LISKE

ACCIDENT & INJURY EXPERTS

CURRICULUM VITÆ

PRASANNAAH HADAGALI

"Dr. Hadagali specializes in orthopedic biomechanics, occupant safety, injury biomechanics in vehicle collisions, and biomechanical assessments of protective devices, such as neck braces and helmets, using finite element (FE) human body models."

Ph.D. Mechanical Engineering (Biomechanics)

M.Sc. Biomedical Engineering (Biomechanics)

B.S. Biomedical Engineering

1. BIOGRAPHY

Dr. Hadagali completed his PhD in Biomechanics from the University of Waterloo (UW), where his doctoral research focused on assessing tissue-level responses in rotary-wing aircrew neck due to added head-supported mass and various head-neck positions. Prior to joining UW, Dr. Hadagali worked as an Engineer I and Project Appointment Researcher at the Medical College of Wisconsin (MCW) in the USA. At MCW, he investigated the risk of crash-induced injuries in car occupants using advanced human body models and computational tools. He also collaborated with the experimental team conducting sled tests, which provided data for human body model validations. Dr. Hadagali holds a master's degree in Biomedical Engineering from Drexel University, where his thesis focused on developing personalized finite element models of deformed spines.

2. SPECIALIZED PROFESSIONAL COMPETENCIES

1. **Impact and Injury Analysis**
    - Corridor generation on post-mortem human surrogates experimental data in frontal impacts.
    - Injury assessments on lumbar motion-segment specimens under dynamic compression.
    - Kinematic evaluations of occupants in vehicle crashes, particularly far-side crashes.
    - Influence of seatbelt, airbag, and other vehicle components on lumbar spine forces in frontal impacts.
2. **Biomechanics of the Neck**
    - Global and intervertebral physiologic kinematics assessments in neck finite element models.
    - Quantification of ligament contributions in the upper cervical spine using finite element models.
    - Assessment of stresses and strains in rotary-wing aircrew neck tissues due to head-supported mass and head-neck positions using finite element models.
3. **Dynamic Motion Analysis**
    - Biomechanics of lumbar motion-segments under dynamic compression.
4. **Human Body Models**
    - Use of advanced human body finite element models (GHBMC) for injury risk assessment.

- Use of ATD finite element models (Hybrid III) for injury risk assessment.

5. **Scoliosis Research**

   - Development and validation of adolescent spine FE models with age-specific material properties.
   - Kinematic assessments on adolescent idiopathic scoliosis spine FE models.

6. **Finite Element Modeling**

   - Biofidelity enhancements in existing human body finite element models.
   - Methodology to develop personalized finite element models of scoliosis spines for medical applications.
   - Methodology to accurately capture in vivo head-neck positions in finite element models.

Click here to request the full CV of Dr. Prasannaah Hadagali