

Marzieh M. Ardestani

Senior Consultant / New Orleans



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Background

Dr. Ardestani holds a B.S in Biomedical Engineering, an M.S. degree in Control Engineering, and a Ph.D. in Mechanical Engineering with special emphasis on human biomechanics. Her Ph.D. research focused on the use of experimental and computational biomechanics in the field of orthopedic surgery with a specific emphasis on the design and implantation of orthopedic implants for the knee, hip, and spine. Dr. Ardestani has also completed two post-doctoral trainings in sport biomechanics and physical medicine.

Dr. Ardestani's prior experience in academia includes design and implementation of clinical research trials investigating medical device failure and sport injuries, as well as injuries to human musculoskeletal and nervous systems, such as spinal cord and brain injuries. Furthermore, Dr. Ardestani has an extensive background in computer simulation, computational modeling, and numerical analyses of the human body to investigate joint contact mechanics, injury causation, and failure mechanism. Dr. Ardestani's additional expertise is in experimental biomechanics and in the use of various devices such as infrared cameras, accelerometers, and force sensors to quantify human movement. Her research achievements have been documented through 20+ peer-reviewed journals and 10+ international conferences in North America and Asia.

Due to her multidisciplinary background in electronics, as well as control and mechanical engineering, Dr. Ardestani currently performs both biomedical and biomechanical analyses on cases involving medical device failure, hospital equipment malfunction, worker compensation claims, and accidental injuries from vehicle accidents or falling objects, as well as falls due to slipping/tripping. Her primary areas of expertise include injury potential and/or injury consistency, determining crash severity, vehicle crash data retrieval (“black box” data retrieval), occupant kinematics, and speed analysis.

Education and Certifications

- Mechanical Engineering, Ph.D.: Xi’an Jiao Tong University
- Control Engineering, M.S.: Isfahan University of Technology
- Biomedical Engineering, B.S.: Isfahan University