



THE ERGONOMICS CENTER
OF NORTH CAROLINA
Advancing the Science of Ergonomics in the WorkplaceSM

Jeffrey A. Hoyle, MS, AEP
Ergonomist

EDUCATION

The Ohio State University, Columbus, OH

Master of Science, Industrial and Systems Engineering, June 2006
Concentration in Ergonomics/Biomechanics

- *Master's thesis:* Effects of postural and visual stressors on trigger point development, muscle activity, blink rate, and discomfort during computer work

North Carolina State University, Raleigh, North Carolina

Bachelor of Science, Industrial Engineering, Cum Laude, December 2002

WORK EXPERIENCE

The Ergonomics Center of North Carolina, Edward P. Fitts Department of Industrial and Systems Engineering, North Carolina State University, Raleigh, North Carolina
Ergonomist, June 2006-Present

- Provide comprehensive ergonomics services (i.e. program development, risk assessment, job analysis/design recommendations, training, team development, guideline development) to clients and member companies/organizations.
- Serves as research liaison to facilitate coordination of ergonomics research projects between clients, member companies, and NCSU faculty and graduate research assistants.

The Biodynamics Laboratory and Institute for Ergonomics, Department of Industrial, Welding, and Systems Engineering, The Ohio State University, Columbus, Ohio
Graduate Research Associate, 2003-2006

- Provided ergonomics consultation to multiple industrial clients
- Performed ergonomics assessments of industrial workplaces using various analysis tools and methods
- Trained and managed visiting scholars and fellow students on numerous analysis techniques and research protocols
- Generated grant proposals, literature reviews, and protocols for biodynamic research projects
- Assisted in developing and validating a three-dimensional, EMG-assisted model to assess dynamic loading on the lumbar spine during pushing and pulling exertions

The Ergonomics Center of North Carolina, Raleigh, North Carolina
Research Assistant, 2002-2003

- Co-authored white-paper detailing ergonomics recommendations in an office environment through analysis of current research and existing standards
- Performed extensive literature searches, summaries, and composed literature reviews for various ergonomic aspects of the office environment
- Developed and implemented protocol for pressure mapping study in order to perform a product evaluation for an ergonomic office-seating manufacturer

SPECIAL SKILLS

- Experience in ergonomics processes, experimental design, data collection, product design methods, solid modeling, drafting, group problem solving, planning, and project management
- Computer Programs: 3D Static Strength Prediction Program (University of Michigan), SAS, JMP, SPSS, Microsoft Office, Matlab, SolidEdge, SolidWorks, AutoCad, ADAMS
- Experience with electromyography, the Lumbar Motion Monitor (LMM), NIOSH Lifting Equations, Tekscan™ pressure mapping, magnetic motion tracking, potentiometers, transducers, accelerometers, and strain gauges

PUBLICATIONS AND PRESENTATIONS

Mirka, G.A., Jin, S., and Hoyle J. "An evaluation of arborist handsaws." *Applied Ergonomics*, 40(1): 8-14, 2009.

Splittstoesser, R.E., Yang, G., Knapik, G.G., Hoyle, J.A., Lahoti, P., Vatan Korkmaz, S., Sommerich C.M., Lavender, S.A., and Marras, W.S. "Spinal Loading During Manual Materials Handling in a Kneeling Posture." *Journal of Electromyography and Kinesiology*, 17(1): 25-34, 2007.

Vatan Korkmaz, S., Hoyle, J.A., Knapik, G.G., Splittstoesser, R.E., Yang, G., Trippany, D.R., Lahoti, P., Sommerich, C.M., Lavender, S.A., and Marras, W.S. "Baggage handling in an airplane cargo hold: An ergonomic intervention study." *International Journal of Industrial Ergonomics*, 36(4): 301-312, 2006.

Hoyle, J.A. (April, 2009). "Leveraging technology to answer difficult ergonomic questions: Assessing risk and justifying solutions." Presented at Ohio Safety Congress and Exposition, Columbus, OH.

AFFILIATIONS

- Associate Ergonomics Professional (AEP), 2006-Present
- Member, Human Factors and Ergonomics Society, 2003-Present
- Member, Institute of Industrial Engineers, 2005-Present
- Member, Alpha Pi Mu, Industrial Engineering Honors Society, 2002-Present
- Member, Phi Kappa Phi Honors Society
- Alumnus, Pi Kappa Alpha Fraternity