

Brian E. Overby

Curriculum Vitae

Center for Applied Biomechanics

University of Virginia

4040 Lewis and Clark Drive

Charlottesville, Virginia 22911

(434) 297-8018

(434) 297-8083 (fax)

beo2g@virginia.edu

<http://www.centerforappliedbiomechanics.org>

Education

Master of Engineering, Mechanical and Aerospace Engineering University of Virginia, May 2003

Bachelor of Science, Department of Physics, Major: Physics, Minor: Math, Art, ISAT James Madison University, May 2000

Work Experience

University of Virginia Center for Applied Biomechanics Research Engineer (Lab Specialist 3)	2011-Current
University of Virginia, Center for Applied Biomechanics Research Assistant (Sled Technician)	2010- 2011
University of Virginia, Center for Applied Biomechanics Temporary Research Assistant	2008- 2009
University of Virginia Center for Applied Biomechanics Graduate Research Assistant	2002- 2003
University of Virginia Teaching Assistant	2001-2002
University of Virginia, ROMAC Graduate Research Assistant	2000-2001

Projects

- Analyzed the effect of pole shape and resultant electromagnetic force in heteropolar and homopolar magnetic using finite element analysis.
- Aided in designing and constructing an apparatus for thoracic characterization test.
- Analyzed acoustic and strain gage data of rib fracture for thoracic characterization tests.
- Served as a technician during thoracic characterization tests.
- Aided in designing an apparatus for ankle characterization tests.

- Carried out experiments concerning the material characterization of muscle and fatty tissue.
- Aided in the material characterization of the aorta through biaxial stress strain tests.
- Aided in the material characterization of brain tissue through point indentation tests.
- Aided in blast brain tests.
- Aided in designing a bone coupon testing device.
- Aided in designing and constructing shock tube housing for blast brain tests.
- Constructed three dimensional models for side impact tests.
- Constructed three dimensional models for ejection seat tests.
- Aided in designing and constructing DRoTS (Dynamic Rollover Test System).
- Assisted in seven full collision DRoTS Test with vehicle preparation, gantry setup, testing and cleanup.
- Aided in the design of a seatbelt force attenuating device for NHTSA Gold Standard testing.
- Aided in the test setup for NHTSA Gold Standard experimentation.
- Assisted with the design and fabrication of the Turf Toe test fixture.
- Assisted with the design of the Lisfranc test fixture, augmentations of the Lisfranc test fixture, and supplemental X-ray and CT fixtures.
- Aided in the design and fabrication of the DRoTS Rollover Buck.
- Aided in the design and fabrication of the DRoTS Rollover Buck deformable Roof.
- Assisted in Rollover collision testing for NHTSA, Toyota, Hyundai, and Honda.
- Provided maintenance for both VIA and SESA sled systems.
- Aided in the design and fabrication of the Thoracic and Abdominal Belt Loading System (TABLS).
- Aided in the design and fabrication of a Recreational Off-road Vehicle Rollover Buck.
- Aided in the design, fabrication and testing of a DriverSITI Cell Phone Vehicle Side, Forward and Rear Impact Buck.

Research Interests and Activities

- Installation and operation of VIA sled and other laboratory test fixtures.
- CAD and Fabrication

Associations/Registrations

- National Ski Patrol

Awards

- 2013 SEAS Rewards and Recognition Awardee

Special Skills

- Extensive knowledge of Solidworks and other Cad/Cam systems.
- Design X reverse engineering software training.
- Basic Machining and Welding.
- Basic CNC Machine programming and operation.

Patents

- Kerrigan JR, Crandall JR, Bolton JR, Overby BE. “Rollover Test System Combination Roll Drive/Brake and Related Method”. U.S. Patent Application Serial No. 61/287,728, 18 December 2009. Provisional.
- Kerrigan JR, Crandall JR, Bolton JR, Overby BE. “Vehicle Rollover Test Fixture Vertical Brake System and Related Method”. US Patent Application Serial No. 61/287,726, 18 December 2009. Provisional.

Publications

- Darvish, KK, Overby, B, Crandall, JR. (2002) Dynamic Material Property Characterization of Human Aorta. in Biomedical Engineering Recent Developments, J. Vossoughi (ed.) Proceedings of the 21st Southern Biomedical Engineering Conference.
- Kent, RW, Sherwood, CP, Lessley, DJ, Overby, B, Matsuoka, F. (2003) Age-related changes in the effective stiffness of the human thorax using four loading conditions. IRCOBI Conference on the Biomechanics of Impact.
- Kerrigan, JR, Jordan, A, Parent, DP, Zhang, Q, Funk, JR, Dennis, NJ, Overby, B, Bolton, JR, Crandall, JR. (2011) Design of a dynamic rollover test system. SAE Transactions: Journal of Passenger Cars-Mechanical Systems, 4(1): 870-903.
- Zhang Q, Kerrigan J, Lessley D, Seppi J, Riley P, Foltz P, Lockerby J, Overby B, Sowers C, Crandall JR. (2013) Whole-body Kinematics: Response Comparison of the Hybrid III and Hybrid III Pedestrian ATD in DRoTS Rollover Tests. IRCOBI Conference on the Biomechanics of Impact.
- Joodaki, H, Forman, JL, Forghani, A, Overby, B, Kent, RW, Crandall, JR, Beahlen, B, Beebe, M, Bostrom, O. (2015) Comparison of Kinematic and Dynamic Behavior of an Obese Dummy and Obese PMHS in Frontal Sled Tests. Proceedings of the Injury Biomechanics Symposium at the Ohio State University, 11.
- Kerrigan, JR, Seppi, J, Lockerby, J, Foltz, P, Overby, B, Bolton, JR, Kim, T, Dennis, NJ, Crandall, JR. (2013) Test Methodology and Initial Results from a Dynamic Rollover Test System. Paper 2013-01-0468, Society of Automotive Engineers (SAE).
- Lessley, DJ, Riley, PO, Zhang, Q, Foltz, P, Overby, B, Heltzel, S, Sochor, M, Crandall, JR, Kerrigan, JR. (2014) Occupant Kinematics in Laboratory Rollover Tests: PMHS Response. Stapp Car Crash Journal, 58: 251-316.
- Zhang, Q, Lessley, DJ, Riley, PO, Toczyski, J, Lockerby, J, Foltz, P, Overby, B, Seppi, J, Crandall, JR, Kerrigan, JR. (2014) Occupant Kinematics in Laboratory Rollover Tests: ATD Response and Biofidelity Stapp Car Crash Journal, 58: 317-360.
- Lessley, DJ, Riley, PO, Zhang, Q, Foltz, P, Lockerby, J, Seppi, J, Overby, B, Sochor, MR, Crandall, JR, Kerrigan, JR. (2013) Whole-Body Kinematics in Dynamic Rollover Tests: A Comparison of PMHS Responses for Leading-Side and Trailing-Side Front-Row Seating Positions. International Workshop on Human Subjects for Biomechanical Research, 41, National Highway Traffic Safety Administration, US DOT.