

Michael J. Kuzel, P.E., CHFP
Principal Engineer

Professional Profile

Mr. Michael J. Kuzel is a Principal Engineer at Exponent's Test and Engineering Center in Phoenix, Arizona. Mr. Kuzel's expertise is in human factors and accident reconstruction. Applying his experience and training in biomechanics, engineering, and psychology, he specializes in the analysis of human capabilities, performance, and behavior in relation to accident causation. Mr. Kuzel has over a decade of experience analyzing accidents and human interactions with a wide variety of transportation modes, in industrial and construction environments, in public environments, and with consumer products. Within these scenarios, he has addressed human factors issues related to physical performance and behavior, attention and information processing, perception-reaction time, environment/product/task design, visibility and lighting, audible alarms and warnings, and distractions from mobile devices. Mr. Kuzel has also reconstructed accidents involving planar collisions (low and high speed), rollovers, heavy trucks, heavy machinery, motorcycles and bicycles, and pedestrians. He has experience using traditional methodologies and computer programs and simulations in accident reconstruction. Mr. Kuzel has been admitted to testify in state and federal court.

Prior to his career in the field of accident investigation, Mr. Kuzel held several positions in industry. As a biomechanical engineer, he assisted in the development, sales, and marketing of a medical device that assessed cervical spine motion. He worked as a research engineer conducting testing of orthopedic constructs and instruments, and participated in research projects related to design and testing of new orthopedic devices. In addition, Mr. Kuzel has acted as a technical consultant to hospitals in the areas of equipment management and analysis, system acquisition and implementation, quality assurance, and safety.

Academic Credentials and Professional Honors

M.S.E., Industrial Engineering (Human Factors emphasis), Arizona State University, 2000
B.S.E., Bioengineering (Biomechanics emphasis), Arizona State University, 1993

Licenses and Certifications

Registered Professional Engineer, Arizona, #45695
Certificant, Board of Certification in Professional Ergonomics, CHFP #1136
English XL Variable Incidence Tribometer, CXLT (pedestrian surface friction measurement)
OSHA Certified Forklift Operator, #20076

Specialized Training

The Role of Warnings and Instructions, University of Wisconsin-Madison, Department of Engineering Professional Development (11/08)
Trainer Course in Occupational Safety & Health Standards for Construction Industry, OSHA Training Institute, Rocky Mountain Education Center, Lakewood, CO (03/08)
Crash Data Retrieval Specialist Certification Course, Collision Safety Institute, Inc. (07/04)
Accident and Incident Investigation, OSHA Training Institute, University of California, San Diego, (05/04)
Trainer Course in Occupational Safety & Health Standards for General Industry, OSHA Training Institute, University of California, San Diego, (02/02)
Basics of Outdoor Lighting, Illumination Engineering Society of North America, (09/02)
Accident Reconstruction I, Institute of Police & Technology Management, (06/99)

Patents

Patent D361,110: Golf Club Grip: August 8, 1995.

Publications and Published Abstracts

Cuadrado J, Kuzel M, Crosby C, Ward N. A survey of driver side view mirror blindzone settings. XXIIIrd Annual International Occupational Ergonomics and Safety Conference, Tempe, AZ, 2010.

Heller M, Kuzel M. Fashion footwear and the risk of falling in young women. Proceedings, 2010 International Conference on Fall Prevention and Protection, Morgantown, WV, 2010.

Kwasniak A, Kuzel M. French lessons: A review of an effective road safety program. ITE Journal, August 2009.

Heller M, Kuzel M, Kwasniak A, Cuadrado J. Individuals' abilities and behaviors and current technologies in intersection crosswalks. ITE Journal, December 2008.

Kuzel MJ, Heller MF, Sala JB, Ciccarelli L, Gray R. An analysis of real-world accidents involving distracted pedestrians. Proceedings, XXth Annual International Occupational Ergonomics and Safety Conference, Chicago, IL, 2008.

Kuzel M, Heller M, Gray R, DiJorio S, Straughn S. Perception and cognition during walking while concurrently using a cellular phone. Proceedings, International Conference on Contemporary Ergonomics, Nottingham, UK, April 1–3, 2008.

Heller M, DiJorio S, Kuzel M, Carhart M, Ciccarelli L. Effect of shoe type on kinematics of stair negotiation in women. Proceedings, International Conference on Contemporary Ergonomics, Nottingham, UK, April 1–3, 2008.

Larson R, Fowler GF, Kuzel M, Stubbs A, Brown J, Donelson AC. Single-vehicle rollovers involving an initial off-roadway excursion followed by a return to roadway: A NASS study and Vehicle Response Measurement. SAE 2008-01-0159, SAE 2008 World Congress, Society of Automotive Engineers, Warrendale, PA, April 2008.

Kuzel M, Krauss D, Moralde M, Kubose T. Comparison of subjective ratings of slipperiness to the measured slip resistance of real-world walking surfaces. Proceedings, International Conference on Slips, Trips and Falls 2007—From Research to Practice, Hopkinton, MA, IEA Press, August 23–24, 2007.

Krauss D, Kuzel M, Cassidy P, Goodman J. A review of technologies for studying visual perception under low-illumination conditions. Proceedings, 50th Annual Meeting of the Human Factors and Ergonomics Society, Santa Monica, CA, 2006.

Cargill R, Scher I, Vijayakumar V, Richards D, Kuzel M. Examining bumper cars as a surrogate for low-speed rear-end and frontal collisions. Oral presentation, Occupational and Impact Injury Biomechanics, 5th World Congress of Biomechanics, Munich, Germany, July 31, 2006.

Krauss D, Kuzel M, Arndt S, Delahunt P. Validation of digital image representations of low-illumination scenes. SAE 2006-01-1288, SAE 2006 World Congress, Society of Automotive Engineers, Warrendale, PA, April 2006.

Kuzel M, Richard D, Werner S. The effect of stiffness coefficients on output variables in EDSMAC4 Simulations. SAE 2006-01-1396, SAE 2006 World Congress, Society of Automotive Engineers, Warrendale, PA, April 2006.

Kuzel M. Office lighting and worker productivity: An interrupted time series quasi-experiment. Thesis submitted in completion of Master's Degree in Industrial Engineering, Arizona State University, Tempe, Arizona, August 2000.

Professional Affiliations

- Society of Automotive Engineers (member; peer reviewer)
- American Society of Safety Engineers (member)
- Human Factors and Ergonomics Society (member, peer reviewer)
- International Society of Occupational Ergonomics and Safety (member)
- ASTM International Pedestrian/Walkway Safety and Footwear Committee (member)