Tuesday, October 6

Education of Fluid Power

Session Code: CV503

Room 1 & 2  
Session Time: 7:30 a.m.

This session will highlight various activities focused on introducing K-12 and college students to careers in science, technology, engineering, and math (STEM) through the use of fluid power hands-on activities and college level courses. Attendees will be able to interact with several of the activities, participate in a brief panel discussion, and provide feedback and suggestion to others attending the session about improving the use and exposure of fluid power in educational settings.

Organizers - John L. Jones, Parker Hannifin Corp.; John H. Lumkes, Purdue Univ.
Chairpersons - Monika Ivantysynova, Purdue Univ-West Lafayette; John H. Lumkes, Purdue Univ.

Planned by Fluid Power and Hydraulics Group / Commercial Vehicle Activity

Tuesday, October 6

Tier 4 Panel Series - Part 2: Vehicle Integration, Service and Aftermarket Impacts

Session Code: CV902

Room 1 & 2  
Session Time: 9:45 a.m.

Installment two of this discussion will focus on Vehicle Integration, Service and Aftermarket impacts. Panelists will discuss both EGR and SCR technologies; aftertreatment strategies and configurations; building on the work already done in the on-highway arena relative to aftertreatment inducements, on-board diagnostics and operator interfaces; urea supply and distribution; and diesel particulate filter systems and service support elements.

Organizers - Klaus Hoehn, Deere & Company; Alain P. Jablonowski, Bosch Automotive Diesel Systems Co., Ltd.; Wayne Martenas, Case New Holland; Jacob Thomas, Terex Corp.
Moderators - Richard E. Kleine, Cummins Inc.
Panelists - Wolfgang Albrecht, Robert Bosch LLC; Jed Mandel, EMA; Christopher A. Myers, Deere & Company; Matt Rushing, AGCO Corp.; Alan Duane Smith, Gentech International, Ltd.; Uwe Zink, Corning (Shanghai) Company, Ltd.

Tuesday, October 6

Visualization and Virtual Reality in Vehicle Design and Lifecycle Management - Technology Presentation and Panel Discussion

Session Code: CV706

Room 1 & 2  
Session Time: 12:30 p.m.

Technical complexity, elongated supply chains, workforce shortage, and time and budgetary pressures challenge all manufacturers. Forward-thinking companies use visual information to communicate across technical barriers for effective decision-making.

This session will discuss visual information for effective collaboration and decision-making, and the use of visual tools such as visualization, digital manufacturing, virtual reality, and Second Life for faster, better decision-making.

Organizers - Joseph J. Barkai, IDC Manufacturing Insights
Chairpersons - Richard Miller, NIOSH; Richard M. Wood, Solus-Solutions and Technologies

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<th>Time</th>
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<tr>
<td>12:30 p.m.</td>
<td>ORAL ONLY</td>
<td>Visual Decision Making &amp; Visual Information for Effective Collaboration in Product Lifecycle Management</td>
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<tr>
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<td></td>
<td>Joseph J. Barkai, IDC Manufacturing Insights</td>
</tr>
</tbody>
</table>
Workforce Pipeline and Talent Development Panel

Session Code: CV904

Room 1 & 2  Session Time: 4:30 p.m.

Engineers entering the industry today bring new skills and knowledge relative to technology, tools, learning and communication. This panel focuses on the challenges faced by new engineers and their employers during the transition from academia to industry. What has worked for the organization and the engineer versus what hasn’t? What are the industry’s expectations of new engineers? How can the industry help prepare the newest members of its engineering workforce? Panelists will present views of the challenges from different perspectives. Students, new and experienced engineers, engineering managers, hiring managers and members of academia will all benefit from participating in this discussion.


Moderators - Sameer Prabhu, The MathWorks Inc.

Panelists - Kimberly Knickle, Manufacturing Insights; Giorgio Rizzoni, Ohio State Univ.; Landon Sproull, Peterbilt Motors Co.; Cynthia A. Svestka, General Motors Corp.

Tuesday, October 6

Sustainability (Part 1 of 2)

Session Code: CV702

Room 10  Session Time: 12:30 p.m.

In its most basic definition, sustainability means “meeting the needs of the present without compromising the ability of future generations to meet their own needs.” Manufactures are going green, not only to reduce regulatory costs, but also to attract the next generation of talent for their workforces. This session will provide insight into how companies can achieve their targets with initiatives such as sustainable fuels (for example hydrogen), biomaterials, and lifecycle planning.

Organizers - Kimberly Knickle, Manufacturing Insights; Radhey Kushwaha, Univ. of Saskatchewan; Richard Miller, NIOSH; Satya Panigrahi, Univ. of Saskatchewan

Chairpersons - Richard Miller, NIOSH; Richard M. Wood, Solus-Solutions and Technologies

Time  Paper No.  Title

12:30 p.m.  2009-01-2867  Development of Flax Fibre Reinforced Biocomposites for Potential Application for Automotive Industries

Satya Panigrahi, Xue Li, Kamal Barghout, Radhey Kushwaha, Univ. of Saskatchewan
Tuesday, October 6

Sustainability (Part 2 of 2)

Session Code: CV702  
Room 10  
Session Time: 3:00 p.m.

In its most basic definition, sustainability means “meeting the needs of the present without compromising the ability of future generations to meet their own needs.” Manufactures are going green, not only to reduce regulatory costs, but also to attract the next generation of talent for their workforces. This session will provide insight into how companies can achieve their targets with initiatives such as sustainable fuels (for example hydrogen), biomaterials, and lifecycle planning.

Organizers - Kimberly Knickle, Manufacturing Insights; Radhey Kushwaha, Univ. of Saskatchewan; Richard Miller, NIOSH; Satya Panigrahi, Univ. of Saskatchewan

Chairpersons - Richard Miller, NIOSH; Richard M. Wood, Solus-Solutions and Technologies

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<tr>
<th>Time</th>
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| 3:00 p.m. | ORAL ONLY | The Aluminum Advantage: Research Supporting Commercial Vehicle Applications  
Todd L. Summe, Aluminum Association |
| 3:30 p.m. | 2009-01-2855 | Manufacturing Execution System for Process Improvement  
Shankar Venkatachalam, Vasanth Dharman, Sreekanth Bammidi, Ashok Leyland |
| 4:00 p.m. | 2009-01-2856 | The Lubricant Contribution to Improved Fuel Economy of Heavy Duty Diesel Engines  
W. Wim Van Dam, Peter Kleijwegt, Gary Parsons, Chevron Oronite; Marnix Torreman, Chevron Oronite Technology |

Planned by Total Vehicle Group / Commercial Vehicle Activity

Tuesday, October 6

Human Factors and Ergonomics in Total Vehicle Design

Session Code: CV705

Room 11  
Session Time: 7:30 a.m.

The comfort, safety and control of the human variable is the most important part of vehicle design. This session is meant to capture current research in human factors broadly including human factors, ergonomics, and safety issues.

Organizers - Richard Current, NIOSH
**Chairpersons** - Richard Miller, NIOSH; Richard M. Wood, Solus-Solutions and Technologies

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<tr>
<th>Time</th>
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<tr>
<td>7:30 a.m.</td>
<td>2009-01-2829</td>
<td>Ride Quality Evaluation of a Bus Used in a City Public Transportation Service</td>
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<td>Manuel Jesus Fabela-Gallegos, David Vazquez-Vega, Ricardo Hernandez, Miguel Martinez-Madrid, Instituto Mexicano del Transporte; Oscar Duran-Aguilar, Universidad Marista de Queretaro</td>
</tr>
<tr>
<td>8:00 a.m.</td>
<td>2009-01-2865</td>
<td>Potential Safety Enhancements using Synthetic Torque Feedback</td>
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<td>Kenneth Sherwin, Daniel Williams, TRW Commercial Steering Systems</td>
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<tr>
<td>8:30 a.m.</td>
<td>2009-01-2831</td>
<td>Human Sensitivity in Forced Feedback Systems as a Function of Frequency and Amplitude of Steering Wheel Vibrations</td>
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<td>Prajwal Nimmagadda, Peter Thomas Tkacik, Univ. of North Carolina Charlotte</td>
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<tr>
<td>9:00 a.m.</td>
<td>2009-01-2832</td>
<td>Crash Protection for Infants Transported in Incubators</td>
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<td>Gary R. Whitman, Larry Sicher, ARCCA Inc.; Marilyn J. Bull MD, Riley Hospital for Children; David Gushue, ARCCA Inc.</td>
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The papers in this session are available in a single publication, X0192, and also individually.

Planned by Total Vehicle Group / Commercial Vehicle Activity

**Tuesday, October 6**

**The Nexus of Fuel Economy and Idling Reduction: Going Green in More Ways than One**

**Session Code:** CV601

**Room 11**

**Session Time:** 9:45 a.m.

Fleets and drivers can improve their bottom line by reducing fuel consumption during driving, and while parked. And, from new drivetrains that design in improvements in fuel economy, to systems that help to reduce unnecessary idling, the proof is in the numbers. This session will present results of a range of demonstration projects on fuel consumption, vehicle electrification, and other topics.

**Organizers** - Deborah M. Freund, US Dept. of Transportation; Terry M. Levinson, Argonne National Laboratory

**Chairpersons** - Al E. Cohn, Pressure Systems International Inc.; Guy Walenga, Bridgestone/Firestone NA Tire LLC

Planned by CV Maintenance Group / Commercial Vehicle Activity

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**Tuesday, October 6**

**The Nexus of Fuel Economy and Idling Reduction: Going Green in More Ways than One**

**Session Code:** CV709

**Room 11**

**Session Time:** 9:45 a.m.

Fleets and drivers can improve their bottom line by reducing fuel consumption during driving, and while parked. And, from new drivetrains that design in improvements in fuel economy, to systems that help to reduce unnecessary idling, the proof is in the numbers. This session will present results of a range of demonstration projects on fuel consumption, vehicle electrification, and other topics.

**Organizers** - Deborah M. Freund, US Dept. of Transportation; Nicole Iorfido, SAE International; Terry M. Levinson, Argonne National Laboratory

**Chairpersons** - Richard Miller, NIOSH; Richard M. Wood, Solus-Solutions and Technologies
Tuesday, October 6

Service Technology

Session Code: CV710

Room 11  

Today's global economy and tight budgets place demands on serviceability and service information like never before. Globally located teams & sourced components, world products, shorter product programs, telematics, machine health and alternative fuels need to be addressed. Learn how leading OEMs and suppliers successfully adapt to today's and future environments; increasing first time fix and reducing No Fault Found rates while achieving "better, faster, cheaper" authoring and publishing.

Organizers - Mark Pope, General Motors Corp.; Arnold Taube, Deere & Company

Chairpersons - Richard Miller, NIOSH; Richard M. Wood, Solus-Solutions and Technologies

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<th>Time</th>
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<tr>
<td>12:30 p.m.</td>
<td>ORAL ONLY</td>
<td>Objective Quality Measurement and Continuous Improvement Opportunities in Language Translation</td>
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<td>2009-01-2842</td>
<td>Don Sirena, General Motors Corp.</td>
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<tr>
<td>1:00 p.m.</td>
<td>2009-01-2857</td>
<td>Standardization of Graphics for Service Information and Translation Expense Reduction</td>
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<td>Arnold Taube, Deere &amp; Company</td>
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<tr>
<td>1:30 p.m.</td>
<td>ORAL ONLY</td>
<td>Make or Buy: New Innovations and Their Impact on OEM Decisions Regarding Next Generation Diagnostic Tools</td>
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<td>2009-01-2858</td>
<td>Shuvo Bhattacharjee, ETAS Inc.</td>
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<tr>
<td>2:00 p.m.</td>
<td>2009-01-1610</td>
<td>Diagnostic of Localized Engine Faults Using Vibration Monitoring</td>
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<td>Ibrahim Ahmed, Helwan University</td>
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Planned by Total Vehicle Group / Commercial Vehicle Activity

Tuesday, October 6

Design and Development Influences

Session Code: CV707

Room 11  

Papers will be presented that present challenges solved through new commercial vehicle designs, including: adjusting heavy-duty truck tapered roller bearings to reduce the potential for wheel end failures; selecting the right powertrain to optimize fuel efficiency and development costs; and development of a new design backhoe while solving swing rushing phenomenon and new definitions of necessary dump force.

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<th>Time</th>
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<tr>
<td>9:45 a.m.</td>
<td>2009-01-2842</td>
<td>New York State Hybrid Electric TRU Demonstration Projects</td>
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<tr>
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<td>Bryan Roy, New West Technologies LLC; Joseph Tario, NYS Energy Research &amp; Development Authority; Thomas Perrot, Kevin King, New West Technologies LLC; Jeffrey Kim, Shorepower Technologies</td>
</tr>
<tr>
<td>10:15 a.m.</td>
<td>ORAL ONLY</td>
<td>Sleep Cheap: How to Minimize Overnight Costs with Idling-Reduction Equipment</td>
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<td>Linda Gaines, Argonne National Laboratory</td>
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<tr>
<td>11:15 a.m.</td>
<td>2009-01-2843</td>
<td>Preliminary Analysis of Fuel Economy Improvement on Medium-Duty Tactical Truck</td>
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<td>ORAL ONLY</td>
<td>Y. Gene Liao, Wayne State University; Allen Quail, Rodrigo Gonzalez, Molly O'Malley, Tai Duong, World Technical Services, Inc.</td>
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</table>

Planned by Total Vehicle Group / Commercial Vehicle Activity
The complexity of the tire and its importance as a key vehicle component motivates the increasing interest in understanding its behavior and in developing new and improved modeling tools and tire testing equipment. This session is dedicated to aspects related to the modeling, design, dynamics, and testing of tires, in order to better understand and quantify their mobility, traction and braking capabilities, in on-road and in off-road conditions.

This session is intended to address important educational aspects related to the formal instruction in the area of vehicle dynamics, especially as it is currently implemented in academia and professional development institutions. A panel of experts will present their experience in teaching vehicle dynamics, emphasizing the course topics, format of the course, laboratory and/or associated projects and homework assignments.

Planned by Total Vehicle Group / Commercial Vehicle Activity

**Tuesday, October 6**

**Tire Modeling and Testing**

**Session Code:** CV208

**Room 12**

**Session Time:** 7:30 a.m.

The complexity of the tire and its importance as a key vehicle component motivates the increasing interest in understanding its behavior and in developing new and improved modeling tools and tire testing equipment. This session is dedicated to aspects related to the modeling, design, dynamics, and testing of tires, in order to better understand and quantify their mobility, traction and braking capabilities, in on-road and in off-road conditions.

**Organizers** - Corina Sandu, Virginia Tech.; Richard Miller, NIOSH; Richard M. Wood, Solus-Solutions and Technologies

**Chairpersons** - Mehdi Ahmadian, Corina Sandu, Virginia Tech.

Planned by Chassis and Suspension Group / Commercial Vehicle Activity

**Tuesday, October 6**

**Education and Professional Development in Vehicle Dynamics**

**Session Code:** CV202

**Room 12**

**Session Time:** 9:45 a.m.

This session is intended to address important educational aspects related to the formal instruction in the area of vehicle dynamics, especially as it is currently implemented in academia and professional development institutions. A panel of experts will present their experience in teaching vehicle dynamics, emphasizing the course topics, format of the course, laboratory and/or associated projects and homework assignments.

**Organizers** - Corina Sandu, Virginia Tech.; Richard Miller, NIOSH; Richard M. Wood, Solus-Solutions and Technologies

**Chairpersons** - Mehdi Ahmadian, Corina Sandu, Virginia Tech.

**Moderators** - Mehdi Ahmadian, Virginia Tech.

**Panelists** - Kevin Deng, GM; Tri Gaffney, GM; Sankar Mohan, Magna Powertrain USA, Inc.;

Planned by Chassis and Suspension Group / Commercial Vehicle Activity

**Tuesday, October 6**

**Recent Advances in Chassis and Suspensions**

**Session Code:** CV205
Room 12

Session Time: 12:30 p.m.

This session will include presentations by distinguished panelists from the original equipment manufacturers, suppliers, and government agencies. The purpose of the session is to discuss some of the recent advanced technologies in the area of commercial vehicle chassis and suspensions. The panelist will make a brief presentation of the technologies that their organization is involved with, and answer questions from the audience at the end of the session.

Organizers - Mehdi Ahmadian, Virginia Tech.; Tjong T. Lie
Chairpersons - Mehdi Ahmadian, Corina Sandu, Virginia Tech.
Panelists - Vern Andrew Caron, ArvinMeritor; Ellis Johnson, Michelin NA; Sean Tabari, Diamler Trucks;

Planned by Chassis and Suspension Group / Commercial Vehicle Activity

Tuesday, October 6

Advanced Chassis Control and Rollover

Session Code: CV210
Room 12
Session Time: 3:00 p.m.

This session, organized by the SAE Chassis & Suspension Committee, provides a technical discussion platform on one of the current popular topics in automotive engineering: advanced control systems for enhancing stability and safety of road vehicles, especially heavy vehicles. It includes various chassis control systems, vehicle roll dynamics and stability control, handling performance and directional stability.

Organizers - James Bean, Transportation Research Center Inc.; Dongpu Cao, Univ. of Waterloo; Saied Taheri, Virginia Polytechnic Inst. & State Univ.
Chairpersons - Mehdi Ahmadian, Corina Sandu, Virginia Tech.

Time | Paper No. | Title
--- | --- | ---
3:00 p.m. | 2009-01-2871 | A Fuzzy Based Stability Index Using a Right Sigmoid Membership Function
Benjamin Duprey, Virginia Tech

3:30 p.m. | 2009-01-2874 | Integrated Yaw and Roll Moments Control for Articulated Vehicles
Avesta Goodarzi PhD, Iran University of Science and Technolog; Ebrahim Esmailzadeh, Univ. of Ontario Institute of Technology

4:00 p.m. | 2009-01-2873 | Sensing Proximity to Trailer Rollover: Theoretical and Experimental Analysis
Peter Thomas Tkacik, Prajwal Nimmagadda, Univ. of North Carolina Charlotte

4:30 p.m. | 2009-01-2872 | Advances in Safe Vehicular Water Tank Design
Leroy G. Hagenbuch, Philippi-Hagenbuch Inc.

5:00 p.m. | ORAL ONLY | Elimination of Jack-Knifing of Tractor-Trailers
Jacob Sidney Rand

2009-01-2875 | Analysis of Driving Crisis for Obstacles Avoidance and Dynamic Stability Maintenance Using Fuzzy Logic (Written Only -- No Oral Presentation)
Mohsen Davoudi, Department of Electrical Engineering, Zanjan University

Planned by Chassis and Suspension Group / Commercial Vehicle Activity

Tuesday, October 6

Government and Industry Brake Research, Rulemaking and Technologies (1 of 2)

Session Code: CV102
Room 13
Session Time: 7:30 a.m.
Government and Industry Brake Research, Rulemaking and Technologies (2 of 2)

Session Code: CV102

Room 13  Session Time:  9:45 a.m.

Stability Control and beyond for commercial vehicles: With the initial NHTSA research completed this session will review where these stability control systems are in their development and production availability. The session will also look beyond these systems into the other Active Safety Systems that are on the horizon.


Chairpersons - Daniel Williams, TRW Commercial Steering Systems; Roy Zeitlow, Navistar Inc.


Time  Paper No.  Title

9:00 a.m.  2009-01-2833  Emergency Electric Brake Breakaway Activation in Light & Medium Duty Trailers
Clinton Lancaster, National Association of Trailer Mfg

Planned by Braking and Steering Group / Commercial Vehicle Activity

Tuesday, October 6

Advancements in Steering Systems

Session Code: CV101

Room 13  Session Time:  12:30 p.m.

This session will address new technologies that will improve handling performance of commercial vehicles, including innovative hydro-mechanical and computer controlled systems for conventional and hybrid powered vehicles.

Organizers - Donald L. Long, R H Sheppard Co.; Daniel Williams, TRW Commercial Steering Systems

Chairpersons - Roy Zeitlow, Navistar Inc.

Time  Paper No.  Title

2009-01-2866  Consideration of Steering Method Control Based on Driving Situations
(Written Only -- No Oral Presentation)
Hiromichi Nozaki, Kogakuin Univ.
Advancements in Braking Systems

Session Code: CV103

Room 13
Session Time: 12:30 p.m.

This session highlights recent advancements in brake system design. Potential topics covered include regenerative brake systems, brake system modeling techniques and braking stability systems.

Organizers - Roy Zeitlow, Navistar Inc.
Chairpersons - Daniel Williams, TRW Commercial Steering Systems; Roy Zeitlow, Navistar Inc.

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<th>Time</th>
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<tr>
<td>12:30 p.m.</td>
<td>ORAL ONLY</td>
<td>Electromechanical Braking Systems</td>
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<td>Frank Seglo, Haldex Brake Products</td>
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<td>2009-01-2876</td>
<td>Development of an Auxiliary Pressurized Hybrid Brake System for a Parallel Hybrid Electric Commercial Van (Written Only -- No Oral Presentation)</td>
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<td>Esen Altindemir, Ahu Ece Hartavi, Ali G. Goktan, Levent Guvenc, Istanbul Technical University, Istanbul, Turkey; Murat Yildirim, Ford Otosan, R&amp;D Department, Kocaeli, Turkey</td>
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Heavy Duty Electric Technology

Session Code: CV406

Room 13
Session Time: 3:00 p.m.

Heavy Duty Electric Technology is moving from the factory floor to on-board commercial vehicles. There are many recent breakthroughs in driving lower cost and higher reliability into the major electrification technology involving motors and electric drives/inverters. This session will host a panel of experts in commercial vehicles who will discuss these technology breakthroughs and forecast their impact on new hybrid vehicles.

Organizers - Gerald L. Larson; James Lenz, John Deere & Co.
Moderators - Gerald L. Larson
Panelists - Darren Gosbee, Navistar Inc.; Mitchell Greenberg, US Environmental Protection Agency; Matthew Vande Wiele, Caterpillar Inc.

Hydraulic Hybrid Vehicle Technologies (Part 1 of 2)

Session Code: CV504

Room 14
Session Time: 8:00 a.m.

Although not as well known as their electric siblings, hydraulic hybrid vehicles have made strong progress in recent years. Hydraulics may in fact be the better efficiency solution for many vehicle applications. This session will examine hydraulic hybrid vehicles from research through production ready phases.

Organizers - David E. Herbert, Sun Hydraulics Corp.
Although not as well known as their electric siblings, hydraulic hybrid vehicles have made strong progress in recent years. Hydraulics may in fact be the better efficiency solution for many vehicle applications. This session will examine hydraulic hybrid vehicles from research through production ready phases.

This session provides attendees with the opportunity to learn more about the diverse research activities underway at universities and industries from around the world. The applied research covers hydraulic components, systems, and fluids, many with the goal of improving the efficiency of fluid power systems.

**Chairpersons -** Monika Ivantysynova, Purdue Univ-West Lafayette; John H. Lumkes, Purdue Univ.

**Organizers -** Monika Ivantysynova, Purdue Univ-West Lafayette; John H. Lumkes, Purdue Univ.

**Chairpersons -** Monika Ivantysynova, Purdue Univ-West Lafayette; John H. Lumkes, Purdue Univ.

**Time** | **Paper No.** | **Title** |
---|---|---|
8:00 a.m. | ORAL ONLY | Supervisory Control Development for a Series Hydraulic Hybrid System  
Zoran S. Filipi, Univ. of Michigan |
8:30 a.m. | 2009-01-2834 | Hydraulic Hybrid Vehicle Energy Management System  
Brian L. Van Batavia, Eaton Hydraulics Inc. |
9:00 a.m. | ORAL ONLY | Ultra Light Weight Hybrid System  
James A. O'Brien, Limo-Reid Technologies, Inc |

**Session Time:** 9:45 a.m.

**Time** | **Paper No.** | **Title** |
---|---|---|
9:45 a.m. | 2009-01-2864 | Sizing a Power-Limited Steering System  
Daniel Williams, Kenneth Sherwin, TRW Commercial Steering Systems |
10:15 a.m. | ORAL ONLY | A Four-Quadrant Hydraulic Transformer for Hybrid Vehicles  
Peter Achten, Innas BV |
10:45 a.m. | ORAL ONLY | Hydrostatic Regenerative Braking (HRB) System  
Simon J. Baseley, David J. Brosky, Bosch Rexroth Corp. |
11:15 a.m. | ORAL ONLY | Advanced Engines for Hydraulic Hybrid Vehicles  
John Kargul, US Environmental Protection Agency |

**Session Time:** 12:30 p.m.

**Time** | **Paper No.** | **Title** |
---|---|---|
8:00 a.m. | 2009-01-2884 | Hydraulic Hybrid Vehicle Technologies (Part 2 of 2)  
Organizers - David E. Herbert, Sun Hydraulics Corp.  
Chairpersons - Monika Ivantysynova, Purdue Univ-West Lafayette; John H. Lumkes, Purdue Univ. |
9:00 a.m. | 2009-01-2891 | ORAL ONLY | Hydrostatic Regenerative Braking (HRB) System  
Simon J. Baseley, David J. Brosky, Bosch Rexroth Corp. |
10:15 a.m. | | ORAL ONLY | A Four-Quadrant Hydraulic Transformer for Hybrid Vehicles  
Peter Achten, Innas BV |
10:45 a.m. | | ORAL ONLY | Supervisory Control Development for a Series Hydraulic Hybrid System  
Zoran S. Filipi, Univ. of Michigan |
11:15 a.m. | | ORAL ONLY | Ultra Light Weight Hybrid System  
James A. O'Brien, Limo-Reid Technologies, Inc |

**Session Time:** 12:30 p.m.

**Time** | **Paper No.** | **Title** |
---|---|---|
8:00 a.m. | 2009-01-2902 | ORAL ONLY | Advanced Engines for Hydraulic Hybrid Vehicles  
John Kargul, US Environmental Protection Agency |
9:00 a.m. | 2009-01-2910 | ORAL ONLY | Hydrostatic Regenerative Braking (HRB) System  
Simon J. Baseley, David J. Brosky, Bosch Rexroth Corp. |
10:15 a.m. | | ORAL ONLY | A Four-Quadrant Hydraulic Transformer for Hybrid Vehicles  
Peter Achten, Innas BV |
10:45 a.m. | | ORAL ONLY | Supervisory Control Development for a Series Hydraulic Hybrid System  
Zoran S. Filipi, Univ. of Michigan |
11:15 a.m. | | ORAL ONLY | Ultra Light Weight Hybrid System  
James A. O'Brien, Limo-Reid Technologies, Inc |

**Session Time:** 12:30 p.m.

**Time** | **Paper No.** | **Title** |
---|---|---|
8:00 a.m. | 2009-01-2920 | ORAL ONLY | Advanced Engines for Hydraulic Hybrid Vehicles  
John Kargul, US Environmental Protection Agency |
9:00 a.m. | 2009-01-2930 | ORAL ONLY | Hydrostatic Regenerative Braking (HRB) System  
Simon J. Baseley, David J. Brosky, Bosch Rexroth Corp. |
10:15 a.m. | | ORAL ONLY | A Four-Quadrant Hydraulic Transformer for Hybrid Vehicles  
Peter Achten, Innas BV |
10:45 a.m. | | ORAL ONLY | Supervisory Control Development for a Series Hydraulic Hybrid System  
Zoran S. Filipi, Univ. of Michigan |
11:15 a.m. | | ORAL ONLY | Ultra Light Weight Hybrid System  
James A. O'Brien, Limo-Reid Technologies, Inc |
### Advances in Fluid Power Research (Part 2 of 2)

**Session Code:** CV501  
**Room 14**  

#### Session Time: 3:00 p.m.

This session provides attendees with the opportunity to learn more about the diverse research activities underway at universities and industries from around the world. The applied research covers hydraulic components, systems, and fluids, many with the goal of improving the efficiency of fluid power systems.

**Organizers:** John L. Jones, Parker Hannifin Corp.; Medhat K. Bahr Khalil, Milwaukee School of Engineering; John H. Lumkes, Purdue Univ.  

**Chairpersons:** Monika Ivantysynova, Purdue Univ-West Lafayette; John H. Lumkes, Purdue Univ.

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<tr>
<td>3:00 p.m.</td>
<td>2009-01-2845</td>
<td><strong>Hydraulic Fluid Viscosity Selection for Improved Fuel Economy</strong></td>
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<td>Paul W. Michael, Milwaukee School of Engineering; Steven Herzog, Evonik Rohmax Usa Inc</td>
</tr>
<tr>
<td>3:30 p.m.</td>
<td>2009-01-2848</td>
<td><strong>Hydraulic Fluid Efficiency Studies in Low-Speed High-Torque Motors</strong></td>
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<td>Paul W. Michael, Milwaukee School of Engineering</td>
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<tr>
<td>4:00 p.m.</td>
<td>2009-01-2844</td>
<td><strong>External Gear Pump Volumetric Efficiency: A Numerical and Experimental Analysis (Written Only -- No Oral Presentation)</strong></td>
</tr>
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<td></td>
<td>Massimo Borghi, Barbara Zardin, Emiliano Specchia, Universita' degli Studi di Modena e Reggio Emilia</td>
</tr>
<tr>
<td>4:30 p.m.</td>
<td>2009-01-2851</td>
<td><strong>Compatibility and Filterability of Hydraulic Fluids</strong></td>
</tr>
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<td>Paul W. Michael, Milwaukee School of Engineering</td>
</tr>
<tr>
<td>5:00 p.m.</td>
<td>ORAL ONLY</td>
<td><strong>Efficiency Opportunities and Solutions for Large Excavators</strong></td>
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<tr>
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<td>Eric Hamkins, INCOVA Technologies INC</td>
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</tbody>
</table>

**Planned by Fluid Power and Hydraulics Group / Commercial Vehicle Activity**

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**Tuesday, October 6**
Off-Road Tier 4 - Emissions Reductions

Session Code: CV305

Room 5  Session Time: 7:30 a.m.

This session covers the new technology development in diesel engine and exhaust aftertreatment to meet the off-road Tier-4 emissions regulation. One paper presents a modeling technique on engine-out NOx and soot emissions for system design, generally applicable for both on-road and off-road engines. Another paper discusses a model-based robust calibration process. Two other papers focus on aftertreatment. One is on system integration and optimization with advanced DOC, and the other is on system durability performance of LNT, SCR and DPF.

Organizers - Brian Walker, AVL Powertrain Engineering Inc.; Qianfan Xin, Navistar Inc.

Chairpersons - Ryan Jefferis, Daimler Trucks North America LLC; Xubin Song, Eaton Corp.

<table>
<thead>
<tr>
<th>Time</th>
<th>Paper No.</th>
<th>Title</th>
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<tbody>
<tr>
<td>7:30 a.m.</td>
<td>2009-01-2835</td>
<td>Performance of a Fuel Reformer, LNT and SCR Aftertreatment System Following 500 LNT Desulfation Events</td>
</tr>
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<td>James McCarthy, Timothy Korhumel, Andrew Marougy, Eaton Corp.</td>
</tr>
<tr>
<td>8:00 a.m.</td>
<td>2009-01-2836</td>
<td>Theoretical Analysis of Diesel Engine NOx and Soot with Heuristic Macro-Parameter-Dependent Approach and Virtual Multi-Zone Real-Time Models</td>
</tr>
<tr>
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<td></td>
<td>Jincai Zheng, Qianfan Xin, Navistar Inc.</td>
</tr>
<tr>
<td>8:30 a.m.</td>
<td>2009-01-2837</td>
<td>Model Based Calibration Methodology</td>
</tr>
<tr>
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<td>Thomas Cartus, Johann Bachler, Martin Schuessler, AVL LIST GmbH; Robert Diewald, AVL Powertrain Engineering Inc.</td>
</tr>
<tr>
<td>9:00 a.m.</td>
<td>2009-01-2838</td>
<td>The PM-Metalit: A PM control technology for Tier 4 Off-Highway Applications</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Jan Kramer, Ulrich Pfahl, Emitec Inc.</td>
</tr>
</tbody>
</table>

Planned by Drivetrain, Powertrain and Transmissions Group / Commercial Vehicle Activity

Tuesday, October 6

2010 Emissions Solutions (Part 1 of 3)

Session Code: CV304

Room 5  Session Time: 9:45 a.m.

This session discusses engine and aftertreatment technologies that focus on meeting emission requirements for 2010. These technologies cover developments in combustion, controls, air management, fuel injection, catalysis, and filtration.


Chairpersons - Ryan Jefferis, Daimler Trucks North America LLC; Xubin Song, Eaton Corp.

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<thead>
<tr>
<th>Time</th>
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<tbody>
<tr>
<td>7:30 a.m.</td>
<td>ORAL ONLY</td>
<td>Overview of Diesel Exhaust Gas Temperature Control Devices</td>
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<td>Timothy Juan, Navistar Inc.</td>
</tr>
<tr>
<td>8:00 a.m.</td>
<td>2009-01-2877</td>
<td>Particulate Fouling in EGR Coolers</td>
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<td>Ho Teng, AVL Powertrain Engineering Inc.</td>
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<tr>
<td>8:30 a.m.</td>
<td>2009-01-2878</td>
<td>The Role CFD Combustion Simulation in Diesel Burner Development</td>
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<td>Guanyu Zheng, Manoj sampath, Adam Kotrba, Tenneco Inc</td>
</tr>
<tr>
<td>9:00 a.m.</td>
<td>2009-01-2881</td>
<td>Theoretical Analysis of Internal Combustion Engine Miscellaneous Heat Losses</td>
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<td></td>
<td>Qianfan Xin, Navistar Inc.</td>
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</tbody>
</table>
2010 Emissions Solutions (Part 2 of 3)

Session Code: CV304

Room 5  Session Time: 12:30 p.m.

This session discusses engine and aftertreatment technologies that focus on meeting emission requirements for 2010. These technologies cover developments in combustion, controls, air management, fuel injection, catalysis, and filtration.


Chairpersons - Ryan Jefferis, Daimler Trucks North America LLC; Xubin Song, Eaton Corp.

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<tr>
<th>Time</th>
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<tbody>
<tr>
<td>12:30 p.m.</td>
<td>2009-01-2879</td>
<td>Mixer Development for Urea SCR Applications</td>
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<tr>
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<td></td>
<td>Guenter Palmer, Tenneco Inc; Guanyu Zheng, Tenneco, Inc.; Gabriel Salanta, Adam Kotrba, Tenneco Inc</td>
</tr>
<tr>
<td>1:00 p.m.</td>
<td>2009-01-2883</td>
<td>Material Corrosion Investigations for Urea SCR Diesel Exhaust Systems</td>
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<td>Ryan Floyd, Keith Prodin, Scott Martin, Tenneco Inc; Adam J. Kotrba, Tenneco Inc</td>
</tr>
<tr>
<td>1:30 p.m.</td>
<td>2009-01-2884</td>
<td>Evaluation of a DPF Regeneration System and DOC Performance Using Secondary Fuel Injection</td>
</tr>
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<td>Timothy Gardner, Tenneco Inc; Joseph A. Holroyd, AirFlow Catalyst Systems</td>
</tr>
<tr>
<td>2:00 p.m.</td>
<td>2009-01-2880</td>
<td>HC-SCR Catalyst for NOx Reduction in a Non-Road Diesel Engine</td>
</tr>
<tr>
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<td>Seppo Niemi, University of Vaasa and TUAS</td>
</tr>
</tbody>
</table>

2010 Emissions Solutions (Part 3 of 3)

Session Code: CV304

Room 5  Session Time: 3:00 p.m.

This session discusses engine and aftertreatment technologies that focus on meeting emission requirements for 2010. These technologies cover developments in combustion, controls, air management, fuel injection, catalysis, and filtration.


Chairpersons - Ryan Jefferis, Daimler Trucks North America LLC; Xubin Song, Eaton Corp.

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<th>Time</th>
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<tbody>
<tr>
<td>3:00 p.m.</td>
<td>2009-01-2882</td>
<td>Investigation into Ash Loading and its Relationship to DPF Regeneration Method</td>
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<tr>
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<td>Toshitaka Ishizawa, Hideya Yamane, Hiroshi Satoh, Kenichiro Sekiguchi, Hitachi Metals, Ltd.; Minoru Arai, Takao Inoue, Naoyuki Yoshimoto, Hitachi High Technologies Corp</td>
</tr>
<tr>
<td>3:30 p.m.</td>
<td>ORAL ONLY</td>
<td>Meeting US Non-Road application requirements &amp; Tier-4 Final Emission Standards with PSA Automotive Diesel Engine Architecture</td>
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<td>Dominique Desportes, Peugeot Citroen Moteurs</td>
</tr>
</tbody>
</table>
Due to economic and business conditions this event, scheduled for May of 2009 in Lyon France, was postponed. All participants from that event were invited to participate in the SAE 2009 Commercial Vehicle Engineering Congress. The following presentations include all those that accepted this invitation.

<table>
<thead>
<tr>
<th>Time</th>
<th>Paper No.</th>
<th>Title</th>
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<tbody>
<tr>
<td>7:30 a.m.</td>
<td>2009-01-2885</td>
<td>Low Mass Electrically Heated Metal Catalyst for Reducing HC/CO Emission from Automobile SI Engine Exhaust  &lt;br&gt; (Written Only -- No Oral Presentation)</td>
</tr>
<tr>
<td></td>
<td>2009-01-1614</td>
<td>Performance of Active Suspension with Fuzzy Control  &lt;br&gt; Essam Allam, Shawki Abouel-Seoud, Helwan University</td>
</tr>
<tr>
<td></td>
<td>2009-01-1601</td>
<td>Full Vehicle Instrumentation for Dynamic Analysis  &lt;br&gt; Liborio Bortoni-Anzures PhD, Hiram Herrera-Rivas, David Diaz-Romero PhD, Isac Huixtlalaca-Cuauteatl PhD, Dante Gonzalez-Sanchez, Universidad Politecnica de Victoria</td>
</tr>
<tr>
<td></td>
<td>2009-01-1602</td>
<td>Exhaust Valve &amp; Valve Seat Insert - Development for an Industrial LPG Application  &lt;br&gt; (Written Only -- No Oral Presentation)</td>
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<tr>
<td></td>
<td>2009-01-1605</td>
<td>Fuel Consumption Tests for Evaluating Accuracy and Precision of Truck Engine Electronic Control Modules to Capture Fuel Data (Written Only - No Oral Presentation)  &lt;br&gt; Marius-Dorin Surcel, Jan Michaelsen, FPInnovations</td>
</tr>
<tr>
<td></td>
<td>2009-01-1606</td>
<td>CANopen in Trucks and Offroad Vehicles (Written Only -- No Oral Presentation)  &lt;br&gt; Christian Dressler</td>
</tr>
<tr>
<td></td>
<td>2009-01-1608</td>
<td>Vehicle Simulation for the Development of an Active Suspension System for an Agricultural Tractor (Written Only -- No Oral Presentation)  &lt;br&gt; Matteo Grott, Francesco Biral, University of Trento (DIMS); Aldo Sorniotti, University of Surrey (SAVAG); Roberto Oboe, University of Padova (DTG); Eugenio Vincenti, Dana Corporation</td>
</tr>
<tr>
<td></td>
<td>2009-01-1609</td>
<td>An Interactive Racing car Driving Simulator Based on TCP/IP (Written Only -- No Oral Presentation)  &lt;br&gt; Ping Wang, Tongji University</td>
</tr>
<tr>
<td></td>
<td>2009-01-1611</td>
<td>Example of Trucks Hybrid Specific Electronic Function Verification using Hardware in the Loop (HIL) Simulation Tool (Written Only -- No Oral Presentation)  &lt;br&gt; Sylvain Renard, Mathieu Rault, Volvo Powertrain Corporation</td>
</tr>
</tbody>
</table>
To reduce development time and improve quality while delivering technical innovations, leading companies are using math-based models and a process known as Model-Based Design for developing embedded software. Engineers use an executable specification to iterate quickly through design concepts using simulation and without relying on physical prototypes. The executable specification then serves as the basis for early verification, hardware in-the-loop test, and production code generation.


Planned by Electrical and Electronics Group / Commercial Vehicle Activity

Tuesday, October 6

Model Based Design and Software Development (Part 1 of 2)
Session Code: CV402
Room 6
Session Time: 9:45 a.m.

To reduce development time and improve quality while delivering technical innovations, leading companies are using math-based models and a process known as Model-Based Design for developing embedded software. Engineers use an executable specification to iterate quickly through design concepts using simulation and without relying on physical prototypes. The executable specification then serves as the basis for early verification, hardware in-the-loop test, and production code generation.


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<tr>
<th>Time</th>
<th>Paper No.</th>
<th>Title</th>
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<tbody>
<tr>
<td>9:45 a.m.</td>
<td>2009-01-2926</td>
<td>EasyHooks - Prototyping is Rapid Again</td>
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<tr>
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<td>Vivek Jaikamal, Nigel Tracey, ETAS</td>
</tr>
<tr>
<td>10:15 a.m.</td>
<td>2009-01-2927</td>
<td>Design and Control of Hybrid Electric Power System for a Hydraulically Actuated Excavator</td>
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<td>Seungjin Yoo, Sangjun An, Doosan Infracore Co., Ltd.</td>
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</table>

Planned by Electrical and Electronics Group / Commercial Vehicle Activity

Tuesday, October 6

Model Based Design and Software Development (Part 2 of 2)
Session Code: CV402
Room 6
Session Time: 12:30 p.m.

To reduce development time and improve quality while delivering technical innovations, leading companies are using math-based models and a process known as Model-Based Design for developing embedded software. Engineers use an executable specification to iterate quickly through design concepts using simulation and without relying on physical prototypes. The executable specification then serves as the basis for early verification, hardware in-the-loop test, and production code generation.

### Testing and Developing Electronic Control Modules (ECMs) with Model-Based, Hardware in-the-Loop Simulation

**Session Code:** CV409  
**Room 6**

The need to perform Electronic Control Unit (ECU) or Electronic Control Module (ECM) testing at the very early stage is critical to address growing electronic complexity requirements, while achieving faster time-to-market. In this session, Hardware in-the-Loop simulation as a method for testing ECUs / ECMs will be discussed. Techniques for testing single and multiple controllers will be covered, as well as methods for automating such tests.

**Organizers** - Chad W. Harnish, dSPACE Inc.

**Chairpersons** - Wensi Jin, The MathWorks Inc.; Clayton Nicholas, Delphi Electronics & Safety

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<th>Time</th>
<th>Paper No.</th>
<th>Title</th>
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<tbody>
<tr>
<td>12:30 p.m.</td>
<td>2009-01-2925</td>
<td>Integration of Automatic Code Generation in Model Based Algorithm Development; Prerequisites, Workflow and the Human Factor</td>
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<td></td>
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<td>Stamat Stamatov, dSPACE Inc.</td>
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<tr>
<td>1:00 p.m.</td>
<td>2009-01-2929</td>
<td>Verification and Validation According to IEC 61508: A Workflow to Facilitate the Development of High Integrity Applications</td>
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<td>Mirko Conrad, Guido Sandmann, Jon Friedman, The MathWorks Inc.</td>
</tr>
<tr>
<td>1:30 p.m.</td>
<td>2009-01-2928</td>
<td>Hardware-In-the-Loop(HIL) Modeling and Simulation for Diesel Aftertreatment Controls Development</td>
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<td>Hanlong Yang, Eaton Truck Component Operations; QingHui Yuan, Eaton Corp</td>
</tr>
<tr>
<td>2:00 p.m.</td>
<td>ORAL ONLY</td>
<td>Automated Report Generation in Model-Based Design</td>
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<td>Saurabah Mahapatra, The MathWorks Inc.</td>
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</table>

Planned by Electrical and Electronics Group / Commercial Vehicle Activity

**Tuesday, October 6**

### Testing and Developing Electronic Control Modules (ECMs) with Model-Based, Hardware in-the-Loop Simulation

**Session Time:** 3:00 p.m.

<table>
<thead>
<tr>
<th>Time</th>
<th>Paper No.</th>
<th>Title</th>
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<tbody>
<tr>
<td>3:00 p.m.</td>
<td>2009-01-2840</td>
<td>Electronic Control Module Network and Data Link Development and Validation Using Hardware in the Loop Systems</td>
</tr>
<tr>
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<td>Dustin Williams, dSPACE Inc.; Jace Allen, dSPACE Inc; Ramadev Hukkeri, Caterpillar Inc.</td>
</tr>
<tr>
<td>3:30 p.m.</td>
<td>2009-01-2841</td>
<td>Advantages and Challenges of Closed Loop HIL-Testing for Commercial and Off-Highway Vehicles</td>
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<td>Torsten Kluge, dSPACE GmbH; Jace Allen, dSPACE Inc; Amanjot Dhaliwal, dSPACE Inc.</td>
</tr>
<tr>
<td>4:00 p.m.</td>
<td>2009-01-2839</td>
<td>Hardware-in-Loop Simulation of Electric Drives- Description of a Typical Simulation Platform for Testing ECUs</td>
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<td>Amanjot Dhaliwal, dSPACE Inc.; Jace Allen, dSPACE Inc</td>
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</table>

Planned by Electrical and Electronics Group / Commercial Vehicle Activity

**Tuesday, October 6**

### Influence of Tire Maintenance on Vehicle Dynamics and Handling

**Session Code:** CV211

The need to perform Electronic Control Unit (ECU) or Electronic Control Module (ECM) testing at the very early stage is critical to address growing electronic complexity requirements, while achieving faster time-to-market. In this session, Hardware in-the-Loop simulation as a method for testing ECUs / ECMs will be discussed. Techniques for testing single and multiple controllers will be covered, as well as methods for automating such tests.

**Organizers** - Chad W. Harnish, dSPACE Inc.

**Chairpersons** - Wensi Jin, The MathWorks Inc.; Clayton Nicholas, Delphi Electronics & Safety

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<td>2009-01-2925</td>
<td>Integration of Automatic Code Generation in Model Based Algorithm Development; Prerequisites, Workflow and the Human Factor</td>
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<td>Stamat Stamatov, dSPACE Inc.</td>
</tr>
<tr>
<td>1:00 p.m.</td>
<td>2009-01-2929</td>
<td>Verification and Validation According to IEC 61508: A Workflow to Facilitate the Development of High Integrity Applications</td>
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<tr>
<td></td>
<td></td>
<td>Mirko Conrad, Guido Sandmann, Jon Friedman, The MathWorks Inc.</td>
</tr>
<tr>
<td>1:30 p.m.</td>
<td>2009-01-2928</td>
<td>Hardware-In-the-Loop(HIL) Modeling and Simulation for Diesel Aftertreatment Controls Development</td>
</tr>
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<td></td>
<td>Hanlong Yang, Eaton Truck Component Operations; QingHui Yuan, Eaton Corp</td>
</tr>
<tr>
<td>2:00 p.m.</td>
<td>ORAL ONLY</td>
<td>Automated Report Generation in Model-Based Design</td>
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<td></td>
<td>Saurabah Mahapatra, The MathWorks Inc.</td>
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</table>

Planned by Electrical and Electronics Group / Commercial Vehicle Activity
Influence of Tire Maintenance on Vehicle Dynamics and Handling

Session Code: CV606

This is a joint session developed by the Maintenance & Chassis committees. Topics include: Commercial Tire Fuel Economy, Widebase tire performance, Tire Inflation Pressure Issues, Off-Road Tire Modeling, Tire Force & Moment Variations, Truck Chassis Modeling & Tire Mechanics.

Organizers - Al E. Cohn, Pressure Systems International Inc.; Saied Taheri, Virginia Polytechnic Inst. & State Univ.

Chairpersons - Mehdi Ahmadian, Corina Sandu, Virginia Tech.

Moderators - Al E. Cohn, Pressure Systems International Inc.; Saied Taheri, Virginia Polytechnic Inst. & State Univ.

Panelists - Brendan Juin-Yih Chan; Al E. Cohn, Pressure Systems International Inc.; Douglas L. Jones, Michelin; Kamel Salaani, NHTSA; Saied Taheri, Virginia Polytechnic Inst. & State Univ.; Guy Walenga, Bridgestone Tire Co., Ltd.

Planned by Chassis and Suspension Group / Commercial Vehicle Activity

Tuesday, October 6

Interfacial Tensions (IFT) and Other Issues Found in Various Base Stocks of Biodiesel and Their Affects on Fuel/Water Separation

Session Code: CV611

This is a joint session developed by the Maintenance & Chassis committees. Topics include: Commercial Tire Fuel Economy, Widebase tire performance, Tire Inflation Pressure Issues, Off-Road Tire Modeling, Tire Force & Moment Variations, Truck Chassis Modeling & Tire Mechanics.

Organizers - Karl Dedolph, D3 Consulting Inc.

Chairpersons - Al E. Cohn, Pressure Systems International Inc.; Guy Walenga, Bridgestone/Firestone NA Tire LLC

Moderators - Al E. Cohn, Pressure Systems International Inc.; Saied Taheri, Virginia Polytechnic Inst. & State Univ.

Panelists - Brendan Juin-Yih Chan; Al E. Cohn, Pressure Systems International Inc.; Douglas L. Jones, Michelin; Kamel Salaani, NHTSA; Saied Taheri, Virginia Polytechnic Inst. & State Univ.; Guy Walenga, Bridgestone Tire Co Ltd;

Planned by CV Maintenance Group / Commercial Vehicle Activity

Tuesday, October 6

Off-Road Chassis and Suspension

Session Code: CV204

This is a joint session developed by the Maintenance & Chassis committees. Topics include: Commercial Tire Fuel Economy, Widebase tire performance, Tire Inflation Pressure Issues, Off-Road Tire Modeling, Tire Force & Moment Variations, Truck Chassis Modeling & Tire Mechanics.

Organizers - Karl Dedolph, D3 Consulting Inc.

Chairpersons - Al E. Cohn, Pressure Systems International Inc.; Guy Walenga, Bridgestone Tire Co., Ltd.

Moderators - Karl Dedolph, D3 Consulting Inc.

Panelists - Gary B. Bessee, Southwest Research Institute; Christine Stanfel, Ahlstrom; Brian Tucker, Donaldson Company Inc.; Barry M. Verdegan, Cummins Filtration;

Planned by CV Maintenance Group / Commercial Vehicle Activity
Room TBD  

Session Time:

This session presents modeling, simulation, design, and test technology as developed for and applied to off-road vehicles. It is limited in scope to vehicle systems, especially vehicle chassis and suspension systems, which are applicable to automotive, mining and construction equipment, and military domain (propulsion, suspension, driving, braking, steering, navigation, powertrain, on-board diagnostics/prognostics, electrical power, control, etc).

Organizers - Brendan Juin-Yih Chan, Bendix Commercial Vehicle Systems; Lin Li, Liebherr Mining Equipment  
Chairpersons - Mehdi Ahmadian, Corina Sandu, Virginia Tech.

Time  
Paper No.  
Title  

2009-01-2852  
Load Calculation for Three Roller Type Slew Ring Bearings (Written Only -- No Oral Presentation)  
Noboru (Bob) Kashino, Antex Corp.

Planned by Chassis and Suspension Group / Commercial Vehicle Activity

Wednesday, October 7

Blue Ribbon Panel  
Session Code: CV901  
Room 1 & 2  
Session Time: 9:45 a.m.

As the industry emerges out of the current recession the challenges of addressing the historically rapid increase in business growth will be faced with a downsized workforce and limited resources. The purpose of the panel is to present perspectives of how to address the transition from downsizing to rebound.

Organizers - Jim D. Kelly, John C. Wall, Cummins Inc.  
Moderators - John C. Wall, Cummins Inc.  
Panelists - Elmar Boeckenhoff, Freightliner; D. Craig Brewster, PACCAR Inc.; Charlie Szews, Oshkosh Corp.;

Wednesday, October 7

I-95 Corridor Project  
Session Code: CV713  
Room 1 & 2  
Session Time: 1:45 p.m.

This presentation will propose technical, institutional and economic rationale for why the trucking industry can and should lead the way toward VII commercialization. The presentation will explore various deployment “roadmaps” for how truck manufacturers, carriers, shippers, and government can work together to efficiently implement the VII concept within trucking industry. A short case study will be offered outlining costs and benefits of deploying a VII infrastructure along I-95. Finally, a brief update of the Commercial Vehicle Infrastructure Integration (CVII) project being sponsored by New York State DOT and the I-95 Corridor Coalition will be presented.

Organizers - Mehdi Ahmadian, Virginia Tech.  
Chairpersons - Richard Miller, NIOSH; Richard M. Wood, Solus-Solutions and Technologies  
Presenters - Robert M. Kreeb, Booz Allen Hamilton Inc.

Planned by Total Vehicle Group / Commercial Vehicle Activity

Wednesday, October 7

Global Executive Leadership Panel  
Session Code: CV903  
Room 1 & 2  
Session Time: 3:30 p.m.
This group of industry leaders will offer their views on the engineer’s role in the development of products and the profitability of the organization. This incisive discussion will also explore the impact of innovation and the accompanying limitations of proprietary research and intellectual property.

**Organizers** - Patrick E. Charbonneau, Navistar Inc.; Gwenne A. Henricks, Mark R. Pflederer, Caterpillar Inc.

**Moderators** - Gwenne A. Henricks, Caterpillar Inc.

**Panelists** - Randy Baker, Case IH; Eric Nielsen, Terex Corp.; Steven Wunning, Caterpillar;

### Wednesday, October 7

#### Aerodynamics and Fuel Economy (Part 1 of 2)

**Session Code:** CV708  
**Room 10**  
**Session Time:** 7:30 a.m.

The importance of commercial vehicle fuel efficiency continues to drive U.S. policy decisions and the economics of the trucking community. Of equal importance is the impact of fossil fuel emissions on our environment. To address these issues the commercial vehicle community is exploring a diverse set of solutions and technologies with the potential to reduce fuel use and greenhouse gas emissions. This session will review several options available to the community.

**Organizers** - Richard M. Wood, Solus-Solutions and Technologies; Colin Britcher, Old Dominion Univ.

**Chairpersons** - Richard Miller, NIOSH; Richard M. Wood, Solus-Solutions and Technologies

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<tr>
<th>Time</th>
<th>Paper No.</th>
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</table>
| 7:30 a.m. | ORAL ONLY | **Full Scale Wind Tunnel Drag Reduction Test on a Modern Straight Truck**  
Drew Landman, Old Dominion Univ.; Richard M. Wood, Solus-Solutions and Technologies; Matthew Cragun, Michael McCormick, Old Dominion Univ.; Anthony Palumbo, Langley Full Scale Tunnel |
| 8:00 a.m. | 2009-01-2891 | **Fuel Consumption Track Tests for Tractor-Trailer Fuel Saving Technologies**  
Marius-Dorin Surcel, Jan Michaelsen, Yves Provencher, FPInnovations - Feric Division |
| 8:30 a.m. | 2009-01-2890 | **Understanding Practical Heavy Truck Drag Reduction Limits**  
Drew Landman, Old Dominion Univ.; Richard M. Wood, Solus-Solutions and Technologies; Whitney S. Seay, Old Dominion Univ. |
| 9:00 a.m. | ORAL ONLY | **Yaw Effects and Fuel Economy Testing**  
Richard M. Wood, Solus-Solutions and Technologies |

Planned by Total Vehicle Group / Commercial Vehicle Activity

### Wednesday, October 7

#### Aerodynamics and Fuel Economy (Part 2 of 2)

**Session Code:** CV708  
**Room 10**  
**Session Time:** 9:45 a.m.

The importance of commercial vehicle fuel efficiency continues to drive U.S. policy decisions and the economics of the trucking community. Of equal importance is the impact of fossil fuel emissions on our environment. To address these issues the commercial vehicle community is exploring a diverse set of solutions and technologies with the potential to reduce fuel use and greenhouse gas emissions. This session will review several options available to the community.

**Organizers** - Richard M. Wood, Solus-Solutions and Technologies; Colin Britcher, Old Dominion Univ.

**Chairpersons** - Richard Miller, NIOSH; Richard M. Wood, Solus-Solutions and Technologies

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Planned by Total Vehicle Group / Commercial Vehicle Activity
Wednesday, October 7

CAE Design Tools for the Total Vehicle

Session Code: CV704

Room 11  
Session Time: 8:00 a.m.

Designers of vehicles and industrial machinery find it increasingly challenging to handle technology complexities and the pressures to increase reliability, accelerate time to market and reduce costs.

Computer-aided (CAE) tools are a critical capability to meet challenges in designing, simulating and testing complex systems. This session will present recent advancements in CAE technologies and applications and how they are employed to solve complex engineering tasks.

Organizers -  Joseph J. Barkai, IDC Manufacturing Insights; Radhey Kushwaha, Univ. of Saskatchewan

Chairpersons - Richard Miller, NIOSH; Richard M. Wood, Solus-Solutions and Technologies

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<th>Time</th>
<th>Paper No.</th>
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<tr>
<td>8:00 a.m.</td>
<td>2009-01-2894</td>
<td>Simulation of Cooling Airflow and Surface Temperature of a Dongfeng Midsize Truck</td>
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<td>Bing Xu, Exa Corporation</td>
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<td>8:30 a.m.</td>
<td>ORAL ONLY</td>
<td>Integrated Electrical Design for Commercial and Off-Highway Vehicles</td>
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<td>2009-01-2896</td>
<td>Enrique Ortega, Mentor Graphics Corp</td>
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<td></td>
<td>Strength Analysis and Modal Analysis of Hydraulic Retarder (Written Only -- No Oral Presentation)</td>
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<td>2009-01-2896</td>
<td>Tao Yang</td>
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<td>2009-01-2897</td>
<td>Simulation and Design of Leaf Spring Characteristics (Written Only -- No Oral Presentation)</td>
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<td>Yongquan Liu, Wuzheng Group, Ltd.</td>
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<td>2009-01-2898</td>
<td>The Effects of Different Parameters on Connecting Rod Hydrodynamic Bearing (Written Only -- No Oral Presentation)</td>
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<td>Ali akbar Tabrizi, IKCO</td>
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Planned by Total Vehicle Group / Commercial Vehicle Activity
CAD Design Tools for the Total Vehicle

Session Code: CV703

Session Time: 9:00 a.m.

The world of globalization and competitive pricing structure always leads to finding new tools for enhancing product development such as Computer Aided Design (CAD) systems. CAD Design tools would enable challenging technology complexities and the pressures to increase reliability, accelerate time to market and reduce production costs. The session will present recent advancements in CAD systems and applications and how these are employed to solve complex design problems.

Organizers - Radhey Kushwaha, Univ. of Saskatchewan

Chairpersons - Richard Miller, NIOSH; Richard M. Wood, Solus-Solutions and Technologies

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<th>Time</th>
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<tbody>
<tr>
<td>9:00 a.m.</td>
<td>ORAL ONLY</td>
<td>Accelerating Harness Development for Commercial Vehicles - How Commercial Off-The-Shelf Software (COTS) Tools Streamline Harness Development to Help Reduce Lead Times and Cut Production Costs</td>
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<td>James Price, Mentor Graphics Corp.</td>
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<td>9:45 a.m.</td>
<td>ORAL ONLY</td>
<td>3D For All: The Future of Commercial Vehicle Design and Development</td>
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<td>Kevin Baughey, Dassault Systemes</td>
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<td>10:15 a.m.</td>
<td>2009-01-2916</td>
<td>Outsourcing: A strategic process review</td>
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<td>Amrut A. Patki</td>
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<td>10:45 a.m.</td>
<td>2009-01-2853</td>
<td>Heavy Duty Off-Road Truck Exhaust System Design</td>
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<td>Kurt Rottier, Oshkosh Corporation; Rod Huisinga, Oshkosh Corp</td>
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<tr>
<td>11:15 a.m.</td>
<td>2009-01-2854</td>
<td>Heavy-Duty Off-Road Vehicle Power Pack Design for Assembly and Maintenance</td>
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<td></td>
<td>ORAL ONLY</td>
<td>Rod Huisinga, Kurt Rottier, John Baertlein, Alex Kaye, Oshkosh Corporation</td>
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Planned by Total Vehicle Group / Commercial Vehicle Activity

Wednesday, October 7

Indirect Viewing and Enhanced Rear Signaling Session

Session Code: CV701

Session Time: 1:45 p.m.

This session will highlight innovative research to improve commercial motor vehicle safety. Information will be provided on a Technology Field Demonstration of an advanced Camera Video Imaging System using commercial vehicle fleets. Also, the session will include an overview of an Enhanced Rear Signaling (ERS) for Heavy Trucks project that focuses on investigating methods for reducing or mitigating crashes where a heavy truck has been struck in the rear by another vehicle.

Organizers - Chris Flanigan, US Dept. of Transportation; Amy L. Houser, Federal Motor Carrier Safety

Chairpersons - Richard Miller, NIOSH; Richard M. Wood, Solus-Solutions and Technologies

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<tr>
<th>Time</th>
<th>Paper No.</th>
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<tbody>
<tr>
<td>1:45 p.m.</td>
<td>2009-01-2930</td>
<td>Methodological Approach for a Field Demonstration of a Camera-Video Imaging System for Heavy Vehicles</td>
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<td>Greg Fitch, Myra Blanco, Richard Hanowski, Virginia Tech Transportation Institute</td>
</tr>
<tr>
<td>2:15 p.m.</td>
<td>ORAL ONLY</td>
<td>Enhanced Rear Signaling for Heavy Trucks</td>
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</table>
Wednesday, October 7

Vehicle Dynamics Simulation (Part 1 of 2)

Session Code: CV209

Room 12  Session Time: 8:30 a.m.

This session, organized by the SAE Chassis & Suspension Committee, aims to provide a desirable discussion platform on vehicle dynamics simulation and related research topics. Topics include vehicle modeling and validations, dynamic responses of various vehicle systems using simulation techniques, vehicle multibody dynamics, advanced suspension systems, etc.

Organizers - Dongpu Cao, Univ. of Waterloo; Nicole Iorfido, SAE International; Saied Taheri, Virginia Polytechnic Inst. & State Univ.

Chairpersons - Mehdi Ahmadian, Corina Sandu, Virginia Tech.

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<tr>
<td>8:30 a.m.</td>
<td>2009-01-2917</td>
<td>Structural Improvement for the Crash Safety of Commercial Vehicle</td>
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<td>Libo Cao, Hunan Univ.</td>
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<tr>
<td>9:00 a.m.</td>
<td>2009-01-2918</td>
<td>Brake Timing Measurements for a Tractor-Semitrailer Under Emergency Braking</td>
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<td>Fawzi P. Bayan, Anthony D. Cornetto III, Ashley Dunn, Eric Sauer, SEA Limited</td>
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</table>

Planned by Total Vehicle Group / Commercial Vehicle Activity

Wednesday, October 7

Vehicle Dynamics Simulation (Part 2 of 2)

Session Code: CV209

Room 12  Session Time: 9:45 a.m.

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Organizers - Dongpu Cao, Univ. of Waterloo; Saied Taheri, Virginia Polytechnic Inst. & State Univ.

Chairpersons - Mehdi Ahmadian, Corina Sandu, Virginia Tech.

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<tr>
<td>9:45 a.m.</td>
<td>2009-01-2919</td>
<td>A Semi-Empirical Tire Model for Transient Maneuver of On Road Vehicle</td>
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<td>Anake Umsrithong, Corina Sandu, Virginia Tech.</td>
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<tr>
<td>10:15 a.m.</td>
<td>2009-01-2920</td>
<td>A Methodology for Accounting for Uneven Ride Height in Soft Suspensions with Large Lateral Separation</td>
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<td>Florin M. Marcu, Mehdi Ahmadian, Steve Southward, Virginia Tech; Stefan Jansson, Volvo Trucks North America</td>
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</tbody>
</table>
Control and Software

Session Code: CV302

Room 13

To reduce development time and cost, many companies have started to use model-based control designs for system development and integration. Model-based control design enables quicker concept selection using computer simulations. A well-developed model may even get the preliminary validation done without the need of expensive prototypes. Furthermore, it can also accelerate development cycle using computer simulations, hardware in-the-loop tests, and production code generation.

Organizers - Dongpu Cao, Univ. of Waterloo; Xubin Song, Eaton Corp.; Yisheng Zhang, Parker Hannifin Corp.

Chairpersons - Ryan Jefferis, Daimler Trucks North America LLC; Xubin Song, Eaton Corp.

Time | Paper No. | Title
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8:00 a.m. | 2009-01-2903 | Transmission Clutch Application Monitoring
James C. Potter, ZF Industries

8:30 a.m. | 2009-01-2904 | Real Time Implementation of DOC-DPF Models on a Production-Intent ECU for Controls and Diagnostics of a PM Emission Control System
Nishit Nagar, Vikram Iyengar, Nirav Acharya, Xiaolai He, Arkadiusz Kalinowski, Pi Shurlok; Adam Kotrba, Timothy Gardner, Argun Yetkin, Tenneco Inc

9:00 a.m. | 2009-01-2905 | Heavy Truck Driveline Components Modeling and Thermal Analyzing
Gangfeng Tan, Wuhan University of Technology

2009-01-2907 | Co-simulation Based Hydraulic Retarder Braking Control System (Written Only -- No Oral Presentation)
Jun Yan, Xuexun Guo, Wuhan Univ of Technology

2009-01-2908 | Research on Road Simulator with Iterative Learning Control (Written Only -- No Oral Presentation)
Bin Wang

Planned by Chassis and Suspension Group / Commercial Vehicle Activity
New Transmission Developments

Session Code: CV309  
Room 13  
Session Time: 9:45 a.m.

This technical session will present information on the latest transmission technology (hybrids, CVT’s, etc.) and simulation used to predict, improve, and optimize performance. Where available, design simulation will be compared to actual test results demonstrating the ability of “software models” to predict performance thus allowing the designers to make improvements in both transmission and vehicle performance.

Organizers - Richard W. Job, Richard W Job & Associates; Gary D. McConeghey, Sauer-Danfoss

Chairpersons - Ryan Jefferis, Daimler Trucks North America LLC; Xubin Song, Eaton Corp.

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<tr>
<td>9:45 a.m.</td>
<td>2009-01-2932</td>
<td>Influence of Pulley Actuation Force on the Transient Dynamics of a Metal V-Belt CVT</td>
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<td>Rohan Bhate, Nilabh Srivastava, Univ. of North Carolina</td>
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<td>10:15 a.m.</td>
<td>2009-01-2931</td>
<td>Double Cone Friction Clutch (DCFC)</td>
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<td>Andreas Wolf, Rainer Krafft, Stefan Meichle, LINNING Trucktec GmbH</td>
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<tr>
<td>10:45 a.m.</td>
<td>2009-01-2933</td>
<td>Development of a Heavy Duty Hybrid Vehicle Model</td>
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<td>Andrew Simpson, Robert Kee, Robert Fleck, Queen's Univ of Belfast; Alister Hanna, Wright Bus; Roy Douglas, Queen's Univ of Belfast; David Steele, Brian Maybin, Wright Bus</td>
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<td>11:15 a.m.</td>
<td>ORAL ONLY</td>
<td>Polymers for Improved Functionality</td>
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<td>2009-01-2934</td>
<td>Proposal of Field Life Design Method for Wet Multiple Plate Clutches of Automatic Transmission on Forklift- trucks (Written Only -- No Oral Presentation)</td>
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<td>Kazunari Okabe, Mitsubishi Heavy Industries, Ltd.</td>
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Planned by Drivetrain, Powertrain and Transmissions Group / Commercial Vehicle Activity

Urea Infrastructure: Challenges, Solutions and Implementation

Session Code: CV308  
Room 13  
Session Time: 1:45 p.m.

This panel will review progress with the development of urea infrastructure. Heavy-duty and medium-duty truck OEMs and engine manufacturers will use urea SCR technology to meet 2010 EPA emission standards. The panelists will be drawn from engine and truck OEMs, urea producers and distributors, and end-user fleets. The panel will address specifications, production, distribution, shelf life, storage & dispensing systems, expected consumption rates and other related issues.

Organizers - Stephen J. Charlton, Cummins Inc.; Ken Federle, Cummins Engine Tech. Center

Chairpersons - Ryan Jefferis, Daimler Trucks North America LLC; Xubin Song, Eaton Corp.

Panelists - Ken Federle, Cummins Engine Tech. Center; Michael D. Jackson, TIAX LLC; Barry Lonsdale, Terra Industries; Bill Mulligan, Pilot Travel Centers LLC;

Planned by Drivetrain, Powertrain and Transmissions Group / Commercial Vehicle Activity

Bagels & Briefings

Session Code: CV802  
Room 14  
Session Time: 7:00 a.m.
The SAE Con-Ag Council, SAE Truck and Bus Council and SAE Graphics Based Service Work Group have teamed up to present the hottest projects that their technical standards committees are working on. This session will focus on SAE and ISO standards currently in development and their expected impact on the industry and its companies.

**Moderators** - Jack Pokrzywa, SAE International

**Panelists** - Donald E. Moore, Canadian Transportation Equipment Assoc.; Dan G. Roley, Caterpillar Inc.; Arnold Taube, Deere & Company;

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**Wednesday, October 7**

**Testing and Experimental Analysis of Chassis and Suspension (Part 1 of 2)**

**Session Code:** CV207  
**Room 14**  
**Session Time:** 10:45 a.m.

Experimental studies are extremely valuable in better understanding the vehicle systems and sub-systems. Through testing and laboratory work one can substantially improve the design and performance of a vehicle, as well as validate computer models or theoretical assumptions. Examples of topics include experimental studies for trailer design, experimental testing for hybrid electric buses, tire-road pressure studies for heavy-vehicles.

**Organizers** - James Bean, Transportation Research Center Inc.; Corina Sandu, Virginia Tech.

**Chairpersons** - Mehdi Ahmadian, Corina Sandu, Virginia Tech.

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<tr>
<td>10:45 a.m.</td>
<td>ORAL ONLY</td>
<td>Applying New Technology to Commercial Vehicle Dynamics Data Acquisition</td>
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<td>Matthew Rings, National Instruments</td>
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<td>11:15 a.m.</td>
<td>2009-01-2859</td>
<td>Vehicle Ride Comfort and Stability Performance Evaluation</td>
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<td>Shawky Hegazy, Military Technical College; Corina Sandu, Virginia Tech.</td>
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<td>1:45 p.m.</td>
<td>2009-01-2861</td>
<td>Optimized Drive Axle Design for Class 8 Tractors Equipped with New Generation Wide Base Single Tires</td>
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<td>Ellis Johnson, Michelin North America; Susan M. Nelson, Michelin Americas Research Company; Fabien Marlier, Serge Nicolas, Maxime Rolland, Michelin Technology Center</td>
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<tr>
<td>2:15 p.m.</td>
<td>2009-01-2862</td>
<td>A Methodology for Laboratory Testing of Truck Cab Suspensions</td>
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<td>Florin M. Marcu; Mehdi Ahmadian, Steve Southward, Virginia Tech; Stefan Jansson, Volvo Trucks North America</td>
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<td>2009-01-2860</td>
<td>Comparative Linear Analysis of Alternative Layouts of Heavy Goods Vehicle (Written Only -- No Oral Presentation)</td>
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<td>Noor-u-Zaman Laghari, Aldo Sorniotti, University of Surrey</td>
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<td>2009-01-2863</td>
<td>Fatigue Crack Growth for Typical CV Siderail Hole-Making Processes Applied to Heat-Treated Steel (MET1123) and Ultra High Strength Low Alloy Steel (120XF) (Written Only -- No Oral Presentation)</td>
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<td>Sean Michael Fleming, Metalsa</td>
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Planned by Chassis and Suspension Group / Commercial Vehicle Activity

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**Alternative Fuels**

**Session Code:** CV306  
**Room 14**  
**Session Time:** 1:45 p.m.

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High volatility in petroleum pricing, finite resources and increased concerns with climate change have intensified the implementation of transport/equipment fuel alternatives. This session will address the challenges presented by alternative fuels as potential replacement of petroleum fuels, specifically in terms of engine system interaction on performance and emissions.

Organizers - Ryan Jefferis, Daimler Trucks North America LLC; Edward J. Lyford-Pike, Cummins Inc.
Chairpersons - Ryan Jefferis, Daimler Trucks North America LLC; Xubin Song, Eaton Corp.

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<tr>
<td>1:45 p.m.</td>
<td>2009-01-2900</td>
<td>Study on Diesel Combustion by Preheated Inlet Air with Blends of Diesel and Biodiesel (Written Only -- No Oral Presentation)</td>
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<td>Mhia Md. Zaglul Shahadat</td>
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<tr>
<td>2:15 p.m.</td>
<td>2009-01-2899</td>
<td>Field Evaluation of Biodiesel (B20) Use by Transit Buses</td>
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<td>Michael P. Lammert, Robb Allan Barnitt, Robert L. McCormick, National Renewable Energy Laboratory</td>
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<tr>
<td>2:45 p.m.</td>
<td>2009-01-2901</td>
<td>Effect of Injector Opening Pressure on Performance and Emission Characteristics of Mahua Oil Methyl Ester in a DI Diesel Engine</td>
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<td>N. Kapilan, National Institute of Technology Mangaloo</td>
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Planned by Drivetrain, Powertrain and Transmissions Group / Commercial Vehicle Activity

Vehicle Architecture

Session Code: CV410

Room 6  
Session Time: 7:30 a.m.

While electronics are key in addressing emission and operating economics challenges, system cost, quality, and operator training are becoming pressing concerns. A flexible electrical and electronic architecture presents opportunities to address these concerns including the ability to implement integrated control functions for better operator efficiency. This session provides a forum to discuss benefits of a flexible architecture, successful implementations, and technology trends.

Organizers - Michel F. Sultan, Delphi Electronics & Safety
Moderators - Doug Welk, Delphi Electronics & Safety

Planned by Electrical and Electronics Group / Commercial Vehicle Activity

New Developments in Sensors

Session Code: CV404

Room 6  
Session Time: 9:45 a.m.

Achieving innovative growth requires new technology, and many of these new technologies include electronics and software. In order for electronics and software products to be successful, they require accurate measurements of machine properties, material properties, and the operating environment - in a word sensors. New sensor technologies will be presented concerning Controls, Diagnostics, and Guidance/Awareness.

Organizers - James Lenz, John Deere & Co.; Glenn R. Widmann, Delphi Electronics & Safety

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Planned by Drivetrain, Powertrain and Transmissions Group / Commercial Vehicle Activity
Wednesday, October 7

Commercial Medium Tire Debris Study
Session Code: CV607
Room 7  Session Time: 7:30 a.m.

This session will present the results of the subject study conducted by the University of Michigan Transportation Research Institute under a subcontract from Virginia Tech Transportation Research Institute. This study investigated the underlying causes of original tread truck tire and retreaded truck tire failures and their impact on medium and heavy vehicle crashes.

Organizers - Guy Walenga, Bridgestone Tire Co., Ltd.
Chairpersons - Al E. Cohn, Pressure Systems International Inc.; Guy Walenga, Bridgestone Tire Co., Ltd.
Moderators - Guy Walenga, Bridgestone Tire Co., Ltd.
Panelists - Oliver Page, Univ. of Michigan-Ann Arbor; Alrik L. Svenson, National Hwy Traffic Safety Admin; John Woodroofe, Univ. of Michigan-Ann Arbor;

Planned by CV Maintenance Group / Commercial Vehicle Activity

Wednesday, October 7

Update Report on Truck Tire Durability Testing
Session Code: CV608
Room 7  Session Time: 9:45 a.m.

This session will detail the work of the ASTM Committee F09.30 Task Group on Commercial Truck/Bus Tire Test Development. We will cover the development of a highway equivalent speed algorithm for laboratory roadwheel testing to replicate road operating temperatures, a standardized laboratory endurance test, and a standardized laboratory high speed test for commercial truck/bus tires.

Organizers - Guy Walenga, Bridgestone Tire Co., Ltd.
Chairpersons - Al E. Cohn, Pressure Systems International Inc.; Guy Walenga, Bridgestone Tire Co., Ltd.
Moderators - Guy Walenga, Bridgestone Tire Co., Ltd.
Panelists - Guy S. Edington, Standards Testing Labs Inc.;

Planned by CV Maintenance Group / Commercial Vehicle Activity

Wednesday, October 7

Corrosion Prevention and Control: Seven Years On
Seven years ago, the first sessions on corrosion brought the concerns of the fleet communities to SAE Commercial Vehicle Congress. Now, we review the events of the past, our present state, and look to the future. Our speakers include one of our 2002 panelists, the Chair of the SAE Committee responsible for J2721, Recommended Corrosion Test Methods, an engineer putting corrosion prevention to work in new trailers, and a developer of a new corrosion-prevention process.

Chairpersons - Al E. Cohn, Pressure Systems International Inc.; Guy Walenga, Bridgestone/Firestone NA Tire LLC
Panelists - Vern Andrew Caron, Meritor Heavy Vehicle Systems LLC; Bradley Van Riper, Truck-Lite Co. Inc.; Dennis J. Winn, Orscheln Products LLC; Phil Pierce, PRP Industries;

Planned by CV Maintenance Group / Commercial Vehicle Activity

Wednesday, October 7

54th Annual L. Ray Buckendale Lecture

Session Code: CV603

Room 7

Session Time: 1:45 p.m.

Organizers - Matt Glass, Eaton Corp.

Time | Paper No. | Title
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1:45 p.m. | 2009-01-2924 | Embedded Software Engineering In Automotive and Truck Electronics

Ali Maleki, ArvinMeritor Inc.