

RCCADS Public Workshop

Wednesday, May 26, 2021

7:55-8:05 **Video Conference Open (additional time provided for connecting)**

8:05-8:15 **Welcome, Opening Remarks, and Logistics**

8:15-9:50 **Session 1: Restraint Systems / Pelvis**

8:15 Will New Seating Positions Require New Occupant Restraints?

Martin Östling
Autoliv Research

8:40 *A Methodology to Replicate Lap Belt Loading Conditions from a Sled Test in a Non-Dynamic Impact Environment

David Moreau, John Paul Donlon, Aida Chebbi, Mohan Jaythirtha, Rachel Richardson, Bronislaw Gepner, Jason Forman, Jason Kerrigan
University of Virginia Center for Applied Biomechanics

9:05 *Characterization of Subcutaneous Pelvic Adipose Tissue for Enhancement of Human Surrogate Models: Study Overview and Preliminary Data

F. Scott Gayzik¹, Austin M. Moore¹, Sam Efobi¹, Fang Chi-Hsu², Ryan Barnard², Jazmine Aira¹, Leon Lenchik³, Ashley A. Weaver¹
Wake Forest University School of Medicine, ¹Center for Injury Biomechanics, ²Biostatistics and Data Sciences, ³Radiology

9:30 Panel Q&A and Discussion

Martin Östling, David Moreau, F. Scott Gayzik

*RCCADS-Funded Projects

9:50-10:00 **Break**

10:00-11:45 **Session 2: Reclined Occupants / Forward-Facing**

10:00 Preliminary Observations of Human Surrogate Response in Forward-Facing Reclined Seats

Lauren Wood Zaseck, Matt Reed, Jonathan Rupp, Jingwen Hu
University of Michigan Transportation Research Institute

John Humm, Frank Pintar, Sagar Umale, Narayan Yoganandan
Medical College of Wisconsin

10:35 Modifications to the THOR-50M for Improved Usability in Reclined Postures – Update and Preliminary Findings

Jason Forman¹, Adrian Caudillo-Huerta¹, Justin McMahon¹, Matthew Panzer¹, William Marshall², Derek Winter², Matthew Seavers², Matthew Dyer², Paul Lemmen²
¹University of Virginia Center for Applied Biomechanics, ²Cellbond

11:00 *Evaluating the Biofidelity of THOR and Hybrid III in Reclined Frontal-Crash Sled Tests

Jason Kerrigan, Rachel Richardson, John Paul Donlon, Aida Chebbi, Mohan Jaythirtha, Bronislaw Gepner, Jason Forman
University of Virginia Center for Applied Biomechanics

11:25 Panel Q&A and Discussion

Lauren Wood, John Humm, Jason Forman, Jason Kerrigan

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11:45-12:15 Break

12:15-1:50 Session 3: Rear-Facing Occupants

12:15 PMHS Biomechanical Responses and Injury Mechanisms in Rear-Facing Rigid Seat Tests

Yun-Seok Kang
The Ohio State University

12:40 Biofidelity Assessment of THOR-50M and Hybrid III 50th ATDs in Rear-Facing Rigid Seat Tests

Alena Hagedorn
Transportation Research Center Inc.

1:05 *Examination of Rear-Facing Reclined Adult Occupant Response during Frontal Crash Simulations using THUMS: An Introduction

Costin Untaroiu¹, Yunzhu Meng¹, Andrew Kemper¹, Warren Hardy¹, Yun-Seok Kang², John H. Bolte IV²

¹Center for Injury Biomechanics, Virginia Tech, ²Injury Biomechanics Research Center, The Ohio State University

1:30 Panel Q&A and Discussion

Yun-Seok Kang, Alena Hagedorn, Costin Untaroiu

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1:50-2:00 Break

2:00-3:15 Session 4: Integrated Safety & Rear Seat Safety

2:00 Quantitative characterization of AEB pulses across the modern fleet: insights on the relationship between AEB pulse characteristics and occupant safety

Valentina Graci
Center for Injury Research and Prevention, Children's Hospital of Philadelphia

2:25 Pediatric Occupant Human Body Model Kinematic and Kinetic Response Variation to Changes in Seating Posture in Simulated Frontal Impacts – With and Without Automatic Emergency Braking

Jalaj Maheshwari
Center for Injury Research and Prevention, Children's Hospital of Philadelphia

2:50 Accuracy and Validity of ATD Finite Element Models for the Rear Seat during Frontal Crashes: Implications for Parametric Analyses

Costin Untaroiu, Yunzhu Meng, Akshay Dahiya, Andrew Kemper, Warren Hardy
Center for Injury Biomechanics, Virginia Tech

3:15-3:25 Concluding Remarks