SETC
Small Engine Technology Conference

2010 Small Engine Technology Conference

September 28-30, 2010
Johannes Kepler University
Linz, Austria

Event Guide

Includes Final Program and Exhibit Directory

www.sae.org/setc

Theme: Future of European Regulations on Small Engines

SAE International®

P101056

Related Resources

Opposed Piston Engines Evolution, Use, and Future Applications

Authors: Jean-Pierre Pirault, Martin L.S. Flint

Opposed Piston Engines: Evolution, Use, and Future Applications explores the opposed piston (OP) engine, a model of power and simplicity, and provides the first comprehensive description of most opposed piston (OP) engines from 1887 to 2006. Design and performance details of the major types of OP engines in stationary, ground, marine, and aviation applications are explored and their evolution traced.

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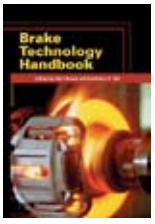
Actual shipping charges will be added.

Honda R & D Technical Review: April 2009

The April 2009 edition of Honda R&D Technical Review includes a special focus on fuel cell vehicles and the Honda Insight. The 246-page, soft-bound book includes 33 articles and papers on the newest technology initiatives from Honda Motor Company Ltd.

(B-874; $49.95 List Price)



Brake Technology Handbook

Authors: Karlheinz Bill, Bert J. Breuer

Microelectronics and mechatronics have resulted in a significant increase in the technical potential and functionality of brake systems. In a single source, this book provides comprehensive coverage of the current state of the art, as well as the future, of brakes and braking systems.

(R-375; $119.95 List Price)

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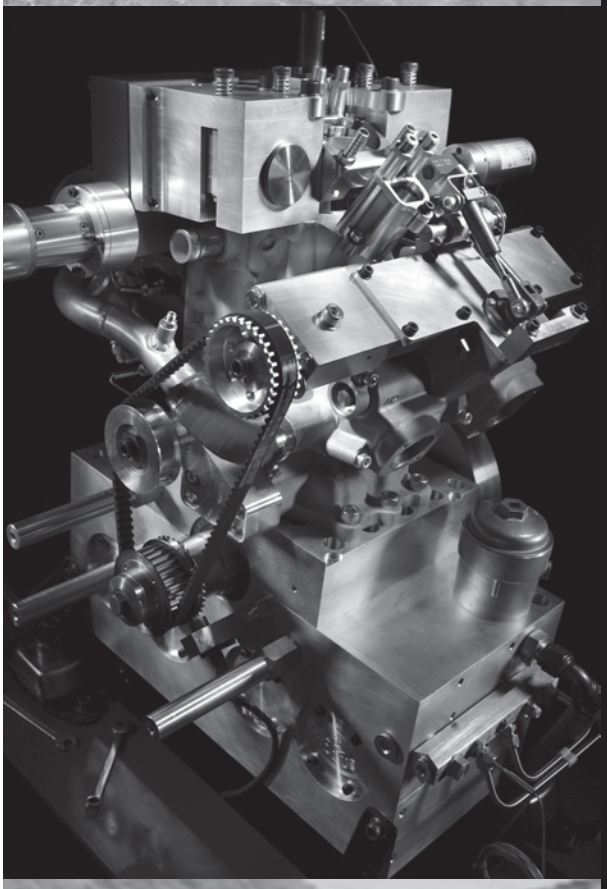
WHAT'S INSIDE



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Exhibition Hours

Tuesday 28 September
07.30 – 16.00

Wednesday 29 September
07.00 – 14.00

Thursday 30 September
07.00 – 10.30

SETC General Committee

2010 SETC General Committee Chair – SAE International

Jay S. Meldrum, Sr.

Executive Director
Keweenaw Research Center
Michigan Technological University

Jay S. Meldrum has served as the Executive Director of Michigan Tech's Keweenaw Research Center (KRC), in Houghton, Michigan, since July 1997. KRC is a soft-money research arm of Michigan Tech University and employs approximately 30 scientists and engineers to provide a wide range of applied research services to clients in government and industry. Research expenditures of KRC are approximately $5 MM annually.

The U.S. Army Tank-automotive and Armaments Command (TACOM) is the Keweenaw Research Center's primary sponsor, with several active R&D contracts now under way. Projects involve vehicle mobility studies including track development, the use of new composite materials, noise-and-vibration studies, mine route clearance systems, winter vehicle testing, and research in survivability design and testing.

Meldrum is also a member of the Michigan Tech Enterprise SmartZone™ Launch Committee, a program sponsored by the Michigan Economic Development Corporation, to promote economic growth in the Houghton/Hancock and the Upper Peninsula of Michigan. In this role, Meldrum encourages the transfer of technologies from theory to practice. Meldrum manages the newly built Advanced Technology Development Complex. This is one of five new business incubators sites that support the local SmartZone™ project. Meldrum and has assisted in the commercialization of several MTU patents providing royalty streams for the University.

Meldrum is an active member of SAE International and sits on several organizing boards including the SAE Engineering Education Board, the University Programs Committee, the Ground Vehicle Reliability Committee, the Noise and Vibration Conference Committee, and is Chair for the SAE Small Engines Technology Conference 2009-2010. Meldrum is the lead organizer for the SAE Clean Snowmobile Challenge (CSC), a Collegiate Design Series Competition that promotes the redesign of snowmobiles for lower emissions, lower noise output, and better fuel economy. The SAE CSC is held annually on KRC's 500 acre winter test track in March.

Previously, Meldrum was Director and Chief Engineer of EG&G Corporation's Structural Kinematics Division, in Troy, Michigan. As director for the division's General Motors account, he managed a $30MM project to supply durability testing services using full-vehicle road simulators. He was general manager and then director of software products for the Structural Kinematics Division of Lamb Technicon Corporation which was later sold to EG&G. In his role as director of software products, Meldrum negotiated a contract with Leuven Measurement & Systems (LMS), Leuven, Belgium, to be their first North American distributor in 1984. Meldrum has also held engineering positions with Hewlett-Packard and General Motors Cadillac Division as a specialist in Noise, Vibration, Harshness (NVH) and Digital Signal Processing (DSP) methods.

Meldrum earned an MS in Mechanical Engineering from the University of Michigan and a BS in Mechanical Engineering from General Motors Institute (now Kettering University). He is a mentor to Michigan Tech's FIRST Robotics Team, the Alternative Fuels Group Enterprise, and several student senior design projects each year.

2010 SETC General and Technical Committee Chair – JSAE

Takashi Mitome

General Manager
Suzuki Motor Corporation

Mr. Takashi Mitome is a General Manager at SUZUKI MOTOR CORPORATION, Motorcycle Product/Engineering Planning dept.

Mr. Mitome graduated from Hokkaido Univ. Japan with Master degree in 1984 for research work on Alcohol Fueled Diesel Engine.

In 1984, he began professional career at SUZUKI. Since then, he has been involved in research and development of mini car engines, emission certification at California USA, World Wide Purchasing together with General Motors and management of SUV plant at Iwata Japan. Then, 2006, he moved to Motorcycle division and started New Motorcycle development such as low fuel consumption engines or fuel cell motorcycles.

General Committee Members:

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Glenn Bower, University of Wisconsin
James Carroll, Southwest Research Institute
Jan Czerwinski, University of Applied Sciences - Biel
Roy Douglas, Queen's University of Belfast
Robert Fleck, Queen's University of Belfast
Josef Fuerlinger, BRP
Jaal Ghandhi, University of Wisconsin-Madison
Deane B. Jaeger, Harley-Davidson Motor Company
Peter Kaub, Re-Sol, LLC
Robert Kee, Queen's University of Belfast
Kenneth Kicinski, Harley – Davidson Motor Co.
Nagesh Mavinahally, LEHR
Geoff McCullough, Queen's University Belfast
Jay S. Meldrum, Michigan Technological University
Scott A. Miers, Michigan Technological University
Daniel Nehmer, BRP
David Palmer, BRP
Paul Richards, Innospec Fuel Specialties
Sebastian Strauss, STIHL Inc
Tony Szczotka, Robert Bosch LLC
Andrew Traxel, Briggs & Stratton Daihatsu LLC
Jeff White, Southwest Research Institute

JSAE Members

Akio Miguchi, Kawasaki Heavy Industries, Ltd.
Masao Okazaki, Japan Land Engine Manufacturers Association (Kubota Corporation)
Sakae Mizumura, Honda R&D Co., Ltd.
Takashi Mitome, Suzuki Motor Corporation
Takashi Mizokawa, Japan Boating Industry Association (Yamaha Motor Co., Ltd.)
Yuh Motoyama, Yamaha Motor Co., Ltd.

SETC Technical Committee

2010 SETC Technical Committee Chair – SAE International

Daniel A. Nehmer

Senior Fuel System Engineer
BRP Powertrain, Marine Engine Group
Waukegan, IL Product Development Center

Mr. Nehmer joined BRP US, Inc in 2003 and leads Gasoline Direct Injection (GDI) fuel system development for two stroke engines. He led the introduction of BRP's GDI fuel system "E-TEC" on 2 and 3 cylinder 40-90 HP outboard engines in 2003 and continued system development for application to all Evinrude outboards from 15 to 300 HP. Mr. Nehmer further developed the E-TEC system for application on high performance Rotax two stroke GDI engines used in Ski-Doo snowmobiles.

Mr. Nehmer worked for Sturman Industry from 1999 through 2003 where he developed Hydraulic Actuated Valvetrains (HAV) and applied them to AVL research engines. In collaboration with AVL he co-authored several papers on the benefits of HAV for improved thermal efficiency, cold start performance, and throttle-less operation when applied to MPFI engines for SUVs and Medium Duty Trucks. He worked for Cummins Engine Company from 1993 through 1999 where he led development activities on advanced rotary diesel fuel systems for the "B" Series engine and High Pressure Common Rail (HPCR) fuel system on a high speed V8 diesel concept engine. He also developed fuel system manufacturing systems in Cummins Advance Manufacturing group. Mr. Nehmer developed stern drive propulsion systems for Outboard Marine Corporation from 1987 through 1991.

Mr. Nehmer has a Bachelor of Science from the University of Minnesota (1987) and a Masters of Science from the University of Wisconsin, Madison (1993) where his research work focused on improving NOx-Particulate emissions utilizing multiple injections from a HPCR fuel system on Heavy Duty Truck research engine. Mr. Nehmer is an active member of SAE supporting collegiate design series (Clean Snowmobile & Mini Baja), Gasoline Fuel Injection Specification Committee, and SETC.

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Geoff McCullough, Queen's University Belfast
Jay S. Meldrum, Michigan Technological University
Scott A. Miers, Michigan Technological University
Daniel Nehmer, BRP
David Palmer, BRP
Paul Richards, Innospec Fuel Specialties
Sebastian Strauss, STIHL Inc
Tony Szczotka, Robert Bosch LLC
Andrew Traxel, Briggs & Stratton Daihatsu LLC
Jeff White, Southwest Research Institute

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Isato Taki, Suzuki Motor Corporation
Kazuyuki Shiomi, Honda R&D Co., Ltd.
Koji Yoshida, Nihon University
Masao Okazaki, Japan Land Engine Manufacturers Association (Kubota Corporation)
Minoru Iida, Yamaha Motor Co., Ltd.
Takashi Mitome, Suzuki Motor Corporation
Takashi Mizokawa, Japan Boating Industry Association (Yamaha Motor Co., Ltd.)
Tomoo Shiozaki, Honda R&D Co., Ltd.
Toru Nakazono, Japan Land Engine Manufacturers Association (YANMAR Co., Ltd.)
Toshimi Kobayashi, Kawasaki Heavy Industries, Ltd.
Yasuo Moriyoshi, Chiba University
Yasuyuki Muramatsu, Yamaha Motor Co., Ltd.
Yoshiro Tokunaga, Kawasaki Heavy Industries, Ltd.

ABOUT **SETC**

Since the first event in 1989, the Small Engine Technology Conference (SETC) continues to be the international technology conference for small engines and related products. SETC is jointly sponsored each year by the Society of Automotive Engineers of Japan, Inc. (JSAE) and SAE International.

SETC History

Conference	City	Country
SETC 1989	Milwaukee	USA
SETC 1991	Yokohama & Hamamatsu	Japan
SETC 1993	Pisa	Italy
SETC 1995	Milwaukee	USA
SETC 1997	Yokohama	Japan
SETC 1999	Madison	USA
SETC 2001	Pisa	Italy
SETC 2002	Kyoto	Japan
SETC 2003	Madison	USA
SETC 2004	Graz	Austria
SETC 2005	Bangkok	Thailand
SETC 2006	San Antonio	USA
SETC 2007	Niigata	Japan
SETC 2008	Milwaukee	USA
SETC 2009	Penang	Malaysia
SETC 2010	Linz	Austria
SETC 2011	Sapporo	Japan

FISITA Introduction

FISITA is an independent world body representing over 147,000 automotive engineers belonging to national automotive societies in 38 countries. FISITA was founded in 1948 to provide a global forum for the exchange of technical knowledge on every aspect of vehicle design and manufacture. FISITA brings together engineers and decision-makers from industry, academia and government to work towards the improvement of transportation systems, the conservation of energy and the protection of the environment.

www.fisita.com

GENERAL INFORMATION

Location
Johannes Kepler University
Kepler Building
Linz, Austria

Hours of Operation

Tour Registration
Registration will be outside of the Ars Electronica Center. Buses depart at 8.30 from Ars Electronica Center.

Monday 27 September
7.30 – 8.30

Conference Registration
Hall B
Johannes Kepler University

Monday 27 September
14.00 – 17.00

Tuesday 28 September
07.30 – 16.00

Wednesday 29 September
07.00 – 14.00

Thursday 30 September
07.00 – 10.30

Technical Program
Raiffeisensaal, Horsaal 3-6, K012D
Johannes Kepler University

Tuesday 28 September
08.30 – 17.30

Wednesday 29 September
08.00 – 14.30

Thursday 30 September
08.00 – 13.00

Exhibition
Halls B and C
Johannes Kepler University

Tuesday 28 September
07.30 – 16.00

Wednesday 29 September
07.00 – 14.00

Thursday 30 September
07.00 – 10.30

Event Operations Office
K034D

Presentation Ready Room
HT177F

Tuesday 28 September
07.00 - 17.00

Wednesday 29 September
07.00 - 14.00

Thursday 30 September
07.00 - 13.00

Lunch
Mensa Building
Reprasentationsraum A, B, C

Tuesday - Wednesday
28-29 September
12.00 - 13.00

Thursday 30 September
13.00 - 14.00

No Austrian city has changed in recent decades as much as Linz. The result is a modern city full of prosperity and high quality of life. In 2010, Linz will be worth a trip all the more: that is the city on the Danube is Europe's cultural capital, and shows the world what she can.

Linz offers you many options for customizing your stay. A city tour on foot or on the tour, a tour through the botanical garden, a visit to one of the many museums or a ride on the Pöstlingberg with caves Tiergarten Train and show you the best pages of our city.

Linz Tourism Contact:
Tourist Information Linz Hauptplatz 4020 Linz
Tel: +43 732 7070 2009
Fax: +43 732 7070 54 2009
E-Mail: tourist.info@linz
http://www.linz.at/english/tourism/209.asp

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Troy, MI 48084
Phone: 1-248-273-2455
Fax: 1-248-273-2494

MONDAY
27 September

Technical Tour BRP/RIC, FRONIUS, and MIBA

***No cameras or cell phones will be permitted*

Tour hosts:

One tour…three locations!
You get a three-for-one deal when you participate in this technical tour, visiting RIC, Fronius, and MIBA.

7.30 – 8.30
Registration – Ars Electronica Center
Buses depart Ars Electronica Center at 8.30

Tour fee is $50 per person. Please visit registration desk for availability

Opening Ceremony and Keynote Address

Raiffeisensaal Room
8.30 – 9.30

TUESDAY
28 September

Welcoming Remarks – SAE

Jay S. Meldrum, Sr.
Executive Director
Keweenaw Research Center
Michigan Technological University
(see biography on p. 5)

Welcoming Remarks – JSAE

Sakae Mizumura
Senior Chief Engineer
Honda R&D Co., Ltd. Motorcycle R&D Center

1977 Joined Honda Motor Co., Ltd.

1978 Transferred to the Motorcycle R&D Center, Honda R&D Co., Ltd. and Engaged in Motorcycle Engine Design

1997 Became Technical Manager, Engine Design Division

2000 Shifted to Quality Manager, Engine Design Division

2002 Advanced to Senior Chief Engineer

2004 Appointed Chairman of Technical Evaluation

1977 Earned a Master Degree at Graduate School of Science & Technology, Sophia University, Tokyo, Japan

2009 Acted as Chair of SETC 2009 Organizing Committee

2010 Honored as a Fellow Member of JSAE

Serving a Member of JSAE SETC General Committee

TUESDAY
28 September

Keynote Addresses

Raiffeisensaal Room
8.30-9.30

Helmut Eichlseder

Graz University of Technology, Institute for Internal Combustion Engines and Thermodynamics

1978 – 1984 Graz University of Technology, Mechanical Engineering with focus on Internal Combustion Engines and Vehicle Engineering, finished with Dipl.-Ing. (Master)

1989 Doctorate Degree (PhD) at TU Graz

Thesis: "Heat Transfer and Components Stress in Two-Stroke SI Engines," finished with distinction

Dec. 1984 Calculation Engineer in AVL Graz; Focus on stress, thermal, and acoustic calculations on IC engines with Finite-Element-Method

1985 – 1990 University Assistant at "Institute for IC engines and Thermodynamics" TU Graz (Head: Prof. R. Pischinger)

Sept. 1990 Development engineer in BMW´s Diesel Development, Steyr department, "mixture preparation and combustion"

Nov. 1991 Head of Department predevelopment – new technologies in the Diesel development, BMW Steyr

1993 – 1997 Head of Department "combustion development Diesel" with focus on: combustion system, injection system, turbo charging and aftertreatment, new DI Diesel engine family of 4, 6 and 8 cylinder, BMW Steyr

Sept. 1997 Head of Departments "Alternative Combustion Systems" and then Direct Injection SI Combustion Systems" in Gasoline development, BMW Munich

Apr. 2001 Univ.-Prof. for Internal Combustion Engines at TU Graz

Oct. 2002 Head of the Institute for Internal Combustion Engines and Thermodynamics, TU Graz

Keynote Addresses Continued

Philip Mitchell
Chief Technology Officer and Executive Director
Intelligent Energy UK

Air Cooled Proton Exchange Membrane Fuel Cells as Zero Emission Vehicle Power Plants

Dr. Mitchell has a BSc and a PhD in Chemistry, both from Loughborough University.

Professional Experience Dr. Mitchell is an electrochemist with over 20 years of experience in fuel cell and related fields. He was formerly Research and Development Manager at Innogy Technology Ventures Ltd (part of the Innogy Group) where he was engaged in the development of the "Regenesys" electrochemical energy storage system and directed Innogy's research programme in regenerative fuel cell and electrochemical technologies.

TUESDAY
28 September

Networking Lunch in Mensa Building, Reprasentationsraum A, B, C

12.00 - 13.00

Government Dinner at Redoutensäle

Sponsored by Austrian Government

19:00 – 22:00

Host: **Dr. Elisabeth Manhal**, Member of the Upper Austrian Parliament, Government of Upper Austria

Opening remarks: **Dan Nehmer**, SAE Technical Committee Chairman

Program comments: **Jay S. Meldrum**, SAE General Committee Chairman

Keynote Address: **Dr. Elisabeth Manhal**

Sponsored by:

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WEDNESDAY
29 September

Plenary Panel Discussion

Future of European Regulations on Small Engines

Raiffeisensaal Room

8.00 – 9.30

Moderator:
Daniel A. Nehmer, Senior Fuel System Engineer, BRP Powertrain
See photo and biography on p. 4

Panelists:
Holger Lochmann, Chairman-Working Group on Nonroad SSI Engines; Division Manager, Emissions and Regulatory Affairs, ANDREAS STIHL

Jacques Compagne, Secretary General, ACEM

Paul Rubig, Member, EU Parliament

Holger Lochmann

Chairman-Working Group on Nonroad SSI Engines; Division Manager, Emissions and Regulatory Affairs, ANDREAS STIHL

After school and military service, he started to study chemistry and chemical engineering at Technical University Darmstadt Germany in 1988. His main interests were atmospheric chemistry, chemical engineering and analytical chemistry; followed by a PhD at TU-Darmstadt focusing on the development of an analytical method for ultra small volume samples, such as single plant cells or single rain drops.

In 1999, he joined STIHL as R&D engineer for catalyst development. In 2001, he became the leader of the central chemical lab of STIHL, responsible for fuels, oils, plastic materials, after-treatment technologies and exhaust emission analysis.
In 2005, he moved to his current position as division manager for governmental relations and emissions at STIHL. Simultaneously, he was elected as chairman of the small SI engine group within Euromot. Within this function, he worked with European Commission, US-EPA, CARB and many other legislative bodies worldwide on the harmonization and development of new emission standards.

Jacques Compagne

Secretary General
ACEM – The Motorcycle Industry in Europe

Mr. Compagne graduated from the Institut Supérieur des Sciences Economiques et Commerciales of Paris, option Marketing Studies and Research; he is also a graduate of the Institut Commercial of Nancy.

Mr. Compagne has been active in the motorcycle sector since 1974. Until 2003, Mr. Compagne held different responsibilities at Peugeot Motocycles, a subsidiary of PSA Peugeot Citroën Group (1987: Export Area Manager; 1992: Marketing Director; 1998: Public Affairs Director; 2001: Public Affairs and communication Director). From 1998 -2003 Mr Compagne was also Secretary General of the Chambre Syndicale Nationale du Motocycle, the French motorcycle manufacturers association. Having ensured in 1996-2003 the Chairmanship of the Co-ordinating Committee in ACEM - The Association of Motorcycle Manufacturers in Europe, from 2004 Mr Compagne has joined ACEM as Secretary General.

WEDNESDAY
29 September

Plenary Panel Continued

Paul Rübig

Member of EU Parliament

1967 – 1972: Farm machinery design at Styria polytechnic

1972 – 1978: Business administration, marketing and production engineering at the University of Linz, Upper Austria

1978 – 1984: Doctorate in licensing marketing at the University of Linz, Institute for Auditing, Trusteeship and Accountancy

• Blacksmith, Company Rübig, precision smithy, hardening, mechanical engineering and construction for plasma plating and environmentfriendly metal cleaning

• Foundation of companies in Germany, France and Great Britain

Political Experience

1991 – 1996: Member of the Regional Parliament of Upper Austria

1996: Member of the National Parliament of Austria

Since 1996: Member of the European Parliament

Functions in the European Parliament

• Member of the Committee on Industry, Research and Energy

• Member of the Delegation for relations with Switzerland, Iceland and Norway and to the European Economic Area Joint Parliamentary Committee

• Substitute Member of the Committee on Budgets

• EPP Small Business Spokesman on the WTO Steering Committee

• Substitute Member of the Delegation for Relations with the Arab Peninsula

• Deputy Chairman and Treasurer of the Austrian People's Party in the European Parliament

• President of SME-Global since 2003

• Member of Scientific Technology Options Assessment (STOA)

• Member of the Lisbon Strategy Coordination Group

• Member of the non-permanent Committee on the climate-change

Representation of Interests

Austrian chamber of commerce:

1996 – 2000: Vice President of the Upper Austrian section

1991 – 1996: curator of WIFI Upper Austria

2000 – today: deputy-chairman section industry

Networking Lunch in Mensa Building, Reprasentationsraum A, B, C

12.00 – 13.00

WEDNESDAY
29 September

SETC 2010 Banquet Cruise

Dinner Cruise on the Danube River aboard the Regina Danubia
16:00-20:30

Join us for an evening excursion on the Danube River as we explore the beauty of Bavarian and Austrian scenes between Schlögen and Linz while also enjoying a lavish buffet of local delicacies. The trip will begin with a bus tour of the area's countryside as we make our way north to Schlögen to board the Regina Danubia.

Tickets may be purchased for $50 per person when you place your conference registration. Departure from the front of Ars Electronica Center at 16:00 to Schlögen.

Sponsored by:

LAND OBERÖSTERREICH

bmvit
Federal Ministry for Transport, Innovation and Technology

TMG

THURSDAY
30 September

Closing Ceremony

Raiffeisensaal Room
12.30-13.00

Closing Remarks:
Jay S. Meldrum, SAE International General Committee Chair

Best Paper and Best Presentation Awards:
Daniel A. Nehmer, SAE International Technical Committee Chair
Takashi Mitome, JSAE Technical Committee Chair

SETC 2011 Announcement:
Ryosuke Ishikawa, Manager, Engineering Administration Department
Suzuki Motor Corporation, JSAE Conference Chair

Networking Lunch in Mensa Building, Reprasentationsraum A, B, C

13.00 - 14.00

SESSIONS AT-A-GLANCE

	AM	PM	Room No.	Page No.
Tuesday September 28				
Alternative Fuels (Part 1 & 2) (SETC112)	✔	✔	Horsaal 3	18, 20
Design and Simulation (Part 1 & 2) (SETC107)	✔	✔	Horsaal 5	18, 20
Emissions (Part 1 & 2) (SETC110)	✔	✔	K 012D	18, 20
Fuel Supply Systems (SETC106)	-	✔	Horsaal 6	21
NVH Technology (Part 1 & 2) (SETC105)	✔	✔	Horsaal 6	18, 20
Vehicle Dynamics and Safety (Part 1 & 2) (SETC115)	✔	✔	Horsaal 4	18, 21
Wednesday September 29				
Advanced Combustion (Part 1 of 3) (SETC114)	✔	-	Horsaal 5	24
Advanced Combustion (Part 2 of 3) (SETC114)	-	✔	Horsaal 5	25
Engine Components (SETC102)	✔	-	Horsaal 3	2
Engine Controls (Part 1 & 2) (SETC108)	✔	✔	Horsaal 6	24
Lubricants (SETC109)	-	✔	Horsaal 3	24
Materials (Part 1 & 2) (SETC111)	✔	✔	K 012D	24
Two-Stroke Engine (Part 1 of 3) (SETC103)	✔	-	Horsaal 4	23
Two-Stroke Engine (Part 2 of 3) (SETC103)	-	✔	Horsaal 4	27
Thursday September 30				
Advanced Combustion (Part 3 of 3) (SETC114)	✔	-	Horsaal 5	26
Collegiate Events (SETC113)	✔	-	Horsaal 6	26
Diesel Engine (SETC104)	✔	-	Horsaal 6	27
Engine Technology (SETC101)	✔	-	Horsaal 3	26
Hybrids, Electric Drives, and Fuel Cells (SETC117)	✔	-	K 012D	26
Two-Stroke Engine (Part 3 of 3) (SETC103)	✔	-	Horsaal 4	28

TUESDAY, SEPTEMBER 28 - MORNING
Technical and Business Sessions

TIME	SESSION TITLE, DESCRIPTION, AND ROOM			
	Horsaal 4	Horsaal 3	Horsaal 5	K 012D
	Vehicle Dynamics and Safety (Part 1 of 2) (SETC115) 08.00 - 12.00 Organizers: Masayuki Baba, Honda R&D Co., Ltd.; Deane B. Jaeger, Harley-Davidson Motor Co. Chairpersons: Masayuki Baba, Honda R&D Co., Ltd.; Stephan Schmidt, Graz University of Technology	**Alternative Fuels (Part 1 of 2) (SETC112)** 10.00 - 12.00 Organizers: Jan Czerwinski, Univ. of Applied Sciences - Biel; Tadao Okazaki, Kubota Corp.; Paul Richards, Innospec; Koji Yoshida, Nihon Univ. Chairpersons: Paul Richards, Innospec; Koji Yoshida, Nihon Univ.	**Design and Simulation (Part 1 of 2) (SETC107)** 10.00 - 12.00 Organizers: Roy Douglas, Robert Fleck, Queen's Univ. of Belfast; Kazuyuki Shiomi, Honda R&D Co., Ltd. Chairpersons: Roy Douglas, Queen's Univ. of Belfast; Kazuyuki Shiomi, Honda R&D Co., Ltd.	**Emissions (Part 1 of 2) (SETC110)** 10.00 - 12.00 Organizers: Hiromi Deguchi, Suzuki Motor Corp.; Jeff J. White, Southwest Research Institute Chairpersons: Hiromi Deguchi, Suzuki Motor Corp.; Jeff J. White, Southwest Research Institute
10.00	Rolling Friction of Low Resistance Tires **(2010-32-0110/20109110)** Martin Egger, FH-OOE	Alternative Fuel Butanol: Preliminary Investigation on Performance and Emissions of a Marine Two-Stroke Direct Fuel Injection Engine **(2010-32-0054/20109054)** Jeff R. Wasil, Justin Johnson, Rahul Singh, BRP US Inc	A New CFD Approach for Assessment of Swirl Flow Pattern in HSDI Diesel Engines **(2010-32-0037/20109037)** Reza Rezaei, VKA, RWTH Aachen University; Stefan Pischinger, Jens Ewald, Philipp Adomeit, FEV Motorentechnik GmbH	Analysis of Motorcycle Fuel Consumption in Malaysia **(2010-32-0048/20109048)** Jih Houh Lee, Chew Liang Chong, Horizon Gitano, Universiti Sains Malaysia
10.30	Investigation of Steady-State Cornering Characteristics of Motorcycles Based on Tire Slip Angle Measurement **(2010-32-0105/20109105)** Shigeru Fujii, Souichi Shiozawa, Akinori Shinagawa, Tomoaki Kishi, Yamaha Motor Co Ltd	Measurement of Regulated and Unregulated Exhaust Emissions from Snowmobiles in the 2009 SAE Clean Snowmobile Challenge **(2010-32-0126/20109126)** Scott A. Miers, Christopher Green, Jay Meldrum, Michigan Technological Univ; Matt Chmielewski, AVL North America Inc	Establishment of Prediction Technology of Fatigue Strength in Roots of Internal Thread for Crankcase Assembly and Clarification of Cracking Mechanism in Roots of Internal Thread **(2010-32-0029/20109029)** Hiroshi Kuribara, Junya Saito, Hideki Saito, Daisuke Sekiya, Honda R&D Co Ltd; Hidenori Arisawa	Strategies and Solutions to Control and Reduce the NO_x, HC and CO Levels in Gasoline/Alternate Fueled Engines **(2010-32-0046/20109046)** P. Shanmugam, T. Kathiresan , N. Senthilnathan , AS. Anbukarasu , R. Vinoth Balaram , K. Prabu , MG. Naveenkumar , TVS Motor Company Ltd
11.00	Mass Damper Application to the Front Suspension of a Tilting Three Wheeler **(2010-32-0108/20109108)** Antonio Sponziello, Francesco Frendo, Massimo Guiggiani, University of Pisa; Riccardo Rossi, EDI Progetti & Sviluppo	Expanded Use of Small Engines by the Application of Butane Fuel Canisters **(2010-32-0055/20109055)** Yasuhiro Sugimoto, Hiroaki Kojima, Masanori Fujinuma, Honda R&D Co. Ltd.	A Multi-Disciplinary Approach for Design Improvement of an Air-Cooled Two-Wheeler Engine Cylinder Head **(2010-32-0033/20109033)** Om Singh, T. Sreenivasulu, M Kannan, K. Nagaraja, TVS Motor Company Ltd	Extending Catalyst Useful Life through Advanced Catalytic Materials and Flow Dynamics **(2010-32-0038/20109038)** Jordan Szafranski, Cosmos Manufacturing Inc.; Mike Galligan, BASF
11.30	Automatic Optimisation of the Vibration Characteristics of Vehicle Suspension **(2010-32-0104/20109104)** Senthilnathan Subbiah, TVS; David Towers PhD, University Of Leeds	Investigations on Combustion Process of Low-pressure CNG Compound Direct Injection Spark-ignited Engines **(2010-32-0052/20109052)** Chunming Hu, Shengzhi Hou, Tianjin Univ.	EHD-Contact in Engine Simulations using a Modal Force Approach in Commercial Multi-Body Simulation Software **(2010-32-0034/20109034)** Michael Steinbatz, University of Applied Sciences Wels	Development of Paper Exhaust Catalyst Material for Emission Control in Small Internal Combustion Engines (2) **(2010-32-0044/20109044)** Katsumasa Kiuchi, Ryo Suzuki, Hiroaki Yano, Shintaro Yagi, Akihiko Tomoda, F.C.C. Co.,Ltd.
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TUESDAY, SEPTEMBER 28 - MORNING Technical and Business Sessions		
TIME	**SESSION TITLE, DESCRIPTION, AND ROOM**	
	Horsaal 6	
	NVH Technology (Part 1 of 2) **(SETC105)** 10.00 - 12.00 Organizers: Kenneth Kicinski, Harley-Davidson Motor Co.; Tadao Okazaki, Kubota Corp. Chairpersons: Jay Meldrum, Michigan Technological Univ.; Tadao Okazaki, Kubota Corp.	
10.00	Development of a Noise Prediction Technique for Designing a High-Performance Muffler of Motorcycle **(2010-32-0023/20109023)** Toshiaki Taguchi, Makoto Aoki, Youta Katsukawa, Masahiro KOGA, Tohru Koshimizu, Masahito Saitou, Kawasaki Heavy Industries, LTD.	
10.30	Pros and Cons of Using Different Numerical Techniques for Transmission Loss Evaluation of a Small Engine Muffler **(2010-32-0028/20109028)** Daniela Siano, Istituto Motori CNR; Fabio Auriemma PhD, Fabio Bozza, Universita di Napoli	
11.00	Reducing Tiller Arm Vibration of a 2-Cylinder Outboard Motor by the Double-Focused Mount Method **(2010-32-0027/20109027)** Darrell A. Wiatrowski, Peter E. Lucier, BRP US Inc.	
11.30	Acoustic Analysis of Small Engine Catalytic Converters **(2010-32-0022/20109022)** Jüri Lavrentjev, Hans Rämmal, Tallinn University of Technology	
	Planned by Small Engine Technology Conference General Committee / EMB Land and Sea Group	

TUESDAY, SEPTEMBER 28 - AFTERNOON
Technical and Business Sessions

TIME	SESSION TITLE, DESCRIPTION, AND ROOM			
	Horsaal 3	Horsaal 5	K 012D	Horsaal 6
	Alternative Fuels (Part 2 of 2) (SETC112) 13.00 - 17.30 Organizers: Jan Czerwinski, Univ. of Applied Sciences - Biel; Tadao Okazaki, Kubota Corp.; Paul Richards, Innospec; Koji Yoshida, Nihon Univ. Chairpersons: Tadao Okazaki, Kubota Corp.; Paul Richards, Innospec; Koji Yoshida, Nihon Univ.	**Design and Simulation (Part 2 of 2) (SETC107)** 13.00 - 17.30 Organizers: Roy Douglas, Robert Fleck, Queen's Univ. of Belfast; Kazuyuki Shiomi, Honda R&D Co., Ltd. Chairpersons: Roy Douglas, Queen's Univ. of Belfast; Kazuyuki Shiomi, Honda R&D Co., Ltd.	**Emissions (Part 2 of 2) (SETC110)** 13.00 - 16.30 Organizers: Hiromi Deguchi, Suzuki Motor Corp.; Jeff J. White, Southwest Research Institute Chairpersons: Hiromi Deguchi, Suzuki Motor Corp.; Jeff J. White, Southwest Research Institute	**NVH Technology (Part 2 of 2) (SETC105)** 13.00 - 14.30 Organizers: Kenneth Kicinski, Harley-Davidson Motor Co.; Tadao Okazaki, Kubota Corp. Chairpersons: Jay Meldrum, Michigan Technological Univ.; Tadao Okazaki, Kubota Corp.
13.00	The Combustion and Performance of a Converted Direct Injection Compressed Natural Gas Engine using Spark Plug Fuel Injector **(2010-32-0078/20109078)** Taib Iskandar Mohamad, Ali Yusoff, Shahrir Abdullah, Universiti Kebangsaan Malaysia; Mark Jermy, University of Canterbury; Matthew Harrison, Royal Academy of Engineering; How Heoy Geok, Universiti Kebangsaan Malaysia	Holistic Model-Based Development Process **(2010-32-0036/20109036)** Christoph Dutzler, BRP-Powertrain GmbH & Co. KG; Gregor Heizinger; Andreas Mair, BRP-Powertrain GmbH & Co. KG	Real-time Particle Emissions from 2-stroke Motorbikes with and without PMP Sampling System **(2010-32-0047/20109047)** Tim Hands, Alexander John Finch, Jonathan Symonds, Chris Nickolaus, Cambustion, Ltd.	Camshaft Drive Torque Measuring Device Built in a Chain Sprocket **(2010-32-0025/20109025)** Masao Ishihama, Kanagawa Institute of Technology
13.30	Real-World Emission Performance of a Snowmobile with Dual-Fuel Gasoline and Natural Gas Powertrain **(2010-32-0125/20109125)** Luis Cachon, Ernst Pucher, Vienna University of Technology	Prediction of Fatigue Failure in Multiaxial Stress States for Motorcycle Engines **(2010-32-0031/20109031)** Kenji Nishio, Kawasaki Heavy Industries Ltd	Experimental Investigation of Motorcycle Exhaust Gas Recirculation System **(2010-32-0039/20109039)** Manqun Lin, Tianjin Internal Combustion Engine Res.	A Practical Approach towards Muffler Design, Development and Prototype Validation **(2010-32-0021/20109021)** Shital Shah, Defiance Technologies; Saisankaranarayana Kuppili, Ashok Leyland; Kalyankumar Hatti; Dhananjay Thombare, Rajarambapu Institute of Technology
14.00	Combustion Characteristics of a Dual Fuel Diesel Engine with Natural Gas (Study with Fatty Acid Methyl Esters Used as Ignition Fuels) **(2010-32-0050/20109050)** Yasufumi Yoshimoto, Niigata Inst. of Technology	Stress Analysis of a CVT Belt Transmission **(2010-32-0032/20109032)** Claudio Annicchiarico, Renzo Capitani, Università degli Studi di Firenze; Riccardo Testi , Piaggio & C. S.p.A.	Study on the Effect of EGR System on the Emissions from a Small Off-road Gasoline Engine **(2010-32-0040/20109040)** Jing Qin, Manqun Lin, Liang Zhao , Bin Jia, Peng Liu , Tianjin Internal Combustion Engine Res	Study of Bolt Model to Improve Accuracy of Engine Vibration Analysis **(2010-32-0026/20109026)** Yoshisada Sakamoto, Suzuki Motor Corporation; Shozo Kawamura, Toyohashi University of Technology; Yoshihiko Sunayama, Suzuki Motor Corporation
14.30	Potential of Hydrogenated Vegetable Oil (HVO) in a Modern Diesel Engine **(2010-32-0081/20109081)** Heiko Pflaum, Peter Hofmann, Bernhard Geringer, Werner Weissel, Vienna University of Technology	Basic Investigations on the Prediction of Spray-Wall and Spray-Fluid Interaction for a GDI Combustion Process **(2010-32-0030/20109030)** Martin Abart, Stephan Schmidt, Oliver Schoegl, Alexander Trattner, Roland Kirchberger, Helmut Eichlseder, Dalibor Jajcevic, Graz University of Technology		
15.00	BREAK	BREAK	BREAK	
15.30	Effect of Injection Pressure on Ignition, Flame Development and Soot Formation Processes of Biodiesel Fuel Spray **(2010-32-0053/20109053)** Olawole Abiola Kuti, Wu Zhang , Keiya Nishida, University of Hiroshima; Xiangang Wang, Zuohua Huang, University of Xian Jiantong	Exhaust System Simulation of a 2-Cylinder 2-Stroke Engine Including Heat Transfer Effects **(2010-32-0035/20109035)** Dalibor Jajcevic, Raimund Almbauer, Stephan Schmidt, Graz University of Technology; Karl Glinsner, Matthias Fitl, BRP-Powertrain GmbH & Co KG	Development of Motorcycle Drive Cycles for Malaysia **(2010-32-0041/20109041)** Jih Houh Lee, Horizon Gitano, Hock Seng Eu, Ahmad Syazli Mohd Khalil, Universiti Sains Malaysia	
16.00	Application of Cellulosic Liquefaction Fuel (CLF) and Fatty Acid Methyl Ester (FAME) Blends for Diesel Engine **(2010-32-0080/20109080)** Koji Yoshida, Nihon Univ.	Vehicle Reliability Estimation Model for Concept Vehicle Target Setting and Identification of Critical Parameters Influencing System Reliability **(2010-32-0068/20109068)** Shaiju M. Belsus, Gopi Sankar, Amol Sharma, Nissan Ashok Leyland Technologies Ltd	Measurement of Dry Soot and Particulate Matter from Two-Stroke and Four-Stroke Snowmobiles **(2010-32-0042/20109042)** Scott A. Miers, Christopher A. Green, Jay S. Meldrum, Christine Lundberg, Michigan Technological Univ; William Silvis, Harry Pankratz, AVL North America Inc	
16.30	The Influence of Cellulosic Liquefaction Fuel, FAME and Diesel Fuel Mixture on Diesel Engine Performance **(2010-32-0079/20109079)** Yuya Ozawa, Graduate School of Nihon University	Experimental and Numerical Analyses for the Characterization of the Cyclic Dispersion and Knock Occurrence in a Small-Size SI Engine **(2010-32-0069/20109-69)** Gustavo Fontana, Universita di Cassino; Fabio Bozza, Universita di Napoli; Enzo Galloni, Universita di Cassino; Daniela Siano, Istituto Motori, CNR		
17.00	Study of Dual Fuel Engine for Low Calorie Biomass Gas **(2010-32-0051/20109051)** Hiroaki Wakizaka, Akihiro Hara, Tsugio Fukushima, Yasuhiro Noda, Tohru Nakazono, Yanmar Co., ltd	Development of Innovative Simulation and Testing Methodologies for Optimizing Crankshaft Design **(2010-32-0070/20109070)** Saharash Khare, TVS Motor Company Ltd. India		

TUESDAY, SEPTEMBER 28 - AFTERNOON
Technical and Business Sessions

TIME	SESSION TITLE, DESCRIPTION, AND ROOM	
	Horsaal 4	Horsaal 6
	Vehicle Dynamics and Safety (Part 2 of 2) (SETC115) 13.00 - 15.00 Organizers: Masayuki Baba, Honda R&D Co., Ltd.; Deane B. Jaeger, Harley-Davidson Motor Co.; James K. Thompson, NIOSH Chairpersons: Masayuki Baba, Honda R&D Co., Ltd.; Stephan Schmidt, Graz University of Technology	**Fuel Supply Systems (SETC106)** 3:30 p.m. - 5:00 p.m. Organizers: Peter Kaub, Re-Sol LLC; Isato Taki, Suzuki Motor Corp. Chairpersons: Jay Meldrum, Michigan Technological Univ.; Isato Taki, Suzuki Motor Corp.
13.00	Muscle Fatigue due to Motorcycle Riding **(2010-32-0100/20109100)** Sai Praveen Velagapudi, TVS Motor Co Ltd; Venkatesh Balasubramanian, IIT Madras; Adalarasu k, VIT Vellore; R Babu, Venkata Mangaraju, TVS Motor Co Ltd	
13.30	Development of a Control Method to Reduce Acceleration Shock in Motorcycles **(2010-32-0106/20109106)** Hirohide Matsushima, Kawasaki Heavy Industries, Ltd.	
14.00	Parametric Study of Three - Wheeler Directional Stability using MBD Simulations **(2010-32-0102/20109102)** Ravikanth GSG, Gangi Reddy D, Tushar.R. Gawade, K.V. Santosh, M.Nagarjun Reddy, TVS Motor Company LTD	
14.30	A New Test Method to Characterize the Behaviour of Hydraulic Damper **(2010-32-0101/20109101)** Govardan Daggupati, Venkata Mangaraju, Chandan Chavan, R Babu, TVS Motor Co Ltd	
15.30		Improvement of Wear Resistance of Fuel Pump for High Alcohol Content Fuel **(2010-32-0066)** Toshifumi Uehara, Keihin Corp; Kouji Miyake; Yoshikazu Tanaka; Yukitaka Tsuda, Keihin Corp
16.00		Optical Characterization of PFI Gasoline Sprays: Effect of Injection Pressure **(2010-32-0067)** Anand T. N. C., Madan Mohan Avulapati, Devendra Deshmukh, Ravikrishna Rayavarapu, Indian Institute of Science
16.30		Analysis of Port Injected Fuel Spray Under Cross Wind Using 2-D Measurement Techniques **(2010-32-0064/20109064)** Yasuo Moriyoshi, Chiba Univ.; Minoru Iida, Yamaha Motor Co Ltd
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WEDNESDAY, SEPTEMBER 29 - MORNING
Technical and Business Sessions

TIME	SESSION TITLE, DESCRIPTION, AND ROOM			
	Horsaal 5	Horsaal 3	Horsaal 6	K 012D
	Advanced Combustion (Part 1 of 3) (SETC114) 10.00 - 12.00 Organizers: Jaal B. Ghandhi, Univ. of Wisconsin Madison; Yasuo Moriyoshi, Chiba Univ.; Tomoo Shiozaki, Honda R&D Co., Ltd. Chairpersons: James Carroll, Southwest Research Institute; Yasuo Moriyoshi, Chiba Univ.	**Engine Components (SETC102)** 10.00 - 12.00 Organizers: Robert Fleck, Queen's Univ. of Belfast; Toshimi Kobayashi, Kawasaki Heavy Industries, Ltd. Chairpersons: Robert Kee, Queen's Univ. of Belfast; Toshimi Kobayashi, Kawasaki Heavy Industries, Ltd.	**Engine Controls (Part 1 of 2) (SETC108)** 10.00 - 12.00 Organizers: Takashi Mizokawa, Yamaha Motor Co., Ltd.; Anthony A. Szczotka, Robert Bosch LLC Chairpersons: Takashi Mizokawa, Yamaha Motor Co., Ltd.; Tony Szczotka, ROBERT BOSCH CORP	**Materials (Part 1 of 2) (SETC111)** 10.00 - 12.00 Organizers: Yasuyuki Muramatsu, Yamaha Motor Co., Ltd.; David Palmer, BRP US Inc. Chairpersons: Gregory W. Davis, Kettering Univ.; Yasuyuki Muramatsu, Yamaha Motor Co., Ltd.
10.00	A Macroscopic Understanding of the Controlled Auto-Ignition for Vehicle Engines **(2010-32-0086/20109086)** Yoichi Ishibashi, Hideaki Morikawa, Honda R&D Co Ltd	A Model Investigation on the Pressure Transducer Dynamics for Measurements in Lubricating Vane Pumps: Influence of Dissolved Air and of Transducer/Tubing Geometry **(2010-32-0059/20100059)** Silvio Barbarelli, Sergio Bova, Rocco Piccione, Univ. of Calabria	Closed Loop Controlled Electronic Carburation System **(2010-32-0115/20109115)** Paolo Colombo, Dell'Orto Spa	The Development of the Ceramics Nano-Film Coating Having Both High Corrosion Resistance and Excellent Heat Resistance **(2010-32-0075/20109075)** Naohisa Takahashi; Isao Murakoshi; Shitomi Sasada
10.30	A Further Approach to Controlled Auto- Ignition Using a Sequence of Low-Temperature Combustion-States **(2010-32-0087/20109087)** Yoichi Ishibashi, Hideaki Morikawa, Honda R&D Co Ltd	Diesel Engine Bearings for a Lead Free Future **(2010-32-0060/201090060)** Rainer Aufischer, Miba Gleitlager GmbH	Engine Controller Design for Small Engine Mass Production **(2010-32-0118/20109118)** Jesse Beeker, Freescale; Marco Sacchi, Freescale Semiconductor	Clearance Control Coatings - Low Cost, Abradable, Lubricious **(2010-32-0077/20109077)** Andrew Suman, Flow Coatings LLC; Dmitry A. Shamis, Napier Engineering, LLC
11.00	Experimental and Visualization Study of Fuel Injection Pressure and Injection Timing on PCCI Combustion Characteristics and Emissions **(2010-32-0099/20109099)** Simhachalam Juttu, S Thipse, N Marathe, Automotive Research Association of India; M Gajendra Babu, Indian Institute of Technology - Delhi	Development of Dual Clutch Transmission for Large Motorcycles **(2010-32-0057/20109057)** Junya Watanabe, Dai Arai, Masataka Tanaka, Takeru Abe, Atsushi Ogasawara, Masahiko Tsuchiya, Ryushi Tsubota, Honda R&D Co Ltd	Early Warning System for Light Commercial Engines using EMOS (Engine MOnitoring System) Controller **(2010-32-0120/20109120)** Ajay Ramlal Dandge, Tata Technologies, Ltd.; Vishwas Vaidya, Tata Motors, Ltd.	A Study on Material Compatibility and Improvements of Fuel System Parts of Gasoline Engine for Ethanol Blended Fuels **(2010-32-0074/20109074)** Singaraju Venumadhav, M Murugan, Srinivasan Govindarajan, Muthukrishnan Ramachandran, B Srinivasan, Murugan Sivakumar, UCAL Fuel Systems Ltd
11.30	A Study of Ignition Characteristics of an HCCI Engine Operating on a Two-component Fuel **(2010-32-0098/20109098)** Kenji Saitou, Akira Iijima, Yasuhiro Otagiri, Koji Yoshida, Yusuke Takahashi, Hideo Shoji, Nihon University		Engine Speed Control with a Choke Valve based on the Adaptive Control Approach - Mechanism to Drive both the Throttle Valve and the Choke Valve with a Single Motor **(2010-32-0116/20109116)** Hideaki Shimamura, Akihito Kasai, Tetsuya Arai, Honda R&D Co.,Ltd.	New Environmental-Friendly Developments and Applications of the Pulsed Plasma Heat Treatment Technology in the Field of Engine, Transmission and Power Train Engineering **(2010-32-0072/20109072)** Andreas Gebeshuber, Thomas Mueller, Robert Noebauer, Volker Strobl, Ruebig GmbH&Co.KG
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WEDNESDAY, SEPTEMBER 29 - MORNING Technical and Business Sessions		
TIME	**SESSION TITLE, DESCRIPTION, AND ROOM**	
	Horsaal 4	
	Two-Stroke Engine (Part 1 of 3) **(SETC103)** 10.00 - 12.00 Organizers: Scott A. Miers, Michigan Technological Univ.; Tomoo Shiozaki, Honda R&D Co., Ltd. Chairpersons: Scott A. Miers, Michigan Technological Univ.; Tomoo Shiozaki, Honda R&D Co., Ltd.	
10.00	Visualization of a Fired Two-Stroke Chain Saw Engine Running at Idle Speed by Dynamic Neutron Radiography **(2010-32-0013/20109013)** Christian Gruenzweig, Paul Scherrer Institut	
10.30	Experimental Tests and Simulations of A 1.5 cc Miniature Glow-Ignition Two-Stroke Engine **(2010-32-0018/20109018)** Lei Tian, University of Minnesota, USA	
11.00	Fuel Injection for Low Emission 50cc 2-Stroke Scooter **(2010-32-0020/20109020)** Paul Ravenhill, Jeffrey Allen, Benajmin Smither, Gavin Farmer, Scion-Sprays Ltd; Eric Demesse, Philippe Grosch, Peugeot Motocycles	
11.30	Possibilities and Limits of 1D CFD Simulation Methodology for the Layout of 2-Stroke GDI Combustion System **(2010-32-0017/20109017)** Oliver Schoegl, Stephan Schmidt, Martin Abart, Christian Zinner, Roland Kirchberger, Graz University of Technology; Mathias Fitl, Karl Glinsner, Stefan Leiber, BRP-Powertrain GmbH & Co KG	
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WEDNESDAY, SEPTEMBER 29 - AFTERNOON
Technical and Business Sessions

TIME	SESSION TITLE, DESCRIPTION, AND ROOM			
	Horsaal 5	Horsaal 6	Horsaal 3	K 012D
	Advanced Combustion (Part 2 of 3) (SETC114) 13.00 - 14.30 Organizers: Jaal B. Ghandhi, Univ. of Wisconsin Madison; Yasuo Moriyoshi, Chiba Univ.; Tomoo Shiozaki, Honda R&D Co., Ltd. Chairpersons: James Carroll, Southwest Research Institute; Akira Iijima, Nihon University	**Engine Controls (Part 2 of 2) (SETC108)** 13.00 - 14.00 Organizers: Takashi Mizokawa, Yamaha Motor Co., Ltd.; Anthony A. Szczotka, Robert Bosch LLC Chairpersons: Takashi Mizokawa, Yamaha Motor Co., Ltd.; Tony Szczotka, ROBERT BOSCH CORP	**Lubricants (SETC109)** 13.00 - 14.30 Organizers: Peter Kaub, Re-Sol LLC; Tohru Nakazono, Yanmar co. ltd,. Chairpersons: Peter Kaub, Re-Sol LLC; Takashi Mitome, Suzuki Motor Corp.	**Materials (Part 2 of 2) (SETC111)** 13.00 - 14.00 Organizers: Yasuyuki Muramatsu, Yamaha Motor Co., Ltd.; David Palmer, BRP US Inc. Chairpersons: Gregory W. Davis, Kettering Univ.; Yasuyuki Muramatsu, Yamaha Motor Co., Ltd.
13.00	The Effect of Ceramic Thermal Barrier Combustion Chamber Coatings on the Performance and Efficiency of a Small Diesel Engine **(2010-32-0090/20109090)** Tyrell Arment, Jim Cowart, Pat Caton, Leonard Hamilton, US Naval Academy	Development of Idling Stop System for 125 cm³ Scooters with Fuel Injection **(2010-32-0121/20109121)** Takeshi Yanagisawa, Teruhide Yamanishi, Katsuhiro Utsugi, Toshiya Nagatsuyu, Honda R&D Co Ltd	Demonstration of the Ability of a Novel Engine Oil to Remove Hydrocarbon Deposits in Two-Stroke Engines **(2010-32-0122/20109122)** Brent R. Dohner, Michael S. Brenner, Lubrizol Corp.; Laimute Svarcas, Lubrizol Corp	Development of Vanadium-added Heat Resistant Cast Iron for Exhaust Manifold **(2010-32-0073/20109073)** Ryo Yamauchi, Satoshi Ishizuka, Nobuaki Suzuki , Suzuki Motor Co Ltd
13.30	Combustion System Development and Analysis of a Downsized Highly Turbocharged PFI Small Engine **(2010-32-0093/20109093)** William P. Attard, Elisa Toulson, Ferenc Hamori, Harry C. Watson, University of Melbourne, Australia	Development of Variable Cylinder Management System for Large Motorcycles- An Effective Way of Reducing Output Change at Switching of the Number of Working Cylinders **(2010-32-0117/20109117)** Hayato Maehara, Shunsuke Kitawaki, Takeru Abe, Shinji Saito, Takaaki Tsukui, Honda R&D Co Ltd	Study of Lower Viscosity Motorcycle Engine Oils for Fuel Saving **(2010-32-0123/20109123)** Nobuaki Watanabe, IDEMITSU KOSAN Co.Ltd	The CMT Process - News and its Advantages in Industry **(2010-32-0071/20109071)** Thomas Eder, Fronius International GmbH
14.00	Investigations on Low Pressure Gasoline Direct Injection for a Standard GDI Combustion System **(2010-32-0094/20109094)** Stephan Schmidt, Graz University of Technology; Martin Joyce, Jonathan Wall, DENSO International Europe; Alexander Trattner, Roland Kirchberger, Helmut Eichlseder, Graz University of Technology		Impact of Oil Aging on Wear of Piston Ring and Cylinder Liner System **(2010-32-0124/20109124)** Karoline Steinschütz, Bernhard Geringer, Vienna University of Technology; Martin Jech, AC2T research GmbH; Michael Urbanek, Vienna University of Technology; Thomas Wopelka, AC2T research GmbH; Charlotte Besser, Austrian Center of Competence for Tribol	
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WEDNESDAY, SEPTEMBER 29 - AFTERNOON Technical and Business Sessions		
TIME	**SESSION TITLE, DESCRIPTION, AND ROOM**	
	Horsaal 4	
	Two-Stroke Engine (Part 2 of 3) (SETC103) 13.00 - 14.30 Organizers: Scott A. Miers, Michigan Technological Univ.; Tomoo Shiozaki, Honda R&D Co., Ltd. Chairpersons: Scott A. Miers, Michigan Technological Univ.; Tomoo Shiozaki, Honda R&D Co., Ltd.	
13.00	High Efficient 125- 250 cm³ LPDI Two-Stroke Engines, a Cheap and Robust Alternative to Four-Stroke Solutions? **(2010-32-0019/20109019)** Roland Oswald, Andreas Ebner, Roland Kirchberger, Graz University of Technology	
13.30	Reed Valve CFD Simulation of a 2-Stroke Engine Using a 2D Model Including the Complete Engine Geometry **(2010-32-0015/20109015)** Dalibor Jajcevic, Raimund Almbauer, Stephan Schmidt, Graz University of Technology; Karl Glinsner, Matthias Fitl, BRP-Powertrain GmbH & Co KG	
14.00	Hugo Ruppe - An Important German Combustion Engine Pioneer **(2010-32-0063/20109063)** Bruno M. Spessert, Univ. of Applied Sciences Jena	
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THURSDAY, SEPTEMBER 30 - MORNING
Technical and Business Sessions

TIME	SESSION TITLE, DESCRIPTION, AND ROOM			
	Horsaal 5	Horsaal 6	Horsaal 3	K 012D
	Advanced Combustion (Part 3 of 3) (SETC114) 08.00 - 11.30 Organizers: Jaal B. Ghandhi, Univ. of Wisconsin Madison; Yasuo Moriyoshi, Chiba Univ.; Tomoo Shiozaki, Honda R&D Co., Ltd. Chairpersons: Akira Iijima, Nihon University; Robert Kee, Queen's Univ. of Belfast; Yasuo Moriyoshi, Chiba Univ.	**Collegiate Events (SETC113)** 08.00 - 09.30 Organizers: Geoffrey McCullough, Queen's Univ. of Belfast; Taro Sekine, Nihon University Chairpersons: Jay Meldrum, Michigan Technological Univ.; Yasuhiro Sugimoto, Honda R&D Co., Ltd.	**Engine Technology (SETC101)** 08.00 - 11.30 Organizers: Minoru Iida, Yamaha Motor Co., Ltd.; Nagesh Mavinahally, LEHR Inc. Chairpersons: Minoru Iida, Yamaha Motor Co., Ltd.; Nagesh Mavinahally, LEHR Inc.	**Hybrids, Electric Drives, and Fuel Cells (SETC117)** 08.00 - 11.30 Organizers: Glenn R. Bower, Univ. of Wisconsin; Yasuyuki Muramatsu, Yamaha Motor Co., Ltd. Chairpersons: Glenn R. Bower, Univ. of Wisconsin; Yasuyuki Muramatsu, Yamaha Motor Co., Ltd.
08.00	Ignition Energy Development for a Spark Initiated Combustion System Capable of High Load, High Efficiency and Near Zero NOx Emissions **(2010-32-0088/20109088)** William P. Attard, Jacob Kohn, Patrick Parsons, MAHLE Powertrain	Development of a Power-train for a Formula SAE Competition Vehicle **(2010-32-0085/20109085)** Shinya Akizuki, Kanagawa Institute of Technology	Analysis of Transient Operation of Turbo Charged Engines **(2010-32-0005/20109005)** Harald Stoffels, Stefan Quiring, Bert Pingen, Ford Werke GmbH	Evaluation of NOx and Fuel Consumption Reduction Potential of Parallel Diesel-Hybrid Powertrains using Engine-In-the-Loop Simulation **(2010-32-0128/20109128)** Philipp Teiner, Bernhard Schneeweiss, Vienna University of Technology
08.30	Research on the Combustion and Emission Characteristics of the DME/Diesel Dual-Fuel Engine **(2010-32-0096/20109096)** Ock Taeck Lim, Kyu Yeol park , University of Ulsan; Young dug Pyo, Young-Jae Lee, Korea Institute of Energy Research	University of Idaho's Flex-Fuel Two-Stroke Snowmobile **(2010-32-0084/20109084)** Peter Britanyak, Alex Fuhrman, Dylan Dixon, Karen R. Den Braven, Univ of Idaho; Nicholas Harker	Optimization of Geometry and Parameter Affecting Combustion for Four Stroke LPG Engine using CFD **(2010-32-0009/20109009)** Parthiban Rajamani, Shanmugam Palani, Sakthi Saravanan Subramanian, TVS Motor Co Ltd	Low Cost Hybrid Motorcycle Optimisation Model **(2010-32-0131/20109131)** Cian Harrington, N Vaughan , Cranfield University; Jeffrey Allen, Benajmin David Smither, Gavin Farmer, Scion-Sprays Ltd
09.00	An Investigation of the Effects of Fuel Inhomogeneity on the Pressure Rise Rate in HCCI engine using Chemiluminescence Imaging **(2010-32-0097/20109097)** Taketora Naiki, Norimasa Iida, Keio University; Cedric Lhomme, Ecole Centrale de Nantes	Development of a Flexible Fueled Snowmobile Operating on Ethanol Blended Gasoline for the 2010 SAE Clean Snowmobile Challenge **(2010-32-0083/20109083)** Gregory W. Davis, Kettering Univ.	Study on the Transient Response of a Fuel injected (FI) Motorcycle Engine **(2010-32-0008/20109008)** Sakthi Saravanan Subramanian, Parthiban Rajamani, Murugesan Manickam, TVS Motor Co Ltd	Two-Cylinder Gasoline Engine Concept for Highly Integrated Range Extender and Hybrid Powertrain Applications **(2010-32-0130/20109130)** Martin Atzwanger, Christian Hubmann, Wolfgang Schoeffmann, Bernhard Kometter, Hubert Friedl, AVL List GmbH
09.30	Optical Measurement of Autoignition and Combustion Behavior in an HCCI Engine **(2010-32-0089/20109089)** Akira Iijima, Koji Yoshida, Hideo Shoji, Nihon University		Prediction Technology of Output Power and Intake-Exhaust Noise Using 1D-Simulation for Small-Displacement Motorcycles **(2010-32-0004/20109004)** Hiroshi Horikawa, Hideki Kido, Satoshi Iijima, Yasuo Murakami, Honda R&D Co Ltd	
10.00	BREAK		BREAK	BREAK
10.30	Combustion System Development and Analysis of a Carbureted and PFI Normally Aspirated Small Engine **(2010-32-0095/20109095)** William P. Attard, Elisa Toulson, Ferenc Hamori, Harry C. Watson, University of Melbourne, Australia		CFD Modeling of In-Cylinder Fuel-Air Mixing in a CNG-Fuelled SI Engine with Port Gas Injection **(2010-32-0003/20109003)** Manish Garg, TVS Motor Co., Ltd.; R Ravikrishna, Indian Institute of Science	Study of Possible Range Extender Concepts with Respect to Future Emission Limits **(2010-32-0129/20109129)** Andreas Ebner, Franz Winkler, Martin Abart, Raphael Luz, Roland Kirchberger, Stephan Schmidt, Helmut Eichlseder, Graz University of Technology
11.00	Analysis of Knocking in an SI Engine based on In-cylinder: Spectroscopic Measurements and Visualization **(2010-32-0092/20109092)** Ryoga Suzuki, Hideo Shoji, Koji Yoshida, Akira Iijima, Nihon University		Study of Air-Fuel Mixture Preparation in a Single Cylinder SI Engine **(2010-32-0002/20109002)** Balasubramanian Thiruvallur Loganathan, TVS Motor Co Ltd; Shamit Bakshi PhD, IITM; Ghodeswar Dinesh, TVS Motor Co Ltd	Prediction of Filling Time and Temperature of Precooled Hydrogen During Filling of Hydrogen into a High-pressure Tank **(2010-32-0127/20109127)** Masanori Monde, Seiichi Tanaka, Saga University; Toshio Takano, JFE container
11.30			Research on Extended Expansion General-Purpose Engine-Efficiency Enhancement by Natural Gas Operation- **(2010-32-0007/20109007)** Shohei Kono, Hibiki Koga, Sei Watanabe, Honda R&D Co Ltd	
12.00			The New Rotax ACE 600 Engine for Ski-Doo **(2010-32-0001)** Michael Gumpesberger, Stefan Gruber, Michael Simmer , BRP-Powertrain GmbH & Co KG; Christian Sulek, Bombardier-Rotax GmbH & Co KG; Christian Stiebinger, Josef Burgstaller , BRP-Powertrain GmbH & Co KG	
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THURSDAY, SEPTEMBER 30 - MORNING
Technical and Business Sessions

TIME	SESSION TITLE, DESCRIPTION, AND ROOM	
	Horsaal 4	Horsaal 6
	Two-Stroke Engine (Part 3 of 3) (SETC103) 08.00 - 11.30 Organizers: Scott A. Miers, Michigan Technological Univ.; Tomoo Shiozaki, Honda R&D Co., Ltd. Chairpersons: Scott A. Miers, Michigan Technological Univ.; Tomoo Shiozaki, Honda R&D Co., Ltd.	**Diesel Engine (SETC104)** 10:30 a.m. - 11.30 Organizers: Yoshiro Tokunaga, Kawasaki Heavy Industries, Ltd.; Andrew P. Traxel, Briggs & Stratton Daihatsu LLC Chairpersons: Roy Douglas, Queen's Univ. of Belfast; Yoshiro Tokunaga, Kawasaki Heavy Industries, Ltd.
08.00	CFD Study of Spray Design for a GDI High Performance 2-Stroke Engine **(2010-32-0014/20109014)** Dalibor Jajcevic, Raimund Almbauer, Stephan Schmidt, Graz University of Technology; Karl Glinsner, Matthias Fitl, BRP-Powertrain GmbH & Co KG	
08.30	Experimental Investigations of Two-Stroke SI Combustion with Simultaneous Cycle-Based Fuel Consumption Measurements **(2010-32-0061/20109061)** Kai W. Beck, Karlsruhe Institute of Technology (KIT); Fatih Sarikoc, MOT GmbH; Ulrich Spicher, Karlsruhe Institute of Technology (KIT); Hans Van den Hoevel, Martin Duerrwaechter, AVL Deutschland GmbH; Heribert Kammerstetter, AVL LIST GmbH; Tim Gegg, Armin Kölmel, ANDREAS STIHL AG & Co. KG	
09.00	Combustion Analysis on Small Two-Stroke SI-Engines for Handheld Power Tools **(2010-32-0062/20109062)** Tim Gegg, Armin Kölmel, ANDREAS STIHL AG & Co. KG; Kai W. Beck, Karlsruhe Institute of Technology (KIT)	
09.30	BREAK	
10.30	Potential of Expansion Chamber Exhaust Pipes for Two-Stroke Powered Tools **(2010-32-0011/20109011)** Gerhard Zsiga, Robert Kerres, Matthias Bach, Klaus Fuoss, Porsche Engineering Services	Unique Rotary Diesel Engine Generator Development **(2010-32-0112/20109112)** Darin Kowalski, Andrew Biske, US Army TARDEC
11.00	Development of a Non-Conventional Two Stroke Small Engine for Scooter Applications **(2010-32-0016/20109016)** Giovanni Ferrara; Alessandro Bellissima; Marco Doveri; Francesco Balduzzi	Performance Improvement of a Multi-Cylinder CR Diesel Engine for Mini-Car Application **(2010-32-0113/20109113)** Ornella Chiavola, University 'ROMA TRE'
11.30		CFD Simulation Analysis of Cavitating Flow in a Real Size Diesel Engine Injector Nozzle **(2010-32-0111/20109111)** Hagar Bastawissi, Medhat Elkelawy, Huazhong University of Science and Tech.
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Visit us at booth 9. Lecture: Two-Stroke Engine, Hoersaal 4, Thursday 30th, 08:00