



KATIE B. ZAKUTANSKY
SENIOR STAFF CONSULTANT

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Ms. Katie Zakutansky is a biomechanical engineer and Senior Staff Consultant for Engineering Systems Inc. (ESi). At ESi, she works closely with the transportation, consumer product, marine, recreational, and medical device industries in biomechanical analysis, injury causation, accident investigation and reconstruction, and human motion analysis. Ms. Zakutansky routinely takes part in the investigative, hands-on research aspects of these disciplines. Her professional experience includes failure analysis, product research, and human performance analysis.

Areas of Specialization

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

Education

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

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

Professional Affiliations/Honors

PSIA-AASI

Member

American Association of University 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

Selected Technical Investigations

Evaluation, review, and update of owner's manuals and on-product labels
Scald burn incident evaluation
Sports and fitness equipment
Amusement parks and other recreational land and water sports
Medical devices (orthopedic implants, assistive device design, etc.)
Consumer products (household appliances, toys, active lifestyle equipment, etc.)
Night-time visibility / conspicuity and visibility obstructions
Biomechanical analysis of low-speed vehicle crashes
Bicycle protective equipment
Pedestrian / vehicle and bicycle / vehicle crashes
Snow sport injury consistency analysis
Pediatric and adult surrogate testing
Water intrusion injury testing

Continued Education

Event Data Recorder Update & 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

Certified Forklift Operator, 2022

Certified in First Aid & CPR/Basic Life Support

PADI Certified Open Water SCUBA Diver, 2013

Six Sigma Yellow Belt, 2017

Publications

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