determine whether or not incorporating debiasing and trust enhancement techniques within automated decision aids would reduce or eliminate automation biases that hinder humans from using automated decision aids in an optimum manner and enhance trust. By exposing humans to debiasing and trust enhancement techniques, it was hypothesized that acceptance of automated decision aids would increase. With increased acceptance would come more efficient, effective, and improved team and collaborative task performance between humans and partially automated systems. The results of the experiments conducted as a part of this research were promising indicators that different techniques might be easily employed in automated decision aids in order to modify users’ attitudes towards their use.

*Master of Business Administration, Dec 2011*

Wake Forest University, Winston Salem, NC

*Master of Science, Industrial Engineering, May 1998*

North Carolina Agricultural and Technical State University, Greensboro, NC

Thesis Title: “A Decision Support Display Tool for Courses of Action Visualization”

Research Summary: The purpose of this thesis was to design a Courses of Action Display with Intent Visualization (CADIV), which would provide military commanders and staff with a graphical tool for rehearsing the potential outcomes of alternative courses of action. In the process of designing the display, certain human factors concepts were investigated and put to use. Laboratory experiments were used to investigate the effects of color, light, and auditory warning indicators on human response. The results from the experiment were used to determine certain aspects of the CADIV design.

*Bachelor of Science, Industrial Engineering, May 1996*

North Carolina Agricultural and Technical State University, Greensboro, NC

Graduated *Summa Cum Laude*

## PROFESSIONAL TRAINING AND CERTIFICATIONS

Certified in Production and Inventory Management (CPIM), Ohio, 1998

Engineer in Training (EIT), North Carolina, 1996

## RESEARCH INTERESTS

Human Machine Systems Engineering; Behavioral Issues in the Use of Automated Decision Aids; Cognitive Engineering related to Automated Decision Aids; Bone Conduction Communication; Visual and Auditory Displays; Human Factors in Information Security; Minority Issues in Engineering Education

## RESEARCH EXPERIENCE

### *Faculty Researcher*

Army Research Laboratory, Aberdeen, MD

Jun 2011 - Aug 2011, Jun 2013 - Aug 2013, Jun 2014 – Aug 2014

Conducted research on sound localization of bone conducted signals and multichannel bone conduction communication.

### *Faculty Researcher*

Army Research Laboratory, Aberdeen, MD

Jun 2007 - Jul 2007

Conducted research on the intelligibility of vocal signals transmitted and received in high noise environments by persons wearing hearing protection devices.

### *Faculty Researcher*

Army Research Laboratory, Aberdeen, MD

Jun 2004 - Aug 2004

Conducted research on head mapping for bone conduction transducers, which involved designing experiments, collecting data using human subjects, and analyzing data for use in preparing journal publications.

### *Research Assistant*

Army Research Laboratory, Aberdeen, MD

Jun 1996 - Aug 1996

Conducted experiments on hyper stereoscopic vision using human subjects. Performed analyses on experimental data. Initiated literary search for new projects.

## FUNDED GRANT PROPOSALS

- “One Size Doesn’t Fit All: Exploring the Importance of Personality Traits, Sanctions, and Fear Appeals on Teen Driver Cell Phone Usage and Texting While Driving (TWD) Law Compliance,” Amount Awarded: \$49,997 (with \$53,662 NCAT match); Sponsor: Southeastern Transportation Center; Term: September 1, 2014 – September 15, 2015; **McBride, M. (PI)**, Carter, L. (Co-PI).
- “Early Work Readiness Skill Development Program,” Amount Awarded: \$250,000; Sponsor: USDA National Institute of Food and Agriculture (NIFA); Term: September 1, 2012 – August 31, 2015; Terry, M. (PI), **McBride, M. (Co-PI)**.
- “Exploring the Role of Individual Employee Characteristics and Personality on Employee Compliance with Cyber Security Policies,” Amount Awarded: \$96,212 (with \$51,125 NCAT match); Sponsor: Institute for Homeland Security Solutions; Term: June 1, 2011 – September 15, 2012; **McBride, M. (PI)**, Carter, L. (Co-PI), Warkentin, M. (Subcontractor)
- “Trust Calibration for Automated Decision Aid Research Brief Proposal,” Amount awarded: \$5,429; Sponsor: Institute for Homeland Security Solutions; Term: October 17, 2009 – May 31, 2010; **McBride, M.E. (PI)**.
- “Complete Hearing Protection System, Phase I SBIR Proposal,” Amount subcontracted to ERAU: \$20,000; Sponsor: Air Force Office of Sponsored Research; Term: April 29, 2007 – January 28, 2009; Galea, A. (PI), **McBride, M.E. (Subcontractor)**.
- “Proposal for a Ronald E. McNair Postbaccalaureate Achievement Program at Embry-Riddle Aeronautical University – Daytona Beach, Florida: Breaking Barriers to Reach the Stars,” Amount Awarded: \$879,596; Sponsor: U.S. Department of Education; Term: October 1, 2007 – September 30, 2011; **McBride, M.E. (PI)**.
- “Evaluation of the Intelligibility of Speech Recorded and Transmitted via Bone Conduction Transducers,” Amount Awarded: \$9,807; Sponsor: Embry-Riddle Aeronautical University Office of Sponsored Programs; Term: July 1, 2007 – June 30, 2008; **McBride, M.E. (PI)**.
- “Bone Conduction Speech Intelligibility Differences between Male and Female Voices,” Amount Awarded: \$10,564; Sponsor: Embry-Riddle Aeronautical University Office of Sponsored Programs; Term: July 1, 2006 – June 30, 2007; **McBride, M.E. (PI)**.

- “Bone Conduction Threshold and Speech Intelligibility Studies for Use in Developing Military Radio Communication Devices;” Amount Awarded: \$343,674; Sponsor: Army Research Office; Term: August 2005 – July 2008; Jiang, X. (PI), **McBride, M.E. (Original PI)**.
- “Auditory Equipment Grant Proposal;” Amount Awarded: \$49,904; Sponsor: N.C. A&T State University Title III HBGI Program; **McBride, M.E. (PI)**.
- “Enhancing Academic Advising with a Student Advising Software System;” Amount Awarded: \$15,000; Sponsor: North Carolina A&T State University FUTURES Council; Term: June 2004 – June 2005; Yuan, X. (PI), Artis, R. (Co-PI), **McBride, M.E. (Co-PI)**.

#### REFEREED JOURNAL PUBLICATIONS

- **McBride, M.**, Tran, P., Pollard, K.A., and Letowski, T. (in press). Effects of bone vibrator position on auditory spatial perception tasks. Accepted by Human Factors.
- Tran, P., Letowski, T. and **McBride, M.** (2013). The effect of bone conduction microphone placement on intensity and spectrum of transmitted speech items. *Journal of the Acoustical Society of America*, 133(6), 3900-3908.
- Blue, M., **McBride, M.**, Weatherless, R., and Letowski, T. (2013). Impact of a bone conduction communication channel on multi-channel communication system effectiveness. *Human Factors*, 55(2), 346-355.
- McWilliams, D. and **McBride, M.** (2013). Exploring mathematical approximation for the time spans of transfer operations in parcel transshipment terminals. *Computers & Industrial Engineering*, 64(1), 342-356.
- **McBride, M.**, Carter, L., and Ntuen, C. (2012). The impact of personality on nurses’ bias towards automated decision aid acceptance. *International Journal of Information Systems and Change Management*, 6(2), 132-146.
- Blue-Terry, M., **McBride, M.**, and Letowski, T. (2012). Effects of speech intensity on the Callsign Acquisition Test (CAT) and Modified Rhyme Test (MRT) presented in noise. *Archives of Acoustics*, 37(2), 199-203.
- McWilliams, D., and **McBride, M.** (2012). A beam search heuristics to solve the parcel hub scheduling problem. *Computers & Industrial Engineering*, 62(4), 1080-1092.
- Hodges, M.L. and **McBride, M.E.** (2012). Gender differences in bone conduction auditory signal processing: Communication equipment design implications. *International Journal of Industrial Ergonomics*, 42(1), 49-55.
- Fasanya, B.K., **McBride, M.**, Pope-Ford, R., and Ntuen, C. (2012). Gender differences in auditory perception and computational divided attention tasks. *Computer Technology and Application*, 3(9), 636-641.
- **McBride, M.**, Tran, P., Letowski, T., and Patrick, R. (2011). The effect of bone conduction microphone locations on speech intelligibility and sound quality. *Applied Ergonomics*, 42(3), 495-502.
- Osafo-Yeboah, B., Jiang, X., **McBride, M.**, Mountjoy, D., and Park, E. (2009). Using the Callsign Acquisition Test (CAT) to investigate the impact of background noise, gender, and bone vibrator location on the intelligibility of bone-conducted speech. *International Journal of Industrial Ergonomics*, 39(1), 246-254.
- **McBride, M.**, Hodges, M., and French, J. (2008). Speech intelligibility differences of male and female vocal signals transmitted through bone conduction in background noise: Implications for voice communication headset design. *International Journal of Industrial Ergonomics*, 38(11-12), 1038-1044.
- **McBride, M.**, Letowski, T., and Tran, P. (2008). Bone conduction reception: Head sensitivity mapping. *Ergonomics*, 51(5), 702-718.
- Tetteh, E., Jiang, X., Mountjoy, D., Seong, Y. and, **McBride, M.** (2008). Evaluation of job-aiding tool in inspection systems. *Human Factors and Ergonomics in Manufacturing*, 18(1), 30-48.
- Gripper, M., **McBride, M.**, Osafo-Yeboah, B., and Jiang, X. (2007). Using the Callsign Acquisition Test (CAT) to compare the speech intelligibility of air versus bone conduction. *International Journal of Industrial Ergonomics*, 37(7), 631-641.
- **McBride, M.** and Ntuen, C. (1997). The effects of multimodal display aids on human performance. *Computers and Industrial Engineering: An International Journal*, 33(1-2), 197-200.

## CONFERENCE PROCEEDINGS

- Patrick, R., Kring, J., **McBride, M.**, and Letowski, T. (2014). “Bone conduction equal-loudness: a comparison of AC/BC equal-loudness curves in an open vs. closed ear listening environment.” *Proceedings of the Industrial and Systems Engineering Research Conference (ISERC)*.
- Nuamah, J., Patrick, R., Oh, S., Jiang, Z., and **McBride, M.** (2014). “Effects of the auditory conduction mode on achievable situation awareness.” *Proceedings of the Industrial and Systems Engineering Research Conference (ISERC)*.
- **McBride, M.**, Carter, L., and Ntuen, C. (2013). “Human-machine trust, bias, and automated decision aid acceptance.” *Proceedings of the 2013 Human Factors and Ergonomic Society Annual Meeting (HFES)*.
- **McBride, M.**, Fasanya, B., Tran, P., and Letowski, T. (2013). “Monotic and diotic speech recognition of bone conducted speech.” *Proceedings of the 2013 Industrial and Systems Engineering Research Conference (ISERC)*.
- Fasanya, B.K., **McBride, M.**, Idoye, E., and Ntuen, C. (2013). “The role of gender in the detection of auditory signal changes.” *Proceedings of the 2013 Industrial and Systems Engineering Research Conference (ISERC)*.
- Patrick, R., Kring, J., **McBride, M.**, and Letowski, T., (2012). “Conduction equivalency ratios: a means for comparing the frequency response of bone and air conduction auditory displays.” *Proceedings of the 56<sup>th</sup> Annual Meeting of the Human Factors and Ergonomic Society (HFESS)*.
- Warkentin, M., **McBride, M.**, Carter, L., and Johnston, A. (2012). “The role of individual characteristics on insider abuse intentions.” *Proceedings of the 18<sup>th</sup> Americas Conference on Information Systems*.
- **McBride, M.E.**, Weatherless, R., and Letowski, T. (2012). “Effectiveness of a bone conduction audio communication system in a two-channel speech recognition task.” *Proceedings of the Applied Human Factors and Ergonomics Conference*.
- **McBride, M.**, Tran, T., Weatherless, R., and Letowski, T., (2012). “Effects of bone vibrator locations on auditory localization in the horizontal plane.” *Proceedings of the XXIV<sup>th</sup> Annual International Society for Occupational Ergonomics and Safety Conference*.
- Warkentin, M., Carter, L., and **McBride, M.** (2011). “Exploring the role of individual employee characteristics and personality on employee compliance with cybersecurity policies.” *Proceedings of the IFIP Dewald Rode Information Security Workshop* (available online).
- Fasanya, B.K., **McBride, M.E.**, Pope-Ford, R., and Ntuen, C.A. (2011). “Gender difference in auditory perception and computational divided attention tasks.” *Proceedings of the 41<sup>st</sup> International Conference on Computers & Industrial Engineering*, 242-247.
- **McBride, M.E.** and Ntuen, C.A. (2011). “Impact of automation attitude and experience on decision aid acceptance.” *Proceedings of the Industrial Engineering Research Conference (IERC)*, CD ROM. Norcross, GA: IIE Management Press.
- Fasanya, B., Pope-Ford, R., **McBride, M.**, and Ntuen, C. (2011). “Auditory perception and computational divided attention tasks: a psychophysical study.” *Proceedings of the Industrial Engineering Research Conference (IERC)*, CD ROM. Norcross, GA: IIE Management Press.
- **McBride, M.E.** and Ntuen, C.A. (2010). “Decision support design considerations for nursing diagnosis decision-making task.” *Proceedings of the Decision Sciences Institute 41<sup>st</sup> Annual Meeting*.
- **McBride, M.**, Patrick, R., Letowski, T., and Tran, P. (2010). “Bone conduction intelligibility: headset comparison study.” *Proceedings of the Industrial Engineering Research Conference (IERC)*, CD ROM. Norcross, GA: IIE Management Press.
- **McBride, M.**, Tran, P., and Letowski, T. (2009). “Effects of hearing protection on speech communication.” *Proceedings of the 16<sup>th</sup> International Congress on Sound and Vibration*, CD ROM. International Institute of Acoustics and Vibration.
- **McBride, M.**, Tran, P., and Letowski, T. (2008). “Head mapping: search for an optimum bone microphone placement.” *Proceedings of the Human Factors and Ergonomic Society 52<sup>nd</sup> Annual Meeting*, 503-507.
- Patrick, R. and **McBride, M.E.** (2008). “Bone conduction microphone pilot study.” *Proceedings of the 6<sup>th</sup> Annual Meeting of the Society for Human Performance in Extreme Environments*, 50-56.
- **McBride, M.**, Letowski, T., and Mermagen, T. (2008). “Effects of hearing protection on verbal communication in military relevant environments.” *Proceedings of the 2008 Industrial Engineering Research Conference*, CD ROM. Norcross, GA: IIE Management Press.
- Tran, P., Letowski, T., and **McBride, M.** (2008). “Bone conduction microphone: Head sensitivity mapping for speech intelligibility and sound quality.” *Proceedings of the International Conference on Audio, Language and Image Processing (ICALIP)*, 107-111.
- Hodges, M., **McBride, M.**, French, J., and Orrell, G. (2007). “Gender differences found in bone conducted verbal communication.” *Proceedings of the 5<sup>th</sup> Annual Meeting of the Society for Human Performance in Extreme Environments (HPPE)*, CD ROM.

- Hodges, M. and **McBride, M.** (2007). “Gender differences in bone conduction pure tone hearing thresholds.” *Proceedings of the Industrial Engineering Research Conference (IERC)*, CD ROM. Norcross, GA: IIE Management Press.
- Osafo-Yeboah, B., Jiang, X., and **McBride, M.** (2007). “Bone conduction speech intelligibility in different acoustic environments using the Callsign Acquisition Test.” *Proceedings of the Industrial Engineering Research Conference (IERC)*, CD ROM. Norcross, GA: IIE Management Press.
- **McBride, M.E.**, Letowski, T., and Tran, P. (2006). “Comparison of bone conduction hearing thresholds in quiet and noisy environments.” *Proceedings of the 4<sup>th</sup> Annual Meeting of the Society for Human Performance in Extreme Environments*, CD ROM.
- Osafo-Yeboah, B., Gripper, M., **McBride, M.**, and Jiang, X. (2006). “Effect of bone conduction vibrator placement on speech intelligibility using the Callsign Acquisition Test – a Pilot Study.” *Proceedings, 2006 International Conference on Industry, Engineering, and Management Systems*.
- **McBride, M.E.**, Letowski, T., and Tran, P. (2005). “Search for an optimum vibrator location for bone conduction communication.” *Proceedings of the Human Factors and Ergonomic Society 49<sup>th</sup> Annual Meeting*, CD ROM. Santa Monica, CA: Mira Digital Publishing.
- Spells, L, **McBride, M.**, and Graves, C. (2005). “Wearable computing system for embedded instruction of manual-intensive procedural tasks in clean room environments.” *Proceedings of the 6<sup>th</sup> International Conference on Information Technology Based Higher Education and Training (ITHET 2005)*, F3A-21 – F3A-26.
- **McBride, M.E.** and Ntuen, C.A. (2004). “Measuring human bias towards automation.” *Proceedings of the Industrial Engineering Research Conference (IERC)*, CD ROM. Norcross, GA: IIE Management Press.
- **McBride, M.E.** and Ntuen, C.A. (2003). “The development of a bias metric for use with automated decision aids.” *Proceedings of the 7<sup>th</sup> World Multiconference on Systematics, Cybernetics and Informatics*.
- **McBride, M.E.** and Winchester, W.W. (2003). “Teaching engineering economy: There has to be a better way.” *Proceedings of the 31st International Conference on Computers and Industrial Engineering*.
- **McBride, M.E.** and Ntuen, C.A. (2002). “Predicting human bias in computer decision aids.” *Proceedings, 2002 International Conference on Industry, Engineering, and Management Systems*.
- Ntuen, C.A., **McBride, M.E.**, Adams, K., and Mazaeva, N. (2002). “Application of cognitive systems engineering to decision aiding design.” *Proceedings of the Industrial Engineering Research Conference (IERC)*, CD ROM. Norcross, GA: IIE Management Press.
- **McBride, M.E.** and Ntuen, C.A. (2001). “Evidence of human cognitive bias with human-computer interaction.” *Proceedings of 9<sup>th</sup> International Conference on Human-Computer Interaction* (pp. 879-883) Issue on Systems, Social and Internationalization Design Aspects of Human-Computer Interaction (M.J. Smith & G. Salvendy, Eds.), Vol.2, New York: Elsevier.

#### OTHER PUBLICATIONS

- **McBride, M.**, Carter, L., and Warkentin, M. (2012). Exploring the Role of Individual Employee Characteristics and Personality on Employee Compliance with Cyber Security Policies. (Prepared by RTI International – Institute for Homeland Security Solutions under contract 3-312-0212782.)
- **McBride, M.** and Morgan, S. (2010). Trust Calibration Aids for Automated Decision Aids – Research Brief. Research Triangle Park, NC: Institute for Homeland Security Solutions.
- **McBride, M.E.**, Letowski, T.R., and Tran, P.K. (2005). Bone Conduction Head Sensitivity Mapping: Bone Vibrators (ARL-TR-3556). Aberdeen, MD: U.S. Army Research Laboratory.
- **McBride, M.E.**, Harrison, S., and Clark, B. (2000). Dock-to-shop is just-in-time. *IIE Solutions*, 32(9), 34-38.
- **McBride, M.E.** (1998). A Decision Support Display Tool for Courses of Action Visualization. Unpublished Master Thesis, North Carolina Agricultural and Technical State University, Greensboro, NC.

## WORKS-IN-PROGRESS

- Warkentin, M., **McBride, M.**, Carter, L., and Johnston, A. (under review). Dispositional and situational factors: Influence on IS security policy violations. Submitted to *European Journal of Information Systems*.
- Patrick, R., Kring, J., **McBride, M.**, and Letowski, T. (in progress). Conduction Equivalency Ratios (CERs): Comparison of Equal-Loudness Levels for Bone Conducted and Air Conducted Sounds. To be submitted to *Journal of the Acoustical Society of America*.

## CONFERENCE PRESENTATIONS

- “Teenage texting and driving: how dispositional and situational factors impact behavior.” Applied Human Factors and Ergonomics Conference, Las Vegas, Nevada, July 27-30, 2015.
- “Distracted driving among teens: How can we educate and protect our youth?” Humanitarian Technology Conference, Boston, Massachusetts, May 12-14, 2015.
- “Human-machine trust, bias, and automated decision aid acceptance.” Human Factors and Ergonomic Society Annual Meeting, San Diego, California, September 30-October 4, 2013.
- “Monotonic and diotic speech recognition of bone conducted speech.” Industrial and Systems Engineering Research Conference, San Juan, Puerto Rico, May 18-22, 2013.
- “The role of individual characteristics on insider abuse intentions.” 18<sup>th</sup> Americas Conference on Information Systems, Seattle, Washington, August 9-11, 2012.
- “Effectiveness of a bone conduction audio communication system in a two-channel speech recognition task.” Applied Human Factors and Ergonomics Conference 2012, San Francisco, California, July 21-25, 2012.
- “Effects of bone vibrator locations on auditory localization in the horizontal plane.” 24<sup>th</sup> Annual International Society for Occupational Ergonomics and Safety Conference, Ft. Lauderdale, Florida, June 7-8, 2012.
- “Impact of automation attitude and experience on decision aid acceptance.” Industrial Engineering Research Conference, Reno, Nevada, May 21-25, 2011.
- “Decision support design considerations for nursing diagnosis decision-making task.” Decision Sciences Institute 41<sup>st</sup> Annual Meeting, San Diego, California, Nov 20-23, 2010.
- “Bone conduction intelligibility: headset comparison study.” 2010 Industrial Engineering Research Conference, Cancun, Mexico, Jun 5-9, 2010.
- “Effects of hearing protection on speech communication.” 16<sup>th</sup> International Congress on Sound and Vibration (ICSV16), Krakow, Poland, Jul 5-9, 2009.
- “Head mapping: search for an optimum bone microphone placement.” Human Factors and Ergonomic Society 52<sup>nd</sup> Annual Meeting, New York, NY, Sep 23-26, 2008.
- “Effects of hearing protection on verbal communication in military relevant environments.” 2008 Industrial Engineering Research Conference, Vancouver, BC, Canada, May 17-21, 2008.
- “Intelligibility differences between male and female bone conducted speech presented in high noise environments – Poster presentation.” Acoustical Society of America, New Orleans, LA, Nov 27-Dec 1, 2007.
- “Comparison of bone conduction hearing thresholds in quiet and noisy environments.” 4<sup>th</sup> Annual Meeting of the Society for Human Performance in Extreme Environments, San Francisco, CA, Oct 15-16, 2006.
- “Attitudes towards automation in the nursing community.” 7<sup>th</sup> Human Interactions with Complex Systems Symposium, Greenbelt, MD, Nov 17-18, 2005.
- “Search for an optimum vibrator location for bone conduction communication.” Human Factors and Ergonomics Society 49<sup>th</sup> Annual Meeting, Orlando, FL, Sep 26-30, 2005.
- “Search for an optimum vibrator location for bone conduction communication.” Industrial Engineering Research Conference (IERC), Atlanta, GA, May 15-18, 2005.
- “Measuring human bias towards automation.” Industrial Engineering Research Conference (IERC), Houston, TX, May 16-19, 2004.
- “Teaching engineering economy: There has to be a better way.” 31<sup>st</sup> International Conference on Computers and Industrial Engineering, San Francisco, CA, Feb 2-4, 2003.
- “Predicting human bias in computer decision aids.” International Conference on Industry, Engineering, and Management Systems (IEMS), Cocoa Beach, FL, Mar 11-13, 2002.
- “Debiasing models and human trust perception of automated decision aids.” Doctoral Dissertation Colloquium Poster Presentation, 2002 Industrial Engineering Research Conference (IERC), Orlando, FL, May 19-22, 2002.
- “Application of cognitive systems engineering to decision aiding design.” Industrial Engineering Research Conference (IERC), Orlando, FL, May 19-22, 2002.
- “Evidence of human cognitive bias with human-computer interaction.” 9<sup>th</sup> International Conference on Human-Computer Interaction, New Orleans, LA, Aug 5-10, 2001.

## **TEACHING EXPERIENCE**

### *Associate Professor*

Department of Management, North Carolina Agricultural and Technical State University, Greensboro, NC  
Aug 2009 - present

### *Assistant Professor*

Department of Human Factors and Systems, Embry-Riddle Aeronautical University, Daytona Beach, FL  
Aug 2005 - July 2009

### *Assistant Professor*

Department of Industrial and Systems Engineering, North Carolina Agricultural and Technical State University, Greensboro, NC  
Jan 2004 - Jul 2005

### *Adjunct Assistant Professor*

Department of Industrial and Systems Engineering, North Carolina Agricultural and Technical State University, Greensboro, NC  
Aug 2003 - Dec 2003

### *Graduate Instructor*

Department of Industrial and Systems Engineering, North Carolina Agricultural and Technical State University, Greensboro, NC  
Aug 2002 - Dec 2002

## **TEACHING INTERESTS**

Graduate-Level and Undergraduate-Level Courses in Management Science; Production Management; Human-Computer Interaction; Cognitive Engineering; Human Factors; Ergonomics; Economic Analysis; Engineering Management; Visual and Auditory Perception

## **COURSES TAUGHT**

### Undergraduate-Level

Business Environment  
Management Science  
Production Management  
Lean Six Sigma  
Technical Entrepreneurship  
Engineering Economic Analysis  
Ergonomics and Bioengineering  
Human-Computer Interaction  
Human Factors: Test and Evaluation  
Human Factors: Principles and Fundamentals  
Sensation and Perception  
Systems Approaches for Industrial and Systems Engineers

### Graduate-Level

Engineering Cost Control  
Six Sigma Quality  
Engineering Entrepreneurship  
System Safety Engineering & Risk Analysis  
Engineering Organization  
Human Factors in Systems  
Human-Computer Interaction

## **ADMINISTRATIVE POSITIONS**

### *Director*

Transportation Institute, North Carolina Agricultural and Technical State University, Greensboro, NC  
Aug 2015 - present

### *Director*

Ronald E. McNair Post-baccalaureate Achievement Program, Embry-Riddle Aeronautical University,  
Daytona Beach, FL  
Oct 2007 - Jul 2009

## **INDUSTRY EXPERIENCE**

### *I/T Specialist/Business Analyst (EDI Contractor for Lucent Technologies)*

IBM Global Services, Greensboro, NC

Sep 2001 - Jan 2002

Responsible for setting up SAP vendors for Electronic Data Interchange. Responsible for testing vendors for new or updated EDI transactions. Responsible for running the Delinquent Functional Acknowledgement Report.

### *Electronic Data Interchange Consultant*

Lucent Technologies, Greensboro, NC

Sep 2000 - Aug 2001

Responsible for setting up vendors on Electronic Data Interchange. Addressed EDI transmission issues. Served as EDI Liaison between Columbus factory and Guilford Center. Maintained EZ Buy project worksheet. Responsible for running Delinquent Functional Acknowledgement Report.

### *Supply Line Engineer*

Lucent Technologies, Columbus, OH

May 1999 - Aug 2000

Responsible for streamlining inbound logistics processes utilizing Just-In-Time techniques and automation. Designed and improved computer systems and work stations based upon HCI and human factors principles. Conducted training for process and system improvements.

### *Process Engineer*

Lucent Technologies, Columbus, OH

Jan 1998 - Apr 1999

Responsible for creating and improving Material Planning processes based upon human factors and safety principles. In charge of documenting processes for ISO 9000 certification. Served as trouble-shooter for MFG/PRO system, which included system improvements based on HCI principles.

### *Process Control and Inspection Engineer*

Corning Inc., Danville, VA

May 1995 - Aug 1995

Worked with a team of professionals on Process Control and Inspection procedures for a major manufacturing process to reduce production costs. Assisted in the development of a computerized data collection system.

### *Process Analyst*

Corning Inc., Corning, NY

May 1994 - Aug 1994

Established and tested a method to identify and analyze the bottleneck in fiber optics testing processes to improve worker productivity. Documented information needed to conduct further analyses.

### *Industrial Engineering Summer Intern*

Corning Inc., Corning, NY

Jul 1993 - Aug 1993

Documented procedures for ISO 9000 certification. Assisted in the restructuring of the chemical composition data collection system.



### **PROFESSIONAL ORGANIZATION MEMBERSHIPS**

- American Society of Engineering Education (ASEE)
- Association for Operations Management (APICS)
- Human Factors and Ergonomics Society (HFES)
- Institute of Industrial Engineers (IIE)
- National Black MBA

### **INVITED PRESENTATIONS, PANEL PARTICIPATION, WORKSHOPS CONDUCTED**

- “Bone Conduction Auditory Research,” Human Systems Integration Brown Bag Presentation, Naval Surface Warfare Center, Dahlgren, Virginia, May 2014.
- “Choices: the Good, the Bad, and the Ugly,” Keynote Address, Embry-Riddle Aeronautical University McNair Scholars Program Awards Banquet, April 2012.
- “Aggie Graduates Making a Difference,” Keynote Address, NCAT 2010 Annual Graduate Student Honors Banquet, April 2010.
- “Auditory Perception via Bone Conduction,” Engineering Ph.D. Student Seminar, Wright State University, Dayton, OH, January 2008.
- “ONR/HBEC Alumni Panel Discussion,” 2005 ONR/HBEC Future Faculty Engineering Fellowship Program Symposium, Greensboro, NC.
- “A Career in the Professorate – More Than Teaching,” Panel Discussion, 2004 NC-LSAMP/STAR Graduate Symposium, Greensboro, NC.
- “What it Takes to Make the Grade,” Panel Discussion, 2004 HBCU-UP National Research Conference, Greensboro, NC.
- “Research Methodology,” Para-Researcher Program, North Carolina A&T State University, Greensboro, NC, Summer 2003.
- “African-American Graduate Students: What Motivates Them,” National Association for Equal Opportunity in Higher Education (NAFEO) Annual Conference 2003, Washington, DC.
- “Introduction to Human Factors,” Para-Researcher Program, North Carolina A&T State University, Greensboro, NC, Summer 2002.
- “Introduction to Human Computer Interaction,” Para-Researcher Program, North Carolina A&T State University, Greensboro, NC, Summer 2002.

### **PROFESSIONAL SERVICE ACTIVITIES**

- Jun 2011 – present: Society for Advancement of Management Student Chapter Advisor
- Oct 2009 – present: Department of Management Strategic Planning Committee Member
- Sep 2009 – present: NCAT University Research Council Member
- Sep 2009 – present: McNair Scholars Program Symposium Planning Committee Member
- Nov 2014 – Jul 2015: 125<sup>th</sup> Second Morrill Act Celebration Committee Member
- Sep 2012 – May 2014: Department of Industrial and Systems Engineering Promotion Committee Member
- Sep 2012 – May 2014: Department of Industrial and Systems Engineering Graduate Program Committee Member
- Sep 2010 – Jul 2013: NCAT General Education Task Force
- Dec 2013 – Jan 2014: National Science Foundation Graduate Research Fellowship Proposal Panel Reviewer
- Dec 2012 – Jan 2013: National Science Foundation Computing Research Infrastructure Proposal Panel Reviewer
- Oct 2009 – 2011: Department of Management Student Professionalism Committee Member
- Nov 2007 – Jul 2009: Ronald E. McNair Post-baccalaureate Achievement Program Director
- May 2007 – May 2009: Piloting your Future Through STEM Curriculum Sub-Committee Member
- Nov 2006: National Science Foundation Engineering Education Research Proposal Panel Reviewer
- Aug 2006 – Jun 2009: National Society of Black Engineers ERAU Student Chapter Advisor
- Mar 2006 – Nov 2007: Library Director Search Committee Member
- Feb 2006 – Nov 2007: Laboratory Safety Committee Member
- Aug 2005 – Nov 2007: Academic Computing Committee Member
- Feb 2005: National Science Foundation Graduate Research Fellowship Program Panel Reviewer
- Aug 2003 – May 2005: Supplemental Instructor Department Coordinator

- Aug 2003 – May 2005: Institute of Industrial Engineers Student Chapter Advisor
- Aug 2003 – May 2004: Partnership in Education and Research Mentor
- May 2004: ONR/HBEC Future Faculty Fellowship Program Reviewer
- Jun – Jul 2002; Jul 2003: Para-Researcher Program Instructor
- Jan 2002 – May 2005: ISE Undergraduate Program Advisory Council Member

#### **COMMUNITY SERVICE ACTIVITIES**

- Sep 2013 – present: Mt. Zion Baptist Church Strategic Planning Committee
- Apr 2011 – Apr 2013: Big Brothers Big Sisters
- Aug 2006 – Dec 2008: Habitat For Humanity
- Jan 2002 – Jun 2003: Mt. Zion Baptist Church Helping Hand
- Jan 2000 – May 2000: Tech Corps Ohio Volunteer

#### **HONORS AND AWARDS**

- School of Business and Economics Interdisciplinary Research Team Award, 2015
- ORAU/USARL Postdoctoral Fellowship, 2013, 2014
- National Research Council/U.S. Army Research Laboratory Faculty Fellowship, 2011
- Beta Gamma Sigma Honor Society, 2011
- IERC 2008 Best Paper Award
- Astronaut Scholarship Foundation Scholarship Recipient, 2002-2003
- ONR Historically Black Engineering Colleges Future Faculty Fellowship Recipient, 2000-2003
- Gates Millennium Scholarship Recipient, 2000-2003
- National Science Foundation Minority Graduate Research Fellowship Recipient, 1996-1998
- Society of Manufacturing Engineers Wayne Kay Graduate Fellowship Recipient, 1996
- Tau Bet Pi Engineering Honor Society, 1994
- Alpha Pi Mu Industrial Engineering Honor Society, 1994