Motorsports Engineering Conference & Exposition

Technical Session Schedule

As of 12/08/2008 07:41 pm

Tuesday, December 2

Suspension and Handling

Session Code: ***MSEC2***

Room Carolina B ***Session Time:*** ***2:00 p.m.***

Analysis, design, development, and manufacturing of suspension systems and components

Organizers - *Paul Haney, InfoTire; David A. Finch, Raetech Corp.*

Time	Paper No.	Title
2:00 p.m.	***2008-01-2948***	***Suspension Geometry: Theory vs K & C Measurement***
		William C. Mitchell, William C Mitchell Software; Robert Simons, Timothy Sutherland, Michael Keena-Levin, Morse Measurements LLC
2:30 p.m.	***2008-01-2949***	***A New Method to Evaluate Bump Steer and Steering Influence on Kinematic Roll and Pitch Axes for All Independent Suspension Types***
		Ganesh Mohan, Claude Rouelle, OptimumG
3:00 p.m.	***2008-01-2944***	***An Application of Traction Vectoring to a Formula SAE Car***
		Rob Tarlton, Steven Ward, Michael Bentz, Univ of Illinois at Urbana-Champaign; Norman R. Miller, Univ. of Illinois at Urbana-Champaign; David Cox, Thomas Becker, Univ of Illinois at Urbana-Champaign
3:30 p.m.	***2008-01-2952***	***Exploring the Effect of Manufacturing Tolerances on the Front Suspension Performance of a Formula SAE Vehicle Relative to Design Targets***
		Andrew John Prusinowski, Univ. of Michigan
4:00 p.m.	***2008-01-2950***	***Design and Development of an Optimized, Passive Camber System for Vehicles***
		James F. Cuttino, Maruti Nandan Sinha, Univ. of North Carolina Charlotte
4:30 p.m.	***2008-01-2951***	***State Transition Diagrams of Transient Roll and Pitch***
		Austin Dvorak, Patrick Fitzhorn, Colorado State Univ

Tuesday, December 2

Sanctioning Bodies Panel

Session Code: ***MSEC31***

Room Concord B ***Session Time:*** ***9:30 a.m.***

Is innovation being outlawed? The state of rules-making in the age of spec components and demands for competitive parity on the track will be discussed by technical personnel from a diverse group of sanctioning bodies

Moderators - *Don Taylor, NHRA*

Panelists - *Scot Elkins, IMSA; Michael Edward Fisher, NASCAR; Jeff H. Horton, Indy Racing League; Peter C Riches, A1GP, BTCC; Jeremy J. Thoennes, SCCA Pro Racing;*

Tuesday, December 2

Facility Safety and Event Management

Session Code: ***MSEC26***

Room Concord B ***Session Time:*** ***11:30 a.m.***

Presentations cover the development of a trackside energy-attenuating barrier and Australian motor sport accident monitoring.

Organizers - *John W. Melvin, Tandelta; J. Kirk Russell*

Time	Paper No.	Title
11:30 a.m.	***~~2008-01-2980~~*** ***CANCELLED***	***Australian Motor Sport Crash Data Collection and Analysis*** *Thomas Gibson, Michael Henderson, Australian Institute of Motor Sport Safety AIMSS; Christine Bethwaite , Confederation of Australian Motor Sport, CAMS*
12:00 p.m.	***ORAL ONLY***	***Development of a Barrier for Perpendicular High Speed Impact*** *Hubert Gramling, FIA Institute*

Tuesday, December 2

Designing Safer Racecars

Session Code: ***MSEC27***

Room Concord B ***Session Time:*** ***2:00 p.m.***

Presentations look at systems and materials that help improve racecar safety performance.

Organizers - *John W. Melvin, Tandelta; J. Kirk Russell*

Time	Paper No.	Title
2:00 p.m.	***2008-01-2974***	***Stock Car Racing Driver Restraint Development and Implementation of Seat Performance Specification*** *John Patalak, NASCAR; John Melvin, Tandelta*
2:30 p.m.	***ORAL ONLY***	***Strength Testing of Inside Nets*** *Gregg S. Baker, GTP*
3:00 p.m.	***ORAL ONLY***	***RallyCar Occupant Protection*** *Andrew Mellor, Federation Internationale de L'Automobil*
3:30 p.m.	***2008-01-2973***	***Shape Memory Composites Applied to the Construction of a Conformable Racing Car Seat*** *Patrick Devin Leahy, Allyson Antonio, Donald W. Radford, Colorado State Univ.*
4:00 p.m.	***2008-01-2971***	***IMPAXX* Energy Absorbing Foam for Enhanced Driver Safety in Motorsports Door Applications*** *Myron John Maurer, Dow Chemical Co.*
4:30 p.m.	***2008-01-2947***	***Self-Reinforced Polypropylene Composites - A New Class of Material for the Motorsports Industry*** *Heather Hayes, Milliken & Co.*

Tuesday, December 2

Sanctioning Bodies and Event Management

Session Code: ***MSEC23***

Room Concord B ***Session Time:***

This session includes presentations and papers featuring technical issues facing sanctioning bodies in their rules and conduct of race events.

Organizers - *Don Taylor, NHRA; Jeremy J. Thoennes, SCCA Pro Racing*

Jeremy J. Thoennes, SCCA Pro Racing

Assistant Chairpersons -

Time	Paper No.	Title
	2008-01-2957	***Changes to FIM-MOTOGP Rules to Reduce Costs and Make Racing More Directly Relevant to Road Motorcycle Development (Written Only - - No Oral Presentation)*** *Alberto Boretti, Univ. of Melbourne*

Tuesday, December 2

Diesel Engines in Competition

Session Code: ***MSEC10***

Room Concord C ***Session Time:*** ***11:30 a.m.***

This session covers all aspects of diesel engines in competition.

Organizers - *Lee Carducci, Power-Tec Engineering; Wiley R. McCoy, McLaren Performance Technologies; Michael J. Royce, Albion Associates LLC*

Time	Paper No.	Title
11:30 a.m.	***2008-01-2942***	***Fast Prototyping of a Racing Diesel Engine Control System*** *Enrico Corti, Giulio Cazzoli, Matteo Rinaldi, Luca Solieri, Univ. of Bologna*

Tuesday, December 2

The Quest for Speed

Session Code: ***MSEC29***

Room Concord C ***Session Time:*** ***12:00 p.m.***

This is a session that describes the engineering involved in many of the systems of the vehicle and how they are brought together to produce the final racing machine. It covers competitions in general and speed record attempts in particular.

Organizers - *Lee Carducci, Power-Tec Engineering; Wiley R. McCoy, McLaren Performance Technologies; Michael J. Royce, Albion Associates LLC*

Time	Paper No.	Title
12:00 p.m.	***2008-01-2983***	***Design and Development of the BUB 7 Land Speed Record Motorcycle*** *Joseph H. Harralson, California State Univ-Sacramento*

Tuesday, December 2

Advanced Materials and Manufacturing Processes

Session Code: ***MSEC19***

Room Concord C ***Session Time:*** ***2:00 p.m.***

This session covers advanced materials and processes that are, or could be used in high performance and race powertrains.

Organizers - *Lee Carducci, Power-Tec Engineering; Wiley R. McCoy, McLaren Performance Technologies; Michael J. Royce, Albion Associates LLC; Christopher E. Shaw, Visteon Corp.*

Time	Paper No.	Title

2:00 p.m.	***ORAL ONLY***	***Extremeions Type V Carbon Raptor Nano-Crystalline Diamond Thin Film Coating for Exhaust Valve Applications***
		Darren R. Burgess, George Barr, Anatech, Ltd.
2:30 p.m.	***2008-01-2946***	***Determining the Effect of Material Properties on Operating Temperatures of Fiber Reinforced Internal Combustion Engine Poppet Valves***
		Donald W. Radford, Colorado State Univ.
3:00 p.m.	***ORAL ONLY***	***Aluminum Casting Materials Processes***
		Paul James Fricker, Grainger & Worrall, Ltd.
4:00 p.m.	***ORAL ONLY***	***Fastener Technology - How Fastner Science Effects Cyl Head Lifting***
		Don Trapp, A1 Technologies
	~~2008-01-2945~~ CANCELLED	***Developments and Application of Expendable Salt Materials for Die Casting to apply Motorcycle Single Cylinder***
		Youji Yamada, Motor Cycle Engine 1st SyS, YAMAHA Motor Co. Ltd.,; Jun Yaokawa, Tohoku Univ(TOYOTA Central R&D Labs.,Inc.); Katsunari Oikawa, Koichi Anzai, Tohoku Univ; Hiroshi Yoshii, Yamaha Motor Co Ltd

Tuesday, December 2

Aero Challenge Workshop

Session Code: ***MSEC33***

Room Concord D ***Session Time:*** ***2:00 p.m.***

The SAE Motorsports Aero Challenge topic for 2008 is Race Cars in Proximity and is a comparison and evaluation of aerodynamic tools for the racecar industry. Interest in participating has been expressed from a full spectrum of industry including racing teams, engineering companies, universities, wind tunnel facilities and the CFD developers. We will meet in person as a working group to solidify the details and begin to produce results. Please join us and participate.

Organizers - *H. Robert (Bob) Welge, Robert's Engineering Development; Thomas N. Ramsay, Honda R&D Americas Inc.*

Wednesday, December 3

Vehicle Design

Session Code: ***MSEC1***

Room Carolina B ***Session Time:*** ***10:30 a.m.***

Analysis, design, manufacture, and development of racecar structures.

Organizers - *Paul Haney, InfoTire; David A. Finch, Raetech Corp.*

Time	***Paper No.***	***Title***
10:30 a.m.	***ORAL ONLY***	***Welding in Racecar Design***
		Jeffrey R. Mallat, Siemens Power Generation Inc.
11:00 a.m.	***ORAL ONLY***	***3D Laser Scanning in Racing Vehicle Design***
		Kevin N. Outz, Matrix CAD Design Inc.
11:30 a.m.	***2008-01-2940***	***Mechanical Coupling Due to Composite Structural Damage and Repair***
		Donald W. Radford, Colorado State Univ.
12:00 p.m.	***2008-01-2941***	***Terminology and Manufacturing Methods of MIL/AMS-T-6736B Frame Tubing***
		Eric Rayner, Plymouth Tube Co

Wednesday, December 3

Virtual Tools, Data Acquisition, Instrumentation

Session Code: ***MSEC4***

Room Carolina B ***Session Time:*** ***2:00 p.m.***

The software, hardware, sensors, and methodology needed to gather and analyze vehicle data.

Organizers - *Paul Haney, InfoTire; David A. Finch, Raetech Corp.*

Time	Paper No.	Title
2:00 p.m.	***2008-01-2984***	***Tire-Ground Interaction Model for Suspension Analysis and Optimization***
		Arnaud Dufournier, DUFOURNIER Technologies
2:30 p.m.	***2008-01-2985***	***Advanced Triaxial Accelerometer for Race Car Performance Enhancement***
		Thomas Connolly, Measurement Specialties
3:00 p.m.	***2008-01-2986***	***Trail-Braking Driver Input Parameterization for General Corner Geometry***
		Efstathios Velenis, Brunel Univ.; Panagiotis Tsiotras , Georgia Institute of Technology; Jianbo Lu, Ford Motor Co
3:30 p.m.	***2008-01-2987***	***Avoiding the Pitfalls in Motorsports Data Acquisition***
		Steve Southward, Virginia Tech.; Holley Conner , Virginia Tech

Wednesday, December 3

SAE Motorsports Engineering Conference Vehicle/Chassis Group Meeting

Session Code: ***MSEC37***

Room Carolina B ***Session Time:*** ***4:00 p.m.***

SAE is focused on providing leading edge technical information. This focus group will follow a process of open discussion, brainstorming and prioritization. At the end of the day we hope to have a calendar of events and a list of products that will help you become a leader in the motorsport industry. This focus group is open to all attendees and will be facilitated by SAE staff or a conference leader.

Organizers - *John Miller, SAE International*

Wednesday, December 3

Safety Panel - Safety is no Accident.

Session Code: ***MSEC30***

Room Concord B ***Session Time:*** ***8:00 a.m.***

Safety is no accident - The world's leading motor sports safety engineers want to share the results of their research with you.

Moderators - *John W. Melvin, Tandelta*

Panelists - *Jim Downing, Downing Atlanta Inc.; Daniel L. Jones, Chapel Hill Fire Department; Arnold S. Kuhns, SFI Foundation; Andrew Mellor, Federation Internationale de L'Automobil; Stephen E. Olvey, Univ. of Miami;*

Wednesday, December 3

Prepare to Race - The Driver/Crew Environment and Accessories

Session Code: ***MSEC25***

Room Concord B ***Session Time:*** ***10:30 a.m.***

Presentations covering a variety of subjects that affect motor sport safety.

Organizers - *John W. Melvin, Tandelta; J. Kirk Russell*

Time	Paper No.	Title
10:30 a.m.	***2008-01-2968***	***Engineering The Driver***
		Ross Bentley
11:00 a.m.	***2008-01-2972***	***Crash Recorders in Racing - An Overview***
		Thomas W. Gideon, General Motors Corp.
11:30 a.m.	***2008-01-2969***	***Occupant Compartment Updates for Side to Side Vibration in a Fuel Funny Car***
		Trevor Ashline, Safety Solutions; John Melvin, Tandelta; Kris Vangilder, ISP Innovative Safety Products
12:00 p.m.	***2008-01-2970***	***Jack Stands in North American Rally A Design Proposal***
		Mike Johnston, Kevin Martin, Jennifer Johrendt, Univ. of Windsor

Wednesday, December 3

The Science of Safety - Part 1

Session Code: ***MSEC28***

Room Concord B ***Session Time:*** ***2:00 p.m.***

This sessions presentations cover research and development activities on a variety of safety related issues.

Organizers - *John W. Melvin, Tandelta; J. Kirk Russell*

Time	Paper No.	Title
2:00 p.m.	***ORAL ONLY***	***Recognition, Treatment, and Prevention of Mild Traumatic Brain Injury in Motor Sports***
		Stephen E. Olvey, Univ. of Miami
2:30 p.m.	***2008-01-2976***	***New Sensors to Track Head Acceleration During Possible Injurious Events***
		Ted Knox, US Air Force
3:00 p.m.	***2008-01-2978***	***Improving Earpiece Accelerometer Coupling to the Head***
		Robert Salzar, Univ of Virginia; Joseph A. Pellettiere, US Air Force; Cameron Bass, Univ of Virginia
3:30 p.m.	***2008-01-2979***	***Wireless Acceleration and Impact Recording Chips***
		Ted Knox, AFRL; Navid Yazdi, Evigia Systems; John A. Plaga, Wright-Patterson Air Force Base
4:00 p.m.	***ORAL ONLY***	***Recent Developments in Karting Safety***
		Hubert Gramling, FIA Institute
4:30 p.m.	***ORAL ONLY***	***Failure Analysis of NASCAR Racecar Components***
		Samuel C. Pendergrass, Metallurgical Technologies Inc.

Wednesday, December 3

Explaining Engineering To The Layman In Twenty Seconds Or Less - the Task of a Motor Sports TV Commentator

Session Code: ***MSECBANQ***

Room Concord B ***Session Time: 6:00 p.m.***

Wednesday, December 3

Testing and Simulation - Powertrain Part 1

Session Code: MSEC24

Room Concord C ***Session Time: 10:30 a.m.***

This session covers some of the simulations that are powertrain related. Specifically, it has two papers on predicting the performance of a top fuel dragster and an oral presentation on a simulation package on rotating powertrain assemblies. Simulation enables engineers to predict how a new design will perform by combining math-based methods with insight into to existing designs. Testing serves to confirm the behavior of the new design using physical hardware. Testing and simulation as two essential engineering methods for motorsports go hand in hand. This session discusses leading edge applications of testing and simulation as well as best practices for leveraging a combination of the two to achieve ever greater performance. Simulation enables engineers to predict how a new design will perform by combining math-based methods with insight into to existing designs. Testing serves to confirm the behavior of the new design using physical hardware. Testing and simulation as two essential engineering methods for motorsports go hand in hand. This session discusses leading edge applications of testing and simulation as well as best practices for leveraging a combination of the two to achieve ever greater performance. Simulation enables engineers to predict how a new design will perform by combining math-based methods with insight into to existing designs. Testing serves to confirm the behavior of the new design using physical hardware. Testing and simulation as two essential engineering methods for motorsports go hand in hand. This session discusses leading edge applications of testing and simulation as well as best practices for leveraging a combination of the two to achieve ever greater performance.

Organizers - *Wensi Jin, The MathWorks Inc.; Edward M. Kasprzak, Milliken Research Associates, Inc.; Ethan Woodruff, The MathWorks Inc.*

Time	*Paper No.*	*Title*
10:30 a.m.	***2008-01-2958***	***Top Fuel Dragster Powertrain Modeling***
		Thomas Charles Stone, Lex Joon Racing; Matthew Best, Loughborough Univ; Sebastian Visser , Lex Joon Racing
11:00 a.m.	***2008-01-2961***	***A Nonlinear Model for Top Fuel Dragster Dynamic Performance Assessment***
		Pol Spanos PhD, Rice University; David Hernández, Tecnológico de Monterrey; Richard Tapia PhD, Rice University
11:30 a.m.	***ORAL ONLY***	***Presentation of EXCITE simulation software-rotating systems. Rotating assembly analysis & simulation***
		Andrew C. Martin, AVL Powertrain Engineering Inc.

Wednesday, December 3

Advanced Combustion

Session Code: MSEC9

Room Concord C ***Session Time: 2:00 p.m.***

This session covers some of the many aspects of airflow and combustion as they apply to high performance and race engines.

Organizers - *Lee Carducci, Power-Tec Engineering; Wiley R. McCoy, McLaren Performance Technologies; Michael J. Royce, Albion Associates LLC*

Time	*Paper No.*	*Title*
2:00 p.m.	***2008-01-3004***	***3 Load Cell Tumble Meter Development***
		Patrick H. Baer, Chrysler LLC
2:30 p.m.	***2008-01-3007***	***The Effects of Intake Plenum Volume on the Performance of a Small Normally Aspirated Restricted Engine***
		Leonard Joseph Hamilton, Jasen Lee , US Naval Academy

3:00 p.m.	***2008-01-3006***	***A Technique for Processing Cylinder Pressure and Test Bed Data Sets for Engine Speed-Sweep Tests to Allow Reduced Testing Time with Enhanced Interpretation of Results***
		Gary J. Patterson, AVL North America Inc.
	2008-01-3005	***Top Land Crevice and Piston Deflection Effedts on Combustion in a High Speed Rotary Valve Engine (Written Only -- No Oral Presentation)***
		Harry Watson, Univ of Melbourne; Alberto Boretti, Univ. of Melbourne

Wednesday, December 3

Powertrain Testing and Measurement

Session Code: ***MSEC18***

Room Concord C ***Session Time:*** ***3:30 p.m.***

This session covers some of the advanced techniques being used in engine dynamometer test and development.

Organizers - *Lee Carducci, Power-Tec Engineering*

Time	***Paper No.***	***Title***
3:30 p.m.	***ORAL ONLY***	***Crank Angle Resolved Friction Measurements on a Motored Floating Liner Engine***
		Bryan O'Rourke, Colorado State Univ; Donald W. Radford, Colorado State Univ.
4:00 p.m.	***ORAL ONLY***	***Advantages and benefits of transient dyno testing to accelerate engine development***
		Don Swetzig, AVL North America Inc.
4:30 p.m.	***ORAL ONLY***	***Techniques and hardware for hi-speed combustion measurement and analysis***
		Gary J. Patterson, AVL North America Inc.

Wednesday, December 3

Direct Injection in Competition

Session Code: ***MSEC11***

Room Concord C ***Session Time:***

This session covers all aspects of the use of direct injection on gasoline engines in motor sports.

Organizers - *Lee Carducci, Power-Tec Engineering; Wiley R. McCoy, McLaren Performance Technologies; Michael J. Royce, Albion Associates LLC*

Time	***Paper No.***	***Title***
	2008-01-2943	***Comparison of PFI and DI Superbike Engines (Written Only -- No Oral Presentation)***
		Alberto Boretti, Univ. of Melbourne; Harry Watson, Univ of Melbourne

Wednesday, December 3

Aerodynamics Focus Group Meeting

Session Code: ***MSEC34***

Room Concord D ***Session Time:*** ***10:30 a.m.***

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Moderators - *John Miller, SAE International*

Wednesday, December 3

Aerodynamics Technical Opportunities, Needs and Testing

Session Code: ***MSEC6***

Room Concord D ***Session Time:*** ***2:00 p.m.***

The Session will contain technical discussions on progress toward understanding aerodynamic technical issues that are contributors to improved racing vehicle performance. Current research unknowns and research opportunities will be discussed. Improved testing techniques and facilities will be presented.

Organizers - *H. Robert (Bob) Welge, Robert's Engineering Development; Peter Thomas Tkacik, Univ. of North Carolina Charlotte; Thomas N. Ramsay, Honda R&D Americas Inc.*

Time	Paper No.	Title
2:00 p.m.	***2008-01-2990***	***The use of a Bluff Body Wake Generator for Wind Tunnel Studies of NASCAR Drafting Aerodynamics***
		Robert G. Dominy, Durham Univ.; Geoffrey Le Good, G L Aerodynamics Ltd
2:30 p.m.	***2008-01-2994***	***Design of a Continuous Flow Water Channel for Fluid Dynamics Research***
		Sam Hellman, Peter Thomas Tkacik, Univ. of North Carolina Charlotte
3:00 p.m.	***2008-01-2988***	***Racecar Front Wing Aerodynamics***
		Wael Mokhtar, Jonathan Lane, Lake Superior State Univ.
3:30 p.m.	***ORAL ONLY***	***The Influence of Model Motion on the Simulation of Vehicle Dynamics - presentation from SAE 2008 World Congress (SAE paper # 2008-01-0657)***
		Peter Aschwanden, RUAG Aerospace
4:00 p.m.	***ORAL ONLY***	***The Windshear Full-Scale Wind Tunnel: Initial Overview and Status***
		Joel Walter, Jacobs; Jeffrey Bordner, Windshear Inc

Thursday, December 4

Testing and Simulation - Chassis Part 2

Session Code: ***MSEC24***

Room Carolina B ***Session Time:*** ***10:30 a.m.***

Simulation enables engineers to predict how a new design will perform by combining math-based methods with insight into to existing designs. Testing serves to confirm the behavior of the new design using physical hardware. Testing and simulation as two essential engineering methods for motorsports go hand in hand. This session discusses leading edge applications of testing and simulation as well as best practices for leveraging a combination of the two to achieve ever greater performance. Simulation enables engineers to predict how a new design will perform by combining math-based methods with insight into to existing designs. Testing serves to confirm the behavior of the new design using physical hardware. Testing and simulation as two essential engineering methods for motorsports go hand in hand. This session discusses leading edge applications of testing and simulation as well as best practices for leveraging a combination of the two to achieve ever greater performance.

Organizers - *Wensi Jin, The MathWorks Inc.; Edward M. Kasprzak, Milliken Research Associates, Inc.; Ethan Woodruff, The MathWorks Inc.*

Time	Paper No.	Title

10:30 a.m.	***2008-01-2962***	***Application of System Identification for Efficient Suspension Tuning in High-Performance Vehicles: Quarter-Car Study***
		Chris Boggs, Steve Southward, Mehdi Ahmadian, Virginia Tech
11:00 a.m.	***2008-01-2966***	***Comparison of the Performance of 7-Post and 8-Post Dynamic Shaker Rigs for Vehicle Dynamic Studies***
		Steve Southward, Chris Boggs, Virginia Tech
11:30 a.m.	***2008-01-2963***	***Simulation with a Vertical Oscillating Race Car Model***
		Michael Graf, D.A.T.A.S., Ltd.; Steffen Kosuch, DATAS Ltd

Thursday, December 4

Testing and Simulation - General Part 3

Session Code: ***MSEC24***

Room Carolina B ***Session Time:*** ***2:00 p.m.***

Simulation enables engineers to predict how a new design will perform by combining math-based methods with insight into to existing designs. Testing serves to confirm the behavior of the new design using physical hardware. Testing and simulation as two essential engineering methods for motorsports go hand in hand. This session discusses leading edge applications of testing and simulation as well as best practices for leveraging a combination of the two to achieve ever greater performance.

Organizers - *Wensi Jin, The MathWorks Inc.; Edward M. Kasprzak, Milliken Research Associates, Inc.; Ethan Woodruff, The MathWorks Inc.*

Time	***Paper No.***	***Title***
2:00 p.m.	***ORAL ONLY***	***Speed in Design Equals Speed at the Track***
2:30 p.m.	~~***2008-01-2959***~~	***Keeping Your Simulation Models from Changing Teams***
	ORAL ONLY	*Ethan Woodruff, The MathWorks Inc.; Brett Shoelson , Vinod Reddy, The MathWorks Inc*
3:00 p.m.	***2008-01-2967***	***Virtual Motorsports as a Vehicle Dynamics Teaching Tool***
		Rob Rieveley, Bruce Minaker, University of Windsor
3:30 p.m.	***2008-01-2960***	***Development of an Effective, Low-Cost Internet-Based Motorsport Driver Simulation***
		David Kaemmer, Ian Berwick, iRacing.com Motorsport Simulations; Steve Potter, iRacing.com
4:00 p.m.	***2008-01-2964***	***Racing Simulation of a Formula 1 Vehicle with Kinetic Energy Recovery System***
		Aldo Sorniotti, Univ. of Surrey; Massimiliano Curto
4:30 p.m.	***2008-01-2965***	***Application of the Optimal Maneuver Method for Enhancing Racing Motorcycle Performance***
		Vittore Cossalter, Matteo Massaro, Simon Bobbo, Martino Peretto, University of Padova

Thursday, December 4

Green Motorports Panel

Session Code: ***MSEC32***

Room Concord B ***Session Time:*** ***8:00 a.m.***

This panel will feature a discussion on advancing environmental technologies in motorsports while maintaining the spectacle, the sport and the safety requirements.

Moderators - *Tim Holland, Lotus Engineering, Ltd.*

Panelists - *Michael Austin, Car and Driver Magazine; Ian Bamsey, Race Engine Technology; Douglas Cross, Flybrid Systems LLP; Robert Paul Larsen, Argonne National Laboratory; Doug Robinson, International Motor Sports Association; James W G Turner, Lotus Engineering, Ltd.; Peter G. Wright, FIA Institute for Motor Sport Safety;*

Thursday, December 4

The Science of Safety - Part 2

Session Code: ***MSEC28***

Room Concord B ***Session Time:*** ***10:30 a.m.***

This sessions presentations cover research and development activities on a variety of safety related issues.

Organizers - *John W. Melvin, Tandelta; J. Kirk Russell*

Time	Paper No.	Title
10:30 a.m.	***2008-01-2977***	***Determination of the Pressure Distribution Beneath Two and Three Inch Wide Racing Safety Belts*** *John W. Melvin, Tandelta*
11:00 a.m.	***2008-01-2975***	***Development of the MADYMO Race Car Driver Model for Frontal Impact Simulation and Thoracolumbar Spine Injury Prediction in Indianapolis-type Racing Car Drivers*** *Tara Amenson, Motorsports Impact Biomechanics Consulting, LLC; Paul Begeman, Wayne State University; John Melvin, Tandelta, Inc.; Michele Grimm, Wayne State University*
11:30 a.m.	***2008-01-2981***	***Vertical Impact to an Open Wheel Racecar and Development of a Crash Test to Simulate the Driver Response*** *James Chinni, Indiana Mills & Mfg. Inc.; Jeff Horton, Indy Racing League; Terry Trammell, Orthopaedics Indianapolis*
12:00 p.m.	***2008-01-2982***	***Hybrid III Response in a SAE Baja Vehicle under Frontal Impacts*** *Kin Yuen, Duane Cronin, Christopher George Thom, Univ. of Waterloo*

Thursday, December 4

Safety Focus Group Meeting

Session Code: ***MSEC35***

Room Concord B ***Session Time:*** ***2:00 p.m.***

SAE is focused on providing leading edge technical information. This focus group will follow a process of open discussion, brainstorming and prioritization. At the end of the day we hope to have a calendar of events and a list of products that will help you become a leader in the motorsport industry. This focus group is open to all attendees and will be facilitated by SAE staff or a conference leader.

Moderators - *John Miller, SAE International*

Thursday, December 4

Green Motor Sports - Part 1

Session Code: ***MSEC22***

Room Concord C ***Session Time:*** ***10:30 a.m.***

The Green Motorsports session includes papers and oral presentations on the environmental issues the sport faces today with comments on the possible solutions. Topics include the use of alternative fuels, energy recovery, and energy governance as ways to improve both the dedicated racing fan's, as well as the general public's, perception of racing. How and why these technologies are transferred into mainstream transportation will also be explored.

Organizers - *Tim Holland, Lotus Engineering Inc.*

Time	Paper No.	Title
10:30 a.m.	***ORAL ONLY***	***The Road to the Green Challenge One Way to Make Racing Relevant By John Glenn, Environmental Specialist USEPA, and other members of the Green Racing Work Group (tbd)***
11:00 a.m.	***2008-01-2953***	***The Application of Energy-Based Fuel Formulae to Increase the Efficiency Relevance and Reduce the CO2 Emissions of Motor Sport***
		James Turner, Richard Pearson, Lotus Engineering Ltd
11:30 a.m.	***~~2008-01-2955~~***	***'Advanced & Future Fuels in Motorsport'***
	ORAL ONLY	*Richard Karlstetter, Shell Global Solutions UK*
12:00 p.m.	***2008-01-2956***	***Optimisation of Hybrid Kinetic Energy Recovery Systems (KERS) for Different Racing Circuits***
		Douglas Cross, Flybrid Systems LLP

Thursday, December 4

Green MotorSports - Part 2

Session Code: ***MSEC22***

Room Concord C ***Session Time:*** ***2:00 p.m.***

The Green Motorsports session includes papers and oral presentations on the environmental issues the sport faces today with comments on the possible solutions. Topics include the use of alternative fuels, energy recovery, and energy governance as ways to improve both the dedicated racing fan's, as well as the general public's, perception of racing. How and why these technologies are transferred into mainstream transportation will also be explored.

Organizers - *Tim Holland, Lotus Engineering Inc.*

Time	Paper No.	Title
2:00 p.m.	***ORAL ONLY***	***A Selective Retrospective of Alternative Engines and Fuels in Motor Sports: You're Burning What? And How?***
		Dennis Simanaitis, Road & Track Magazine
2:30 p.m.	***ORAL ONLY***	***The future of speed***
		Eric S. Wilson, Innovation MotorSports Development Group
	2008-01-2954	***Cost Effective Sustainable Fuels for Performance Vehicles (Written Only -- No Oral Presentation)***
		Kevin Dwyer

Thursday, December 4

Powertrain/Green Racing Focus Group Meeting

Session Code: ***MSEC36***

Room Concord C ***Session Time:*** ***3:00 p.m.***

SAE is focused on providing leading edge technical information. This focus group will follow a process of open discussion, brainstorming and prioritization. At the end of the day we hope to have a calendar of events and a list of products that will help you become a leader in the motorsport industry. This focus group is open to all attendees and will be facilitated by SAE staff or a conference leader.

Moderators - *John Miller, SAE International*

Thursday, December 4

Aerodynamics - Computational Methods and Modeling - Part 1

Session Code: ***MSEC8***

Room Concord D ***Session Time:*** ***10:30 a.m.***

This motorsports session includes papers with analyses and investigations that cover the full range of aerodynamic topics from a computational point of view. Papers on numerical techniques, comparative studies, improved performance, race car design, and even a historical paper regarding the 1955 LeMans disaster are presented.

Organizers - *Thomas N. Ramsay, Honda R&D Americas Inc.; Sandeep Dinkar Sovani, ANSYS Inc.; H. Robert (Bob) Welge, Robert's Engineering Development*

Time	Paper No.	Title
10:30 a.m.	***2008-01-3002***	***Numerical Optimization of the Location of F1 CDG Wings*** *Jorge Barata, João Correia, André Silva, Univ. of Beira Interior*
11:00 a.m.	***2008-01-2996***	***The Role of Aerodynamics in the 1955 Le Mans Crash*** *Peter Gullberg, Lennart Löfdahl, Chalmers*
11:30 a.m.	***2008-01-2997***	***Experimental and CFD Comparative Case Studies of Aerodynamics of Race Car Wings, Underbodies with Wheels, and Motorcycle Flows*** *Sachin Desai, Betty Chi Man Lo, Cornell Univ; Emily Leylek, Oren Breslouer, Cornell Univ.; Aleksandr Bychkovsky; Punith Doddegowda; Albert R. George, Cornell Univ.*
12:00 p.m.	***2008-01-2995***	***Improving the Cooling Airflow of an Open Wheeled Race Car*** *Lasse Christoffersen, Chalmers Univ. of Technology; David Söderblom, Chalmers Univ of Technology; Lennart Löfdahl, Chalmers*
	~~2008-01-3000~~ ***CANCELLED***	***On Accounting for Track Curvature in Race Car Aerodynamics CFD Simulations*** *Sandeep Dinkar Sovani, ANSYS Inc.*

Thursday, December 4

Aerodynamics - Computational Methods and Modeling - Part 2

Session Code: ***MSEC8***

Room Concord D ***Session Time:*** ***2:00 p.m.***

This motorsports session includes papers with analyses and investigations that cover the full range of aerodynamic topics from a computational point of view. Papers on numerical techniques, comparative studies, improved performance, race car design, and even a historical paper regarding the 1955 LeMans disaster are presented.

Organizers - *Thomas N. Ramsay, Honda R&D Americas Inc.; Sandeep Dinkar Sovani, ANSYS Inc.; H. Robert (Bob) Welge, Robert's Engineering Development*

Time	Paper No.	Title
2:00 p.m.	***2008-01-2999***	***Development of New Turbulence Models and Computational Methods for Automotive Aerodynamics and Heat Transfer*** *Scott Holloway, Clemson Univ.; Mary Holloway, James Leylek, Clemson Univ*
2:30 p.m.	***2008-01-2998***	***A Fast and Fully Automated Cartesian Meshing Solution for Dirty CAD Geometries*** *Santosh Kini, Richard Thoms , Fanglin Zhu , ESI Group*

3:00 p.m.	***2008-01-3001***	***HPC-LES for the Prediction of Unsteady Aerodynamic Forces on a Vehicle in a Gusty Cross-flow Condition***
		Makoto Tsubokura, Hokkaido Univ.; Takuji Nakashima, Takeshi Ikenaga , Hiroshima Univ.; Keiji Onishi , AdvanceSoft Corporation; Kozo Kitoh, Kozo Kitoh Technology; Nobuyuki Oshima, Hokkaido Univ.; Toshio Kobayashi, Univ. of Tokyo
	2008-01-3003	***Design and CFD Analysis of an NHRA Funny Car Body (Written Only -- No Oral Presentation)***
		Dan Engel, Kevin Golsch, General Motors Corp.; Mike Green , Don Prudhomme Racing; Ed Smith , Applied Technologies, Inc.; Cem Albukrek, Exa Corporation