MONDAY

8:50 WELCOME AND OPENING REMARKS
John W. Melvin, Tandelta Inc.

9:00 JOHN PAUL STAPP MEMORIAL LECTURE
Sports Concussion: A Clinician's Perspective
James T. Eckner, M.D., M.S
Assistant Professor, Physical Medicine and Rehabilitation
Research Director, Michigan NeuroSport
The University of Michigan Medical School

NEURAL TRAUMA, BIOMECHANICS, AND ASSESSMENT – PART 1
Co-Chairs: Warren N. Hardy, Virginia Tech-Wake Forest University Center for Injury Biomechanics
Xavier Trosseille, LAB PSA Peugeot-Citroën Renault

9:30 Development of a Duration Threshold for Modulating Evoked Neuronal Responses After Nerve Root Compression Injury
Kristen J. Nicholson, Julia C. Quindlen, Department of Bioengineering, University of Pennsylvania; Beth A. Winkelstein, Departments of Bioengineering and Neurosurgery, University of Pennsylvania

10:00 Injury Predictors for Traumatic Axonal Injury in a Rodent Head Impact Acceleration Model
Yan Li, Liying Zhang, Srinivasu Kallakuri, Runzhou Zhou, John M. Cavanaugh,
Department of Biomedical Engineering, Wayne State University

10:30-11:00 REFRESHMENT BREAK

NEURAL TRAUMA, BIOMECHANICS, AND ASSESSMENT – PART 2
11:00 Development of Head Injury Assessment Reference Values Based on NASA Injury Modeling
Jeffrey T. Somers, Wyle Integrated Science and Engineering Group; John W. Melvin, Tandelta, Inc.; Ala Tabiei, University of Cincinnati; Charles Lawrence, NASA Glenn Research Center; Robert Ploutz-Snyder, Universities Space Research Association Division of Space Life Sciences; Bradley Granderson, Wyle Integrated Science and Engineering Group; Alan Feiveson and Michael Gernhardt, NASA Johnson Space Center, Space and Life Sciences Directorate; John Patalak NASCAR Research & Development Center

11:30 SIMULATION OF HUMAN HEAD RESPONSE TO IMPACT LOADING USING NEWLY DEVELOPED BIOFIDELIC MATERIAL MODELS FOR BRAIN TISSUE
David L. Littlefield and Sandeep Kulathu, University of Alabama at Birmingham

12:00-2:00 LUNCH

RESTRAINT SYSTEM DEVELOPMENT AND PERFORMANCE – Part 1
Co-Chairs: Priya Prasad, Prasad Consulting, LLC
Harold J. Mertz, General Motors Corporation (retired)

2:00 Investigation on Occupant Ejection in High Severity Rear Impact based on Post Mortem Human Subject Sled Tests
Philippe Petit, LAB PSA-Peugeot Citroën Renault; Carole Luet and Pascal Potier, CEESAR; Guy Vallancien, Université René Descartes, Paris

2:30 Head Impact Mechanisms of a Child Occupant Seated in a Child Restraint System as Determined by Impact Testing
Ryoichi Yoshida, Hiroshi Okada, Mitsunori Nomura, Takata Corporation; Koji Mizuno, Nagoya University; Yoshinori Tanaka, Naruyuki Hosokawa, National Traffic Safety and Environment Laboratory

3:00-3:30 REFRESHMENT BREAK

RESTRAINT SYSTEM DEVELOPMENT AND PERFORMANCE – Part 2

3:30 Assessment of a Three-Point Restraint System with a Pre-tensioned Lap Belt and an Inflatable, Force-Limited Shoulder Belt
Richard Kent, Francisco J. Lopez-Valdes, Nate J. Dennis, University of Virginia Center for Applied Biomechanics; Jason Forman, University of Virginia Center for Applied Biomechanics/European Center for Injury Prevention at the University of Navarra; David Lessley, University of Virginia Center for Applied Biomechanics; Kazuo Higuchi, Hiromasa Tanji, Tadayuki Ato, Hikaru Kameyoshi, Takata Corporation; Kristy Arbogast, The Children's Hospital of Philadelphia

4:00 Biomechanical Assessment of a Rear-Seat Inflatable Seatbelt in Frontal Impacts
Srinivasan Sundararajan, Stephen W. Rouhana, Derek Board, Ed DeSmet, Priya Prasad (ret.) Ford Motor Company; Jonathan D. Rupp, Carl Miller, Lawrence W. Schneider, University of Michigan Transportation Research Institute

4:30 ANNOUNCEMENTS

TUESDAY

THORACIC AND ABDOMINAL INJURY BIOMECHANICS – PART 1
Co-Chairs: Stephen W. Rouhana, Ford Motor Company
John M. Cavanaugh, Wayne State University

9:30 Study of Rib Fracture Mechanisms Based on the Rib Strain Profiles in Side and Forward Oblique Impact
Tiphaine Leport, Pascal Baudrit, and Pascal Potier. CEESAR; Xavier Trosseille and Erwan Lecuyer, LAB PSA Peugeot-Citroën RENAULT; Guy Vallancien, Université René Descartes, Paris, France

10:00 Evaluation of Injury Criteria for the Prediction of Commotio Cordis from Lacrosse Ball Impacts
Nathan Dau, John Cavanaugh, Stephen Rouhana, Cynthia Bir, Wayne State University Bioengineering Center; Mark Link, Tufts New England Medical Center

10:30-11:00 REFRESHMENT BREAK

THORACIC AND ABDOMINAL INJURY BIOMECHANICS – PART 2

11:00 Response of PMHS to High- and Low-Speed Oblique and Lateral Pneumatic Ram Impacts
Heather Rhule, Vehicle Research and Test Center, National Highway Traffic Safety Administration; Brian Suntay, Rod Herriott, Tara Amenson and Jim Stricklin, Transportation Research Center, Inc.; John H. Bolte IV, The Ohio State University

11:30 Pressure-Based Abdominal Injury Criteria Using Isolated Liver and Full-Body Post-Mortem Human Subject Impact Tests
Matthew A. Kremer, Hannah M. Gustafson, John H. Bolte, IV The Ohio State University, Injury Biomechanics Research Laboratory; Rodney Herriott, Transportation Research Center Inc.; Jason Stammen, Bruce Donnelly, NHTSA Vehicle Research Test Center

12:00-2:00 LUNCH

2:00 **John Paul Stapp Best Paper Award** – Presentation by Lawrence W. Schneider, 2010 General Chair
The John Paul Stapp Award for the best paper of the 2010 Conference and Journal will be presented to Jason Hallman, Narayan Yoganandan, and Frank Pintar of the Department of Biomedical Engineering, Marquette University, the Department of Neurosurgery, Medical College of Wisconsin, and the Zablocki VA Medical Center for *Biomechanical and Injury Response to Posterolateral Loading from Torso Side Airbags*

Invitation and Call for Papers, 56th Stapp Conference, October 29-31, 2012, Savannah, Georgia

2:30 **Crash Protection for Child Passengers: An Updated Review of Best Practice – Invited Presentation**
Kathleen D. Klinich, Miriam Manary, University of Michigan Transportation Research Institute; Kathleen Weber, The University of Michigan

ATD RESEARCH AND ANALYSIS
Co-Chairs: Annette L. Irwin, General Motors Company
Dainius Dalmotas, D.J. Dalmotas Consulting, Inc.

3:00 **Region-Specific Deflection Responses of WorldSID and ES2-re Devices in Pure Lateral and Oblique Side Impacts**
Narayan Yoganandan, John Humm, Frank Pintar, Karen Brasel. Medical College of Wisconsin

3:30-4:00 **REFRESHMENT BREAK**

4:00 **Comparison of Hybrid III and THOR Dummies in Paired Small Overlap Tests**
Becky C. Mueller, Christopher P. Sherwood, Raul A. Arbelaez, David S. Zuby, Joseph M. Nolan, Insurance Institute for Highway Safety

4:30 **Statistical Simulations to Evaluate the Methods of the Construction of Injury Risk Curves**
Audrey Petitjean, Ceesar; Xavier Trosseille, LAB PSA Peugeot Citroën RENAULT

5:00 **ANNOUNCEMENTS**

WEDNESDAY

NECK, LOWER EXTREMITY, AND PEDESTRIAN RESEARCH
Co-Chairs: Frank Pintar, Medical College of Wisconsin
Philippe Beillas, French Institute of Science and Technology for Transport, Development and Networks (IFSTTAR)

9:30 **Muscular Response to Physiologic Tensile Stretch of the Caprine C5/6 Facet Joint Capsule: Dynamic Recruitment Thresholds and Latencies**
Nadia R. Azar, Department of Kinesiology, University of Windsor, Windsor, Ontario/ Bioengineering Center, Wayne State University; Srinivasu Kallakuri, Chaoyang Chen, John M. Cavanaugh, Bioengineering Center, Wayne State University

10:00 **Performance of Collision Damage Mitigation Braking Systems and their Effects on Human Injury in the Event of Car-to-Pedestrian Accidents**
Yasuhiro Matsui, National Traffic Safety and Environment Laboratory, Japan; Yong Han, Nagoya University, Japan, Hunan University, China; Koji Mizuno, Nagoya University, Japan

10:30 **Patterns of Acetabular Femoral Head Coverage**
Sven Holcombe, Carla Kohoyda-Inglis, Lu Wang, James A. Goulet, Stewart C. Wang, University of Michigan; Richard W. Kent, University of Virginia

11:00 **STAPP STUDENT AWARDS**

11:15 **ADJOURNMENT,** John W. Melvin, 2011 General Chair