

Gerard (Jerry) A. Davis, PhD, CSP, CPE

Associate Professor, OS&E Program Director
Department of Industrial and Systems Engineering
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Education

Ph.D. in Industrial and Systems Engineering, emphasis in Ergonomics, Work Measurement & Occupational Safety, Auburn University, 2001.

M.Ed. in Kinesiology, emphasis in Biomechanics, Auburn University, 1996.

M.S. in Industrial and Systems Engineering, emphasis in Ergonomics & Occupational Safety, Auburn University, 1996.

B.S. in Mechanical Engineering, University of South Carolina, 1988.

Experience

Aug 09 – Present - Associate Professor, Industrial and Systems Engineering, Auburn University. Participate in independent research and teach graduate/undergraduate classes in the areas of safety, ergonomics, and work measurement. Co-PI/PI on NIOSH ERC (OS&E and OIPRT) federally funded research/training grants. Involved in research and extension activities supporting the University, College, and Department. (Effective 8/17/09).

May 01 – Aug 09 - Assistant Professor, Industrial and Systems Engineering, Auburn University. (Visiting Position 5/01-12/01, Research Position 1/02-8/05 & Tenure Track Position 8/05-8/09).

Dec 98 – April 00 - Industrial Engineer, Michelin Corporation. Assigned as plant ergonomics leader responsible for identification, assessment, analysis, solution identification and implementation for a workforce of 1500. Led a team of 8 individuals (ergonomics committee) to successfully accomplish this task. Performed various IE studies leading to continuous change within the facility.

Aug 94 - Mar 98 - Assistant Professor of Naval Science, Auburn University. Counseled, advised, and supervised hundreds of AU NROTC students. Taught University classes in Leadership, Management, Navigation, Safety, and various Engineering topics. University service and extension activity.

Oct 90 - Aug 94 - Naval Officer (Engineering Manager/Leader). Responsible for the safety, security, employment and operations of numerous submarine systems, programs, and personnel. Directly responsible for the day-to-day operation and maintenance (corrective and preventative) of numerous engineering and nuclear systems. Responsibilities include training, coordination and supervision of the use of LOTO, confined space entry, permitting, safety (electrical, chemical, biological, radiological), etc...of contractors, technical representatives, Officer & Enlisted personnel. Duties included personnel management, qualification, and training development.

Dec 88 - Sep 90 - Naval Nuclear Power and Submarine Officer Schools.

Certifications

Engineer in Training (South Carolina)
Certified in MOST, MiniMOST, and ErgoMOST by the Maynard Institute
Certified Professional Ergonomist (CPE): Certificate Number 1208
Certified Safety Professional (CSP): Certificate Number 18050
OSHA (Ten-Hour & Thirty-Hour) General Industry Course, Authorized Trainer

Professional Affiliations

Senior Member, Institute of Industrial Engineers (IIE)
Professional Member, American Society of Safety Engineers (ASSE)
Member, Academic Practice Specialty, ASSE
Member, Engineering Practice Specialty, ASSE
Tau Beta Pi (National Engineering Honor Society)
Human Factors & Ergonomics Society: Education Technical Group (ETG)
Human Factors & Ergonomics Society: Safety Technical Group (STG)
Member, Society for Work Science (SWS); Elected to National Board of Directors (2003-05);
President-Elect (2004-05), President (2005-06); Past-President (2006-07)

Publications, Research (*Indicates student author)

In Review (2)

Piper, AK* & **GA Davis** (2010). "Determining a Ranked Order of Warning Referents by Ease of Conversion from Written Referents to Graphical Symbols." Submitted to *Safety Science*, (4/10).

LR Wade* & **GA Davis** (2010). "Gait Kinematics and Balance on an Elevated Surface." Submitted to *Ergonomics* (5/10).

In Print (14)

R Kady* & **GA Davis** (2009). "The Impact of Exit Route Designs on Evacuation Time for Crawling Occupants." *Journal of Fire Sciences*, 27(2009), 481-493.

R Muhdi* & **GA Davis** (2009). "The Effect of Occupant Characteristics on Crawling Speed in Evacuation." *Fire Safety Journal*, 44(2009), 451-457.

R Muhdi*, S Gwynne & **GA Davis** (2009). "The Incorporation and Validation of Empirical Crawling Data into the buildingEXODUS Model." *Safety Science*, 47(2009), 97-104.

LR Wade* & **GA Davis** (2009). "Postural Sway Following Increased Duration to an Inclined Surface." *Safety Science*, 47(2009), 652-658.

GT Holman*, **GA Davis** & S Maghsoodloo (2008). "The Effects of Dynamic Movement on Reach Arcs." *Ergonomics*, 51(5), 691-701.

S Walker, **GA Davis** & D. Desai* (2008). "Postural Assessments & Job Rotation." *Journal of the American Society of Safety Engineers*, 53(2), 32-36.

LR Wade*, **GA Davis**, TS Marzilli & WH Weimar (2006). "Information Processing Capacity While Wearing Personal Protective Eyewear." *Ergonomics*, 49(10), 955-967.

LR Wade* & **GA Davis** (2005). "Transitioning Sloped Surfaces: The Effects of Roofing Work on Balance and Falls." *Journal of the American Society of Safety Engineers*, 50(9), 45-50.

GA Davis, S Ahuja* & EB Hollingsworth* (2005). "Your Establishment Received a Letter from OSHA: Now What?" *Journal of the American Society of Safety Engineers*, 50(3), 33-37.

GA Davis, R. Kuhns* & DJ. Watson (2004). "Evaluating Emergency Medical Services: Controlling the Rising Cost of Saving Lives." *Journal of Health and Human Services Administration*, 26(4), 485-512.

LR Wade*, W Weimar & **GA Davis** (2004). "Effect of Personal Protective Eyewear on Postural Stability." *Ergonomics*. 47(15), 1614-1623.

Watson, DJ, Hassett, WL*, **GA Davis**, and RE Thomas (2002). "Use of Industrial Engineering in Measuring Police Manpower: A Small City Case Study." *Journal of Public Performance & Management Review*, 26(2), 132-147.

GA Davis, ED Edmisten*, RE Thomas, LA Smith and D Pascoe (2001). "Effects of Ventilated Safety Helmets in a Hot Environment." *International Journal of Industrial Ergonomics*, 26(5), 321-329.

Bordas, RM*, **GA Davis**, BL Hopkins, RE Thomas and RB Rummer (2001). "An Evaluation of Forest Harvesting Hazards in East Central Alabama." *Journal of Agricultural Safety & Health*, 7(2): 123-133.

Publications, Pedagogical (*Indicates student author)

In Print (3)

RE Thomas & **GA Davis** (2005). "Earning a Ph.D. from an Engineering Based Safety & Ergonomics Program: The Case for a Flexible Campus Based Program." *Journal of Safety, Health and Environmental Research* (JSHER), 2(2), Feature (4).

GA Davis & S Ahuja* (2004). "Safety Faculty Support for Student Contest Projects." *Journal of Safety, Health and Environmental Research* (JSHER), 1(2), Feature (2).

GA Davis & F Hayati* (2003). "Building a Solar House: An Exercise in Safety Education & Experience." *Journal of the American Society of Safety Engineers*, 48(5), 24-28.

Proceedings, Peer reviewed (*Indicates student author)

Piper, AK*, Boelhouwer, EJ* & **GA Davis** (2010). "Converging International Safety Symbol Designs Using Distributed Interactive Evolutionary Computation." *Proceedings of the 2010 Industrial Engineering Research Conference*.

Sesek, R & **GA Davis** (2010). "Rules of Thumb and Safety truisms." *Proceedings of the American Society of Safety Engineers Annual Meeting*, (6/10).

Piper, AK*, Boelhouwer, EJ* & **GA Davis** (2009). "The Use of Hazard and Precautionary Symbols on Safety Data Sheets." *Proceedings of the Human Factors and Ergonomics Society (HFES), 53rd Annual Meeting*, (10/09).

Kady, R, Gwynne, S & **GA Davis** (2009). "A Review of the Sources of Occupant Performance Data Used in Building Evacuation Models." *Proceedings of the Human Behaviour in Fires Conference*, (July 2009).

Piper, AK*, **GA Davis** & EJ*. Boelhouwer (2009). "Towards the Determination of a Difficulty Factor for Converting Warning Referents into Wordless Safety Symbols." 7th Annual Regional National Occupational Research Agenda (NORA) Young/New Investigators Symposium, Salt Lake City, UT.

Piper, AK*, Boelhouwer, EJ*, **GA Davis**, Holman, GT* & LS Montgomery* (2008). "Using Hand Drawn Images to Determine Warning Symbol Design Parameters within Interactive Evolutionary Computation Software." *Proceedings of the Human Factors and Ergonomics Society (HFES), 52nd Annual Meeting*, 1708-1712.

Valenzuela, J., **GA Davis** & L. Sims (2008). "Undergraduate Research in Automotive Manufacturing Systems at Auburn University." *Proceedings of the ICEE 2008 Conference*, Budapest, Hungary.

Piper, AK*, Montgomery, L* & **GA Davis** (2008). "Using Artificial Intelligence to Assist Individuals and Focus Groups in Designing Safety Warning Symbols." *Proceedings of the IERC* (08).

Gwynne, S, Muhdi, R* & **GA Davis** (2007). "The Development and Validation of A Crawling Model in an Existing Computational Egress Tool." *Proceedings of the 11th International Conference on Fire Science and Technology* (Interflam 2007).

Muhdi, R* & **GA Davis** (2007). "Helping Safety Managers Make Project Decisions in the Workplace: The Weighted Scoring Decision Making Approach." *Proceedings of the American Society of Safety Engineers Annual Meeting*, (6/07).

Muhdi, R*, Garrett, A*, Agarwal, R*, **GA Davis**, Dozier, G & Umphress, D (2006). "The Application of Evolutionary Computation in Evacuation Planning." *Proceedings of the IEEE Intelligent Transportation Systems Conference. Special session on Study and Potential Solutions to Evacuation Planning Issues for IEEE ITSC 2006*. pp. 600-605.

Muhdi, R*, **Davis, GA.** & T. Blackburn (2006). "Improving Occupant Characteristics in Performance-Based Evacuation Modeling." *Proceedings of the Human Factors and Ergonomics Society(HFES), 50th Annual Meeting*, 1199-1203.

Escobar, C*, NT Dorris, RE Thomas, S Maghsoodloo & **GA Davis** (2006). "Critical Variables in the Application of Subjective Posture-Based Ergonomic Assessment Tools." *Proceedings of the IERC* (06).

Garrett, A*, Carnahan, B, Muhdi, R*, **GA Davis**, Dozier, G, SanSoucie, M, Hull, P, and M. Tinker (2006). "Evacuation Planning via Evolutionary Computation." *IEEE Congress on Evolutionary Computation, CEC 2006*, pp. 157-164. **Session Best Paper Award.**

LR Wade* & **GA Davis** (2005). "Experience on an Elevated Inclined Surface and Postural Control." *Proceedings of the Human Factors and Ergonomics Society*, 49th Annual Meeting, pp. 1311-1314.

S Ahuja*, **GA Davis** & LR Wade (2005). "Postural Stability of Commercial Truck Drivers: Impact of Extended Durations of Whole-Body Vibration." *Proceedings of the Human Factors and Ergonomics Society*, 49th Annual Meeting, pp. 1810-1814.

D Desai*, B Carnahan, **GA Davis** & S Maghsoodloo (2005). "Development and Validation of an Ergonomic Job Rotation Schedule at a Manufacturing Facility." *Proceedings of the Institute of Industrial Engineers (IIE)*, 2005 Meeting.

LR Wade*, W Weimar & **GA Davis** (2004). "The Influence of an Inclined Surface on Flat Surface Postural Control." *Proceedings of the Human Factors and Ergonomics Society*, 48th Annual Meeting, pp. 1431-1434.

JM Olson*, RE Thomas, AK Raj & **GA Davis** (2004). "Tactile Display Landing Safety, Situational Awareness, and Workload Reduction Improvements for the Space Shuttle." *Proceedings of the Aerospace Medical Association*, Annual Meeting, May 2004.

NT Dorris* & **GA Davis** (2003). "Testing the Effects of Label Deterioration on the Legibility and Comprehensibility of Warnings," *Proceedings of the Human Factors and Ergonomics Society*, 47th Annual Meeting, pp. 1726-1730.

LR Wade*, W Weimar & **GA Davis** (2003). "Postural Effects of Working on Inclined Surfaces: Potential Safety Implications." *Proceedings of the Human Factors and Ergonomics Society*, 47th Annual Meeting, pp. 1295-1298.

Book Chapter (1)

Muhdi, R* & **GA Davis** (2008). "Ergonomic Hazards and Repetitive Strain Injuries: Cost Analysis &

Budgeting." The Safety Professionals Handbook, Technical Applications. American Society of Safety Engineers, Des Plaines, IL. Joel M. Haight, Ed., pp. 959-75.

Presentations (29)

Piper, AK*, Boelhouwer, EJ* & **GA Davis** (2010). "Converging International Safety Symbol Designs Using Distributed Interactive Evolutionary Computation." *Proceedings of the 2010 Industrial Engineering Research Conference*.

Sesek, R & **GA Davis** (2010). "Rules of Thumb and Safety truisms." *Proceedings of the American Society of Safety Engineers Annual Meeting*, (6/10).

Piper, AK*, Boelhouwer, EJ* & **GA Davis** (2009). "The Use of Hazard and Precautionary Symbols on Safety Data Sheets." *Proceedings of the Human Factors and Ergonomics Society (HFES), 53rd Annual Meeting*, (10/09).

Kady, R, Gywnne, S & **GA Davis** (2009). "A Review of the Sources of Occupant Performance Data Used in Building Evacuation Models." *Proceedings of the Human Behaviour in Fires Conference*, (July 2009).

Davis, GA (2009). "Ergonomics: Cost Analysis and Budgeting." ASSE National Webinar. Invited Speaker. 2/18/09.

Piper, AK*, Montgomery, LS* & **GA Davis** (2008). "Using Artificial Intelligence to Assist Individuals and Focus Groups in Designing Safety Warning Symbols." *Proceedings of the 2008 Industrial Engineering Research Conference*.

RE Thomas & **GA Davis** (2005). "Earning a Ph.D. from an Engineering Based Safety & Ergonomics Program: The Case for a Flexible Campus Based Approach." American Society of Safety Engineers (ASSE) Conference, June, 2005.

GA Davis (2004). Self-Reporting Issues Associated with the Collection Safety and Ergonomics Data. Brouha Work Physiology Conference (2004), Keystone, CO.

GA Davis & RE Thomas (2004). "Safety Faculty Support of Student Contest Projects." American Society of Safety Engineers (ASSE) Conference, June, 2004.

LR Wade*, W Weimar & **GA Davis** (2004). "Effect of Personal Protective Eyewear on Postural Stability." *American Industrial Hygiene Association*, Annual Meeting, June 2004.

LR Wade*, W Weimar & **GA Davis** (2003). "Effect of Flat Surface Postural Stability Following Extended Duration on A Pitched Roof Setting." Poster at the *Human Factors and Ergonomics Society*, 47th Annual Meeting-2003, October 2003.

NT Dorris* & **GA Davis** (2003). "Testing the Effects of Label Deterioration on the Legibility and Comprehensibility of Warnings," *Human Factors and Ergonomics Society*, 47th Annual Meeting, October 2003.

RE Thomas & **GA Davis** (2003). "Challenges Associated with Maintaining an Engineering Based Safety Education Program." American Society of Safety Engineers (ASSE) Conference, June, 2003.

NT Dorris* & **GA Davis**. "Current Status of Warning-Systems in Forest Harvesting Equipment." National Occupational Research Agenda (NORA) Conference, Washington, DC, June, 2003.

LR Wade*, W. Weimar, **GA Davis** and B. Carnahan. "*The Influence of a Roofing Task on Unilateral Balance.*" National Occupational Research Agenda (NORA) Conference, Washington, DC, June, 2003.

Davis, GA. "*Use of Industrial Work Measurement Techniques in Municipal Applications.*" Conference on Governmental Excellence and Best Practices, Montgomery, AL (May 2003).

Davis, GA. "*OSHA's Ergonomic Program Standard: An Overview.*" Alabama Textile Manufacturers Association Health & Safety Conference (2001).

Davis, GA. "*Back Belt Tension as Applied by User's.*" Invited Lecturer, Wichita State University, Department of Industrial & Manufacturing Engineering (2000).

Davis, GA. "*Studies Conducted Using A Spinal Curvature Measuring Device (SCMD).*" Brouha Work Physiology Conference (2000), Lexington, KY.

Davis, GA, RE Thomas & RB Rummer. "*An Evaluation of Forest Harvesting Hazards in East Central Alabama.*" Applied Ergonomics Conference (2000).

Releford, RR*, **GA Davis** & RE Thomas. "*The use of Rapid Upper Limb Assessment (RULA) as an Ergonomic Evaluation Tool in Industry.*" American Industrial Hygiene Association Conference (1999).

Davis, GA, TD Reed & RE Thomas. "*A Further Validation of RULA.*" Brouha Work Physiology Conference (1998).

Davis, GA. "*A Further Validation of RULA.*" American Industrial Hygiene Association Conference Poster Presentation (1998).

Davis, GA. "*Evaluation of the Effects of Alternative Safety Helmet Designs in a Hot Environment.*" (NOIRS) National Occupational Injury Research Symposium (1997).

Davis, GA. "*Evaluation of the Effects of Alternative Safety Helmet Designs in a Hot Environment.*" Brouha Work Physiology Conference (1997), Seattle, WA.

Proposals

Davis, GA & Sesek, R. "Effects of Workload, Work Conditions and Electronic Prescribing and Patient Safety in Community Pharmacies." AHRQ, \$214,600 (2010).

GA Davis, R. Sesek & W. Park. NIOSH ERC Training Grant T42/OH008434-07; "*Occupational Safety and Ergonomics Program.*" Proposal submitted for \$188,000 (7/1/10-6/30/11)

R. Sesek, **GA Davis** & W. Park. NIOSH ERC Training Grant T42/OH00843436-07; "*Occupational Injury Prevention Research Training.*" Proposal submitted for \$94,000 (7/1/10-6/30/11)

Grants

Boelhouwer*, EJ & **GA Davis.** "*Improving Comprehension of GHS Safety Data Sheets.*" Submitted to NIOSH, DSCOHS, Pilot Projects Research Training Program. Funded for \$12,000 by NIOSH (2009-10).

Piper*, AK & **GA Davis.** "*Designing Safety Warning Symbols with Artificial Intelligence Focus Groups.*" Pilot Projects Research Training Program. Funded for \$12,000 by NIOSH (2009-10).

Valenzuela, J & **GA Davis.** "*US – Korea: Planning Visit to Add an International Experience to REU.*"

Funded for \$13,651 by NSF (2008).

Lodree, E., **GA Davis** & RL Bulfin, "*Sequencing Human Tasks: A New Paradigm for Scheduling Research, Graduate Research Supplement.*" Funded for \$27,280 by NSF (2007-09).

Valenzuela, J & **GA Davis**. "*REU Site in Automotive Manufacturing Systems.*" Funded for \$285,400 by NSF (2006-08).

Lodree, E. Bulfin, RL & **GA Davis**. "*Sequencing Human Tasks: A New Paradigm for Scheduling Research.*" Funded for \$199,319 by NSF (2006-08).

GA Davis. US Pipe & Foundry, Inc. "*Ergonomics & Safety Best Practices Evaluation.*" Funded for \$4,000, (2005).

GA Davis. Auburn Engineers, Inc. "*Ergonomics Best Practices Evaluation.*" Funded for \$5,000, (2005).

GA Davis. "*Study to Evaluate Alabama Mental Health Pharmacy Service.*" Joint with the Center for Pharmacy Operation and Design (CPOD), AU. Funded for \$21,214 (05).

GA Davis. "*MMI – USP 797 and Beyond.*" Joint with the Center for Pharmacy Operation and Design (CPOD), AU. Funded for \$16,632 (May 05).

RE Thomas and **GA Davis**. NIOSH ERC Training Grant T42/OH008434-07; "*Occupational Safety and Ergonomics Program.*" Funded for:

- \$188,000 (7/1/10-6/30/11)
- \$188,000 (7/1/09-6/30/10): PI effective 7/1/09
- \$203,725 (7/1/08-6/30/09)
- \$199,489 (7/1/07-6/30/08)
- \$172,901 (7/1/06-6/30/07)
- \$210,910 (7/1/05-6/30/06)

GA Davis and RE Thomas. NIOSH ERC Training Grant T42/OH00843436-07; "*Occupational Injury Prevention Research Training.*" Funded for:

- \$94,000 (7/1/10-6/30/11)
- \$94,000 (7/1/09-6/30/10): Co-PI effective 7/1/09
- \$98,938 (7/1/08-6/30/09)
- \$98,257 (7/1/07-6/30/08)
- \$120,119 (7/1/06-6/30/07)
- \$121,688 (7/1/05-6/30/06)

GA Davis. NIOSH Deep South Deep South Center for Occupational Safety & Health. "*Ergonomics Training Course Development and Delivery.*" Funded for \$5,811 (Sept 04) and \$5,891 (April 04).

GA Davis. Equipment grant from NIOSH Deep South Center for Occupational Safety & Health (DSC). Funded for \$20,000 to purchase Neuro-Com Long-Board Balance Master system (April 04).

GA Davis & NT Dorris*. United States Forest Service. "*The Effects of Deterioration on the Comprehensibility of Warnings Associated with Forest Harvesting Equipment.*" Funded for \$31,270 (2003-04).

GA Davis & BJ Carnahan. ScriptPro Pharmacy Study at Veterans Administration (VA) Facilities. "*The Impact of Telepharmacy Concepts in VA Facilities on Manpower and Productivity Issues.*" Funded for \$88,000 (2002-03).

GA Davis & RE Thomas. United States Forest Service, "*Current Status of Warning Systems in Forest Harvesting Equipment.*" Funded for \$30,214 (2002-03).

GA Davis. Cities of Auburn & Opelika, Alabama; Lee County, Alabama, and East Alabama Medical Center (EAMC). Funded for "*EMS Efficiency Study*." \$69,120 (2002).

GA Davis. City of Auburn, Alabama, Public Safety Department. "*Manpower Assessment of the Police Patrol Division*." Funded for \$37,076 (2001).

Other Funding

Davis, GA. Samuel Ginn College of Engineering. "*COE Safety Project*." Internally funded for:

- \$45,000, (2010-11).
- \$45,000, (2009-10).
- \$55,000, (2008-09).
- \$55,000, (2007-08).
- \$70,294, (2006-07).
- \$55,294, (2005-06).

Unfunded

Moyo*, Y, Park, W & **GA Davis.** "*Efficient Measurement and Representation of Postural Stress-Time Profiles*." Submitted to NIOSH, DSCOHS, Pilot Projects Research Training Program. \$12,000 (2009)

Valenzuela, J & **GA Davis.** "*IRES: International Research Experience in South Korea for Undergraduate Engineers to Study Automotive Manufacturing Systems*." NSF, \$141,470 (2009).

Davis, GA & Sesek, R. "Effects of Workload and Work Conditions on Patient Safety in Community Pharmacies." AHRQ, \$212,459 (2009). Resubmitted in 2010.

Davis, GA. "*The Impact of Window Dimensions on First Responders Safety*." DHS, \$181,124 (2007).

Thomas, RE & **GA Davis.** "*Interactive Evolutionary Designed Safety Training for LEP Hispanic Construction Workers*." NIOSH (NORA), \$350,000 (2007).

Dozier, GV, AE Smith & **GA Davis.** "*Genetic & Evolutionary Protocols: 4th Generation Paradigms*." NSF, \$264,270 (2006).

Wade, LR & **GA Davis.** "*The Impact of Personal Protective Eyewear (PPEe) on Postural Control*." NIOSH (R01), \$619,944 (2006).

Davis, GA & GV Dozier. "*Model Development and Fire Fighter Awareness in Counterflow Situations*." DHS, \$109,867 (2005).

Davis, GA, GV Dozier & R. Muhdi*. "*Modeling Human Behavior in Counter Flow Evacuation Situations*." Submitted to NIST, \$75,870 (2005).

Lodree, E. Bulfin, RL & **GA Davis.** "*Scheduling Jobs on a Single Processor with Randomly Deteriorating Production Rate*." Submitted to NSF, \$297,740 (2005). Funded on Resubmission.

Davis, GA. "*Postural Stability of Commercial Truck Drivers: Impact of Extended durations of Whole-Body Vibration*." Deep South Center (DSC) for Occupational Safety and Health, \$10,500 (2005).

Davis, GA & R. Muhdi*. "*Developing an Evacuation Procedure for Disabled Occupants in Evacuation Drills*." DSC for Occupational Safety and Health, \$11,700 (2005).

Lodree, E. & **GA Davis.** "*Industrial Engineering Solutions to Manpower Planning for the New Orleans*

Police Department." NOPD, \$152,133 (2005).

Committee Chair (25)

Doctoral (6: 2 Completed, 4 In progress)

Rani Muhdi, Doctoral Committee (Chair), "*The Development and Representation of Human Performance Characteristics in Evacuation Models.*" (3/08). Assistant Professor (tenure track), Department of Engineering Management & Systems Engineering, Old Dominion University, Norfolk, VA.

Adam Piper, Doctoral Committee (Chair), "*Highly Participatory Design of Warning Symbols for Multicultural Individuals Using a Hybrid Focus Group/Evolutionary Computational Method.*" (12/09). Assistant Professor (tenure track), Department of Industrial Engineering, South Dakota School of Mines, Rapid City, SD.

Eric Boelhower, Doctoral Committee (Chair), Expected (10).

Bobbie Watts, Doctoral Committee (Chair), Expected (10).

Ruoliang Tang, Doctoral Committee (Co-Chair: Sesek), Expected (11).

Kevin Barefield, Doctoral Committee (Co-Chair: Evans), Expected (12).

Masters (19: 15 Completed, 4 In progress)

Nathan Dorris, Thesis Committee (Chair), "*Relative Legibility of On-Product Warnings at Varying Intensities of Label Deterioration.*" (3/04).

Roseann Kuhns, Thesis Committee (Chair), "*Self-Report Work Sampling: A Study on Sampling Frequency.*" (6/04).

CPT Steve Kuiper, USAF, MISE Committee (Chair), "*Usability Study of Electronic Flight Bags*" (11/04).

Deepesh Desai, MISE Committee (Co-Chair w Dr. Brian Carnahan), "*Development and Validation of an Ergonomic Job Rotation Schedule at a Manufacturing Facility.*" (2/05).

Krysta Weed, MISE Committee (Chair), "*An Evaluation of the Need for Explosion-Proof Venting for Gas Convection Drying Ovens at Master Brand Cabinets, Inc.*" (7/05).

Claudia Escobar, Thesis Committee (Chair), "*Sensitivity Analysis of Subjective Ergonomic Assessment Tools: Input Validity on Output (Final Score) Generation.*" (3/06).

Shaman Ahuja, MISE Committee (Chair), "*Energy Control Program (Lockout/Tagout) Audit, Briggs & Stratton Co., Auburn, AL.*" (5/07).

Kelly Combs, MISE Committee (Chair), "*Job Hazard Analysis: Supervisor Training*" Neptune Technology Group, Tallassee, AL (5/07).

Jason Rivers, MISE Committee (Chair), "*Developing an Online Office Ergonomics Continuing Education Course Curriculum.*" (7/07).

Kenny Sadhasviam, MISE Committee (Co-Chair w Dr. Chip Wade), "*The Development of a Comprehensive and Interactive Ergonomics Training Module.*" (11/08).

Eric Boelhouwer, MISE Committee (Chair), "*Safety and Ergonomic Enhancements for the EPP Production Process.*" (11/08).

CPT Rob Milan, USA, MISE Committee (Chair), "*Reengineering the Lost Foam Process.*" (11/08).

Katie Murphy, Master's Committee (Chair), "*Ergonomic Evaluation of Re-Inspection Task, InterfaceFLOR, LLC, LaGrange, GA*" (4/09).

LCDR Ike Stutts, USN, Master's Committee (Chair), "*Flight Deck Safety: Reviewing Flight Deck Communications and Signals*" (4/09).

Omar Whitfield, Master's Committee (Chair), (12/09).

Dave Frazier, Master's Committee (Chair), Expected (10).

John Lesh, Master's Committee (Chair), Expected (10).

Alan Campbell, Master's Committee (Chair), Expected (11).

Monica Stafford, Master's Committee (Chair), Expected (11).

Committee Member (29)

Doctoral (4: 4 Completed, 0 In progress)

MAJ John Olson, USAF, Doctoral Committee Member. "*Tactile Display Landing Safety and Precision Improvements for the Space Shuttle*" (11/03).

Davana Lehman, Doctoral Committee Member, "*The Effects of Short-Term Hand-Arm Vibration on Human Motor Performance*" (5/04).

Chip Wade, Doctoral Committee Member, "*Effect of Exposure to an Inclined Surface and Height on Gait Kinematics and Postural Stability*" (6/04).

Jessie Godbey, Doctoral Committee Member, "*The Effects of Behavioral-Based Safety Techniques on Behavior Variation, Targeted and Non-Targeted Safe Behaviors, and Productivity and Quality in Manufacturing Facilities*" (9/06).

Masters (25: 24 Completed, 1 In progress)

LT Michael Sowa, USN, Thesis Committee Member, "*Submarine Officer Manpower Management Model*" (9/01).

Windy Allen, Master's Project Committee Member, "*Evaluation and Revision of the Safety Program at Craftmaster Printers.*" Auburn, AL (7/02).

Mike Graviss, Master's Project Committee Member. "*Integrated Cost Estimation (ICE™) Tool*" (9/02).

Drew Schwalbe, Master's Project Committee Member. "*Engineering Controls for Hearing Conservation in the Gypsum Industry*" (9/02).

Sean Jones, Master's Project Committee Member. "*Development and Testing of the J² Ergonomic Composite Index*" (4/03).

Jamesha Johnson, Master's Project Committee Member. "*Development and Testing of the J² Ergonomic Composite Index*" (5/03).

Susan McAllister, Master's Project Committee Member. "*Evaluation of Driver Comfort, Health and Safety in a Solar: Powered Racing Vehicle: Design Guidelines and Improvement Strategies*" (7/03).

CPT Manuel Hernandez, USA, Master's Project Committee Member. "*Cockpit Ergonomics: A Review of the US Army UH-60 Blackhawk Helicopter*" (10/03).

Talley Holman, Thesis Committee Member, "*An Algorithmic Design of Workplace Layout: A Feasibility Study*" (7/04).

Bobbie Watts, Master's Project Committee Member, "*Ergonomic Evaluation of a Data Entry Operation*" (4/05).

Ajay Roy, Master's Project Committee Member, "*Finite Element Analysis and Life Estimation of a Permanent Cylindrical Mold with ANSYS and Coffin-Manson Approach*" (5/05).

Thomas (Mike) Bailey, Master's Committee Member, "*An Ergonomic Evaluation of Hager Companies Racking Operation*" (7/05).

Taylor Lightfoot, Master's Project Committee Member, "*A Safety Overview of ATS Light Alloy Wheels*" (4/06).

Carlton Brown, Master's Project Committee Member, "*Safety Review of Lost Foam Casting Process and Pouring Deck*" (6/07).

Rahi Movassagh, Master's Project Committee Member, "*Delmia Katia Simulation of the INTERMET Foundry Facility, Columbus, GA*" (6/07).

Kim Wallace-Gantt, Master's Project Committee Member, "*Ergonomic Analysis and Evaluation of Office Workstations at Sprint Corporation*" (4/08).

Mary Drennen, Master's Committee Member, "*Ergonomic Evaluation of Re-Inspection Area, InterfaceFLOR, LLC, LaGrange, GA*" (4/09).

MAJ Nathan Howes, USA, Master's Project Committee Member. "*Command Post of the Future: Workstation Analysis*" (4/09).

Dumakis Snipes, Master's Committee Member, "XYZ" (12/09).

Gabe Allen, Master's Committee Member, "XYZ" (5/10).

Sean Salvas, Master's Committee Member, "XYZ" (5/10).

Brad Townson, Master's Committee Member, "XYZ" (5/10).

Tami Blackwell, Master's Committee Member, "XYZ" (5/10).

Yamu Moyo, Master's Committee Member, "XYZ" (5/10).

Mendis, Pemsith, Master's Committee Member, "XYZ". Expected 8/10.

Awards

Safety efforts for the 2005 Solar Car project resulted in Auburn University receiving the '**Safety Award**' for the 700 mile Topeka, KS racing event (May 05).

Outstanding Faculty Member, Graduate School. Student Government Association (2004-05).

Outstanding Faculty Member, Industrial & Systems Engineering (2002-03).

Safety efforts developed for the *Solar House* project resulted in Auburn University being awarded '**Best Construction Safety**' for the competition (2002).

Graduate Dean's Award for Excellence (2001-02).

Recognition for achievement as the **Samuel Ginn College of Engineering Outstanding Doctoral Student** (2001-02).

United States Navy **Meritorious Service Medal** (1998).

Student Awards & Honors

Shaman Ahuja

- Certified Safety Professional (CSP).

Nathan Dorris

- Certified Human Factors Professional (CHFP).
- NIOSH Fellowship.

Chip Wade

- ASSE/Liberty Mutual Research Fellowship Award.
- Certified Professional Ergonomist (CPE).
- Post-Doctoral Fellowship. University of Pittsburgh with Dr. Mark Redfern.

Deepesh Desai

- Certified Professional Ergonomist (CPE).

Claudia Escobar

- Associate Ergonomics Professional (AEP).

Rani Mudhi (Kady)

- Beno Memorial Scholarship, PRIMA, 2006. Description: National award for outstanding leadership potential in occupational safety, from the Public Risk management Association.
- Session Best Paper Award. Garrett, A*, Carnahan, B, Muhdi, R*, GA Davis, Dozier, G, SanSoucie, M, Hull, P, and M. Tinker (2006). "Evacuation Planning via Evolutionary Computation." *IEEE Congress on Evolutionary Computation, CEC 2006*, pp. 157-164.
- Informs Doctoral Colloquium.
- Associate Safety Professional (ASP).
- NIOSH Fellowship.

Adam Piper

- Session Chair, 2008, for Usability/Evaluations and Safety Symbols Session, Human Factors/Ergonomics Track, Industrial Engineering Research Conference, Vancouver, BC.
- Beno Memorial Scholarship, PRIMA, 2007. Description: National award for outstanding leadership potential in occupational safety, from the Public Risk management Association.
- Preparing Future Faculty Fellow, Auburn University, 2007. Description: One-year interdisciplinary, university-wide program that equips future faculty members for roles in teaching, research, and service.
- Certified Safety Professional (CSP).

- NIOSH Pilot/Small Research Training Grant, 2009. "Designing Safety Warning Symbols with Artificial Intelligence Assisted Focus Groups." \$12,000.
- Alpha Pi Mu, Industrial Engineering Honor Society, 2007
- NIOSH Fellowship.

Bobbie Watts

- GTRI OTI Student Scholarship to attend Process Safety Training, 2009.
- Humantech, Inc. 2007 Human Factors/Ergonomics Scholarship Recipient
- JJ Keller and Associates 2007 Grand Prize Scholarship Recipient
- Certified Professional Ergonomist (CPE).
- Alpha Pi Mu, Industrial Engineering Honor Society, 2007
- NIOSH Fellowship.

Eric Boelhouwer

- Associate Safety Professional (ASP).
- Associate Ergonomics Professional (AEP).
- Informs Doctoral Colloquium.
- Alpha Pi Mu, Industrial Engineering Honor Society, 2007
- NIOSH Fellowship.

Kevin Barefield

- JJ Keller and Associates 2009 Scholarship Recipient
- GTRI OTI Student Scholarship to attend Process Safety Training, 2009.
- NIOSH Fellowship.

Ruoliang (Rio) Tang

- GTRI OTI Student Scholarship to attend Process Safety Training, 2009.

Extension

M Smidt, BJ Carnahan & **GA Davis** (2004). "Visual Guide to Landing Safety: A Handbook for Onsite Training of New Employees." Funded by the THAT'S Foundation in conjunction with the Alabama Cooperative Extension System. 18 pages.

GA Davis. Alabama Technology Network: Alabama Technical Assistance Center (ATAC), Principles of Lean Manufacturing (Lean 101), 1 day Course. **Taught nine (9) times.** Total attendance was 224. (Wellborn Cabinets, Standard Furniture, Reliable Manufacturing, Dunbarton, ATN Six-Sigma Principles Course), 2002.

GA Davis. Alabama Technology Network: Alabama Technical Assistance Center (ATAC), Single Minute Exchange of Dies (SMED), 1/2 day course. **Taught four (4) times.** Estimated total attendance was 100. (Wellborn Cabinets and Dunbarton), 2002

GA Davis. Alabama Technology Network: Alabama Technical Assistance Center (ATAC), Total Productive Maintenance (TPM), 1/2 day course. **Taught four (4) times.** Estimated total attendance was 100. (Wellborn Cabinets and Dunbarton), 2002.

GA Davis. Alabama Technology Network: Alabama Technical Assistance Center (ATAC), Value Stream Mapping (VSM), 1/2 day course. **Taught Once.** Estimated total attendance was 25. (Wellborn Cabinets), 2002.

GA Davis. Alabama Technology Network: Alabama Technical Assistance Center (ATAC), Kanban Pull Systems (KPS), 1/2 day course. **Taught Once.** Estimated total attendance was 25. (Wellborn Cabinets), 2002.

GA Davis & BJ Carnahan. Developed and Conducted Continuing Education Training to 126 loggers via a satellite video broadcast. Requested by the Alabama Cooperative Extension Service. "Logging Hazard Evaluation." Program rated 4.1 out of 5.0 (May 2002).

Outreach

GA Davis, (2010). Developed and taught OSHA Ten-Hour General Industry Course as a component of the INSY 3020 & ENH 670 (UAB) courses, and the COE safety project.

- 2010: 97 undergraduate & graduate students completed the course. **970 training hours.**
- 2009: 103 undergraduate & graduate students completed the course. **1030 training hours.**
- 2008: 89 undergraduate students completed the course. **890 training hours.**
- 2007: 59 undergraduate & 11 graduate students completed the course. **700 training hours.**
- 2006: 54 undergraduate & 13 graduate students completed the course. **670 training hours.**
- 2005: 36 undergraduate students completed the course. **360 training hours.**
- 2004: 10 undergraduate & 13 graduate students completed the course. **230 training hours.**

Davis, GA (2009). "Ergonomics: Cost Analysis and Budgeting." ASSE National Webinar. Invited Speaker. 2/18/09.

GA Davis, (2008). Developed and taught OSHA Thirty-Hour General Industry Course as a component of the INSY 5010/6010(6).

- 2008: 56 undergraduate & graduate students completed the course. **1680 training hours.**
- 2006: 55 undergraduate & graduate students completed the course. **1650 training hours.**
- 2004: 9 undergraduate & 14 graduate students completed the course. **460 training hours.**

GA Davis, *Piper, AK & *R. Muhdi (2005). Developed and taught a twenty-hour short course (July 2005) "An Introduction to Systems Safety for Engineers" for the Deep South Center for Occupational Safety & Health, at ACIPCO, Birmingham, AL. 29 attendees. Rated 3.8 of 5.0 (**464 total training hours**).

GA Davis & *AK Piper (2005). Taught (March 2005) "Occupational Ergonomics: Assessing Ergonomic Hazards in the Workplace" for the Deep South Center for Occupational Safety & Health, at ACIPCO, Birmingham, AL. 62 attendees. Rated 4.6 of 5.0. **496 total training hours.**

GA Davis, (2004). Developed and taught (August 2004) "Occupational Ergonomics: Assessing Ergonomic Hazards in the Workplace." Deep South Center for Occupational Safety & Health. 14 attendees. Rated 4.5 of 5.0.

GA Davis & BJ Carnahan (2004). Developed and taught (March 2004) "Occupational Ergonomics: Assessing Ergonomic Hazards in the Workplace." Deep South Center for Occupational Safety & Health. 26 attendees. Rated 4.6 of 5.0.

GA Davis, (2003). "Use of Industrial Work Measurement Techniques in Municipal Applications." Conference on Governmental Excellence and Best Practices, Montgomery, AL (May 2003).

GA Davis, (2002). Alabama Technology Network: Alabama Technical Assistance Center (ATAC). Final Technical Report for Novus Industries, Inc. Opelika, AL. "Determination of Production Standards for Assembling the CPE Box." 41 pages.

Service

Professional Organizations

NIOSH ERC Study Section Member. Site visited & reviewed UC Berkley & MAP ERCs (2009).

Editorial Review Board Member, *Professional Safety*, (2009-12).

Reviewer for NIOSH publications, (2008).

Reviewed for McGraw-Hill, Methods, Standards, and Work Design, 12th Ed., by Niebel and Freivalds. Reviewed the Work Sampling and Time Study chapters, (2007).

Session Moderator at the 9th Applied Ergonomics Conference (AEC), (2006). Developed and delivered SWS (½ day) PDC at the 8th Applied Ergonomics Conference (AEC). 13 attendees rated the short course excellent (4.4/5.0) New Orleans, LA, March 2005.

Applied Ergonomics/SWS Conference (2005-07) Planning Committee, SWS Chair.

Session Moderator at the 8th Applied Ergonomics Conference (AEC), (2005).

Served on the Dean's Advisory Panel on the Safety of the Queen's University (Canada) Solar Car Program (2004-05).

IIE: Society for Work Science (SWS): Elected to National Board of Directors (2003-05). Elected to President-Elect (2004-05).

Member of IIE's "Ask the Expert" panel for work measurement matters (2004).

Society for Work Science (SWS) Newsletter (eBrief) Editor (2003-05).

Reviewer for the *International Journal of Forest Engineering* (2001-04).

Site Reviewer for the NIOSH Training Grant Program (2001).

Auburn University

Faculty Senate, 2010-2012.

Teach Safety (LOTO) Case Study to BET students at request of PK Raju & Chet Sankar (2006-09).

Provided Safety assessment review NCAT Test Track (2004-06).

Samuel Ginn College of Engineering

Developed and Implemented Safety program for Samuel Ginn College of Engineering *Formula SAE Team, and Lady's & Men's Mini-Baja Teams Competitions* (2004-09).

Developed and implemented Safety program for Samuel Ginn College of Engineering *Solar Car Competitions* (2003-09).

Developed and implemented Safety program for Samuel Ginn College of Engineering *Steel Bridge Building Competition* (2003-09).

Developed and implemented Safety program for Samuel Ginn College of Engineering *Solar House Competition* (2002-03).

E-Day (2003-09).

Department of Industrial and Systems Engineering

Teaching Evaluation of Departmental Faculty Members: John Evans (2009).

Faculty Search Committee Member (2006-09).

Graduate Recruiting Visit (2009).

TIGERs Camp (2004-09).

Civil Air Patrol (CAP) (2004-09).

INSY Department ABET Faculty Representative (2004).

Constructed the "Auburn University Occupational Safety & Ergonomics Program: 2002 Alumni Survey" for the Deep South Center for Occupational Safety & Health (2002, 05 & 09).

Consulting (No Fee)

2009

KIA Automobile Manufacturing, Inc, LaGrange, GA

2008

InterfaceFLOR, LaGrange, GA (2008-09)

2006

General Electric Corporation, Locomotive Division (2006)

Pennsylvania State University (2006)

2005

US Pipe and Foundry, Inc., Bessemer, AL (2005)

2004

Alto Clutch Products, Atmore, AL (2004-05)

Auburn Engineers, Inc., Auburn, AL (2004-09)

Disney World, Orlando, FL (2004-05)

Honda Manufacturing of Alabama, Lincoln, AL (2004-05)

Master Brand Cabinets, Auburn, AL (2004, 2006, 2007)

Milliken & Company, LaGrange, GA (2004-07)

Southern Company, Farley Nuclear Plant, Dothan, AL (2004)

US Army, Fort Benning, Columbus, GA (2004-05)

Weidmann Plastics Technology, Inc., Auburn, AL (2004-05)

2003

Hyundai Automobile Manufacturing, Hope Hull, AL (2003-09)

Alabama Department of Public Safety (State Troopers), Montgomery, AL (2003)

American Cast Iron Pipe Company (ACIPCO), Birmingham, AL (2003-05, 08-09)

AMERICOLD, Albertville, AL (2003)

City of Atlanta, Fire Department (2003-04)

Daimler-Chrysler, Huntsville, AL (2003-04)

Falk Industries, Auburn, AL (2003-05)

Fulton County Fire Department (2003-04)

Fulton County Managers Office, Atlanta, GA (2003-05)

Rheem Manufacturing, Montgomery, AL (2003-05)

2002

Duracell, LaGrange, GA (2002)

East Alabama Medical Center, Opelika, AL (2002-03)

2001

Alabama Technical Assistance Center, AL (2001-05)

Briggs & Stratton Corporation, Auburn, AL (2001-09)

Last revised 5/3/10

City of Auburn, AL (2001-05)
Neptune Technologies Inc., Tallassee, AL (2001-09)