



12750 Commonwealth Drive
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KATIE B. ZAKUTANSKY

SENIOR STAFF CONSULTANT

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Ms. Katie Zakutansky is a Senior Staff Consultant and biomechanical engineer at Engineering Systems Inc. (ESi), where she specializes in the application of biomechanics across a broad range of industries, including transportation, consumer products, marine, recreational, and medical devices.

Her expertise encompasses biomechanical analysis, injury mechanisms, accident investigation, risk assessment, and human performance evaluation. Ms. Zakutansky is actively involved in investigative and hands-on research to understand how individuals interact with various environments and systems. Her professional background also includes failure analysis, product research and development, and the analysis of human performance under a variety of conditions. Ms. Zakutansky brings a rigorous, interdisciplinary approach to each case and project, integrating engineering principles with human factors expertise.

Areas of Specialization

Biomechanical Accident Reconstruction
Human Factors and Ergonomics
Injury Analysis
Medical Devices
Product Safety and Design
Safety and Risk Assessment
Sports and Fitness Equipment
Experimental Testing

Education

B.S., Biomedical Engineering, Marquette University, 2016

Professional Affiliations/Honors

American Boat and Yacht Council (ABYC), Member
Professional Ski Instructors of America & American Association of Snowboard Instructors (PSIA-AASI), Member
American Association of University of Women, Member
Pi Mu Epsilon (Mathematics Honor Society), Member
ASTM International – Subcommittee F27, Member
ASTM International – Subcommittee F15.82, Member
American Society of Biomechanics (ASB), Member

Positions Held

Engineering Systems Inc., Fort Myers, Florida
Senior Staff Consultant, 2024 – Present
Staff Consultant, 2020 – 2023

Floyd Inc., Detroit, Michigan
Product Design Engineer, 2019

Zimmer Biomet, Warsaw, Indiana
NPI Design Quality Engineer, 2017 – 2018
Development Engineer, 2016 – 2017

South Shore Marina, Portage, Indiana
Staff Engineer, 2016

Trek Bicycle, Waterloo, Wisconsin
Mechanical Engineering Co-Op, 2014 – 2016

Continuing Education

Pedestrian/Bicycle Investigation I
Institute of Police Technology and Management, University of North Florida, Miami, FL

Event Data Recorder Update and Analysis
Ruth Consulting, Norcross, Georgia

Mycometer Surface Fungi, Mycometer
Norcross, Georgia

Human Factors in Traffic Crash Reconstruction, IPTM
Miami, Florida

Traffic Crash Reconstruction
Northwestern University Center for Public Safety, Norcross, Georgia

FARO 3D Scanner Certification; FARO
Norcross, Georgia

OSHA 30-Hour General Industry Health and Safety Certification
University of South Florida, Tampa, Florida

Miscellaneous

Forklift Certified Operator, 2022
First Aid Certified / Basic CPR Certified & Certified in Basic Life Support
PADI Open Water Certified SCUBA Diver, 2013
Six Sigma Yellow Belt, 2017

Selected Technical Investigations

Amusement Parks and Other Recreational Land and Water Sports
Bicycle Protective Equipment
Biomechanical Analysis of Low-Speed Vehicle Crashes
Consumer Products (Household Appliances, Toys, Active Lifestyle Equipment, etc.)
Evaluation, Review, and Update of Owner's Manuals and On-Product Labels
Medical Devices (Orthopedic Implants, Assistive Device Design, etc.)
Night-time Visibility / Conspicuity and Visibility Obstructions
Pedestrian / Vehicle and Bicycle / Vehicle Crashes
Pediatric and Adult Surrogate Testing
Snow Sport Injury Consistency Analysis
Sports and Fitness Equipment
Water Intrusion Injury Testing

Publications/Presentations

Brickman, D.B., Mohorovic, J.P., **Zakutansky, K.B.**, Mathias, A.C., Shibata, P.A., "Aboveground Swimming Pool Child Access Prevention Through Product Design," Proceedings of the XXXVIth Annual International Occupational Ergonomics and Safety Conference, Denver, CO, August 5-6, 2024.

Brickman, D.B., Kruger, D.H., Loomis, S.P., **Zakutansky, K.B.**, McGillicuddy, J.S., Thibault, B.A., "Industrial Tugger 3-Dimensional Convergence Accident Reconstruction Technology," Proceedings of the XXXVIth Annual International Occupational Ergonomics and Safety Conference, Denver, CO, August 5-6, 2024.

Winkel, E. S., **Zakutansky, K.B.**, Schirmann, M., Breen, K. C., Taylor, R. K., "Water Intrusion Injuries: Occupant Kinematics and Pressure Exposure During Rearward Falls from a Personal Watercraft", Society of Automotive Engineers, Journal of Transportation Safety, 11(1), 2023.