

SAE [®] UPdate

NEWS FOR THE MEMBERS OF SAE

January 2004
VOL. 21, NO. 1

Ford's Scheele to keynote at SAE 2004 World Congress Banquet

Nick Scheele, President and Chief Operating Officer of Ford Motor Co., will deliver the keynote speech at the SAE 2004 World Congress Annual Banquet: Driven to Dream on March 11, 2004. The banquet, which will close the four-day event, will be held at 7:00 p.m. in the Renaissance Ballroom at the Marriott Renaissance Center Hotel in downtown Detroit, MI.

Since assuming his current position on October 30, 2001, Scheele has been responsible for Ford's global automotive business. Prior to his current position, he was Group Vice President, Ford North America, a job he assumed in August 2001. Scheele also served as Chairman, Ford Europe, from January 2000 through July 2001, and he was Chairman and CEO of Jaguar Cars Ltd., from 1992 to 1999. Under his leadership, Jaguar's sales doubled and



Nick Scheele

Jaguar regained its place as one of the world's top marques in brand image, product quality, and customer satisfaction.

Scheele's career at Ford began in Europe in 1966 where he held several successive

See **SCHEELE** page 4

Industry leaders to discuss business at AVL Technology Theater on show floor

The business perspective on many of the automotive industry's most pressing issues will be discussed by industry leaders at the AVL Technology Theater on the show floor throughout the SAE 2004 World Congress.

More than 15 business sessions will be presented throughout the four-day event. Topics will include diesels, hybrid vehicles, business synergies, and the challenge of optimizing onboard embedded control systems. Speakers will include representatives from Ford Motor Co., DaimlerChrysler, General Motors Corp., U.S. Department of Energy, National Highway Traffic Safety Administration, J.D. Power and Associates, U.S. EPA, and Delphi Corp.

Introduced at the 2003 World Congress, the Technology Theater proved to be a popular and successful forum for discussion and debate of business and strategic issues by prominent industry executives. Sponsored by AVL, this year's Technology Theater will feature speakers such as Jim Queen, Vice President, General Motors

Corp., North America Engineering; William Mattingly, Vice President, E/E Systems Engineering, DaimlerChrysler; James Truchard, CEO, National Instruments; and Tom Gross, Board of Directors, Energy Efficiency and Renewable Energy Office, U.S. Department of Energy.

The new "High-Performance Vehicles – A Passion for Performance" program will include "The Team Approach to Designing High-Performance Vehicles"; "High-Performance Engineering from the European Experts" (featuring representatives from leading European design and engineering firms such as Lotus, Ricardo, and AVL); and "Niche Vehicles and Flexible Manufacturing: Building Consumer Excitement, Showroom Traffic, and Profits." Speakers include Jack Roush, Carroll Shelby, John Coletti, Dan Knott, and others well known for developing high-performance vehicles.

For details, visit www.sae.org/congress.

Registration process change at 2004 Congress

A new registration process is in place for the SAE 2004 World Congress. This year, all categories of attendees—including members, participants, committees, and boards—must register. Attendees can pre-register by February 13 to avoid onsite registration lines.

This change will enable SAE to better manage its data, help it adopt a more targeted approach to marketing, and

ultimately provide its members with improved products and services.

For advance registration, visit the SAE 2004 website at www.sae.org/congress, or call SAE Customer Service at 1.877.SAE.CONG (1.724.772.4027 outside U.S./Canada). SAE/STS members attend this conference free, and non-members pre-registering by February 13 can save up to \$250.

New forum on show floor to feature popular technical sessions

Some of the best technical presentations at the SAE World Congress will have a new home in 2004. The new Engineering Innovation Forum has been added to the exhibit floor to showcase high-interest

sessions (traditionally only available in Cobo Center's meeting rooms), as well as this year's new special program on high-performance vehicles.

See **NEW FORUM** page 2

IN THIS ISSUE

SAE approaches 100	3
January membership renewal time is here	5
Symposia focus on fuel cells, hydrogen	7
Tim Worthy receives Gary Dickinson Award for Teaching Excellence	8

POPULAR FEATURES

Message from the President	2
Washington report	3
Members on the move	5
Meetings & symposia schedule	6
Career opportunities	12

Technology, business meet in landmark SAE 2004 World Congress program

Showcasing the event's emphasis on bringing together technology and business, the SAE 2004 World Congress, March 8-11 at Cobo Center in Detroit, features the largest technical program in its history, with more than 1600 papers scheduled to be presented. A record number of these presentations—approximately 50%—will be from representatives of the industry's OEMs and major suppliers including 25 of the top 30 suppliers.

Global in scope (42 countries are represented), the technical sessions are again organized within five technology areas to allow attendees to easily access the technical information they seek: Advanced Propulsion/Powertrain; Lightweight Materials; Advanced Electronics; Environment/Emissions; and Safety/Testing. This year's World Congress

will also feature a special program, "High-Performance Vehicles – A Passion for Performance" on the exhibit floor.

Focusing on emerging and advanced technologies, new products, and new applications, SAE 2004 World Congress sessions will cover topics that have proven to be popular in past years, as well as 18 new topics.

New sessions in the "Advanced Propulsion/Powertrain" track cover thermal and fluid sciences, the progress of hydrogen, and research and development supporting the Army transformation. Popular returning sessions include: Advanced Hybrid Vehicle Powertrains; Homogeneous Charge Compression Ignition (HCCI) Combustion; Fuel Cell

See **TECHNOLOGY** page 2



Leading Our World In Motion 1905-2005

MORE NEWS

NEW FORUM continued from page 1

The new Forum was initiated to bring cutting-edge technical sessions to the show floor and enable a larger, broader audience to experience this aspect of the technical program.

Two sessions of the "High-Performance Vehicles – A Passion for Performance" program will take place in the Forum. On March 9, "Impact of Racing on the Development of High Performance Vehicles," moderated by Peter Schoeggl of AVL, will feature Peter Spence, Vice President and Technical Director, Toyota Racing Development, and Paolo Martinelli of Ferrari. "New Vehicle Engineering – The Ford GT" (held on March 10), organized by *Car and Driver* editor Csaba Csere, will feature technical presentations

detailing various aspects of the landmark Ford GT.

Intelligent vehicles and Six Sigma are among the cutting-edge topics that will be spotlighted in technical sessions at the Engineering Innovation Forum. The two-part session "Intelligent Vehicle Initiative (IVI) Technology – Advanced Controls," organized by W. Riley Garrott and Frank S. Barickman of the National Highway Traffic Safety Administration, will be held March 8. The "Six Sigma" session, March 11, is sponsored by the American Society of Quality's Automotive Division and organized by Bryan L. Dodson of Visteon Corp.

For complete details on the schedule of presentations, visit www.sae.org/congress.

TECHNOLOGY continued from page 1

Power for Transportation; and Transmission and Driveline Systems.

The "Lightweight Materials" track brings back sessions on reliability and robust design in automotive engineering, and stainless steels. Six new topics will be introduced this year, including sessions on: modeling of materials for crash applications; welding and joining; and failure analysis and creative problem solving.

In-vehicle networks, CAD/CAM/CAE technology, and simulation are among the highlighted subjects in the "Advanced Electronics" track, which adds new sessions on in-vehicle software at this year's event.

The "Environment/Emissions" track features sessions on climate control, diesel exhaust emissions control, and emissions measurement and testing. New sessions introduced this year will cover topics such as global climate change and its potential impact on the mobility industry, environmental challenges of alternative vehicle technology design, and product environmental design.

Accident reconstruction and vehicle aerodynamics are among the popular sessions returning in the "Safety/Testing" track. New topics will include pedestrian safety, structural crashworthiness, and foam applications for crashworthiness.

The "High-Performance Vehicles – A Passion For Performance" program, occurring in the SAE Engineering Innovation Forum and AVL Technology Theater on the show floor, will feature technical sessions, panel discussions, and keynote addresses from the field's leaders. Highlights include a session covering the development of the new Ford GT, and a panel discussion featuring representatives from leading European design and engineering firms. For more details, see this issue's articles on the Technology Theater and Engineering Innovation Forum or visit www.sae.org/congress/highperformance.

For a complete, up-to-date technical session program, including session content details, visit www.sae.org/congress.

MESSAGE FROM THE PRESIDENT

SAE Standards: an industry imperative

One of the major competencies of SAE International is technical standards. We currently have more than 7500 active standards dealing with everything from 5w20 motor oil to lighting to packaging dummies.

Perhaps surprisingly, about 6000 of these standards deal with aerospace; the remainder cover ground vehicles. We enjoy a reputation in the industry as an unbiased technical resource for standards. Many Federal Motor Vehicle Safety Standards reference an applicable SAE Standard or Recommended Practice. We have been working with other standards-writing bodies (e.g., ISO) to try to harmonize requirements to reduce confusion and complexity. Needless to say, this is not easy.

Last fall Neil Schilke, SAE 2001 President, and Jack Pokrzywa, Manager of our SAE Automotive Headquarters and staff leader on Ground Vehicle Standards, recognized that our standards activity in the automobile sector needed a fresh approach to fully achieve the potential benefit to the industry. They organized a Standards Summit in late February 2003 and enlisted some top engineers from the automobile OEMs and key suppliers to participate. A new plan emerged with greater company leadership to assure the right priorities and timing are put in place to ensure beneficial and timely results.

In addition to addressing emerging technology areas (like fuel cells, 42-volt, etc.), the reinvigorated and empowered Motor Vehicle Council was challenged to back up and look at standards' needs in the current industry drive to "commonize" parts of vehicles that do not provide market discrimination for a product. Billions might be saved, according to some estimates, if we could all agree on performance and design standards for some of the commodity products on our vehicles.

As always, your comments are welcome at jthompson@sae.org as is your involvement in these matters of critical importance to our industry.



UPdate

January 2004 Vol. 21, No. 1

Published by the Society of Automotive Engineers to enhance communications with and among members on nontechnical issues. Members living outside North America have access to the issue via the SAE website.

Jack E. Thompson, President

Raymond A. Morris, Executive Vice President and Chief Operating Officer

Antenor R. Willems, Executive Director

Jennifer L. Newton, Editor

SAE UPdate (ISSN 0742-972X) is edited and published monthly under the auspices of the SAE Publication Committee at the offices of the Society of Automotive Engineers, Inc., 400 Commonwealth Dr., Warrendale, PA 15096-0001, USA, phone: 724/776-4841, fax: 724/776-9765, website: www.sae.org. Periodical rate postage paid at Warrendale, PA, and additional entry point. POSTMASTER: Send address changes to above address. Subscription rate is \$5, included in the annual membership dues.

SAE is not responsible for the accuracy of information contained in the advertising sections of this publication. Readers should independently evaluate the accuracy of the material and rely on that evaluation.

Copyright © 2004 Society of Automotive Engineers, Inc.



SAE International

"The premier society dedicated to advancing mobility engineering worldwide"

Focus on power generation technology that may revolutionize transportation forever...

Join us for two exciting SAE learning symposia to be held at the Air Resources Board in Sacramento, California — **right at the heart of the community leading the change**. Delve into the very latest advances in fuel cell research & development from government and the OEMs. Then, explore the technical, economic, and institutional challenges for transportation facing the conversion to a hydrogen-based economy.

Fuel Cell Vehicles: the Next Step Toward Commercialization TOPTec Symposium
February 18, 2004

Facets of Implementing a Hydrogen Economy TOPTec Symposium
February 19, 2004

Featured speakers include:

Shannon Baxter, Alternative Energy Specialist, Office of the Chairman, California Air Resources Board

Matt Fronk, Chief Fuel Cell Engineer, General Motor Corporation

Rex Luzader, Vice President Business Development, Millennium Cell, Inc.

Dr. Edward Nam, Engineer, Office of Transportation & Air Quality, U.S. EPA

Dr. John J. Petrovic, Technical Advisor Laboratory Fellow, Los Alamos National Laboratory

Rodney Semotiuk, Transportation Energy Advisor, Transportation Energy Technologies, Natural Resources Canada

Brian Walsh, Director of Member Services, U.S. Fuel Cell Council

Sign up for both programs at a **DISCOUNTED** registration rate!

<http://www.sae.org/calendar/toptecs.htm> •

E-mail CustomerService@sae.org •

1-877-606-7323 (outside US/Canada 1-724-776-4970)

031735

SAE CENTENNIAL

SAE approaches 100

As SAE approaches its centennial year in 2005, this anniversary provides an opportunity to reflect on the past as well as look to the future of SAE. The origins of the society go back to the very beginnings of the 20th century, although the official founding date of the society is January 20, 1905.

In the early 1900s, there were hundreds of automobile manufacturers in the United States, and many more worldwide. Many of these manufacturers and automobile parts companies joined trade groups that met their needs for promoting business and raising public awareness of this new form of transportation. A need for patent protection, common technical design problems, and the development of engineering standards was quickly emerging, however, and many engineers in the automobile business expressed a desire to have "free exchange of ideas" to



expand their individual technical knowledge base.

Two magazine men of that era Peter Heldt of *The Horseless Age* and Horace Swetland of *The Automobile* were tireless advocates of the concepts that forged the creation of SAE. Heldt wrote an editorial in June 1902 in which he said, "Now there is a noticeable tendency for automobile manufacturers to follow certain accepted lines of construction, technical questions constantly arise which seek solution from the cooperation of the technical men connected with the industry. These questions could best be dealt with by a technical society. The field of activity for this society would be the purely technical side of automobiles."

Likewise, Horace Swetland used his editorial pen to become the de facto voice of the automobile engineer of that day, and he became an original SAE officer. Swetland was a man who would leave an indelible mark on the path of SAE history.

A mere 27 months after Heldt's editorial, the Society of Automobile Engineers was born. Headquartered in a New York City office, four officers and five managing officers volunteered their time and energy to the cause. In that inaugural year of 1905, Andrew Riker served as President, and an up-and-coming

engineering talent named Henry Ford served as the society's first Vice President. The initial membership figure tallied 30 engineers. Annual dues were set at US\$10 (at a time when the average American worker earned just US\$13 per week). Over the first 10 years, SAE membership grew steadily, and the young society added full-time staff and began to publish a technical journal and a comprehensive compilation of technical papers called *SAE Transactions*, which is still published.



Andrew (A.L.) Riker, SAE's first President (1905 and 1906).

By 1916, the Society of Automobile Engineers membership had grown to 1800. At the annual meeting that year representatives from the American Society of Aeronautic Engineers, the Society of Tractor Engineers, as well as representatives from the power boating industry made a pitch to SAE for oversight of technical standards in their industries. Aeronautics was a fledgling industry at that time, and few could have been expected to know the essential role it would take in world history in a very short time. Early supporters of the concept of a society to represent aeronautical engineers were Thomas Edison, Glenn Curtiss, Glenn Martin, and Orville Wright.

Out of that fateful meeting in 1916 came a new organization with new horizons. This was to be a new society representing engineers in all types of mobility-related professions. SAE member Elmer Sperry is often credited with creating the term

"automotive" from Greek autos (self), and Latin motivus (of motion) origins to represent any form of self-powered vehicle. The Society of Automobile Engineers soon became the Society of Automotive Engineers, and the most important chapter in SAE's history was under way. Today, SAE Aerospace represents engineers and technical professionals from around the world, and SAE generates more technical standards in aerospace than any other form of mobility.

You can read the rest of "An Abridged History of SAE" on the SAE website at www.sae.org/about/history.htm. Also, be sure to visit SAE's 100th anniversary website at www.sae.org/sae100/.

Call For Memorabilia: SAE Centennial 1905-2005

The official date of SAE incorporation is January 20, 1905. In commemoration of the 100th anniversary of this important date, the society is looking for some of the historical memorabilia related to SAE, its meetings, events, and membership. Items such as letters, photographs, films, and special artifacts such as pins, signs, radiator ornaments, and other keepsakes would help us to celebrate and share the traditions of the first century of SAE with many others around the world. Please help us add to our lasting archive of the society.

Items will be considered for donation throughout 2004 and 2005. Loans will also be considered in the case of rare or unique items. Exhibitions and displays are planned through the year and artifacts would be helpful.

To contribute memorabilia or for more information, please contact SAE at SAEMemorabilia@sae.org.



A glimpse at SAE's offices in 1912.

WASHINGTON REPORT

House Science Committee explores options for the future of human space flight

By Doug Read, Managing Director, SAE Washington, D.C. Office

On October 16, 2003, the House Science Committee's Subcommittee on Space and Aeronautics continued its examination of NASA in the post-Columbia environment. The committee held a hearing, in the Rayburn House Office Building, to examine the range of options for the future of the human space flight program.



Expert witnesses had been asked to address the options they believe NASA should pursue, and for each of those options to specify the following: what the U.S. is likely to gain by pursuing the option and why such gains could not be obtained in other ways; a rough estimate of the costs of pursuing the option; the approximate amount of time it would take to achieve the goals of the option; the technical hurdles that must be overcome and the steps that must be taken to overcome those hurdles; and, the implication of the option for the current human space flight program.

Witnesses included Wesley T. Huntress, Director of the Carnegie Institution's Geophysical Laboratory; Alex Roland, Professor of History and Chairman of the Department of History at Duke University; Michael Griffin, President and Chief Operating Officer of In-Q-Tel; Bruce Murray, Professor Emeritus of Planetary Science and Geology at the California Institute of Technology; and Matthew B. Koss, Assistant Professor of Physics at the College of Holy Cross in Worcester, MA.

Congress honors contribution of science fellows

Congress recently passed a resolution honoring the hundreds of science fellows who have served in Congress and the Administration. This fall marks the 30th anniversary of the American Association for the Advancement of Science (AAAS) Congressional Science and Engineering Fellowship Program.

House Science Subcommittee on Environment, Technology, and Standards Chairman Vernon Ehlers (R-MI) introduced H.Con.Res.279 to recognize the

significance of the program. "This is a truly valuable educational program from the perspective of members of Congress and the fellows that serve in it. It gives Ph.D.-level scientists a wonderful opportunity to step out of the lab and into the political process. These individuals have contributed not only their scientific expertise but also a fresh perspective to policymaking." Thanks were given to the AAAS for organizing this program and to all the sponsoring societies that provide financial support.

House Science Committee Chairman Sherwood Boehlert (R-NY) added, "The AAAS has made literally incalculable contributions to this institution and the nation. It has enabled scientists to have a better understanding of the governing process—both the fellows themselves and scientists with whom they interact—and it has improved the governing process by enabling Congressional offices to better understand scientific information and scientists." Over the past 30 years, this program has provided more than 800 scientists and engineers the opportunity

to work in a Congressional office for a year and has been a valuable way to bring more people with strong technical and scientific skills to Congress. AAAS fellows are selected through a competitive process by one of nearly 30 sponsoring professional societies.

Throughout the year, fellows are involved in supporting the Congressional offices in which they work by writing speeches and press releases, developing legislation, meeting with constituents and outside groups, acting as a liaison to assigned committees and organizing hearings on legislative issues of concern.

For the past year, SAE has participated in the AAAS program by placing fellows on Capitol Hill and in the White House Office of Science and Technology Policy (OSTP). This year, James Kadtko has been working for SAE on Senator John Warner's (R-Va) staff. Jennifer Kolden from Boeing has recently ended her assignment at OSTP. SAE is currently seeking her replacement.

SAE FOUNDATION

Life of 59-year former SAE employee celebrated on stage

Jessie Singer Sylvester went to work for SAE in 1915, 10 years after the society was founded. Lillian Gish was starring in the controversial "The Birth of a Nation"; Henry Ford chartered a "Peace Ship" and sailed to Europe hoping to persuade world leaders to end the war; Billy Holliday, Frank Sinatra, and Moshe Dayan were born; and Booker T. Washington died.

meaning in the texture of daily life—and in the poetry of Walt Whitman, which she discovers in a class at the senior center. Interwoven with the diary are excerpts from Whitman's rhapsodic poem, "Crossing Brooklyn Ferry" (the title of the play is a quote from the poem). The poet's lines confer a tremendous dignity on Jessie's quiet but important life."



Jessie Singer Sylvester (front row, center) on the occasion of her 45th anniversary at SAE in November 1960.

Sylvester was just 17 when she began her employment with SAE. She developed into a highly skilled executive secretary and served the organization for 59 years until SAE moved from New York to Warrendale in 1974. Sylvester was 76 when she retired.

On Monday, November 17, 2003, at The Makor/Steinhardt Center of the 92nd Street Y, in New York City, the life of Jessie Singer Sylvester was celebrated through a one-act, one-woman play written by Jessie's grand niece, Ellen Cassedy. Titled "Beautiful Hills of Brooklyn," the play was the winner of the Seahorse Award for Best Stageplay at the 2002 Moondance Festival. The November 17 New York debut of the play was underwritten by the SAE Foundation.

Cassedy wrote the play based on a journal discovered in a bureau after Sylvester's death. An article about the play appeared in the November 9, 2003 edition of the *New York Daily News*.

"In the journal, Jessie uses an efficient shorthand style, honed over many years of employment, to record the rhythm of her daily life, the dramas that are occurring in her life and her community, and the workings of her soul," Cassedy shared. "As she suffers the loss of family members, friends, and even some of her mental faculties, Jessie finds joy and

Cassedy provided the following synopsis of the play: The piece opens with Jessie faithfully visiting her sister Min in a nursing home. When Min dies, Jessie must find another organizing principle for her life. With a powerful inner drive, she devotes herself to cleaning, grocery shopping, visits to the senior center and other parts of the "urban village" (the Flatbush area of Brooklyn) in which she lives. As the neighborhood declines, friends and family move away, and Jessie faces each of these challenges. Finally, she is forced to accept that it's time for her to move on. The piece ends on a poignant but in some ways a triumphant note: Jessie is departing, but she has mattered.

"Jessie Singer Sylvester's loyalty and dedication to SAE are representative of the hundreds of SAE employees who followed her," said Veronica (Vern) Meury, Director, SAE Foundation. "The SAE Foundation was proud to sponsor the New York debut of "Beautiful Hills of Brooklyn," particularly on the eve of SAE's centennial as we pay tribute to the countless men and women who have been so instrumental in our association's longevity."

For more information about "Beautiful Hills of Brooklyn" or its author, Ellen Cassedy, please contact Vern Meury at the SAE Foundation, 1.724.772.8515 or meury@sae.org.

Girls reach for the stars: A World In Motion Workshop at Sally Ride Festival

Did you know that women make up 46% of today's workforce yet hold only 12% of the science and engineering jobs in business? Studies show that elementary school boys and girls have both equal interest and test scores in math and science, but by the end of middle school a shift occurs. Girls begin to view themselves as inferior to boys in these subjects. This shift also affects their career choices.

the various components of the program. In addition, Kathleen O'Connor Byrnes, K-12 Education Manager at SAE, conducted workshops about *A World In Motion's Challenge 3 - The Glider*.

O'Connor Byrnes guided the girls through the construction of the glider as well as Bernoulli's Principle of Flight. The less formal component of the workshops included the outdoor test flights of the



SAE conducted *A World In Motion's Challenge 3 - The Glider* workshops guiding girls in grades 4-8 through the construction of the glider as well as Bernoulli's Principles of Flight at the Sally Ride Festival.

While SAE's *A World In Motion* educational curricula work to increase the interest of all 4th-10th grade students in the subjects of math and science, the Sally Ride Science Festivals focus specifically on girls in grades 4-8. This past September, *A World In Motion* and other interested groups gathered together to create what became among the largest Sally Ride Science Festivals to date.

On Saturday, September 20, 2003, the Sally Ride Science Festival "Reach for the Stars" took place at the University of Michigan in Ann Arbor and attracted more than 900 girls, their parents, teachers, and others.

SAE's *A World In Motion* was represented with an exhibit booth about

gliders that the girls made in the workshops.

"The enthusiasm and interest from the girls was contagious," said O'Connor Byrnes. "It's was so encouraging and gratifying to have so many of the girls engaged and to enlighten the minds of so many about flight principles, especially this year during the centennial of flight."

Having participated both this year and in 2002, the SAE Foundation looks forward to an ongoing collaboration with the Sally Ride Science Festivals.

For more information about *A World In Motion* and the Sally Ride Science Festivals, contact Kathleen O'Connor Byrnes at 1.724.772.8514 or kbyrnes@sae.org.

SCHEELE continued from page 1

senior purchasing appointments in Ford's British and European operations before moving to the U.S. in 1978. In 1988, Scheele became President of Ford of Mexico where he directed manufacturing and marketing operations.

In June 2001, the British Queen awarded Scheele a knighthood. He was awarded the Order of St. Michael and St. George for services to British exports. He serves on the Advisory Board for the British American Chamber of Commerce and is on the Executive Committee of the Society of Motor Manufacturers and Traders.

Ford Motor Co. is the host company for the SAE 2004 World Congress, which is

expected to attract 40,000 engineers, managers and technical professionals from March 8-11. Since 1947, the SAE World Congress has been the world's largest meeting and exposition devoted to automotive engineering and product technology. Each year the world of automotive engineering, design, and technology descends on Cobo Center for the SAE World Congress.

For the latest information about the SAE 2004 World Congress, visit www.sae.org/congress. To order banquet tickets, visit www.sae.org/congress/specialevents/annual-banquet.htm.

MEMBERS UPDATE

Members on the move

Philip Fioravante (Asc'99) has joined Pullman Industries, Inc. as Group Vice President of Global Sales and Marketing. He will be responsible for all sales, marketing, new business development, and customer management activities.

Michael Golda (Mbr'00) has been appointed Director of Laboratory Operations for AVL Powertrain Engineering, Inc. Golda's primary responsibility will be to oversee the use of the company's dynamometer test cells and improve upon their efficiency.

Gregory Kochendorfer (Mbr'86) has been named Director of Sales and Marketing for Delphi Saginaw Steering Systems. Kochendorfer will be responsible for leading global sales activities for the division.

Steven Marty (Mbr'02) has been appointed Director of the Fuels and Driveline Lubricants Research Division in the Fuels and Lubricants Division at Southwest Research Institute.

Special acknowledgments

Jerald A. Caton (Mbr'78), Professor of Mechanical Engineering, Texas A&M University, was awarded the Richard S. Woodbury Award by the Internal Combustion Engine Division (ICED) of the American Society of Mechanical Engineers at the ICED Fall Conference in Erie, PA, in September. This award is presented to an individual "for eminent achievement or distinguished contribution to the management of those engaged in design, development, application, and operation of internal-combustion engines." Caton also received the E. D. Brockett Professorship Award from the

College of Engineering during the fall faculty meeting in September.

Donald Goodwin (Mbr'03), Vice President of Scientific Laboratories and Proving Grounds for DaimlerChrysler Corp., has been elected President of The Engineering Society of Detroit (ESD).

Ashwani Gupta (Mbr'92), a Professor at the University of Maryland, has been awarded the James Harry Potter Gold Medal from the American Society of Mechanical Engineers for his contributions to the science of thermodynamics, in particular eminent teaching, research, and consulting in the areas of combustion and power production.

Robert Kluver (Asc'77), President and Chief Executive Officer, Angus-Palm Industries Inc., has been elected to the Association of Equipment Manufacturers' Board of Directors.

In memoriam

Raymond Kelly (Mbr'29) has passed away. Kelly was a pioneer in commercial aviation. He worked with such nationally historic figures as James Doolittle and Albert Hegenberger. He also met Orville Wright very early in his career. Kelly had a 37-year career in commercial aviation with United Airlines. He was also a former William Littlewood Memorial Lecture speaker.



Raymond Kelly

January membership renewal time is here

Check your SAE Membership card...if you have an expiration date of January 31, now is the time to take action and renew for 2004. If you have not already done so, here are your options:

Automatic renewal: This new feature from SAE is perfect for you if you do not want to receive membership renewal reminders every year. You give authorization for SAE to charge your credit card each year at renewal time and SAE will renew your membership automatically. Plus, you'll save \$10 on your membership dues every year you are in the Automatic Membership Renewal program. *See shaded box.*

Renew online: This is a fast, easy way to renew, and you can save money, too. Reduce your dues from \$90 to \$85 by renewing on the SAE website. Just log on to www.sae.org/renew. Payments online are by credit card only, and VISA, MasterCard, American Express, and Discover are accepted. To ensure your privacy, your membership renewal will be processed on SAE's secure server. You will need your login id and password. Call 1.724.776.4970 or email CustomerService@sae.org for id and password help.

You can save time and money by renewing online, but you can save even more time and even more money by enrolling in SAE's Automatic Membership Renewal. *See shaded box.*

Renew by mail: If you have not yet received a renewal notice in the mail, call 1.877.606.7323 to request one. Complete your membership renewal form and mail it along with payment, either credit card or check, in the envelope SAE provides.

Renew by phone: Call 1.877.606.7323 in the U.S. and Canada, 1.724.776.4970 from other countries, and an SAE

Customer Service Representative will assist you.

Renew by Fax: Fax your completed form and credit card payment information to 1.724.776.0790. To prevent duplicate charges, do not also mail the completed form to SAE.

Save time and money renewing your membership by enrolling in SAE's Automatic Membership Renewal

Save \$10 on your membership every year with Automatic Renewal.

If you would like to never receive another renewal notice from SAE, Automatic Membership Renewal—the society's newest renewal feature—is for you. Here's how it works: With your authorization, SAE charges your credit card every year at renewal time and your membership is renewed automatically. You will receive no renewal notices in the mail or by email, which means no forms to fill out and no forms to return. Instead, you will receive notice from SAE that your credit card has been charged and that your membership has been renewed for another year.

There are two very important benefits from Automatic Renewal: First, you will not receive any renewal notices and reminders from SAE, and, second, you will save \$10 on your dues every year you are in the Automatic Renewal program. Of course, you may withdraw from the program at any time and return to the traditional membership renewal process. Call 1.877.606.7323 for details.

You can save time and money by renewing online, but you can save even more time and even more money by enrolling in SAE's Automatic Membership Renewal.

COMMITTEES & STANDARDS

SAE AEISS held in Nashville

The Opryland Hotel, Nashville, TN, was the location for the 2003 SAE Aerospace Electrical Interconnect Systems Symposium (AEISS). More than 150 attendees participated in the one-day symposium held October 22. Presentations were made by representatives from Raytheon, Texas Instruments, kSARIA, Spectrum Technologies, Boeing, MBM Technology, compagnie Deutsch, DIT-MCO International, G&H Technology, Airbus, and Glenair International.

The symposium is a biennial event that is hosted by the SAE AE-8 Aerospace Electrical/Electronic Distribution Systems Committee & Subcommittees. James Ide, Thermax/CDT, Inc., served as the symposium Chairman.

The symposium provides an opportunity for those involved in the aerospace industry to share information across the broad spectrum of industry, military, and regulatory agency members that attend this event.

Presentations given at the event are judged by a panel composed of AE-8 Subcommittee members. Tom Potter, Texas Instruments, was the recipient of an award for his presentation on "Methods for Characterizing Arc Fault Signatures in Aerospace Applications." Potter was



AEISS Chairman James Ide (right) presents an award to Texas Instruments' Tom Potter for his presentation.

presented with a plaque from SAE, along with a monetary award that was established by AEISS founder Ron Soloman. The first AEISS was held in May 1980 and continued under the direction of Soloman until 2001.

AEISS was held in conjunction with the joint fall meetings of the SAE AE-8 Electrical/Electronic Distribution Systems Subcommittees and the SAE Avionics Division Committee meetings.

For details on upcoming meetings, visit the Technical Committee Event list at www.sae.org/calendar/techcom.htm or contact Elizabeth Demoratz, SAE, at elizd@sae.org

SAE Aerospace
An SAE International Group

"The premier society dedicated to advancing mobility engineering worldwide"



SAE 2004 GENERAL AVIATION TECHNOLOGY

Conference & Exhibition
April 20-22, 2004

Century II Convention Center
Wichita, Kansas, USA

*Visit www.sae.org/gatc for
developing information on
this program and exhibition!*





031113

MEETINGS UPDATE

Meetings and symposia schedule

For more information about the meetings and symposia, call SAE Customer Service toll-free at 1.877.606.7323 (1.724.776.4970 outside the U.S. and Canada). Additional meeting details can be found on SAE's website at www.sae.org/calendar/meetings.htm; symposia at www.sae.org/calendar/toptecs.htm.

SAE Ground Vehicle Design & Manufacturing Events		
Hybrid Vehicles Symposium	January 28-29 2004	San Diego, CA
Fuel Cell Vehicles - the Next Step Toward Commercialization TOPTEC Symposium	February 18 2004	Sacramento, CA
Facets of Implementing a Hydrogen Economy TOPTEC Symposium	February 19 2004	Sacramento, CA
*SAE 2004 World Congress	March 8-11 2004	Detroit, MI
Frontiers of Automotive Telematic Systems Symposium	April 20-21 2004	Troy, MI
Automotive Dynamics, Stability & Controls Conference and Exhibition	May 4-6 2004	Detroit, MI
Designing Electronic Powertrain Controls	May 4-6 2004	Austin, TX
Government/Industry Meeting Loews L'Enfant Plaza Hotel	May 10-12 2004	Washington, DC
Nanotechnology - Inner Value Symposium	May 11-12 2004	Pittsburgh, PA
Statistical Energy Analysis (SEA) Symposium	May 11-14 2004	Troy, MI
Highway Vehicle EDR Symposium	June 3-4 2004	Ashburn, VA
Fuels & Lubricants Meeting & Exhibition	June 8-10 2004	Toulouse, France
Digital Human Modeling for Design and Engineering (DHM)	June 15-17 2004	Rochester, MI
Automotive Alternate Refrigerant Systems Symposium	June 29-July 1 2004	Scottsdale, AZ
Aerospace Design & Manufacturing Events		
General Aviation Technology Conference & Exhibition (GATC)	April 20-22 2004	Wichita, KS
Digital Human Modeling for Design and Engineering (DHM)	June 15-17 2004	Rochester, MI
34th International Conference on Environmental Systems (ICES)	July 19-22 2004	Colorado Springs, CO
<i>*Meetings at which SAE seminars will be conducted.</i>		

Friday the 13th...of February

...brings with it the SAE 2004 WORLD CONGRESS PRE-REGISTRATION DEADLINE, changes to the registration process, and luck!

- Join SAE by this date—attend for FREE
- Sign-up now for the event —SAVE up to \$250
- Pre-register, avoid onsite registration—make the most of every technology-filled minute!

► **NEW Registration Process:** ALL attendees must register (including members, participants, committees, boards); EVERYONE is encouraged to pre-register.

For details and to register, go to www.sae.org/congress
No Internet access? Call 1-877/SAE-CONG; 1-724/772-4027 (outside U.S./Canada)

Every year a new event

Watch this column
for the latest developments
as industry creates
SAE 2004.

- More than 1,600 presentations are now in place for the 2004 technical session program; 474 are from the OEMs and 248 are from 25 of the Top 30 suppliers. Program will focus on:

- Advanced Propulsion/ Powertrain
- Lightweight Materials
- Advanced Electronics
- Environment/Emissions
- Safety/Testing

- **New Special Program for SAE 2004!**

"High-Performance Vehicles - A Passion For Performance" featuring dynamic technical sessions and executive panels, as well as exhibits from performance engineering and aftermarket modification companies.

- **Nick Scheele, President and Chief Operating Officer of Ford Motor Company to be Principal Speaker of SAE 2004 Annual Banquet**

Join SAE at the SAE 2004 World Congress Annual Banquet for a special opportunity to celebrate the remarkable growth of both SAE and the automotive community it has served over the past 100 years.

- **New registration process for Congress this year!**

This year, all attendees must register for Congress (including members, participants, committees, boards). Make the most of every technology-filled minute and skip registration lines at Cobo Center by pre-registering by February 13.

SAE 2004

Host company:



World Congress
March 8-11, 2004

Cobo Center • Detroit, MI USA

Where technology meets the business
of automotive engineering

1-877-SAE-CONG (outside the US/Canada 1-724-772-4027)
CustomerService@sae.org • www.sae.org/congress

MEETINGS UPDATE

Symposia focus on fuel cells, hydrogen

Industry experts and policy makers will discuss the latest developments in two leading alternative power sources—fuel cells and hydrogen—at a two-day SAE symposia event at the Air Resources Board in Sacramento, CA, on February 18-19, 2004.

“Fuel Cell Vehicles - The Next Step Toward Commercialization” (February 18) and “Facets of Implementing a Hydrogen Economy” (February 19) will feature presentations on research and development efforts, demonstration projects, pending legislation, and future challenges from representatives of the U.S. Department of Energy, California Air Resources Board, U.S. Fuel Cell Council, Ford Motor Co., General Motors Corp., DaimlerChrysler, and many others.

Highlights will include the following presentations: “The DOE Hydrogen Fuel Initiative” by John J. Petrovic, Technical Advisor Laboratory Fellow, Los Alamos National Laboratory (on assignment to DOE); “Fuel Cell Vehicles – Federal Perspective” by Walt Podolski, Project Manager, Argonne National Laboratory; “Fuel Cell Vehicles in California: State

Perspective” by Shannon Baxter, Alternative Energy Specialist, Office of the Chairman, California Air Resources Board; and “Hydrogen On Demand” by Rex Luzader, Vice President, Business Development, Millennium Cell, Inc.

The event will also include an international perspective on hydrogen and fuel cells presented by Rodney Semotiuk, Transportation Energy Advisor, Natural Resources Canada; a discussion of integration and modeling of advanced technology vehicles by Edward Nam of the U.S. Environmental Protection Agency's Office of Transportation and Air Quality; and four presentations and a panel discussion on hydrogen storage options.

A discounted package rate is available to those registering for both symposia (ID# 2003TT30). Additionally, attendees who register before February 7 will save \$100 on the registration fee. To register, or for more information, visit www.sae.org/contedu/tt_fchydro.htm, call 1.877.606.7323 (U.S. and Canada) or 1.724.776.4970, or e-mail CustomerService@sae.org.

SECTIONS UPDATE

Western Michigan Section announces upcoming events

Tuesday, February 3, 2004

Ford F-150 New Model Introduction

Ford executives Julie Kurcz and Robert Mull

Student night joint meeting with ASME

Scholarships, Student Chapters Presentations - Ferris State University, Great Valley State University, and Western Michigan University

Great Valley State University-Grand Rapids, MI—6:00 Social, 6:30 Meal, 7:30 Presentations. Cost: \$8.00 for students, \$20.00 for members and guests

Tuesday, March 16, 2004

Siemens Dematic Tour (joint with SME)

Tentative tour location: 507 Plymouth Ave., Grand Rapids, MI

Duba's, Grand Rapids, MI—6:00 Social, 6:30 Meal, 7:45 Tour. Cost: \$10.00 for students, \$25.00 for members, spouses, \$30.00 for guests

For more information on either meeting, please visit www.saesections.org/westernmichigan/.

CALL FOR NOMINATIONS

Who: Aerospace customer support professionals

Award: SAE Aerospace Customer Support Person of the Year

Nomination deadline: February 1, 2004

Description: This award is given in recognition of the individual who in the assessment of his/her peers has contributed to the advancement in safety, reliability, and product worthiness in air transport and/or military aircraft through his/her initiative, dedication; and excellence in personal interfaces in working with customers to achieve operational efficiency for customers and users. This award is intended to recognize the considerable contributions of all individuals who support the product life cycle, including all levels of suppliers.

Submission: Visit www.sae.org/awards/aero_custsupport.htm for a nomination form.

Who: Aerospace engineering leaders

Award: SAE Aerospace Engineering Leadership

Nomination deadline: February 1, 2004

Description: This award honors individuals for outstanding contributions to the field of aerospace engineering and enhances the image of SAE in the aerospace community. The award recognizes individuals who have applied their leadership skills in aerospace engineering to make contributions that have had great positive impact on the aerospace community.

Submission: Visit www.sae.org/awards/aero_lead.htm for a nomination form.

Who: Aircraft/spacecraft design & development professionals

Award: Clarence L. (Kelly) Johnson Aerospace Vehicle Design and Development

Nomination deadline: February 1, 2004

Description: This award recognizes an individual who has had a distinguished career involving significant contributions in the innovative design and development of advanced aircraft and/or spacecraft, especially those vehicles that perform military missions. Nominations will be judged primarily for the technical value and originality of the contributions that have expanded the knowledge of aerospace engineering.

Submission: Visit www.sae.org/awards/aero_johnson.htm.

Who: Air transportation professionals

Award: Franklin W. Kolk Air Transportation Progress

Nomination deadline: February 1, 2004

Description: This award is given to recognize an individual for unique and outstanding contributions to air transportation and/or contributions to the work of the aerospace technical committees in developing aerospace standards, specifications, technical reports, and data through cooperative research. Selection is based on originality

and value of the contribution, the impact and influence on the progress and development of air transportation, and peer recognition.

Submission: Visit www.sae.org/awards/aero_kolk.htm.

Who: Civil air transportation professionals

Award: William Littlewood Memorial Lecture

Nomination deadline: February 1, 2004

Description: This award provides for an annual lecture dealing with a broad phase of civil air transportation considered of current interest and major importance. The objective is to advance air transport engineering and to recognize those who make personal contributions to the field. The award perpetuates the memory of William Littlewood, the only person ever to be president of both SAE (1954) and the American Institute of Aeronautics and Astronautics. He was renowned for his contributions to the design of, and operational requirements for, civil transport aircraft.

Submission: Visit www.sae.org/awards/aero_little.htm for a nomination form.

Who: Aviation maintenance integrity management

Award: Marvin Whitlock Award

Nomination deadline: February 1, 2004

Description: This award recognizes an individual for outstanding management accomplishment that has resulted in superior aviation maintenance integrity of airline, fixed base, corporate, or military aircraft. Established in 1988 by the Aerospace Council, this award acknowledges and commemorates the distinctive management contributions of the late Marvin Whitlock, Senior Vice President of Maintenance and Operations and a member of the United Airlines Board of Directors.

Submission: Visit www.sae.org/awards/aero_whitlock.htm.

Who: Turbomachinery engineering professionals

Award: Cliff Garrett Turbomachinery Engineering Award

Nomination deadline: March 31, 2004

Description: This award promotes engineering developments and the presentation of SAE papers on turbomachinery engineering. The award honors Cliff Garrett and the inspiration he provided to engineers by his example, support, encouragement, and many contributions as an aerospace pioneer. To perpetuate recognition of Garrett's achievements and dedication as an aerospace pioneer, SAE administers an annual lecture by a distinguished authority in the engineering of turbomachinery for on-highway, off-highway, and/or spacecraft and aircraft uses. The award is made possible by a contribution from the Garrett Corp. (now a division of Honeywell).

Submission: Visit www.sae.org/awards/aero_garrett.htm for a nomination form.

SAE International™

"The premier society dedicated to advancing mobility engineering worldwide"

Government/
Industry
Meeting

May 10-12, 2004
Loews L'Enfant Plaza Hotel • Washington D.C.

Each year SAE assembles leading technical authorities from government, industry and academia to address the most pressing issues in **ENERGY—alternative powertrains, hydrogen, energy policy update; THE ENVIRONMENT—diesel emissions, climate research, ITS role in reducing pollution; and SAFETY—crashworthiness, crash avoidance, harmonization...key areas where technology and policy significantly affect one another.**

Special features include:

- High profile speakers addressing timely topics during the plenary, breakfast and luncheon sessions
- Policymakers discussing pending legislation and its impact on industry
- Ride-n-Drive event sponsored by U.S.DOE
- Prestigious SAE Awards – E'T and InterRegs
- **Donald E. Zinger**, Assistant Director, Office of Transportation and Air Quality, U.S. EPA, 2004 General Chair

CONNECT with policymakers and automotive decision-makers with high visibility sponsorship and tabletop display opportunities!

Bookmark the Web site for speakers and program updates as they become available.
<http://www.sae.org/govind> • 1-877-606-7323 (outside US/Canada 1-724-776-4970)

AWARDS

2002 Horning Award presented

The 2002 Harry L. Horning Memorial Award was presented on Wednesday, October 29, 2003, at the SAE Powertrain & Fluid Systems Conference & Exhibition. The award recognized eight authors and co-authors for their outstanding contributions of two technical papers titled, "Parametric Study and Clarification of Determination Factors of

Kenji Tsuchiya, *Japan Automobile Research Institute*

Tsuchiya received a B.S. of mechanical engineering from Muroran Institute of Technology in 1988. He joined the Japan Automobile Research Institute in 1979, studying engine engineering and exhaust emissions. Later he worked with diesel-type methanol engines. Since 1996 and

Naoki Kono, *TonenGeneral Sekiyu K.K.*

Kono is a Senior Researcher with TonenGeneral Sekiyu K.K., (an affiliate company of ExxonMobil in Japan). He has been on loan to the Advanced Technology and Research Institute (ATRI) of the Petroleum Energy Center (PEC) since January of this year, working in the area of fuel quality research. Kono received a bachelor's degree in 1985 and a master's degree in 1987, both in chemical engineering, from the University of Tokyo. He is a member of SAE and JSAE. In addition, he has been a committee member of the combustion analysis working group of the Japan Clean Air Program (JCAP), (1996-2001), and of the diesel working group of the Japan Clean Air Program-II (JCAP-II), (2002). He was also a session chair, an organizer, and a technical committee member of the JSAE/SAE 2003 International Spring Fuels and Lubricants Meeting.

Yoshihito Sakurai, *JOMO Technical Research Center Co., Ltd.*

Sakurai joined the Nippon Mining Co. Ltd. (Now Japan Energy Co. Ltd.) in 1991 and later transferred to the JOMO Technical Research Center. He is currently

studying the effect of fuel properties on exhaust emissions and driveability. His career has also included research on single-cylinder CI engines, single-cylinder SI engines, multi-cylinder CI engines, diesel vehicles, and gasoline vehicles.

Tadakazu Shiozaki, *Hino Motors, Ltd.*

Shiozaki graduated from Yokohama National University with a degree in mechanical engineering in 1970 and from Tokyo University with a master's in engineering in 1972. He joined Hino Motors, Ltd. in 1972 assigned to the Engine Development Department. Shiozaki has been involved with research in the field of diesel combustion and emissions since 1973. He received a Ph.D. in engineering from Tokyo Institute of Technology in 1994. Shiozaki currently is Senior Engineer in the Engine Research Division, Technical Research Laboratory, Hino Motors Ltd. He participated in the JCAP project as a member of the Combustion Analysis Working Group in 1999 and served as group leader of Combustion Analysis WG from 2000-2001. He is a Fellow of the Japan Society of Mechanical Engineers.



2002 Harry L. Horning Memorial Award recipients from left: Yoshiaki Shibata, Naoki Shimazaki, and Naoki Kono with Thomas W. Ryan III (second from right), Incoming Chair of the Award Board.

Diesel Exhaust Emission Using a Single Cylinder Engine and Model Fuels – JCAP Combustion Analysis Working Group Report Part I" (SAE Paper No. 2002-01-2824) and "Novel Analysis Approach for Better Understanding of Fuel and Engine Effects on Diesel Exhaust Emission – JCAP Combustion Analysis Working Group Report Part II" (SAE Paper No. 2002-01-2825).

Presented in honor of SAE Past President Harry Horning, this award recognizes accomplishments and acknowledges contributions through research and development to the better mutual adaptation of fuels and engines.

The award is looked upon in SAE as one of the highest recognitions that can be accorded to researchers in this field. The award was presented by Thomas W. Ryan, III, Southwest Research Institute and Incoming Chair of the Horning Memorial Award Board.

Authors of SAE Technical Paper "Parametric Study and Clarification of Determination Factors of Diesel Exhaust Emission Using a Single Cylinder Engine and Model Fuels – JCAP Combustion Analysis Working Group Report Part I":

Naoki Shimazaki, *Isuzu Advanced Engineering Center, Ltd.*

Shimazaki works in the 1st Engine Research Department of the Isuzu Advanced Engineering Center, Ltd. His responsibilities include diesel combustion research, specifically the improvement of engine-out emissions and fuel economy. Shimazaki received a bachelor's degree in mechanical engineering in 1990, a master's degree in mechanical engineering in 1992, and a Ph.D. in engineering in 2002 all from Gunma University. He is a member of JSAE and also JSME.

through the present, he has been studying diesel engine combustion, fuel, and emissions control.

Masataka Morinaga, *Cosmo Oil Co., Ltd.*

Morinaga received a bachelor's degree in applied chemistry from Kyushu University in 1991. Soon after, he joined Cosmo Oil Co. Ltd., in the Research and Development Center, where he studied the quality management of gasoline and diesel fuels. Since June of 2002 he has been working in the Refining and Technology Dept. located at the Cosmo headquarters.

Masahito Shibata, *Toyota Motor Corp.*

Shibata received a master's degree in mechanical engineering from Hokkaido University in 1976. Upon graduation, he joined Toyota Motor Corp. where he worked on engine system and emissions control R&D through 2002. In 2003, he earned a Professional Engineer designation in Japan in mechanical engineering. Also in 2003, he joined HDD Catalytic System Development at Johnson Matthey Japan Inc.

Yoshiaki Shibata, *Petroleum Energy Center*

Shibata earned an M.S. in mechanical engineering from Waseda University in 1979. He then joined Toyota Motor Corp., studying engine engineering and exhaust emissions. From December 1993 through January 1997, he transferred to the Toyota Technical Center in the U.S. Since November 2001 he has been working for the Petroleum Energy Center.

Authors of SAE Technical Paper "Novel Analysis Approach for Better Understanding of Fuel and Engine Effects on Diesel Exhaust Emission – JCAP Combustion Analysis Working Group Report Part II":

Tim Worthy receives SAE Gary Dickinson Award for Teaching Excellence

Tim Worthy, a seventh- and eighth-grade teacher at Lancaster Drive Public School in Kingston, Ontario, has been awarded the 2003 SAE Gary Dickinson Award for Teaching Excellence.

This annual award, recently established by the SAE Detroit Section, recognizes an outstanding middle school teacher and his or her school for the best use of the SAE Foundation's *A World In Motion: Challenges 2 & 3 (AWIM)* curriculum to further develop students' interest in math and science. It commemorates the life of Gary Dickinson, an automotive industry leader and long-time supporter of both SAE and its *AWIM* program.

"As a long-time friend of Gary's, I was pleased to learn that his memory will be honored through an award for teaching excellence," said Lloyd Reuss, former President of General Motors Corp. and former Chairman of the SAE Foundation's *AWIM* Executive Committee. "Gary was dedicated to education and gave freely of his time to advance quality in the classroom."

To perpetuate Dickinson's work and dedication to the advancement of the mobility profession, the SAE Foundation presents the award that consists of a monetary gift of \$2000.

Worthy has taught in schools in and around Kingston for more than 16 years. He received his bachelor's degree from Queen's University in Kingston and has been an active educator since his graduation. In addition to his teaching



Tim Worthy

duties, Worthy coaches volleyball and track, is the father of two children, and is in the unique position of having a twin brother who also teaches in Kingston area.

"Tim epitomizes the type of teacher this award was designed to recognize," said Kathleen O'Connor Byrnes, SAE's K-12 Education Manager. "He's a great teacher."

A World In Motion was developed by SAE in 1990 and targets fourth- through tenth-grade students in an effort to develop increased interest in math and science. Applicants for the Dickinson Award are judged on the amount of effort they put into *A World In Motion*, the number of volunteers used in teaching the curriculum, and the quality of the students' experiences.

AWARDS

2002 SAE Award for Research on Automotive Lubricants recipients announced

The 2002 SAE Award for Research on Automotive Lubricants was awarded to nine outstanding authors during the SAE Powertrain & Fluid Systems Conference & Exhibition on Wednesday, October 29, 2003. The authors recognized were: Guntram Lechner, Alexander Knafl, Dennis Assanis, University of Michigan; Spyros I. Tseregounis, Rolls-Royce; Michael L. McMillan, Simon C. Tung, Patricia A. Mulawa, General Motors R&D and Planning; and Ewa Bardasz and Susan Cowling, The Lubrizol Corp., for their paper titled "Engine Oil Effects on the Friction and Emissions of a Light-Duty, 2.2L Direct - Injection - Diesel Engine Part 1 - Engine Test Results," (SAE Paper No.2002-01-2681).

This award recognizes accomplishments and acknowledges contributions through original research and/or developments to the better mutual adaptation of lubricants and lubricated automotive systems or components.

The 2002 Award was presented by Irwin Goldblatt, Executive Director, Technology, Castrol North America, Inc., and Chair, 2002 Research on Automotive Lubricants Award Board.

Recipients of the 2002 SAE Award for Research on Automotive Lubricants:

Guntram Lechner, *University of Michigan*

Lechner received his Dipl.Ing. degree in mechanical engineering from the Technical University of Graz, Austria. After graduation, he started his Ph.D. in January 2000 at the University of Michigan. The general topic of his work was the reduction of emissions, in particular PM and NOx emissions, of light-duty, direct-injected diesel engines. The first part of this work included an assessment of lube-oil effects on emissions. The second part of his studies considered the implementation of a premixed combustion strategy in a light-duty four-cylinder diesel engine. He recently defended his Ph.D. with the topic "Feasibility and Limitations of Premixed Diesel Combustion in Multi-Cylinder Engines."

Alexander Knafl, *University of Michigan*

Knafl is a doctoral student at the University of Michigan in the Department of Mechanical Engineering. Since Fall 2002, he has worked in the Walter E. Lay Automotive Laboratory as a Graduate Student Research Assistant. His current research topic is related to high speed diesel engines, particularly emissions and their behavior under transient engine operating conditions. In Spring 2002, Knafl graduated from the Technical University of Graz, Austria with a Dipl. Ing. degree in mechanical engineering-economics. In 2001, he spent six months at the University of Michigan doing research on engine lubricant and its contribution to emissions. Between 1999 and 2002, Knafl worked at AVL LIST GmbH in Graz where he performed technical training for testbed systems and devices.

Dennis Assanis, *University of Michigan*

Assanis is a Professor and Chair of the Department of Mechanical Engineering, and the Jon R. and Beverly S. Holt Professor of Engineering at The University of Michigan. He received his B.S. in marine engineering from Newcastle University, England; M.S.

degrees in both naval architecture and mechanical engineering from the Massachusetts Institute of Technology (1982); M.S. degree in management from MIT's Sloan School of management (1986); and his Ph.D. in power and propulsion from MIT (1985). His expertise encompasses a broad range of modeling methodologies and experimental techniques for studies of fundamental engine processes and automotive systems design. Over the past 10 years, Assanis has revitalized the Mechanical Engineering Department's teaching and research efforts in internal combustion engines and transformed the Walter E. Lay Automotive Laboratory into a beehive of research activity. He currently serves as the Director of the Automotive Research Center, the Director of the Walter E. Lay Automotive Laboratory, and the Director of the Multi-University Consortium on Homogeneous Charge Compression Ignition Engine Research. Assanis is also the Co-Director of the General Motors Collaborative Research Laboratory on Engine Systems. He has served as the Founding Director of the interdisciplinary graduate program in Automotive Engineering between 1996 and 2001. Assanis has received a number of teaching and research awards and is an SAE Fellow.

Spyros I. Tseregounis, *Rolls-Royce*

Spyros Tseregounis received a Ph.D. in chemical engineering, University of California, Los Angeles, 1984; an M.S. in chemical engineering, University of California, Los Angeles, 1981; and a B.S., chemical engineering, Aristotelian University of Thessaloniki, Greece, 1977. Since the summer of 2002, he has been an Engineering Materials/Process Consultant, for Rolls-Royce Corp., in Indianapolis, IN. In this position, Tseregounis consults and engages in research and development in the general area of tribology focusing on gas turbine and jet engine applications. Prior to Rolls-Royce, he was a Staff Research Engineer, General Motors Research and Development Center, Chemical and Environmental Sciences Laboratory, Warren, MI. There his research interests included engine oil rheology and oil effects on fuel economy and emissions. He was also involved in the ASTM D02.07 Subcommittee on Flow Properties (chairman of Section B on high temperature non-Newtonian viscosity) and SAE TC1 Engine Oil Viscosity Classification Task Force (J300).

Michael L. McMillan, *General Motors*

McMillan received his B.S. (1964) and M.S. (1965) degrees in chemical engineering from the University of Michigan, and a Ph.D. in chemical engineering from the Ohio State University in 1970. He has worked for General Motors between 1965 and 1967, and from 1970 until the present time. He is currently the Manager of Lubricant Activities in the Chemical & Environmental Science Laboratory. McMillan is concerned with the relationships of fuels and lubricants to their performance in automotive components, and has published numerous papers in recent years on the subject. He was closely involved in ASTM efforts to develop low-temperature engine oil pumpability tests and high-temperature



Recipients of the 2002 SAE Award for Research on Automotive Lubricants, left to right: Ewa Bardasz, Michael L. McMillan, James Linden (Member of Award Board), Irwin L. Goldblatt (Chair of Award Board), Dennis Assanis, and Susan Cowling.

rheological tests which predict engine wear, as well as CRC and ASTM efforts to solve diesel fuel-related problems including low-temperature operability and exhaust particulate formation. He is currently concerned with all aspects of engine oil quality and performance, and is closely involved with efforts to improve lubricant performance through the development of worldwide performance specifications. He is also Chairman of the International Lubricant Standardization and Approval Committee (ILSAC), Co-Chairman of the Administrative Guidance Panel, which oversees the API Engine Oil Licensing and Certification System, and an active participant in numerous ASTM and SAE technical committee activities. He was recently elected an SAE Fellow.

Simon C. Tung, *General Motors*

Simon C. Tung received his Ph.D. in chemical engineering from Rensselaer Polytechnic Institute, Troy, NY, in July 1982. In the same year, he joined General Motors Research Laboratories where he is currently a Senior Staff Research Engineer. He is responsible for leading research and development on automotive tribology and surface engineering in automotive powertrain and manufacturing systems. From 1985-1990, Tung led pioneering research efforts resulting in the integration of new transmission clutch and advanced engine components. He was a recipient of the SAE Arch T. Colwell Merit Award in recognition of his outstanding contribution to automotive engineering in 1986. He was also a recipient of the 1992 STLE Captain Alfred E. Hunt Award for the best paper he published. In addition, he was a recipient of the 1995 ASM Technical Merit Award for papers he published. In 1998, Tung was elected as the STLE Fellow for his outstanding achievement in tribology and surface engineering. In 1999, he received the Gold Award from the Engineering of Society of Detroit (ESD) to recognize his outstanding achievements in engineering and leadership. In addition to technical achievement, he is very active in SAE and is the Vice Chairman of Lubricants in the SAE Fuels and Lubricants Activity. He is also an SAE Fellow. Tung has 72 publications that appear in five different journals covering such diverse subjects as advanced materials, surface engineering, automotive engineering, and manufacturing. He also holds nine U.S. Patents on novel tribological coatings and methods for reducing friction and wear.

Patricia A. Mulawa, *General Motors R&D and Planning*

Mulawa received a bachelor of science in chemistry and in biology in 1975 from Wayne State University in Detroit, MI. She joined the General Motors Research Laboratories in 1976 in the Exhaust Emissions Group of the Environmental Science Department to work in the area of unregulated emissions. Subsequently her areas of responsibility have included the impact of mobile source emissions on acidic deposition, related damage to plants, hydrocarbon speciation of exhaust, and exhaust particle emissions characterization. Currently she is a Staff Scientist in the Chemical and Environmental Sciences Laboratory working on processes to produce hydrogen that do not produce carbon dioxide.

Ewa Bardasz, *The Lubrizol Corp.*

Bardasz earned a Ph.D. in chemical engineering from Case Institute of Technology, and an MS in chemical engineering from Warsaw Technical University. She joined The Lubrizol Corp. in 1988, and is currently a principal scientist in engine oils. Her technical expertise is in lubrication, specifically the formulation of crankcase oils, corrosion/corrosion protection, colloid and surface chemistry, catalysis, petroleum products, and the pulp and paper industry. She has held positions at Union Camp Corp. in Princeton, NJ, and Exxon Research & Engineering Co. in Linden, NJ, and has developed and patented a method of evaluating rust inhibition in nonaqueous systems. She has 13 other patents and has published numerous papers in lubrication and corrosion protection. Honors that she has received include Outstanding Young Woman Award, Professional Development Recognition, AIChE. Bardasz is also a fellow of the Royal Society of Industry & Arts, London, UK, and a member of the New York State Academy of Sciences.

Susan Cowling, *The Lubrizol Corp.*

Cowling has a B.A. in psychology and math from Lake Erie College, an M.S. and Ph.D. in educational psychology and an M.S. in applied statistics from Case Western Reserve University. She taught psychology and statistics at Lake Erie College for 12 years and has been an industrial statistician for 21 years; four at Ricerca, Inc. and the last 17 at The Lubrizol Corp. Cowling is a statistical consultant to the engine oils and viscosity modifier groups and is also responsible for coordinating statistics and six sigma training in the research, development, and engineering division at Lubrizol.

AWARDS

SAE Honors Convocation Luncheon scheduled

The SAE Honors Convocation Luncheon has been scheduled to be held in conjunction with SAE 2004 World Congress, on Tuesday, March 9, 2004 from 11:30 a.m.-1:30 p.m. 2003 SAE President Jack E. Thompson will preside.

Join SAE in paying tribute to your colleagues who have significantly contributed their time and efforts to SAE's success and the advancement of mobility technology. For the convenience of Congress attendees, the event will be held at Cobo Center. Tickets are \$27 each or \$270 for a table of ten. To order tickets, please visit www.sae.org/congress/specialevents/honors.htm

Presentations will be made to the 2004 Fellow Grade inductees and the distinguished group of individuals receiving the following awards:

- SAE Medal of Honor
- Vincent Bendix Automotive Electronics Engineering Award
- Max Bentele Award for Engine Technology Innovation
- Edward N. Cole Distinguished Younger Member Award
- Arch T. Colwell Cooperative Engineering Medal
- Arch T. Colwell Merit Award
- SAE Delco Electronics Intelligent Transportation Systems Award

- Excellence in Engineering Education Award

- Henry Ford II Distinguished Award for Excellence in Automotive Engineering

- International Leadership Citation
- SAE/InterRegs Standards & Regulations Award for Young Engineers

- Ralph H. Isbrandt Automotive Safety Engineering Award

- SAE/AISI Sydney H. Melbourne Award for Excellence in the Advancement of Automotive Steel

- Myers Award for Outstanding Student Paper

- Nobel R. Patterson Distinguished Section Member Award

- Rumbaugh Outstanding Student Leader Award

- Arnold W. Siegel International Transportation Safety Award

- Russell S. Springer Award

- Ralph R. Teetor Educational Award

- SAE WEC/BREED Award for Women's Leadership

For questions about the Honors Convocation Luncheon, please contact Lori Pail, SAE Awards & Scholarships Program Office, at 1.724.772.8534 or lorile@sae.org

Kimberly Sweet receives SAE Lloyd Reuss Award for Teaching Excellence

Kimberly Sweet, a fourth-grade teacher in Haslett, MI, was recently awarded the 2003 SAE Lloyd Reuss Award for Teaching Excellence.

The award, given annually since its inception in 1998, recognizes teachers who have effectively implemented the SAE Foundation's *A World In Motion* program to further develop students' understanding of the principles of motion and the science that underlies them. It honors the work and dedication of Lloyd Reuss, former President of General Motors Corporation and a long-time supporter of the *AWIM* program.

To perpetuate Reuss' work and dedication to the advancement of the mobility profession, SAE presents the award that consists of a monetary gift of \$2000 (to be divided equally between the recipient and his or her school) and a commemorative plaque.

Sweet has taught fourth-grade students at Murphy Elementary School in Haslett for six years. She received her bachelor's degree from Michigan State University, and recently earned her master's degree in Education.

A World In Motion was developed by SAE in 1990 and targets fourth- through tenth-grade students in an effort to develop increased interest in math and science. "I love to see the kids get excited about learning and the *AWIM* Challenge 1 unit certainly achieves that," said Sweet. "My students continue to talk about how



Kimberly Sweet, a fourth-grade teacher in Haslett, MI, is the 2003 recipient of the SAE Lloyd Reuss Award for Teaching Excellence.

much they enjoyed this unit of study and how much they learned."

Sweet was chosen as this year's Reuss award recipient for her exemplary and creative use of the *AWIM* curriculum. Applicants are judged on the amount of effort they put into *A World In Motion*, the number of volunteers used in teaching the curriculum, and the quality of the students' experiences.

"Kimberly was a clear winner," said Kathleen O'Connor Byrnes, SAE's K-12 Education Manager. "She's an outstanding teacher."

Peer recognition ... perhaps the most satisfying recognition that an individual can achieve!

SAE administers more than 50 awards and recognition programs that recognize individuals for outstanding achievements in engineering.

Information and nomination forms for SAE awards can be found at www.sae.org/awards

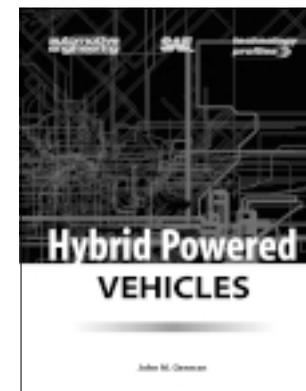
PUBLICATIONS

New book on hybrid-powered vehicles now available

With growing concerns about energy, security, and global warming, interest in hybrid vehicles is on the rise due to their ability to use the existing infrastructure and offer a means to reduce consumer fuel consumption and cost while significantly reducing levels of the pollutants contributing to global warming. However, the average consumer is only willing to pay \$1000 to \$1500 extra for a hybrid and current costs are approximately three times this amount.

Author John M. German, a recognized expert in hybrid technology from American Honda Motor Co., closely examines the various technological and commercial facets of hybrids in his new book titled *Hybrid Powered Vehicles*. The report explores the basis of hybrid components and system engineering, and then delves into the design constraints, challenges, and opportunities. *Hybrid Powered Vehicles* concludes with a look toward the future presenting an expert's outlook on developments in the technology, its applications, and potential markets.

Chapters of the book include: Hybrid Vehicles - Transitional Technology or Ultimate Solution; Hybrid Electric System



Design; Hybrid Components; Real World Design Constraints; Hybrid System Optimization; Challenges and Optimization; Customer Acceptance; Future Hybrid Technology Development; and Future Hybrid Markets.

To purchase a copy of *Hybrid Powered Vehicles* (Member price \$156.00; List price \$195.00), contact SAE Customer Service at 1.877.606.7323 (U.S. and Canada only) or 1.724.776.4970 (outside U.S. and Canada) or visit <http://store.sae.org>.

WASHINGTON REPORT continued from page 3

Automakers demonstrate clean diesel vehicles

The Alliance of Automobile Manufacturers recently hosted a "ride and drive" on Capitol Hill for members of Congress and their staffs to demonstrate and introduce clean diesel technologies to the U.S. Marketplace. This new generation of clean diesel vehicles will offer increased fuel economy while delivering the performance and durability that consumers demand.

"In Europe, almost 40% of all new vehicles are powered by clean diesel technology. By comparison, fewer than 1% of U.S. vehicles are diesel powered," said Alliance President and CEO Josephine S. Cooper. "Advanced diesel technology utilizing clean diesel fuel can deliver between 20 and 40% better fuel economy than comparable gasoline engines. Through events like this, we hope to clear up many of the common misconceptions about diesel technology and open the door for increased diesel penetration in the U.S. market." The Alliance indicated that today's diesel vehicles run more cleanly than their

predecessors thanks to new fuel injection, combustion, and exhaust after-treatment technologies. And the auto industry is working now to develop and introduce technologies that will allow diesel automobiles to meet the EPA's stringent Tier 2 regulations.

For optimal performance, diesel vehicles require the cleaner diesel fuel that will be sold in the U.S. beginning in 2006. Even minute amounts of sulfur in diesel fuel foul the emissions-control technology that makes vehicles run cleaner.

Because clean diesel vehicles cost more to produce than conventional vehicles, the Alliance supports tax incentives for consumers to help get these clean, highly fuel efficient, diesel vehicles on the road more quickly and in greater volumes. Sixteen vehicles from five manufacturers were showcased at this event. Joining the Alliance was the Department of Energy.

PROFESSIONAL DEVELOPMENT

Courses from **SAE**

Detailed course descriptions are available online at www.sae.org/contedu/. To register, complete the online registration form, email profdev@sae.org, or call SAE Customer Service toll free at 1.877.606.7323 or 1.724.776.4970 (outside the U.S. or Canada).

* One of SAE's 40 most popular seminars.

January 2004

Troy, MI, USA - SAE Automotive Headquarters

- Jan 12 Engine Cooling Design: A System Engineering Approach
 Jan 12 How to Give Technical Presentations that Advance Your Engineering Career
 Jan 12-13 **New!** Fundamentals of Gear Design and Application **TOP 40***

Through informative discussions and detailed explanations, this seminar will provide a solid and fundamental understanding of gear geometry, types and arrangements, and design principles. Starting with the basic definitions of gears, conjugate motion, and the Laws of Gearing, those attending will be given the tools needed to understand the inter-relation and coordinated motion operating within gear pairs and multi-gear trains. Basic gear system design process and gear measurement and inspection techniques will also be explained. In addition, the fundamentals of understanding the step-wise process of working through the iterative design process required to generate a

(continued top of next column)

- Jan 12-13 Electronics Packaging: Thermal & Mechanical Design and Analysis
 Jan 15-16 Automotive Advanced Driveline Systems: Theory and Design **TOP 40***
 Jan 19-20 Automotive Plastics: Principles of Materials & Process Selection
 Jan 26-27 Finite Element Analysis for Design Engineers - Hands-on FEA Workshop
 Jan 26-28 Cost, Finance, and Economics for Automotive Engineers

February 2004

Troy, MI, USA - SAE Automotive Headquarters

- Feb 2-3 Hydraulic & Pneumatic Fluid Power Seals
 Feb 2-4 Geometric Dimensioning and Tolerancing - Level I **TOP 40***
 Feb 4-6 Automotive Coatings: Materials & Applications
 Feb 5-6 Simplified Taguchi/DOE Methods **TOP 40***
 Feb 9 Statistical Tolerance Design
 Feb 9-10 Automotive Glazing Materials **TOP 40***
 Feb 12-13 Benchmarking: A Tool to Achieve Competitive Leadership

March 2004

Detroit, MI, USA - Cobo Center

In Conjunction with the SAE 2004 World Congress & Exhibition

- Mar 8 A Familiarization of Drivetrain Components **TOP 40***
 Mar 8-10 Design of Hybrid Electric Vehicles **TOP 40***
 Mar 8-10 Commercial Vehicle Braking Systems **TOP 40***
 Mar 8-10 Weibull-Log Normal Analysis Workshop **TOP 40***
 Mar 8-10 Combustion and Emissions for Engineers **TOP 40***
 Mar 8-10 Fundamentals of Modern Vehicle Transmissions **TOP 40***
 Mar 8-10 Chassis & Suspension Component Design for Passenger Cars & Light Trucks **TOP 40***
 Mar 8-10 Injuries, Anatomy, Biomechanics, & Federal Regulation
 Mar 8-10 Motor Vehicle Accident Reconstruction **TOP 40***
 Mar 8-9 Diesel Engine Technology **TOP 40***

SAE 2004 World Congress SEMINARS

www.sae.org/congress/seminars/

Some 30+ seminars in core technology areas will be offered in conjunction with the SAE World Congress. Record numbers attended last year's seminars. Ensure your spot. Register by February 27.

Seminars will again be held on-site at Cobo Center—allowing you to experience more of the technology of SAE 2004.

SAE International

"The premier society dedicated to advancing mobility engineering worldwide"

INSTRUCTORS WANTED

SAE Professional Development is seeking experienced engineering professionals with industry/academic backgrounds to propose, develop, and instruct seminars covering all technical areas, including:

- ✓ OBD II & III
- ✓ Advanced Engine Technologies
- ✓ Electronic Engine Controls
- ✓ Antilock Braking /Traction Control Systems
- ✓ Steering Systems
- ✓ By-wire Technologies
- ✓ Homogeneous Charge Compression Ignition
- ✓ Vehicle Stability/Rollover Prevention Technologies
- ✓ Valve Train Design & Analysis
- ✓ Diesel Engines

✓ Other technical areas will also be considered.

The potential seminar instructor must have experience in either the engineering field, academia, or both. All submitted seminar proposals will be evaluated by a Technical Review Committee to ensure high quality and value to the engineering community.

Interested individuals should contact:

Bev Hoerner, Program Manager, Seminars
 SAE Professional Development
 400 Commonwealth Drive
 Warrendale, PA 15096-0001
 Phone: 724-772-8553
 E-mail: bhoerner@sae.org

Or visit on-line at www.sae.org/calendar/semguide.htm

031712

SAE International

"The premier society dedicated to advancing mobility engineering worldwide"

J. D. Power and Associates estimates that hybrid sales will climb from 40,000 this year to 500,000 by 2006. **ARE YOU READY?**

Hybrid Vehicles Symposium

January 28-29, 2004 • San Diego, California I.D.#2004TT02

This 2-day interactive, technical learning event will provide an exchange of the latest information about hybrid vehicles. Featuring presentations from technical leaders currently working on these breakthrough technologies, you will learn about emissions, environmental policy issues, primary power sources, energy storage devices and management, configurations, and control strategy, as well as safety, costs, and buyer incentives related to hybrids. We will also identify areas where additional progress is needed to further speed hybrid acceptance by industry and consumers.

Featured speakers include:

Alexander Gehring, ZFSachs
Keith Hardy, Argonne National Laboratory
Kunio Hasegawa, Honda
David Hermance, Toyota
Bob Larsen, Argonne National Laboratory

Huei Peng, Univ. of Michigan
Tony Phillips, Ford Motor Company
Lee Slezak, U. S. DOE
Mike Tamor, Ford Motor Company

DISCOUNTED
 registration through
 January 9th!

For more information or to register, visit
<http://www.sae.org/calendar/toptecs.htm>, e-mail naneiben@sae.org
 or call 1-877-606-7323 (outside US/Canada 1-724-776-4970).

031513

PROFESSIONAL DEVELOPMENT

- Mar 8-9 **New!** Distributed Automotive Embedded Systems
This seminar provides background on the most important issues of automotive embedded systems operating in a network environment. While the widely used CAN protocol is primarily used in examples and applications, emerging protocols such as TTP/C and Flexray also will be discussed. The seminar begins with the fundamental requirements for communication systems followed by event-based and time-triggered computing and communications. Then typical automotive applications of in-vehicle networks are discussed followed by the CAN protocol and a summary of the main characteristics of TTP/C and Flexray. Finally, the design, analysis, and implementation of distributed automotive embedded systems using CAN are covered.
- Mar 8-9 Automotive Electronics - An Applications Primer **TOP 40***
- Mar 8-9 Introduction to Variable Valve Actuation: System Benefits, Design and Integration
- Mar 8-9 Introduction to Failure Modes and Effects Analysis for Product Design & Manufacturing Process Design (Product & Process FMEA) **TOP 40***
- Mar 8-9 Compact Heat Exchangers for Automotive Applications **TOP 40***
- Mar 9-10 Catalytic Converters: Design and Durability **TOP 40***
- Mar 10 Sensor & Actuator Technology: Module 1 - Powertrain (Engine, Transmission, and Onboard Diagnostics) **TOP 40***
- Mar 10-11 Diesel Emissions and Aftertreatment Devices: Design & Durability **TOP 40***
- Mar 10-12 Advanced Electric Motor/Generator/Actuator Design and Analysis for Automotive Applications **TOP 40***
- Mar 10-12 Vehicle Dynamics for Passenger Cars and Light Trucks **TOP 40***
- Mar 10-12 Automotive Fuel Cell Systems **TOP 40***
- Mar 11 The Tire as a Vehicle Component **TOP 40***
- Mar 11 Sensor & Actuator Technology: Module 2 - Chassis (Steering, Suspension, Braking, Stability, Vehicle Dynamics) **TOP 40***
- Mar 11-12 The Basics of Internal Combustion Engines **TOP 40***
- Mar 11-12 Threaded Fasteners and the Bolted Joint **TOP 40***
- Mar 11-12 Engineering Project Management **TOP 40***
- Mar 11-12 Role of the Seat in Rear Crash Safety
- Mar 11-12 Automotive Lighting
- Mar 11-12 Selection, Evaluation and Measurements of Acoustical Materials for Vehicle Interior Noise Study **TOP 40***
- Mar 12 Exhaust Flow Performance and Pressure Drop of Exhaust Components and Systems **TOP 40***
- Mar 12 Design Reviews for Effective Product Development **TOP 40***
- Mar 12 Tire and Wheel Safety Issues **TOP 40***
- Mar 12 Sensor & Actuator Technology: Module 3 - Body (Occupant Safety, Intelligent Vehicles, Navigation, Comfort, Convenience, Security)
- April 2004
Troy, MI, USA - SAE Automotive Headquarters
- Apr 1-2 Controller Area Network (CAN) for Vehicle Applications **TOP 40***
- Apr 5 Current Issues in Using Crash Injury Data
- Apr 5 Basic Noise Control **TOP 40***
- Apr 5-7 Motor Fuel: Technology, Performance, Testing, and Specifications
- Apr 6 Noise and Vibration Measurement: Instruments and Facilities
- Apr 14-15 **New!** Powertrain Selection for Fuel Economy and Acceleration Performance **TOP 40***

CAREER OPPORTUNITIES

It's easy to place an advertisement in SAE UPdate. Simply call with your space reservation and fax--or e-mail and save the typesetting fee!--your ad copy to **Rebecca Wiley:**



724/772-7116



724/776-2690



advertising@sae.org

You will be contacted promptly to discuss your ad and to receive details about pricing and deadlines.

Individuals seeking employment may also list their services confidentially in the SAE Resume Database. For details, call Tracy Fedkoe, 724/772-4069 724/776-1615 fedkoe@sae.org

SAE assumes no responsibility for the statements set forth in any listing or the availability or existence of such listed positions. SAE does not review or warrant the qualifications or statements of those responding to a listing.

UPdate

SAE®

Quality Control Engineer. Plan and direct development and application of quality standards. Develop forms and instructions for reporting quality and reliability of data. Develop and implement program testing procedures. Direct workers in implementing methods for quality control. Min Req.: BS in Engineering and 2 yrs exp. in Business Management. M-F 8:00AM-5:00PM, 40 hrs/wk, \$55,474.00/yr. Send resumes w/Social Security Number to Indiana Department of Workforce Development, 10 N. Senate Ave., Indianapolis, IN 46204-2277, Att: Mr. Tim Lawhorn. Include I.D. #8207773.

Delco Remy International, Inc., located in Anderson, IN, is looking for a **Caterpillar Resident Engineer**, responsible for program management for new developments and improvement projects with the customer. For more information regarding Delco Remy and other career opportunities, please visit our website at www.delcoremy.com

Test Engineer - Automotive
Established south Texas automotive testing company seeks experienced mechanical or electrical engineer responsible for technical and reporting aspects of testing programs. Company conducts structured vehicle durability testing for a major automaker. Candidate must have effective leadership skills combined with willingness to go hands-on when necessary. Competitive compensation package offered. Send resume with salary history to: mfay@smithersmail.com

Senior Project Engineer (multiple openings); 40 hrs./wk.; 8:00 am-4:30 pm; \$72,000/yr.; Job requires: Bachelor's degree in Mechanical Engineering or Electrical Engineering or Electromechanical Engineering or Aeronautical Engineering & 3 yrs. experience in Job Offered or as an Automotive Engineer. Job also reqs.: 1) Successful completion of UNIGRAPHICS training course; & 2) Experience developing automotive vehicle architectures or exp. designing & releasing automotive systems for production or exp. evaluating total automotive vehicle performance & recommending design changes. Job duties: Create, maintain, & update parametric computer-aided design (CAD) tools, using UNIGRAPHICS software. Work with Marketing, Design, Planning, Manufacturing, & other Engineering groups to create vehicle technical specifications. Architecturally benchmark competitive vehicles. Generate vehicle concept architecture alternatives which meet release engineering requirements. Create architectural dimensional charts. Perform decision analysis to evaluate concept vehicle configurations & performance. Document system configuration of concept vehicles using Microsoft Word & Excel. Develop comprehensive CAD models using UNIGRAPHICS software representing concept vehicles. Document decisions in a technical program notebook. Qualified applicants should send resume & verification of reqs. to: P.O. Box 11170, Detroit, MI 48202, Ref. #211836. Employer Paid Ad.

Visit the SAE Job Board online at
www.sae.org/careers/recrutad.htm

Check out some of the latest job openings from the companies below:

Honda R&D Americas Inc. - Vehicle Research/Suspension Engineer or Vehicle Research/Reliability Engineer
Ethyl Corporation - R&D Engineer or R&D Technologist
Mercury Marine - Compliance Engineer; R&D Engineer 1 or 2; Quality Engineer III; Team Leader Advanced Engineering, Emissions Development; or Calibration Engineer
Polaris Industries - Engineering Compliance/Safety Project Leader; Specialist, Intellectual Property; or Sr. Project Engineer - ATV Electrical Systems
United Technologies Electronic Controls - Reliability/RFI Test Engineer
Bose Corporation - Manager, Systems Integration; Manager, Program Source Services, Processes, and Validation; Engineering Project Manager

GD&T TRAINING
Public and on-site classes available!
Call for course outline
Geometric Learning Systems
248-652-1397
www.gdtseminars.com

FULL OR PART TIME RETIREES
AUTO ACCIDENT RECONSTRUCTION
Peter R. Thom & Assoc.
Fax 925/254-1650
www.prtassoc.com