Monday, October 29

9:20    WELCOME AND OPENING REMARKS
        John M. Cavanaugh, Wayne State University

9:30    JOHN PAUL STAPP MEMORIAL LECTURE
        A Retrospective Look at My Stapp Publications
        Albert I. King, Ph.D., Wayne State University

THORACIC BIOMECHANICS
Co-Chairs: Xavier Trosseille, LAB PSA Peugeot - Citroën Renault
          Frank A. Pintar, Medical College of Wisconsin

10:00   Kinematics of the Thoracoabdominal Contents under Various Loading Scenarios
        Meghan K. Howes and T. Stan Gregory, Virginia Tech-Wake Forest University, Center for Injury
        Biomechanics; Philippe D. Beillas, IFSTTAR; Warren N. Hardy, Virginia Tech-Wake Forest
        University, Center for Injury Biomechanics

10:30-11:00 REFRESHMENT BREAK

11:00   Thoraco-abdominal Deflection Responses of Post Mortem Human Surrogates in Side Impacts
        Narayan Yoganandan, John R. Humm, Frank A. Pintar, Karen H. Brasel, Medical College of
        Wisconsin; Rodney W. Rudd and Stephen A. Ridella, U.S. Department of Transportation, National
        Highway Traffic Safety Administration

11:30   Dynamic Properties of the Upper Thoracic Spine-Pectoral Girdle (UTSPG) System and
        Corresponding Kinematics in PMHS Sled Tests
        Jason A. Stammen, National Highway Traffic Safety Administration; Rodney Herriott, Transportation
        Research Center; Yun-Seok Kang, Rebecca Dupaix, John Bolte IV, The Ohio State University

12:00-2:00 LUNCH

NECK INJURY BIOMECHANICS
Co-Chairs: Priya Prasad, Prasad Engineering
          Philippe Beillas, IFSTTAR-Université Lyon 1

2:00    Biomechanical Responses of PMHS in Moderate-Speed Rear Impacts and Development of
        Response Targets for Evaluating the Internal and External Biofidelity of ATDs
        Yun-Seok Kang and John H Bolte IV, The Ohio State University; Kevin Moorhouse and Bruce
        Donnelly, NHTSA- Vehicle Research & Test Center; Rodney Herriott and Ann Mallory, Transportation
        Research Center

2:30    Evaluation of the Internal and External Biofidelity of Current Rear Impact ATDs to Response
        Targets Developed from Moderate-Speed Rear Impacts of PMHS
        Kevin Moorhouse and Bruce Donnelly, NHTSA – Vehicle Research & Test Center; Yun-Seok Kang and
        John H. Bolte IV, The Ohio State University; Rodney Herriott, Transportation Research Center Inc.

3:00    LECTURE -- Pain Generation in Whiplash: A Review of Mechanisms
        John M. Cavanaugh, Wayne State University

3:30-4:00 REFRESHMENT BREAK

COMPUTATIONAL INJURY BIOMECHANICS

4:00    Development of a Human Body Finite Element Model with Multiple Muscles and their Controller
        for Estimating Occupant Motions and Impact Responses in Frontal Crash Situations
        Masami Iwamoto, Yuku Nakahira, Hideyuki Kimpara, and Takahiko Sugiyama,
        Toyota Central R&D Labs., Inc.; Kyuengbo Min, Tokyo Metropolitan Institute of Medical Science

4:30    Research of the Relationship of Pedestrian Injury to Collision Speed, Car-type, Impact Location
        and Pedestrian Sizes using Human FE Model (THUMS Version 4)
        Ryosuke Watanabe, Tadasuke Katsuhara, Hiroshi Miyazaki, Yuichi Kitagawa, Tsuyoshi Yasuki,
        Toyota Motor Corporation

5:00    ANNOUNCEMENTS
Tuesday, October 30

In the Regency Ballroom

9:30 Lecture -- The Warrior Injury Assessment Manikin (WIAMan) Program
LaMont J. Hall, Lieutenant Colonel, U.S. Army
Project Director, WIAMan

10:15-10:45 REFRESHMENT BREAK

BIOMECHANICAL INJURY DATA ANALYSIS
Co-Chairs: Warren N. Hardy, Virginia Tech-Wake Forest University
           Dainius J. Dalmotas, D.J. Dalmotas Consulting, Inc.

10:45 Injury Risk Curves for the WorldSID 50th Male Dummy
       Audrey Petitjean, CEESAR; Xavier Trosseille, LAB-PSA Peugeot - Citroën Renault; Norbert Praxl,
       Partnership for Dummy Technology and Biomechanics; David Hynd, TRL; Annette Irwin, General
       Motors Company

11:15 How Few? Bayesian Statistics in Injury Biomechanics

11:45-2:00 LUNCH

2:00 John Paul Stapp Best Paper Award — The John Paul Stapp Award for the best paper of the 2011
       conference and journal will be presented by John W. Melvin to 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 for Study of the Rib Fracture Mechanisms Based
       on the Rib Strain Profiles in Side and Forward Oblique Impact.

       Invitation and Call for Papers, Stephen W. Rouhana, Ford Motor Company, General Chair, 57th Stapp
       Car Crash Conference, Dearborn, Michigan

RESTRTRAINT AND PROTECTIVE SYSTEM INJURY ASSESSMENT AND EVALUATION
Co-Chairs: Farid Bendjellal, Britax Childcare Limited
           Annette L. Irwin, General Motors Company

2:15 Abdominal Twin Pressure Sensors for the Assessment of Abdominal Injuries in Q Dummies: In-
       Dummy Evaluation and Performance in Accident Reconstructions
       Philippe Beillas, François Alonzo, Marie-Christine Chevalier, IFSTTAR-Université Lyon 1, LBMC;
       Philippe Lesire, Franck Leopold, Xavier Trosseille, LAB PSA Peugeot - Citroën Renault; Heiko
       Johannsen, TU Berlin, ILS Kfz

2:45 Kinematics and Dynamics of the Pelvis in the Process of Submarining Using PMHS Sled Tests
       Carole Luet and Xavier Trosseille, LAB PSA Peugeot - Citroën Renault; Pascal Drazé-Gic, Université de
       Valenciennes - France; Pascal Potier, CEESAR; Guy Vallancien, Université René Descartes, Paris –
       France

3:15-3:45 REFRESHMENT BREAK

3:45 The Effect of Pretensioning and Age on Torso Rollout in Restrained Human Volunteers in Far-Side
       Lateral and Oblique Loading
       Kristy B. Arbogast, Emily A. Mathews, Thomas Seacrist, Matthew R. Maltese, Rachel Hammond,
       Children's Hospital of Philadelphia; Sriram Balasubramanian, Drexel University; Richard W. Kent,
       University of Virginia; Hiromasa Tanji, Schuyler St. Lawrence, Kazuo Higuchi, Takata Corporation

4:15 An Integrated Helmet and Neck Support (iHANS) for Racing Car Drivers: A Biomechanical
       Feasibility Study
       James A Newman, Newman Biomechanical Engineering Consulting Inc., Edmonton, AB, Canada;
       Christopher Withnall and Michael Wonnacott, Biokinetics and Associates Ltd., Ottawa, ON, Canada.

4:45 ANNOUNCEMENTS
DEVELOPMENT OF FUTURE VEHICLE SAFETY FEATURES
Co-Chairs: Lawrence W. Schneider, University of Michigan Transportation Research Institute
John W. Melvin, Tandelta, Inc.

8:30 From Crash Test Speed to Performance in Real World Conditions: A Conceptual Model and Its Application to Underhood Clearance in Pedestrian Head Tests
Daniel J. Searson, T. Paul Hutchinson, Robert W.G. Anderson, Centre for Automotive Safety Research, University of Adelaide, Australia

9:00 A New Method to Evaluate Future Impact of Vehicle Safety Technology in Sweden
Johan Strandroth, Simon Stermlund, Claes Tingvall, Swedish Transport Administration, Chalmers University of Technology; Roger Johansson, Swedish Transport Administration; Matteo Rizzi and Anders Kullgren, Folksam Research, Chalmers University of Technology

PRELIMINARY PROJECT REPORTS FROM TOYOTA’S COLLABORATIVE SAFETY RESEARCH CENTER (CSRC)
10:00 CSRC INTRODUCTION – Chuck Gulash, CSRC Director

10:10 Senior Occupant Posture, Body Shape, and Belt Fit
Matthew P. Reed, University of Michigan Transportation Research Institute

10:30 Real-World Crash Simulation Using the Total Human Model for Safety
Kerry Danelson, Virginia Tech/Wake Forest Center for Injury Biomechanics

10:50 Evaluation of Vehicle Kinematics and Occupant Response/Injury During Rollover Crashes
Jeff Crandall, University of Virginia Center for Applied Biomechanics

11:10 Development of Finite Element Human Body Models for Child and Senior Populations
Haojie Mao, Wayne State University Bioengineering Center

11:30 Investigation of Abdominal Injury Patterns, Mechanisms, and Tolerances
Warren N. Hardy, Virginia Tech/Wake Forest Center for Injury Biomechanics

11:50 Wrap-Up – Palani Palaniappan, Manager and CSRC Biomechanics Leader

12:00 STAPP STUDENT AWARDS
Presentation by Albert I. King, Wayne State University

12:15 ADJOURNMENT
John M. Cavanaugh, 2012 General Chair