

Alan Dibb, Ph.D., P.E.
Senior Engineering Consultant

Specialized Professional Competencies

- Biomechanical analysis of traumatic events to evaluate the severity and mechanisms of injury
- Occupant kinematics analysis to assess movement and loading during motor vehicle crashes, including frontal, rear-end, side, and rollover collisions
- Vehicle component and restraint design analysis to determine effect on human injury potential
- Human surrogate testing and analysis

Education

Doctor of Philosophy in Biomedical Engineering, Duke University, 2011

Bachelor of Science in Mechanical Engineering, Brigham Young University, 2003

Professional Experience

Design Research Engineering, Senior Engineering Consultant, September 2025–present

Carr Engineering, Inc., Senior Engineer, 2024–August 2025

Exponent, Inc., 2011–2023

Managing Engineer, 2016–2023

Associate/Senior Engineer, 2011–2016

Injury and Orthopedic Biomechanics Laboratory, Duke University, Research Associate, 2003–2011

Professional Affiliations

Member - Society of Automotive Engineers (SAE)

Member - American Society of Mechanical Engineers (ASME)

Member - American Society of Biomechanics (ASB)

Research Activities

- Occupant kinematics and injury response in various modes of crash loading
- Evaluations of automotive restraints
- Performance of laminated glass
- Cadaveric and computational studies of the head and neck in response dynamic frontal deceleration, compression, and tension modes of crash induced loading
- Injury tolerance and kinematics of the adult and pediatric head and neck
- Biofidelity of crash test dummies