



## Alexandra Ingram

MSME

Biomechanist

### Department

Accident Reconstruction & Forensic Animation

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### Locations

Salt Lake City, UT

## Biography

Alex joined the accident reconstruction and biomechanics industries in 2016. During her time as a NIOSH Research Fellow in the University of Utah's Ergonomics and Safety Lab, Alex led and participated in novel biomechanics research, including real-time occupational hazard assessments of alpine ski instructors, the effects of auditory warnings on head injury kinematics, and hospital patient trip and fall prevention. She has also worked on industry-sponsored research projects on player safety led by the National Hockey League and Major League Baseball. Some of her research findings have been published in scientific journals or presented at national research conferences. Alex has extensive experience applying the principles of biomechanics and accident reconstruction to evaluate a wide range of motor-vehicle-related and non-motor vehicle-related incidents. This includes incidents involving pedestrians, bicycles, small aircraft, occupational hazards, motorcycles, and heavy equipment.

Alex earned her Bachelor of Science in Bioengineering from Syracuse University in 2015 and her Master of Science in Mechanical Engineering from the University of Utah in 2022. She is certified by the FAA to fly drones for commercial use, and is currently pursuing her ACTAR certification.

## Credentials

- MSME | Master of Science - Mechanical Engineering
- FAA Certified Drone Pilot

## Representative Consulting Assignments

- | Vehicle Collision Analysis | Investigation and analysis of single and multi vehicle crashes involving passenger vehicle, motorcycle, bicycle, and heavy trucks
- | Injury Potential Analysis | Biomechanical evaluation to determine human body motions, kinematics, and loading and how they compare to established injury tolerance thresholds
- | Bicycle Accident Analysis | Investigation and analysis of bicycle accidents and the associated biomechanical and human factors
- | Seatbelt Use Analysis | Determination of whether a seatbelt was being worn and how seatbelt use influenced injury outcomes
- | Site Mapping and Visual Recreation | Use photography, drones, laser scanners, and hand measurements to document accident sites for accurate reconstruction and graphics

## Professional Experience

- 2024 - Current | Biomechanist | YA Engineering Services
- 2016 - 2020 | Coordinating Engineer / Biomechanist | ARCCA

## Area of Practice

- Accident Reconstruction
- Biomechanics
- Human Factors
- Slip and Fall Evaluations

## Publications and Presentations

- 2022 - Alex Ingram, Garret Peterson, Jansen Jones, Katherine Castro, Olose Obuhoro, Scott Collingwood, Melissa Cheng, Kenneth L. d'Entremont. "Ergonomic Assessments for Waste-Processing Workers." Abstract Booklet of the 20th Annual Utah NORA Symposium
- 2021 - Dorien Butter, Alexandra Ingram, Anna Florell, Bob Wong, Andrew Merryweather, and K. Bo Foreman. "Influence of Object Characteristics on Stability During a Perturbation." Abstract Proceedings of the 45th Annual Meeting of the American Society of Biomechanics
- 2021 - Mohammad Homayounpour, Nicholas G Gomez, Alexandra Ingram, Brittany Coats, Andrew S Merryweather. "Cervical Muscle Activation Characteristics and Head Kinematics in Males and Females Following Acoustic Warnings and Impulsive Head Forces." 2021. Annals of Biomedical Engineering.

## Education

- University of Utah - Master of Science - Mechanical Engineering - Salt Lake City - Utah
  - Syracuse University - Bachelor of Science - Bioengineering - Syracuse - New York
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