



CURRICULUM VITAE
AKSHARA SREEDHAR

EDUCATION

- 2021 MS THE OHIO STATE UNIVERSITY, COLUMBUS, OH
Mechanical Engineering
- 2018 BS THE OHIO STATE UNIVERSITY, COLUMBUS, OH
Materials Science and Engineering

PROFESSIONAL EXPERIENCE

- 2021 – DATE VECTOR SCIENTIFIC, INC. – GOLDEN, CO
*Biomechanical Engineer / Research Investigator
Injury Biomechanics*
- 2019 – 2021 INJURY BIOMECHANICS RESEARCH CENTER – THE OHIO STATE UNIVERSITY
Graduate Research Associate, PMHS Screening Coordinator, 3D Printing POC
- 2016 – 2018 INJURY BIOMECHANICS RESEARCH CENTER – THE OHIO STATE UNIVERSITY
Undergraduate Research Assistant
- 2018 – 2018 FUNDAMENTALS OF PRODUCT DESIGN IN MECHANICAL ENGINEERING – THE OHIO STATE UNIVERSITY
Graduate Teaching Assistant / Grader
- 2018 – 2018 ETHICON ENDO-SURGERY, JOHNSON & JOHNSON MEDICAL DEVICE COMPANY – BLUE ASH, OH
Research and Development Co-op in Energy Franchise
- 2017 – 2017 ETHICON ENDO-SURGERY, JOHNSON & JOHNSON MEDICAL DEVICE COMPANY – BLUE ASH, OH
Research and Development Co-op in Lifecycle Engineering
- 2017 – 2017 GENERAL MOTORS POWERTRAIN MANUFACTURING – BEDFORD, IN
Melting/Metallurgy Intern in Small Gas Engine Die Casting Operations

CERTIFICATIONS AND COURSES

- 2019 – DATE NATIONAL CHILD PASSENGER SAFETY TECHNICIAN
NHTSA and Safe Kids Worldwide Certified
- 2022 INJURY BIOMECHANICS AND TRAFFIC CRASH RECONSTRUCTION COURSE
Northwestern University Center for Public Safety, May 9-11, 2022 – Schaumburg, IL

RESEARCH PROJECTS

- 2023 CISS (CRASH INVESTIGATION SAMPLING SYSTEM) INJURY DATABASE PROJECT
Vector Scientific, Inc. (VSI) Injury Biomechanics Division
Principal Investigator
- 2019 – 2021 THORACIC HIERARCHY HUMAN VARIABILITY IN THORAX BIOMECHANICS
Injury Biomechanics Research Center – The Ohio State University
Sponsor: National Highway Traffic Safety Administration (NHTSA)
Graduate Research Associate
- 2019 – 2021 ELDERLY SIDE-IMPACT WHOLE BODY PROJECT
Injury Biomechanics Research Center – The Ohio State University
- 2019 – 2021 HAV (HIGHLY AUTOMATED VEHICLES) BIOMECHANICS PROJECT
Injury Biomechanics Research - The Ohio State University & Transportation Research Center
- 2019 – 2020 BELT FIT AND BELT TORSO CONTACT OF CHILDREN ON BELT POSITIONING BOOSTERS (BPB)
Injury Biomechanics Research Center – The Ohio State University
Sponsor: Center for Child Injury Prevention Studies (CChIPS)
- 2019 – 2020 PHMS IMPACT BIODYNAMICS USING VERTICAL IMPULSE ACCELERATOR
Injury Biomechanics Research Center – The Ohio State University & Wright-Patterson Air Force Base (WPAFB)
- 2018 – 2018 SENIOR DESIGN PROJECT – FRACTURE TOUGHNESS OF DISSIMILAR IMPACT WELDS
Impulse Manufacturing Lab - The Ohio State University
- 2016 – 2021 DYNAMIC WHOLE RIB PROJECT – HUMAN VARIABILITY IN THORAX BIOMECHANICS
Injury Biomechanics Research Center – The Ohio State University
Sponsor: National Highway Traffic Safety Administration (NHTSA)
Undergraduate Research Assistant 2016-2018, Graduate Research Associate 2019 – 2021

PUBLICATIONS AND CONFERENCE PROCEEDINGS

Sreedhar A, Agnew AM, Bolte JH, Murach M, Ramachandra R, Kang YS. Development of a Strain-Based Model to Predict Eviscerated Thoracic Response from Dynamic Individual Rib Tests. *J Biomech Eng.* 144(10):101009. Doi: 10.1115/1.4054412, Oct 2022.

Agnew AM, Sreedhar A, Bolte JH, Kang YS. Exploratory Comparison of Human Rib Structural Behavior in Two Dynamic Loading Scenarios. *Proceedings of International Research Council on Biomechanics of Injury (IRCOBI) Online Conference, 2021.*

** Best Presentation of Thoracic Injuries Session*

Sreedhar A. The Development of an Analytical Model to Predict Thoracic Response from Dynamic Individual Rib Tests. 2021 Masters Thesis. The Ohio State University.

Sreedhar A, Kang YS, Bolte JH, Murach MM, Stammen J, Moorhouse K, Ramachandra R, Agnew AM. A Hierarchical Exploration of Rib Strain in Dynamic Frontal Thoracic Impacts. *Proceedings of International Research Council on Biomechanics of Injury (IRCOBI) Conference, 2020.*

Agnew AM, Wascher M, Sreedhar A, Bolte JH, Stammen J, Moorhouse K, Kang YS. Characteristics of Vulnerable Occupants Predicted by Rib Structural Properties. *Proceedings of International Research Council on Biomechanics of Injury (IRCOBI) Conference, 2020.*

Tillis M, Stuckey S, Sreedhar A, Stammen J, Moorhouse K, Agnew A, Kang YS. Preliminary Methods for Modeling Stress-Strain Curves of Human Ribs from Structural Dynamic Bending Tests. Proceedings of International Research Council on Biomechanics of Injury (IRCOBI) Conference, 2020.

Agnew AM, Murach MM, Dominguez VM, Sreedhar A, Misicka E, Harden A, Bolte JH, Kang YS, Stammen J, Moorhouse K. Sources of Variability in Structural Bending Response of Pediatric and Adult Human Ribs in Dynamic Frontal Impacts. *Stapp Car Crash Journal* 62, 2018.

**Awarded John Paul Stapp Award for Best Paper of 2018 Stapp Conference*

ORAL PRESENTATIONS

Weimer Z, Storvik SG, Clark JM, Sreedhar A. Accident Reconstruction and Injury Biomechanics in Low-Speed Motor Vehicle Collisions. *CLE Accredited Seminars*, Colorado, USA, November 2022.

Baker WA, Storvik SG, Clark JM, Sreedhar A. Accident Reconstruction and Injury Biomechanics in Low-Speed Motor Vehicle Collisions. *CLE Accredited Seminars*, Colorado, USA, June 2022.

Sreedhar A, Kang YS, Bolte JH, Murach MM, Ramachandra R, Agnew AM. A Hierarchical Exploration of Rib Strain in Dynamic Frontal Thoracic Impacts. Virtual Presentation at the International Research Council on Biomechanics of Injury (IRCOBI) Online Session, September 2020.

Sreedhar A, Kang YS, Bolte JH, Murach MM, Ramachandra R, Agnew AM. A Hierarchical Exploration of Pediatric Thoracic Response in Dynamic Frontal Impacts. Presentation at the 47th International Workshop on Human Subjects for Biomechanical Research, San Antonio, TX, November 2019.

Sreedhar A, Kang YS, Stammen J, Moorhouse K, Agnew AM. Investigation of Repeat Anterior- Posterior Loading of Human Ribs. Poster presentation at the 15th Annual Injury Biomechanics Symposium, Columbus, OH, May 2019.

Sreedhar A, Kang YS, Albert D, Kemper A, Agnew AM. Geometric and Material Properties Contributions to Rib Response Variation in Dynamic Loading. Poster presentation at the 14th Annual Injury Biomechanics Symposium, Columbus, OH, May 2018.

Sreedhar A, Kang YS, Albert D, Kemper A, Agnew AM. Relationship Between Structural Properties in Anterior-Posterior Loading and Material Properties in Coupon Testing of Human Ribs. Poster presentation at the 23rd Annual Denman Undergraduate Research Forum at The Ohio State University, Columbus, OH, March 2018.

Sreedhar A, Kang YS, Albert D, Kemper A, Agnew AM. Relationship Between Structural Properties in Anterior-Posterior Loading and Material Properties in Coupon Testing of Human Ribs. Poster presentation at the 3rd Annual Engineering in Healthcare: Industry and Research Symposium Forum at The Ohio State University, Columbus, OH, March 2018.

**Awarded 2nd place*

Sreedhar A, Murach MM, Kang YS, Agnew AM. Relationship Between Peak Localized Deformation and Global Displacement of Human Ribs in Antero-posterior Loading. Poster presentation at the 22nd Annual Denman Undergraduate Research Forum at The Ohio State University, Columbus, OH, March 2017.

Sreedhar A, Murach MM, Kang YS, Agnew AM. Relationship Between Peak Localized Deformation and Global Displacement of Human Ribs in Antero-posterior Loading. Poster presentation at the 8th Annual Undergraduate Research Forum for Engineering and Architecture Students Forum at The Ohio State University, Columbus, OH, March 2017.

**Awarded 2nd Place*

Sreedhar A, Murach MM, Kang YS, Agnew AM. Variation in Peak Strain with Age in Human Ribs. Poster presentation at the Second Year Transformational Experience Program (STEP) Student Expo Ohio State University; Columbus, OH, October 2016.

CONFERENCES AND SEMINARS

- 2023 Advances in Child Injury Prevention Conference (ACIP)
Center for Child Injury Prevention Studies (CChIPS) – Plymouth, MI
- 2023 National Child Passenger Safety Board Webinar – Airbags 201 – Online
- 2023 RCCADS Public Research Workshop
Research Consortium for Crashworthiness in Automated Driving Systems (RCCADS) - Online
- 2022 50th NHTSA Workshop on Human Subjects for Biomechanical Research – Denver, CO
- 2022 Advances in Child Injury Prevention Conference (ACIP)
Center for Child Injury Prevention Studies (CChIPS) – Plymouth, MI
- 2022 17th Annual Injury Biomechanics Symposium, The Ohio State University – Online
- 2021 49th NHTSA Workshop on Human Subjects for Biomechanical Research – Online
- 2021 International Research Council on Biomechanics of Injury (IRCOBI) – Online
- 2021 16th Annual Injury Biomechanics Symposium, The Ohio State University – Online
- 2020 International Research Council on Biomechanics of Injury (IRCOBI) – Online
- 2019 65th Annual Stapp Car Crash Conference – San Antonio, TX
- 2019 47th NHTSA Workshop on Human Subjects for Biomechanical Research – San Antonio, TX
- 2019 15th Annual Injury Biomechanics Symposium, The Ohio State University – Columbus, OH
- 2018 14th Annual Injury Biomechanics Symposium, The Ohio State University – Columbus, OH

PROFESSIONAL ORGANIZATIONS AND MEMBERSHIPS

- 2022 – DATE ASSOCIATION FOR THE ADVANCEMENT OF AUTOMOTIVE MEDICINE (AAAM)
- 2021 – DATE SOCIETY OF AUTOMOTIVE ENGINEERS (SAE)
PEER REVIEWER FOR SAE INTERNATIONAL JOURNAL OF TRANSPORTATION SAFETY
- 2014 – DATE SOCIETY OF WOMEN ENGINEERS (SWE)