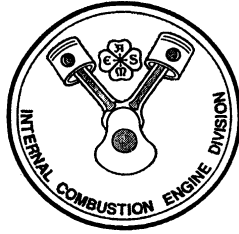




AMERICAN SOCIETY OF MECHANICAL ENGINEERS



INTERNAL COMBUSTION ENGINE DIVISION (ICED)

2008 SPRING TECHNICAL CONFERENCE

April 27-30, 2008

PRELIMINARY PROGRAM

**Sheraton Gateway Suites, Chicago O'Hare
Chicago, IL**

Tours Hosted by:

International Truck and Engine Company
Ricardo Chicago Technical Center

Sponsors:

ABB Inc.
California Energy Commission
Geislinger Corporation
Fairbanks Morse Engine
Southwest Research Institute
Waukesha Engine
Wm. W. Nugent & Co.

**ICE Division Chair: Kirby Chapman
Technical Program Chair: Stephen Ciatti
Administration Program Chair: Tim Callahan**

WELCOME

The Internal Combustion Engine Division (ICED) of ASME welcomes you to attend its 2008 Spring Technical Conference from April 27th – 30th, 2008 in Chicago, Illinois. The technical program is presented in three parallel sessions in rooms that are conveniently located to allow attendees to move between sessions.

To be competitive in today's market, engine professionals need information and the ASME Internal Combustion Engine Conference is the place to get it! We also know your time is valuable, so we pack a lot of information into a two day technical program. Social activities and works tours have been arranged to make your attendance even more enjoyable, while increasing your professional network and social capital. We wish you a memorable and professionally rewarding experience!

ACKNOWLEDGEMENT

Many individuals contributed to the organization of the Conference. The support of the technical tour hosts in accepting to tour their facilities is sincerely appreciated.

The support of the ICED Sponsors is sincerely appreciated. Their financial support helps cover the cost of the conference and is gratefully acknowledged. The support of the ASME-ICED Executive Committee in making the Conference arrangements was essential. The support of ASME Headquarters, in particular Vince Dilworth, Stephen Crane, LaShion Pettiford, Stacey Cooper with the conference website, and Annette Robinson and Nhora Cortes-Comerer in Publishing, was outstanding.

The contributions of the anonymous reviewers are greatly appreciated. Special thanks go to all the track leaders, session organizers and co-organizers. Finally, we recognize and honor all the authors of the papers, and our Keynote speaker, Rodica Baranescu who are the major contributors to the success of the Conference.

HIGHLIGHTS OF THE 2008 SPRING CONFERENCE

Sunday, April 27, 2008

Welcome Reception – 18:00-19:00

Begin the Conference by joining us for complimentary hors d'oeuvres and refreshments at the conference hotel the Sheraton Gateway Suites, Chicago O'Hare. This is a good rendezvous point to meet with other conference attendees and professional associates. Guides to local attractions, restaurants and maps will be available at the hotel lobby.

Monday, April 28, 2008

Keynote Address – 08:00-09:30, Sheraton I



The conference will open with a keynote address by Dr. Rodica Baranescu, Manager of Fuels and Lubricants for Navistar Incorporated. The title of Rodica's presentation is "Energy, Fuels and the Environment - Present Challenges, Solutions for the Future"

Dr. Baranescu received her M.S. and Ph.D. degrees in Mechanical Engineering in 1961 and 1970 respectively from Politechnica University in Bucharest Romania, where she also served as Assistant Professor (1964-68), Lecturer (1970-74), and Associate Professor (1974-78).

She is currently Manager of the Fuels and Lubricants and Engine Group of the International Truck and Engine Corporation, located in Melrose Park, IL. She is an internationally sought after public speaker on technical issues related to mobility technology, environmental control, fuels, and energy. Dr. Baranescu also serves as a professor at the University of Illinois at Chicago (UIC), teaching classes in internal combustion engines.

Dr. Baranescu was elected to the National Academy of Engineering in 2001 "for research leading to effective and environmentally sensitive diesel and alternative-fuel engines and leadership in automotive engineering." She is a Fellow of the Society of Automotive Engineers International and was President of SAE International in 2000. In 2003 she received the ASME (American Society of Mechanical Engineering) Internal Combustion Engine Award.

Based in Warrenville, Ill., the company produces International® brand commercial trucks, mid-range diesel engines and IC brand school buses, and Workhorse brand chassis for motor homes and step vans. It is a private-label designer and manufacturer of diesel engines for the pickup truck, van and SUV markets. The company also provides truck and diesel engine parts and service. More information about Navistar Inc. and their engine products can be found on the internet at <http://www.internationalengines.com>.

Honors and Awards Banquet – 18:00-21:30

The Honors and Awards Banquet is a special annual event to recognize the outstanding achievements and dedicated efforts of our ICE Division colleagues.

Tuesday, April 29, 2008

**ICE Division Board of Associates Meeting
08:00-09:15, Rosemont I**

The ICE Division will hold its Associates meetings on Tuesday morning to discuss the Division business. ICED Associates and attendees who are interested in actively participating in future conferences and activities of the Division are invited to attend the meeting.

Wednesday, April 30, 2008

Technical Tours – 08:00-12:00

The technical tours are scheduled on Wednesday, April 30, 2008 and will visit **Ricardo Chicago Technical Center** in Burr Ridge, Illinois and **International Truck and Engine Company** facilities in Melrose Park, Illinois. The buses will depart the hotel at 8:00 a.m. and return to the hotel before 12:00 p.m. One bus will be provided for each tour and will return to the hotel upon completion of that tour. Only one tour will be available per attendee on a first registered basis and each tour will be restricted to a maximum of 30 attendees.

Ricardo Chicago Technical Center

Ricardo is a leading provider of technology, product innovation, engineering solutions and strategic consulting to the world's automotive, transport and energy industries. Combining business, product and process strategy with fundamental technical research and the implementation of large-scale new product development programs, Ricardo is able to take on the greatest challenges including business strategy and restructuring, process re-engineering, product design, development, engineering, testing and systems integration.

The Ricardo Chicago Technical Center is the lead office for Heavy-Duty Engine Engineering in North America. It is also the lead office for Software Development and Support. Skills include analysis, simulations, design, and testing. Industries served: automotive, heavy-duty industrial, truck engines, agricultural machinery, and aircraft.

The tour will visit the Ricardo Chicago Technical Center which is equipped with four fully capable heavy-duty transient test cells for performance and emissions development. Additional information about Ricardo can be found at <http://www.ricardo.com>.

International Truck and Engine Company (ITEC)

Navistar International Corp. is a holding company whose individual units provide integrated and best-in-class transportation solutions. Based in Warrenville, Illinois, the company produces International brand commercial trucks, mid-range diesel engines and IC brand school buses, and Workhorse brand chassis for motor homes and step vans. It is a private-label designer and manufacturer of diesel engines for the pickup truck, van and SUV markets.

The International Engine Group has three locations including the one in the Chicago Area. Over one million engines have been produced at the award-winning International engine plant in Melrose Park, Illinois. The tour will visit the Melrose Park Plant which produces the MaxxForce DT (the legendary DT 466), MaxxForce 9 and MaxxForce 10 on its 1.5 million sq. ft. manufacturing floor. These engines, built on International's proven I-6 platform, are known for their legendary reliability, wide range of vocational capabilities, durability and industry-leading residual value which add up to high-value and low cost of ownership for owners of Class 6-7 trucks and buses. Additional information about International Engine Group can be found at <http://www.internationalengines.com/>

EXHIBITION

The conference exhibition will be open in the break area during session breaks on Monday and Tuesday. Conference organizers would like to thank and acknowledge the exhibitors.

DieselNet.com
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 Johnson Matthey

PAPER RATING AND PRESENTATION AWARDS

You will receive a Technical Paper Presentation Rating Form on which you are requested to rate the presentations you attend. This is to encourage and reward the most outstanding presentations.

PUBLICATION SALES

ASME papers presented at this conference will be included in a Conference Proceedings CD. The cost of the Proceedings is included in the registration fee. After the conference, they can be ordered from www.asme.org or by telephone (800) 843-2763 or by Fax: (212) 591-7292.

CONFERENCE SCHEDULE

Sunday, April 27, 2008

09:00 - 16:00	Executive Committee Meeting	Boardroom
16:00 - 18:00	Early Conference Registration	
16:00 - 18:00	Exhibits Setup	
18:00 - 19:30	Welcome Reception	

Monday, April 28, 2008

07:00 - 08:00	Continental Breakfast	
07:00 - 18:00	Exhibits	
07:30 - 15:30	Conference Registration	
07:30 - 08:30	Authors Briefing (Monday's Sessions only, in Session rooms)	
08:30 - 10:00	Opening Remarks and Keynote Address	Sheraton I
10:00 - 10:30	Break	
10:30 - 12:00	CIMAC papers	Rosemont I
10:30 - 12:00	2.1 Emissions Control Systems - I	Rosemont II
12:00 - 13:30	Lunch	
13:30 - 15:00	1.1 Fundamental Combustion	Rosemont I
13:30 - 15:00	5.1 Numerical Simulation	Rosemont II
15:00 - 15:30	Break	
15:30 - 17:00	1.2 Advanced Combustion	Rosemont I
15:30 - 17:00	5.2 Numerical Simulation	Rosemont II
18:00 - 21:30	Honors and Awards Banquet	

Tuesday, April 29, 2008

07:00 - 08:00	Continental Breakfast	
07:00 - 15:30	Exhibits	
07:30 - 15:30	Conference Registration	
07:30 - 08:00	Authors Briefing (Tuesday's Sessions, in Session rooms)	
08:00 - 09:15	Associates Meeting	Rosemont I
09:15 - 10:00	<u>Technical Committee Meetings</u>	
	Fuels, Numerical Simulation	
	Combustion	
	Large Bore, Emissions Control	
	Design, Instrumentation/Controls	
10:00 - 10:30	Break	
10:30 - 12:00	7.1 Large Bore Engines	Rosemont I
10:30 - 12:00	5.3 Numerical Simulation	Rosemont II
10:30 - 12:00	6.1 Engine Friction	Gateway
12:00 - 13:30	Lunch	
13:30 - 15:00	7.2 Large Bore Engines	Rosemont I
13:30 - 15:00	3.1 Fuels for SI Engines	Rosemont II
13:30 - 15:00	6.2 Engine Friction	Gateway
15:00 - 15:30	Break	
15:30 - 17:00	4.1 Engine Controls	Rosemont I
15:30 - 17:00	3.2 Fuels for CI Engines	Rosemont II
15:30 - 17:00	6.3 Engine Design	Gateway

Wednesday, April 30, 2008

07:00 - 08:00	Continental Breakfast	
07:30 - 13:00	Technical Tours	

TECHNICAL PROGRAM

Monday, April 28, 2008

10:30 AM to 12:00 PM

CIMAC PAPERS (ROSEMONT I)

Session Chair: **Timothy Callahan**, Southwest Research Institute, San Antonio, TX, United States

10:30 – 11:00

CIAMC Paper 245: Emissions – A new challenge for turbocharging, by E. Codan, C. Mathey, ABB Turbo Systems Ltd., Switzerland

11:00 – 11:30

CIMAC Paper 114: MAHLE piston designs for state of the art gas engines
R. Schmidt, C. Geissler, J. Kortas, MAHLE GmbH, Germany

11:30 – 12:00

CIMAC Paper 31. The HERCULES Project: a major R&D effort for marine engines of high efficiency & low emissions
N. P. Kyrtatos, ULEME E.E.I.G., Germany, M., Kleimola, Wärtsilä Corporation, Finland, R. Marquard, MAN Diesel SE, Germany

Track 2: Emissions Control Systems

Track Chair: **Andrea Strzelec**, Oak Ridge National Laboratory, Oak Ridge, TN, United States

2-1 EMISSIONS CONTROL SYSTEMS (ROSEMONT II)

Session Chair: **Sundar Krishnan**, Argonne National Laboratory, Argonne, IL, United States

10:30 – 11:00

ICES2008-1670: Lumped Parameter Approach for DPF Management in Stationary Diesel Engines
Giancarlo Chiatti, Ornella Chiavola, Giacomo Falcucci, Roma Tre University, Rome, Italy

11:00 – 11:30

ICES2008-1684: EGR Oxidation and Catalytic Fuel Reforming for Diesel Engines
Usman Asad, Ming Zheng, University of Windsor, Windsor, ON, Canada

11:30 – 12:00

OPEN

Monday, April 28, 2008

13:30 PM to 15:00 PM

Track 1: Advanced Combustion

Track Chair: **Timothy Jacobs**, Texas A&M University, College Station, TX, United States

1-1 LOW TEMPERATURE COMBUSTION (ROSEMONT I)

Session Chairs: **Brad Zigler, Dohoy Jung**, University of Michigan, Ann Arbor, MI, United States

Session Co-Chairs: **Mark Musculus**, Sandia National Laboratories, Livermore, CA, United States, **Hailin Li**, West Virginia University, Morgantown, WV, United States

13:30 – 14:00

ICES2008-1618: Controlling n-Heptane HCCI Combustion with Partial reforming: Experimental Results and Modeling Analysis

Vahid Hosseini, W. Stuart Neill, National Research Council Canada, Ottawa, ON, Canada, **David Checkel**, University of Alberta, Calgary, AB, Canada

14:00 – 14:30

ICES2008-1647: Modeling Soot Formation Using Reduced PAH Chemistry in n-Heptane Lifted Flames with Application to Low Temperature Combustion

Gokul Vishwanathan, Rolf D. Reitz, University of Wisconsin-Madison, Madison, WI, United States

14:30 – 15:00

ICES2008-1682: A Theoretical Study on Performance and Combustion Characteristics of HCCI Engine Operation with Diesel Surrogate Fuels: n-Heptane, Dimethyl Ether

Seyed Navid Shahanigan, Mojtaba Keshavarz, Ghasem Javadirad, Iran Heavy Diesel Manufacturing Company (DESA), Tehran, Iran, **Nader Bagheri**, CAL Maritime University, Vallejo, CA, United States, **Seyed Ali Jazayeri**, K.N. Toosi University of Technology, Tehran, Iran

Track 5: Numerical Simulation

Track Chair: **Song-Chang Kong**, Iowa State University, Ames, IA, United States

5-1 MULTI-DIMENSIONAL MODELING - I (ROSEMONT II ROOM)

Session Chair: **Song-Chang Kong**, Iowa State University, Ames, IA, United States

Session Co-Chair: **Razi Nalim**, Purdue University, Indianapolis, IN, United States

13:30 – 14:00

ICES2008-1687: Numerical Simulation of Convective Heat Transfer in a Spark Ignition Engine

Arash Mohammadi, Seyed Ali Jazayeri, Masood Ziabasharhagh, K. N. Toosi University of Technology, Tehran, Iran,

14:00 – 14:30

ICES2008-1658: Definition of a LES Numerical Methodology for the Simulation of Engine Flows on Fixed Grid

Federico Brusiani, Piero Pelloni, Giulio Cazzoli, University of Bologna, Bologna, Italy

14:30 – 15:00

ICES2008-1649: 3-D CFD Simulations of Hydrogen Fueled Spark Ignition Engine

Dinesh D. Adgulkar, Nishikant V. Deshpande, S. B. Thombre, I. K. Chopde, Visvesvaraya National Institute of Technology (VNIT), Nagpur, India

Monday, April 28, 2008

15:30 PM to 17:00 PM

1-2 FUNDAMENTAL COMBUSTION (ROSEMONT I ROOM)

Session Chair: **Stephen Ciatti**, Argonne National Laboratory, Argonne, IL, United States
Session Co-Chair: **Christopher Powell**, Argonne National Laboratory, Argonne, IL, United States

15:30 – 16:00

ICES2008-1654: Comparison of Stratified and Homogeneous Combustion in a Direct-Injected Two-Stroke Engine for Snowmobile Applications
Justin Johnson, Karen Den Braven, University of Idaho, Moscow, ID, United States

16:00 – 16:30

ICES2008-1646: Measurement of Biodiesel Blend and Conventional Diesel Spray Structure Using X-Ray Radiography
Alan Kastengren, Christopher Powell, Kyoung-Su Im, Yujie Wang, Jin Wang, Argonne National Laboratory, Argonne, IL, United States

16:30 – 17:00

ICES2008-1663: Inline Pump Internal Flow Characterization for Optimized Diesel Injection
Giancarlo Chiatti, Ornella Chiavola, Fulvio Palmieri, Roma Tre University, Rome, Italy

5-2 MULTI-DIMENSIONAL MODELING - II (ROSEMONT II ROOM)

Session Chair: **Song-Chang Kong**, Iowa State University, Ames, IA, United States
Session Co-Chair: **Razi Nalim**, Purdue University, Indianapolis, IN, United States

15:30 – 16:00

ICES2008-1668: Combined Experimental and Numerical Analysis of the Influence of Air-to-Fuel ratio on Cyclic Variation of High Performance Engines
Claudio Forte, Gian Marco Bianchi, Enrico Corti, University of Bologna, Bologna, Italy, Stefano Fantoni, Ducati Corse SRL, Bologna, Italy

16:00 – 16:30

ICES2008-1629: Application of a Phenomenological Soot Model for Diesel Engine Combustion
Cheng Xiaobei, Jv Hong Ling, Wu Yifeng, Huazhong University of Science and Technology, Huazhong, China

16:30 – 17:00

ICES2008-1630: Knock Prediction for Industrial Dual Fuel Engine Using Two-Zone Combustion Model with Consideration of Chemical Kinetics
Ahmed Al-Sened, Technomot Inc., Warrington, England, UK, Hesameddin Safari, K. N. Toosi University of Technology, Tehran, Iran, Mojtaba Keshavarz, Ghasem Javadirad, Iran Heavy Diesel Manufacturing Company (DESA), Tehran, Iran

Tuesday, April 29, 2008

10:30 AM to 12:00 PM

Track 6: Engine Design, Lubrication and Applications

Track Chair: **Ron Duda**, Unlimited Design International, Inc, Holyoke, MA, United States

6-1 ENGINE LUBRICATION, FRICTION AND COMPONENT DESIGN – I (SHERATON I ROOM)

Session Chair: **Dan Richardson**, Cummins Engine Company, Columbus, IN, United States
Session Co-Chair: **Andreas P. Panayi**, Michigan State University, East Lansing, MI, United States

10:30 – 11:00

ICES2008-1650: Reduced Friction Losses and Wear by DLC Coating of Piston Pins
Roman Morgenstern, Wolfgang Kiessling, Simon Reichstein, Federal-Mogul Nürnberg GmbH, Nürnberg, Germany

11:00 – 11:30

ICES2008-1694: A 'New Twist' on Twisted Rings
Mike Carson, Steve Sytsma, Randy Lunsford, Kimm Karrip, MAHLE Engine Components USA, Muskegon, MI, United States

11:30 – 12:00

ICES2008-1695: Experimental Investigation of Surface Modifications for Piston Ring/Cylinder-Liner Friction Reduction
Marko Cater, Nathan Bolander, Farshid Sadeghi, Purdue University, West Lafayette, IN, United States

Track 7: Large Bore Engines

Track Chair: **Malcolm Payne**, Engine Systems Development Center (ESDC), Lachine, QC, Canada

7-1 LARGE BORE ENGINES – I (ROSEMONT I ROOM)

Session Chair: **Dick Dunteman**, NRDunteman LLC, Crest Hill, IL, United States
Session Co-Chair: **Malcolm Payne**, Engine Systems Development Center (ESDC), Lachine, QC, Canada

10:30 – 11:00

ICES2008-1625: Locomotive Exhaust Temperatures during High Altitude Tunnel Operation in Donner Pass
Joseph McDonald, Brian Nelson, Brian Olson, U.S. EPA, Ann Arbor, MI, United States, Mike Iden, Union Pacific Railroad, Chicago, IL, United States, Steve Fritz, Randell Honc, Southwest Research Institute, San Antonio, TX, United States

11:00 – 11:30

ICES2008-1696: Lean-Burn Stationary Natural Gas Reciprocating Engine Operation with a Prototype Miniature Diode Side Pumped Passively Q-Switched Laser Spark Plug
Dustin L. McIntyre, Steven D. Woodruff, Michael H. McMillian, Steven W. Richardson, US DOE National Energy Technology Laboratory, Morgantown, WV, United States, Mridul Gautam, West Virginia University, Morgantown, WV, United States

11:30 – 12:00

ICES2008-1627: Locomotive Idle and Start-up Exhaust Emissions Testing
John C. Hedrick, Steve Fritz, Southwest Research Institute, San Antonio, TX, United States

Track 5: Numerical Simulation

Track Chair: **Song-Chang Kong**, Iowa State University, Ames, IA, United States

5-1 SYSTEM SIMULATION AND MODELING (ROSEMONT II ROOM)

Session Chair: **Thomas Wanat**, Gamma Technologies, Westmont, IL, United States

Session Co-Chair: **Qianfan (Harry) Xin**, Navistar – International, Melrose Park, IL, United States

10:30 – 11:00

ICES2008-1610: Description and Analysis of a One-Dimensional Gas-Dynamic Model with Independent Time Discretization

José Calindo, José R. Serrano, Francisco J. Arnau, Pedro Piqueras, CMT-Motores Térmicos, Universidad Politécnica de Valencia, Valencia, Spain

11:00 – 11:30

ICES2008-1692: Dual-Stage Turbocharger Matching and Boost Control Options

Zoran Filipi, Dohoy Jung, Byungchan Lee, Dennis N. Assanis, University of Michigan, Ann Arbor, MI, United States

11:30 – 12:00

ICES2008-1624: Method of Computation for Periodic Oscillations of a High Power Density Powered Internal Combustion Engine Drive Train in the Presence of Backlash

Alexander Fridman, Technical Mechanics and Electronics. St. Petersburg, Russia
Olga Privalova, St. Petersburg State University, St. Petersburg, Russia, **Ilya Piraner**, Cummins, Inc., Columbus, IN, United States

Tuesday, April 29, 2008

13:30 PM to 15:00 PM

Track 6: Engine Design, Lubrication & Applications

Track Chair: **Ronald Duda**, Unlimited Design International, Inc, Holyoke, MA, United States

6-1 ENGINE LUBRICATION, FRICTION AND COMPONENT DESIGN – II (SHERATON I ROOM)

Session Chair: **Dan Richardson**, Cummins Engine Company, Columbus, IN, United States

Session Co-Chair: **Andreas P. Panayi**, Michigan State University, East Lansing, MI, United States

13:30 – 14:00

ICES2008-1675: Addressing Cam Wear and Follower Jump in Single-Dwell Cam-Follower Systems with an Adjustable Modified Trapezoidal Acceleration Cam Profile

Forrest Flocker, Tristate University, Angola, IN, United States

14:00 – 14:30

ICES2008-1693: Engine Component Wear Modeling with Consideration of Growth and Removal of Surface Films: Computational Framework and Preliminary Results

Ben C. Thomas, Victor Wong, Massachusetts Institute of Technology, Cambridge, MA, United States

14:30 – 15:00

ICES2008-1661: The Effects of Power Cylinder Design Parameters on Lube Oil Consumption of a Heavy Duty Diesel Engine

Ozgen Akalin, Selcuk Cobanoglu, Ahu Toygar, Ozcan Gul, Istanbul Technical University, Istanbul, Turkey, **Goktan Kurnaz, Rustu Ergen**, Ford Otosan, Turkey

Track 7: Large Bore Engines

Track Chair: **Malcolm Payne**, Engine Systems Development Center (ESDC), Montreal, QC, Canada

7-1 LARGE BORE ENGINES – II (ROSEMONT I ROOM)

Session Chair: **Dick Dunteman**, NRDunteman LLC, Crest Hill, IL, United States

Session Co-Chair: **Malcolm Payne**, Engine Systems Development Center (ESDC), Lachine, QC, Canada

13:30 – 14:00

ICES2008-1633: Authenticating Turbocharger Performance Utilizing ASME PTC-10 Correction Methods

Jacque Shultz, Turblex, Inc., Springfield, MO, United States, **Kirby Chapman**, Kansas State University, Manhattan, KS, United States

14:00 – 14:30

ICES2008-1616: Low Temperature Combustion Using Nitrogen Enrichment to Mitigate NOx from Large Bore Natural Gas-Fueled Engines

Munidhar Biruduganti, Sreenath Gupta, Raj Sekar, Argonne National Laboratory, Argonne, IL, United States

14:30 – 15:00

ICES2008-1657: Extending the Lean Limit of Natural Gas Engines

Robert L. Evans, University of British Columbia, Vancouver, Canada

Track 3: Fuels

Track Chair: **Steve McConnell**, Argonne National Laboratory, Argonne, IL, United States

3-2 ALTERNATIVE FUELS FOR SPARK IGNITION ENGINES (ROSEMONT II ROOM)

Session Chair: **Scott A. Miers**, Argonne National Laboratory, Argonne, IL, United States

13:30 – 14:00

ICES2008-1698: Blow-by Vapour Impact on Flexible Fuel Applications

Fernando Fusco Rovai, Claudio Milanez Jr, Greenworks Automotive Engineering, Brazil, **Paul Edward Cawsey**, Visteon Automotive Systems, Detroit, MI United States

14:00 – 14:30

ICES2008-1690: A Comparison of Ethanol and Butanol as Oxygenates Using a Direct-Injection Spark-Ignition (DISI) Engine

Thomas Wallner, Scott A. Miers, Steven McConnell, Argonne National Laboratory, Argonne, IL, United States

14:30 – 15:00

OPEN

Tuesday, April 29, 2008 15:30 PM to 17:00 PM

Track 6: Engine Design, Lubrication & Applications

Track Chair: **Ronald Duda**, Unlimited Design International, Inc, Holyoke, MA, United States

6-2 DESIGN OF ENGINE SYSTEMS (SHERATON I ROOM)

Session Chair: **Jochen Kindling**, GE (FEV), Erie, PA, United States

15:30 – 16:00

ICES2008-1671: Analysis of the Air-Fuel Mixture Control in Natural Gas Fuelled Turbocharged Engines

Francisco Payri, José Calindo, José Lujan, Héctor Climent CMT-Motores Térmicos, Universidad Politécnica de Valencia, Valencia, Spain

16:00 – 16:30

ICES2008-1673: Parametrical Study of Pump-to-Injector Line Pressure over Various Input Parameters of Liquid Fuel Combustion Engine

Gong Chen, Gannon University, Erie, PA, United States

16:30 – 17:00

ICES2008-1626: Analysis and Customization of Rocker Arm Joint Sliding Velocity

Bruce Geist, David Eovaldi, Chrysler LLC, Auburn Hills, MI, United States

Track 4: Instrumentation, Control, and Hybrids

Track Chair: **David Gardiner**, Nexum Research Corporation, Kingston, ON, Canada

4-1 INSTRUMENTATION, CONTROL, AND HYBRIDS (ROSEMONT I ROOM)

Session Chair: **David Gardiner**, Nexum Research Corporation, Kingston, ON, Canada

15:30 – 16:00

ICES2008-1634: Analysis of the Relationship Between Mean Indicated Torque and Its Waveform for Modern Common Rail Diesel Engines

Fabrizio Ponti, Matteo Rinaldi, Università di Bologna, Bologna, Italy

16:00 – 16:30

ICES2008-1653: Electro-Pneumatic Exhaust Valve Modeling and Control for an Internal Combustion Engine

Jia Ma, Guoming Zhu, Tom Stuecken, Andrew Hartsig, Harold Schock, Michigan State University, East Lansing, MI, United States

16:30 – 17:00

ICES2008-1679: Modeling of Compressed Air Hybrid Operation for a Heavy Duty Diesel Engine

Xiaoyong Wang, Tsu-Chin Tsao, University of California Los Angeles, Los Angeles, CA, United States, **Chun Tai, Hyungsuk Kang**, Volvo Powertrain North America, Hagerstown, MD, United States, **Paul N. Blumberg**, United States

Track 3: Fuels

Track Chair: **Steve McConnell**, Argonne National Laboratory, Argonne, IL, United States

3-1 ALTERNATIVE FUELS FOR COMPRESSION IGNITION ENGINES (ROSEMONT II ROOM)

Session Chair: **Scott Miers**, Argonne National Laboratory, Argonne, IL, United States

Session Co-Chair: **Avinash Agarwal**, Indian Institute of Technology – Kanpur, Kanpur, Uttar Pradesh, India

15:30 – 16:00

ICES2008-1635: Effect of Cold and Hot EGR on Performance and Emissions of a CI Engine Operating on Diesel-Biodiesel Blends

Gajendra Babu, Indian Institute of Technology, Madras, India, **Baiju Basheer, Lalit Mohan Das**, Indian Institute of Technology, Delhi, India

16:00 – 16:30

ICES2008-1660: Influence of Physical and Chemical Properties of Two Biodiesel Fuels on Performance, Combustion, and Exhaust Emissions Characteristics in a DI-CI Engine

Venkateswara Rao Pulagala, Basava Rao V.A., Andhra University, Visakhapatnam, India

16:30 – 17:00

ICES2008-1636: Experimental Investigations on Lubricity and Cold Flow Properties of Biodiesel

Nishikant V. Deshpande, Purnanand V. Bhale, Shashikant B. Thombre, Visvesvaraya National Institute of Technology, Nagpur, India

CALL FOR PAPERS

Internal Combustion Engine Division, ASME International

2009 Spring Technical Conference
May 3-6, 2009
Milwaukee, Wisconsin

Hosted by
Waukesha Engine

The 2009 Fall Technical Conference of the ASME Internal Combustion Engine Division will be held in beautiful Milwaukee, Wisconsin, from May 3-6th. In addition to a stimulating two-day technical program, the conference will include a tour of Waukesha Engine manufacturing, assembly and production test facilities.

Papers are invited for publication and presentation on all topics related to automotive, marine, locomotive, off-highway, and industrial internal combustion engines. Papers may address any aspect of the design, development or application of compression-ignition, spark-ignition, rotary, or reciprocating engines. Light-duty and heavy-duty engines, as well as large-bore internal combustion engine systems for power generation and transportation propulsion are welcome.

It is anticipated that technical sessions will span the wide range from fundamental research to practical in-use applications. Examples of topics include, but are not limited to, Advanced Combustion, Fuels, Emissions Control, Engine Design, Lubrication, Instrumentation & Controls, Engine Applications (including hybrids), and Numerical Simulation. Papers dealing with large bore engine technology are particularly encouraged.

Authors of all accepted papers must present their papers at the conference. Papers will be published in the Conference Proceedings. A list of conference papers recommended for journal publication will be sent directly to the Editor of ASME Journal of Engineering for Gas Turbines and Power by the Technical Program Chair. Outstanding papers will be approved for fast-track journal publication, while papers requiring revisions will receive rapid additional reviews by the editorial team. The Editor (and/or the Technical Program Chair) will directly inform authors of the status of their journal papers. To prevent duplication and confusion, authors submitting papers to the ICED conferences should not directly submit their papers to the journal. Exceptional written papers and presentations will be considered for ASME ICE Division Conference awards. ASME review and publication policies apply. The conference website, www.asmeconferences.org/ICES09/, will be activated shortly to accept your 400-word (or less) abstract in text format. For further information, contact:

W. Stuart Neill
Technical Program Chair
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Important Dates

400-word abstract due, please submit online	October 10, 2008
Draft manuscript due for review	December 5, 2008
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