12th Diesel Engine-Efficiency and Emissions Research (DEER) Conference

August 20-24, 2006
Detroit Marriott Renaissance Center Hotel
Detroit, Michigan

Times Subject to Change

SUNDAY, AUGUST 20TH

1:30 pm - 5:30 pm REGISTRATION - *Ontario Foyer*

1:30 pm - 4:30 pm RIDE & DRIVE - *Wintergarden Atrium, Renaissance Center*

This year's Ride and Drive, sponsored by the Diesel Technology Forum, promises to be a great event! The Ride and Drive is open to the public.

Follow the signs from the Marriott and meet us at the starting line in the Wintergarden Atrium of the Renaissance Center to begin your test drive. Ice cream and water will be available. Our corporate participants will be providing the following vehicles:

BMW of North America, LLC

BMW X5
BMW 535d

Bosch Corporation

Audi A6
BMW 120d
BMW 535d
Honda Accord
DaimlerChrysler Smart
Mercedes-Benz E320D

General Motors Corporation

Developmental Vehicle

Honeywell Corporation

Volkswagen Touareg
BMW 330d
Chrysler 300

5:30 pm - 7:30 pm WELCOME RECEPTION - *Ambassador*

MONDAY, AUGUST 21ST

7:00 am - 5:00 pm REGISTRATION - *Ontario Foyer*

7:00 am - 8:15 am CONTINENTAL BREAKFAST - *Ambassador Foyer*

8:30 am - Noon *Ambassador* Plenary Session: "A View from the Bridge" - *Panel Discussion*

Edward J. Wall, U.S. Department of Energy, Moderator

John K. Amdall, Director of Engine Research and Development at Caterpillar

Tom Cackette, Chief Deputy Executive Officer at the California Air Resources Board

Elizabeth Lowery, Vice-President for Environment and Energy at General Motors

Margo Ogé, Director of the Office of Transportation and Air Quality at the U.S. Environmental Protection Agency (EPA)

Gerhard Schmidt, Vice-President for Research and Advanced Engineering at Ford Motor Company

Michael Walsh, Environmental Consultant

Noon - 1:30 pm LUNCH
Columbus Speaker: ***"Bringing the Low NO_x Diesel Under Control"*** - *John Pinson, CI Engine Systems Group Manager, GM Research*

1:30 pm – 4:10 pm *Ambassador* Technical Session 1: Advanced Combustion Technologies, Part 1

Gurpreet Singh, U.S. Department of Energy, Chairman

1:30 pm - 2:00 pm **Heavy-Duty HCCI Development Activities at Caterpillar**
Kevin Duffy, *Caterpillar Inc.*

2:00 pm - 2:20 pm **Low-Temperature Combustion for High-Efficiency, Ultra-Low Emission Engines**
Dennis Assanis, *University of Michigan*

2:20 pm - 2:40 pm **Evaluation of High-Efficiency Clean Combustion (HECC) Strategies for Meeting Future Emissions Regulations in Light-Duty Diesel Engines**
Robert M. Wagner, *Oak Ridge National Laboratory*

2:40 pm - 3:00 pm **Visualization of Unburned Hydrocarbon Emissions for Low-Temperature Diesel Engine Combustion**
Mark P. B. Musculus, *Sandia National Laboratories*

3:00 pm - 3:30 pm BREAK - *Ambassador Foyer*

3:30 pm - 3:50 pm **Review of HCCI Engine Development**
Thomas W. Ryan III, *Southwest Research Institute*

3:50 pm - 4:10 pm **Application of a Diesel Fuel Reformer for Tier 2 Bin 5 Emissions**
Joseph V. Bonadies, *Delphi Corporation*

4:10 pm – 5:00 pm
Ambassador

Presentation Poster Session: Advanced Combustion Technologies, Diesel Engine Development, Emission Control Technologies, Fuels and Lubricants, Health Impacts, and Waste Heat Recovery

James Eberhardt, U.S. Department of Energy and Terry Levinson, Argonne National Laboratory, Co-Chairmen

P-21 A Hydrogen Injection System Driven by Exhaust Powered Thermoelectric Generator
John C. Bass, *Hi-Z Technology, Inc.*

P-25 Cetane Performance and Chemistry Comparing Conventional Fuels and Fuels Derived from Heavy Crude Sources
Bruce Bunting, *Oak Ridge National Laboratory*

P-26 Assessment of Environmental Impacts of Shell GTL Fuel
R. A. Cherrillo, *Shell Global Solutions*

P-23 Application Experience with a Combined SCR and DPF Technology for Heavy-Duty Diesel Retrofit
Ray Conway, *Johnson Matthey Environmental Catalysts & Technologies*

P-30 A Soot Formation Model Based on Surface Chemistry
John M. Deur, *Reaction Design*

P-22 Impact of Low-Friction Surface Treatments on Engine Efficiency
George Fenske, *Argonne National Laboratory*

P-17 Which Idling Reduction System(s) Will be Most Economical for Truck Owners?
Linda Gaines, *Argonne National Laboratory*

P-27 Emissions Benefits and Hardware Developments in the Use of Ethanol and Diesel Fuel Blends
Benjamin Kaufman, *O2Diesel, Inc.*

P-16 The Health Impacts Program of the DOE Office of FreedomCAR and Vehicle Technologies
Douglas R. Lawson, *National Renewable Energy Laboratory*

P-32 Experimental Validation of a Bifurcated LNT System with By-Pass Regeneration
Shawn Midlam-Mohler, *Ohio State University*

P-20 Catalysis by Design — Theoretical and Experimental Studies of Model Catalysts for Lean NO_x Treatment
C. K. Narula, *Oak Ridge National Laboratory*

P-31 Low-Temperature Combustion with Thermo-Chemical Recuperation to Maximize In-Use Energy Efficiency
Francisco Posada, *West Virginia University*

P-28 Freight Transportation Shifts Toward and Within Trucking: Impacts on Long-Term and Recent Highway Diesel Fuel Consumption
Danilo J. Santini, *Argonne National Laboratory*

MONDAY, AUGUST 21ST *(Continued)*

P-24 **Effects of Using Synthetically-Derived Fuels on the U.S. Military Tactical Fleet**
Heather McKee, *U.S. Army RDECOM-TARDEC*

P-18 **Technology Required for a 10% Efficiency Improvement in an Over-the-Road Diesel-Powered System by the Application of Advanced Thermoelectrics Implemented in a Hybrid Configuration**
Harold Schock, *Michigan State University*

P-29 **Fuel Effects on Ignition and Their Impact on Advanced Combustion Engines**
Joshua D. Taylor, *National Renewable Energy Laboratory*

5:30 pm – 7:00 pm
Ontario Exhibits Hall

Poster Session and Reception: Advanced Combustion Technologies, Diesel Engine Development, Emission Control Technologies, Fuels and Lubricants, Health Impacts, and Waste Heat Recovery

P-13 **Evaluation of a Miniature Partial Flow Dilution System (MPS) for the U.S. EPA Heavy-Duty 2007 PM Rule**
D. R. Booker, *Sensors, Inc.*

P-9 **A Model Fuels Consortium to Promote Engine Modeling**
John Deur, *Reaction Design*

P-3 **The Free Piston Floating Stroke (FPFS), Four-Cycle, Four-Cylinder, HCCI, ICRE (4" Bore x 4" Stroke with Duplex Piston Geometry Illustrated at Mid Stroke)**
John W. Fitzgerald, *Energy Transition Technology, Inc.*

P-6 **Evidence from Laboratory Studies on the Cancer Risk of Diesel Exhaust**
Thomas W. Hesterberg, *International Truck and Engine Corp.*

P-5 **Using Tracers to Quantify In-Cabin Concentrations of School Bus Exhaust and Crankcase Emissions**
Thomas W. Hesterberg, *International Truck and Engine Corp.*

P-7 **Effects of Diesel Fuel Properties on Particulate Morphology/Nanostructures and NO_x Emissions**
Kyeong Lee, *Argonne National Laboratory*

P-11 **Status of the Advanced Collaborative Emissions Study (ACES)**
Chris Tennant, *Coordinating Research Council*

P-8 **CFD Modeling for Diesel Particulate Filter**
Yong Yi, *Fluent Inc.*

P-10 **The Size and Composition of Individual Ultrafine Diesel Emission Particulate from 2007 Diesel Engines with and without Aftertreatment**
Alla Zelenyuk, *Pacific Northwest National Laboratory*

TUESDAY, AUGUST 22ND

7:00 am - 5:00 pm REGISTRATION - *Ontario Foyer*

7:00 am - 8:15 am CONTINENTAL BREAKFAST - *Ontario Exhibits Hall*

8:30 am - Noon *Ambassador* Plenary Session: "Accelerating Light-Duty Diesel Sales in the U.S. Market " - *Panel Discussion*

Allen Schaeffer, Diesel Technology Forum, Moderator

Charles Freese, General Motors
Simon Godwin, DaimlerChrysler
Wolfgang Mattes, BMW
Kevin McMahon, Martec Group
Yasuyuki Sando, Honda
Klaus-Peter Schindler, Volkswagen
Karl Simon, EPA

Noon - 1:30 pm LUNCH
Columbus Speaker: ***"Caterpillar Diesel Racing, Yesterday and Today"*** - *Kevin Bruch, Director of Engine Research, Caterpillar*

1:30 pm – 4:10 pm *Ambassador* Technical Session 2: Emission Control Technologies, Part 1

Ken Howden, U.S. Department of Energy, Chairman

1:30 pm - 2:00 pm **Diesel Emission Technology in Review**
Tim Johnson, *Corning Inc.*

2:00 pm - 2:20 pm **Electrostatic Neutralization: A Key to Repeatable PM Filter Weighing**
Richard E. Chase, *Ford Motor Company*

2:20 pm - 2:40 pm **Intra-Catalyst Reductant Chemistry and NO_X Conversion of Diesel Lean NO_X Traps at Various Stages of Sulfur Loading**
James E. Parks II, *Oak Ridge National Laboratory*

2:40 pm - 3:00 pm **Hybrid LNT/SCR NO_X Aftertreatment System for On-Highway Heavy-Duty Diesel Engines**
Haoran Hu, *Eaton Corporation*

3:00 pm - 3:30 pm BREAK - *Ontario Exhibits Hall*

3:30 pm - 3:50 pm **NO_X Measurement Errors in Ammonia-Containing Exhaust**
John Hoard, *Ford Motor Company*

3:50 pm - 4:10 pm **California's Efforts for Advancing Ultrafine Particle Number Measurements for Clean Diesel Exhaust**
Tao Huai, *California Air Resources Board*

TUESDAY, AUGUST 22ND *(Continued)*

4:10 pm – 5:00 pm
Ambassador

Presentation Poster Session: Emission Control Technologies

James Eberhardt, U.S. Department of Energy and Terry Levinson, Argonne National Laboratory, Co-Chairmen

P-36 **On-Board, In-Use Sensitivity Study of an Electrical Aerosol Detector (EAD) and Condensation Particle Counter (CPC) for Second by Second Diesel PM Measurements**
Robert C. Anderson, *TSI Inc.*

P-32 **The Development of A Small Engine-Based Accelerated Ash Loading Protocol and Application to a New Substrate Material**
Bruce G. Bunting, *Oak Ridge National Laboratory*

P-17 **The Extengine® ADEC II System**
Richard Carlson, *Extengine*

P-19 **Operation of a Combined Single Leg NO_x Adsorber Fuel Processor System to Achieve NO_x Control over a Wide Range of Engine Conditions**
R. Dalla Betta, *Catalytica Energy Systems, Inc.*

P-20 **Testing an Active Diesel Particulate Filter on a 2-Cycle Marine Engine**
Frank S. DePetrillo, *RYPOS*

P-22 **Stabilization of Soot in the Single Channel**
Heather Dillon, *Pacific Northwest National Laboratory*

P-34 **Impact of External Heat-Shielding Techniques on Shell Surface Temperature and Dynamic Shell Thermal Deformation of Diesel Engine Emission Control Systems**
Russ Hornback, *3M Automotive*

P-28 **Development and Field Evaluation of an Actively Regenerating DPF System for Retrofit Applications**
Ajay Joshi, *Johnson Matthey*

P-29 **Simulation of Diesel Particulate Filters Using STAR-CD**
Alan Mueller, *CD-adapco*

P-21 **Progress with a Ceramic Fiber Diesel Particulate Filter**
Richard D. Nixdorf, *Industrial Ceramic Solutions, LLC*

P-26 **Wiremesh Substrates for Enhanced Particulate Oxidation and Efficient Urea SCR NO_x Reduction Systems**
Sivanandi Rajadurai, *ACS Industries Inc.*

P-23 **Optimized SCR System**
M. Rice, *Emitec*

P-24 **Emissions Performance of Diesel Particulate Filter Systems for Heavy-Duty Off-Highway Applications**
Brent Rubeli, *Natural Resources Canada*

P-25 **Detailed Characterization of Lubricant-Derived Ash-Related Species in Diesel Exhaust and Aftertreatment Systems**
Alexander G. Sappok, *Massachusetts Institute of Technology*

P-18 **NO Oxidation in Emissions Testing Sample Bags**
Sandip D. Shah, *Ford Motor Company*

P-27 **Electrical Tailpipe PM Sensor for Diesel Engine Emission Measurements**
Juha Tikkanen, *Dekati Ltd.*

P-16 **To Detect Diesel Fuel Dilution Level in Engine Oil**
SuChee Wang, *Delphi Research Lab*

P-30 **SCReaming for Low NO_x: Development of Selective Catalytic Reduction for the Light-Duty Market**
Mike Traver, *IAV Automotive Engineering, Inc.*

P-31 **SCR Systems for Heavy-Duty Trucks: Results of Development for Series Production Meeting Euro 4/5 Emissions Standards**
Thomas Wilhelm, *Purem North America*

5:30 pm – 7:00 pm *Ontario Exhibits Hall* Poster Session and Reception: Emission Control Technologies

P-2 **PMF™ Sintered Metal Filters for Superior Performance and Durability with Reduced Maintenance**
Jim Biddinger, *Purem North America*

P-1 **Case Study: Real World Implementation of Five Novel Diesel Emissions Reduction Technologies at a Major Construction Project in NYC**
Michael C. Block, *Emisstar LLC*

P-3 **Advanced Support Mats for Diesel Emission Control Devices**
Serfio David Fernandes, Jr., *Unifrax Corporation*

P-4 **Homogeneous Alloy Foam Technology for Diesel Particulate Traps**
David Han, *INCO Special Products*

P-12 **Effect of Barium Loading on the Sulfation and Desulfation of $Pt/BaO/Al_2O_3$ Lean NO_x Trap Catalysts**
Do Heui Kim, *Pacific Northwest National Laboratory*

P-5 **NO_x and PM Control for In-Use Diesel Vehicle in Korea and Japan**
Do-Woam Kim, *SK Corporation*

P-15 **Further Development in Lean-Rich Engine Cycle Monitoring by 5-Hz FT-IR**
John Lake, *MKS Instruments*

P-6 **Durability and Performance Review of the New DuraTrap® AT (Aluminum Titanate) Filters**
Nathan Majiros, *Corning Inc.*

P-9 **University of Houston Diesel Dynamometer Raw Gas Testing: Fuel and Exhaust Measurement Upgrades**
Rachel L. Muncrief, *University of Houston*

P-10 **Flow-Through Filter Technology: A Study in Design**
Mojghan Naseri, *DCL International Inc.*

P-11 **Mobile Source Air Toxics at the Watt Road Environmental Laboratory**
Jim Parks, *Oak Ridge National Laboratory*

TUESDAY, AUGUST 22ND *(Continued)*

P-14 **NO_x Reduction Aftertreatment for a City Utility Truck**
Hamid Servati, *ServoTech Engineering*

P-7 **On-Road Emissions of NO, SO_2, CO, and NH_3 from 1600 HDDV**
Donald H. Stedman, *University of Denver*

P-8 **Will Future NO_x Reductions Increase Ozone?**
Donald H. Stedman, *University of Denver*

P-13 **FBC-DPF-EGR Retrofit System to Meet the Current Japan's NO_x-PM Law with the Hydro-EGR Accumulator System Added for the Future NO_x-Regulation**
N. Yoshikawa, *Doubletree Tech-Intermet, Ltd.*

WEDNESDAY, AUGUST 23RD

7:00 am - 5:00 pm REGISTRATION - *Ontario Foyer*

7:00 am - 8:15 am CONTINENTAL BREAKFAST - *Ontario Exhibits Hall*

8:30 am - Noon *Ambassador* Plenary Session: "New Feedstocks and Replacement Fuels" - *Panel Discussion*

Stephen Goguen, U.S. Department of Energy, Moderator

Loren K. Beard, DaimlerChrysler Corporation
Norman Brinkman, General Motors
Nigel Clark, West Virginia University
Herb Dobbs, TACOM
Craig Fairbridge, National Centre for Upgrading Technology
Brien Fulton, Ford Motor Company
Robert McCormick, National Renewable Energy Laboratory
James Simnick, BP

Noon - 1:30 pm LUNCH
Columbus Speaker: ***"New Markets, New Challenges"*** - *Tina Vujovich, VP, Marketing and Environmental Policy, Cummins, Inc.*

1:30 pm – 5:10 pm *Ambassador, Salon 1* Concurrent Technical Session 3: Diesel Engine Development

Roland Gravel, U.S. Department of Energy, Chairman

1:30 pm - 2:00 pm **Heavy-Duty Engine Technology for High Thermal Efficiency at EPA 2010 Emissions Regulations**
Rakesh Aneja, *Detroit Diesel Corporation*

2:00 pm - 2:20 pm **50% Brake Thermal Efficiency Achieved at 2010 Emissions**
Christopher R. Nelson, *Cummins Inc.*

2:40 pm - 3:00 pm **Multicylinder Diesel Engine Design for HCCI Operation**
William de Ojeda, *International Truck and Engine Corp.*

3:00 pm - 3:30 pm BREAK - *Ontario Exhibits Hall*

3:30 pm - 3:50 pm **Stoichiometric Compression Ignition Engine Concept**
Richard Winsor, *John Deere*

3:50 pm - 4:10 pm **Integration of Control System Components for Optimum Engine Response**
Craig Savonen, *Detroit Diesel Corporation*

4:10 pm - 4:30 pm **Effect of Biodiesel Blends on Diesel Particulate Filter Performance**
Aaron Williams, *National Renewable Energy Laboratory*

4:30 pm - 4:50 pm **Engine System Approach to Exhaust Energy Recovery**
R. W. Kruiswyk, *Caterpillar Inc.*

4:50 pm - 5:10 pm **Spray Structure Measured with X-Ray Radiography**
Alan L. Kastengren, *Argonne National Laboratory*

1:30 pm – 5:10 pm *Ambassador, Salon 3* Concurrent Technical Session 4: Fuels, Lubricants, and Health Impacts

Kevin Stork, U.S. Department of Energy, Chairman

1:30 pm - 2:00 pm **Current Status of ULSD and Future Light-Duty Implications**
Michael Leister, *Marathon Petroleum*

2:00 pm - 2:20 pm **Distributing Urea to the On-Road Vehicle Market**
Michael D. Jackson, *TIAX LLC*

2:20 pm - 2:40 pm **100,000-Mile Evaluation of Transit Buses Operated on Biodiesel Blends (B20)**
Robb Barnitt, *National Renewable Energy Laboratory*

2:40 pm - 3:00 pm **Correlations between Metallic Lubricant Additive Species in the Ring Pack and Ash Emissions and Their Dependence on Crankcase Oil Properties**
Simon A. G. Watson, *Massachusetts Institute of Technology*

3:00 pm - 3:30 pm BREAK - *Ontario Exhibits Hall*

3:30 pm - 3:50 pm **The Potential of GTL Diesel to Meet Future Exhaust Emission Limits**
Paul Schaberg, *Sasol Technology*

3:50 pm - 4:10 pm **After Petroleum**
James J. Eberhardt, *U.S. Department of Energy*

4:10 pm - 4:30 pm **An Assessment of the Evidence for the Carcinogenic Potential of Diesel Exhaust**
William B. Bunn, *International Truck and Engine Corp.*

4:30 pm - 4:50 pm **Pulmonary and Systemic Immune Response to Inhaled Oil Condensates**
Jacob McDonald, *Lovelace Respiratory Research Institute*

4:50 pm - 5:10 pm ***In Vitro* Mutagenic and DNA and Chromosomal Damage Activity by Surfactant Dispersion or Solvent Extract of a Reference Diesel Exhaust Particulate Material**
William Wallace, *U.S. Centers for Disease Control and Prevention*

5:30 pm - 7:30 pm RECEPTION - *Ontario Exhibits Hall*

THURSDAY, AUGUST 24TH

7:00 am - 5:00 pm REGISTRATION - *Ontario Foyer*

7:00 am - 8:15 am HOT TOPICS/HOT BREAKFAST - *Columbus*

8:30 am - 12:10 pm *Ambassador, Salon 1* Concurrent Technical Session 5: Emission Control Technologies, Part 2

Ken Howden, U.S.Department of Energy, Chairman

8:30 am - 9:00 am **Urea SCR and DPF System for a Tier 2 Diesel Light-Duty Truck**
Christine Lambert, *Ford Motor Company*

9:00 am - 9:20 am **Injection System and Engine Strategies for Advanced Emission Standards**
Marcus Parche, *Robert Bosch*

9:20 am - 9:40 am **Modeling the Regeneration Chemistry of Lean NO_x Traps**
Richard S. Larson, *Sandia National Laboratories*

9:40 am - 10:00 am **Investigation of DPF System Size Reduction by Vehicle Testing**
Frank Mao, *Dow Automotive*

10:00 am - 10:20 am **Improved Lifetime Pressure-Drop Management for DuraTrap® RC Filters with Asymmetric Cell Technology (ACT)**
Krishna Aravelli, *Corning Inc.*

10:20 am - 10:50 am *BREAK*

10:50 am - 11:10 am **Transmural Catalysis — High-Efficiency Catalysts for NO_x Adsorbers and SCR**
Chris Atkinson, *Pandora Energy Technologies LLC*

11:10 am - 11:30 am **Thermal Enhancer — Airless Exhaust Thermal Management Device**
Adam Coker, *ArvinMeritor*

11:30 am - 11:50 am **Experimental Diesel Particulate Filter Capabilities at PNNL**
Tom Gallant, *Pacific Northwest National Laboratory*

11:50 am - 12:10 pm **NO_x Remediation on Heavy-Duty Diesel Using On-Board Diesel Fuel Reforming**
Mark Hemingway, *Delphi Corporation*

8:30 am - 12:10 pm *Ambassador, Salon 3* Concurrent Technical Session 6: Waste Heat Recovery

John Fairbanks, U.S. Department of Energy, Chairman

8:30 am - 9:00 am **Overview of Thermoelectric Applications for Vehicles**
John W. Fairbanks, *U.S. Department of Energy*

9:00 am - 9:20 am **High-Efficiency Waste Heat Recovery System for Vehicle Applications**
John W. LaGrandeur, *BSST LLC*

9:20 am - 9:40 am **Develop Thermoelectric Technology for Automotive Waste Heat Recovery**
Jihui Yang, *General Motors*

THURSDAY, AUGUST 24TH *(Continued)*

9:40 am - 10:00 am **Cost-Effective Fabrication Routes for the Production of Quantum Well Structures and Recovery of Waste Heat from Heavy-Duty Trucks**
Rhonda Willigan, *United Technologies Research Center*

10:00 am - 10:20 am **Progress in Thermoelectric Energy Recovery from a Light-Duty Truck Exhaust**
Eric Thacher, *Clarkson University*

10:20 am - 10:50 am BREAK - *Ambassador Foyer*

10:50 am - 11:10 am **Potential of Thermoelectrics for Fuel Efficiency Gains and Occupant Comfort in Vehicle Applications**
Lon E. Bell, *BSST LLC*

11:10 am - 11:30 am **A Quantum Leap for Heavy-Duty Truck Engine Efficiency — Hybrid Power System of Diesel and WHR-ORC Engines**
Gerhard Regner, *AVL Powertrain Engineering Inc.*

11:30 am - 11:50 am **Electric Turbo-Compounding — A Technology Whose Time has Come**
Carl T. Vuk, *John Deere*

11:50 am - 12:10 pm **In-Vehicle Exhaust Energy Recovery for Thermal Efficiency Improvement**
Christopher R. Nelson, *Cummins Inc.*

12:15 pm - 1:30 pm LUNCH
Columbus Speaker: ***"NAFTA Heavy-Duty Engine and Aftertreatment Technology: Status and Outlook"*** - *Glenn Lysinger , Chief Compliance Officer, NAFTA Powertrain, Detroit Diesel Corporation*

1:30 pm – 5:10 pm *Ambassador, Salon 1* Concurrent Technical Session 7: Emission Control Technologies, Part 3

James Eberhardt, U.S. Department of Energy, Chairman

1:30 pm - 2:00 pm **Emissions Control for Heavy-Duty Trucks**
Jim Clerc, *Cummins Inc.*

2:00 pm - 2:20 pm **Technical Demonstration of 2010 Heavy-Duty Emissions Regulations over Transient Operation**
Rakesh Aneja, *Detroit Diesel Corporation*

2:20 pm - 2:40 pm **Status Report on the Development of Rapid Aging and Poisoning Protocols for Diesel Aftertreatment Devices**
Bruce Bunting, *Oak Ridge National Laboratory*

2:40 pm - 3:00 pm **The Effects of Thermal Aging and Phosphorus Exposure on Performance of Diesel Particulate Filters**
Herbert DaCosta, *Caterpillar Inc.*

3:00 pm - 3:30 pm *BREAK*

3:30 pm - 3:50 pm **LNT or Urea SCR Technology: Which is the Right Technology for Tier 2 Bin 5 Passenger Vehicles?**
Richard Dorenkamp, *Volkswagen*

3:50 pm - 4:10 pm **Safe and Compact Ammonia Storage/Delivery Systems for SCR-DeNOx in Automotive Units**
Tue Johannessen, *Amminex A/S, Denmark*

4:10 pm - 4:30 pm **Diesel Desulfurization Filter**
Ron Rohrbach, *Honeywell*

4:30 pm - 4:50 pm **European Experience and Study Cases of SCR Passenger Cars Integration**
Jules-Joseph Vanschaftingen, *Intergy Automotive*

4:50 pm - 5:10 pm **Comparative HRTEM and XPS Analysis of Diesel Engine and Related Soots**
R. L. Vander Wal, *National Aeronautics and Space Administration*

1:30 pm – 5:10 pm *Ambassador, Salon 3* Concurrent Technical Session 8: Advanced Combustion Technologies, Part 2

Gurpreet Singh, U.S. Department of Energy, Chairman

1:30 pm - 2:00 pm **High-Efficiency Clean Combustion Design for Compression Ignition Engines**
Michael Potter, *General Motors*

2:00 pm - 2:20 pm **On Soot Reduction by Post-Injection under Dilute Low-Temperature Diesel Combustion**
Anders Hultqvist, *Lund University*

2:20 pm - 2:40 pm **Adaptive Control to Improve Low-Temperature Diesel Engine Combustion**
Ming Zheng, *University of Windsor*

2:40 pm - 3:00 pm **Effects of Ambient Density and Temperature on Soot Formation under High-EGR Conditions**
Lyle M. Pickett, *Sandia National Laboratories*

3:00 pm - 3:30 pm BREAK - *Ambassador Foyer*

3:30 pm - 3:50 pm **Low-Temperature Heat Release Behavior of Conventional and Alternative Fuels in a Motored Engine**
James P. Szybist, *Oak Ridge National Laboratory*

3:50 pm - 4:10 pm **Premix Charge, Compression Ignition Combustion System Optimization**
Richard J. Gustafson, *Cummins Inc.*

4:10 pm - 4:30 pm **Low-Temperature Combustion and Diesel Emission Reduction Research**
Rolf D. Reitz, *University of Wisconsin-Madison*

4:30 pm - 4:50 pm **New Methodologies for Analysis of Premixed Charge Compression Ignition Engines**
Salvador M. Aceves, *Lawrence Livermore National Laboratory*

4:50 pm - 5:10 pm **A Micro-Variable Circular Orifice (MVCO) Fuel Injector for Zoned Low-Temperature Combustion**
Deyang Hou, *QuantiLogic Corporation*