

# SAE <sup>®</sup> UPdate

NEWS FOR THE MEMBERS OF SAE

JULY 2004  
VOL. 21, NO. 7

## SAE creates the Aerospace Manufacturing and Automated Fastening Conference and Exhibition

SAE has merged the Aerospace Manufacturing Technology Conference (AMTC) with the Aerospace Automated Fastening Conference (Aerofast) to create a new event—the Aerospace Manufacturing and Automated Fastening Conference and Exhibition. This new conference will provide a unique opportunity for the aerospace industry—a single networking and educational event that brings together knowledge and practitioners in areas ranging from materials to subassembly to assembly.

The event's General Chair is John Van Gels, Vice President of Operations and St. Louis Site Manager for Boeing Integrated Defense Systems. Boeing is the conference host for the event, which will take place September 20-23, 2004 at the Sheraton West Port Hotel in St. Louis, MO. The conference will feature topics such as: lean enterprise and supply chain management; emerging manufacturing technologies; information manufacturing technologies; new applications in automated drilling, fastening, and assembly systems; and conceptual developments in automated systems.

In addition to technical sessions, the conference will feature a plenary session, "New Program Technology and Process Development for the Aerospace Industry." Panelists for this session include Hank Queen, Vice President of Engineering and Product Integrity, Boeing, and Peter Zieve, President, Electroimpact Corp.

Exhibit and sponsorship opportunities are available for companies who wish to reach this audience. Interested parties should contact Doug Shymoniak at 724.772.4081 or shymoniak@sae.org.

For further information on the conference, visit [www.sae.org/amaf](http://www.sae.org/amaf).



General Chair  
John Van Gels



Panelist  
Hank Queen



Panelist  
Peter Zieve

## 25th Annual Section Officer's Leadership Seminar held in Pittsburgh



Pictured are attendees of this year's SOLS (Section Officer's Leadership Seminar) held May 2-4, 2004 in Pittsburgh. Top row (L to R): Andrew Matheaus, South Texas Section; David Steventon, Ottawa Section; Nick Petek, Vice Chair, SAE Sections Board; Zachary DeLong, Rockford-Beloit Section; Kent Smith, Northwest Section; Richard Holloway, Chicago Section; Paul Nichols, Western New York Section; Don Coker, Alabama Group; Anita Wadsworth, Mid-Michigan Section; Nicholas Rickels, Kansas City Section; Donna Mosher, Western Michigan Section; Peter Bryant, Guest Speaker; Jim Turney, Oregon Section; Dan Schuster, Cleveland Section; Lou Brown, Washington, DC, Section; and Martin Lehman, Central Illinois Section. Bottom row (L to R): Andy Jeffers, Chair, SAE Sections Board; Joe Sagat, Milwaukee Section; Mike Vassos, Central Ontario Section; Scott Smullin, Lehigh Valley Section; Rafael Delgado, Mexico Section; Jim Pearson, Atlanta Section; Gene Miller, Carolina Section; and Brad Hartwig, British Columbia Section. See p. 9 for more information on this year's SOLS.

## IN THIS ISSUE

SAE Foundation to auction Cobra die-cast models signed by Carroll Shelby .....	4
New J1939 Standards Collection published .....	6
Career Corner: Many companies bring "EQ" into hiring decisions .....	8
Auburn University, MSOE win the 2004 Aero Design East Competition	9
Vehicle Noise Control Engineering Academy scheduled for September .....	10

## POPULAR FEATURES

Message from the President .....	2
Meetings & symposia schedule .....	5
Members on the move .....	8
Career opportunities .....	12

## Ambitious mobile air conditioning climate protection goal announced

Members of a partnership of industry, government, and environmental advocacy organizations announced at the Mobile Air Conditioning Summit on April 15, 2004 that they are launching an ambitious collaborative effort to deliver dramatic increases in the energy efficiency and substantial reductions in greenhouse gas emissions from the operation of motor vehicle air conditioning (A/C) systems. The summit was organized by the Mobile A/C Climate Protection Partnership.

The partnership goal is to reduce fuel consumption from the operation of vehicle A/C by at least 30% and refrigerant emissions by 50%. When all cars have this new technology, the improvements will save more than 2.5 billion gallons of fuel in the United States alone and 3 to 5 billion gallons of fuel per year worldwide, according to EPA. The cumulative reduction in fuel use and refrigerant emissions will avoid more than 35 billion kilograms of

annual greenhouse gas emissions. Scientists use the standard metric of "carbon dioxide-equivalent emissions" to compare the climate impact of greenhouse gases. This project will identify technologies with the potential to reduce by roughly one-half the carbon dioxide-equivalent emissions from the operation of air conditioning on new vehicles.

U.S. drivers could save \$20 to \$35 per year by using 11 to 20 gallons less fuel and can enjoy a one-time savings of at least \$100 from increased reliability due to less frequent refrigerant recharge, according to analysis by the National Renewable Energy Laboratory. The added cost of improved A/C is expected to cost the consumer less than \$40, with average payback in two years and average savings of more than \$420 during the 16-year life of the vehicle. Increasing concern over climate protection is expected to encourage global adoption.

See **AIR CONDITIONING** p. 10



Leading Our World In Motion 1905-2005

## EDITORIAL

### Peer recognition

Perhaps the most satisfying recognition that an individual in any profession can achieve is peer recognition of accomplishments. This type of recognition is not only gratifying, but frequently it spurs even greater accomplishment, with the result being technological, and often social, benefits for the individual's associates, employer, and the general public.

Since its founding in 1905, SAE has established and operated programs that have recognized outstanding achievements in the design, engineering, and production of various forms of vehicles and their components, systems, and materials.

SAE administers more than 60 award and recognition programs and cosponsors three programs in cooperation with sister societies.

The purpose of SAE Award and Recognition Programs is threefold:

- Provide an incentive to SAE members and others associated with mobility engineering to make significant engineering contributions or to render outstanding service to SAE through their leadership, service on committees, or presentation of outstanding oral or written presentations.
- Enhance the perceived image of SAE and the profession of mobility engineering by calling attention to outstanding contributions.

- Encourage entry into the automotive engineering profession, motivate practitioners to achieve new heights, and make SAE more attractive to its present and potential members.

A teacher friend of mine recently was nominated by a student's parents for a teaching award. She was so thrilled to be nominated for both the honor and recognition that I don't think she even thought that much about actually winning. And then, she did indeed win the award, and she was even more thrilled. The school district included an announcement about her winning the award in a monthly school newsletter, and a co-worker of mine, whose daughter happens to be a student in my friend's class, recently mentioned it to me. He was very impressed, as was I, to learn she had won the award. Having that feather in her cap isn't too shabby!

Consider nominating one of your peers for an SAE award. Even if he/she doesn't happen to win, what an honor it would be just to know you felt they should be nominated. For an alphabetical listing of SAE awards, visit [www.sae.org/news/awards/list/](http://www.sae.org/news/awards/list/). Also, check out the "Calls for nominations" column (p. 7 of this month) in each issue of *SAE Update* to see what award deadlines are approaching.

For more information on SAE Award and Recognition Programs, contact the SAE Award & Scholarship Program Office at [awards@sae.org](mailto:awards@sae.org).

*Jennifer Newton*

## UPdate

July 2004 Vol. 21, No. 7

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.

**Duane D. Tiede, 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, Web site: [www.sae.org](http://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.



## MESSAGE FROM THE PRESIDENT

### Collegiate Design Competitions

One of the most enjoyable parts of serving as your President this year is the opportunity to represent you at some of the SAE Collegiate Design Competitions. There are 17 of these events conducted each year, with seven for mini-baja vehicles, four for formula cars, three in Aero Design, a clean snowmobile challenge, a supermileage competition, and a walking robot challenge. Since starting in 1976, this activity has grown to be one of SAE's most successful programs for furthering our objective of lifelong education.

At each competition I attend, I have observed at least five key elements that all contribute to the success of that particular event:

- Rules or standards—These are established by a rules committee and interpreted and applied fairly to all teams by the volunteers. Sometimes this is difficult, for example when a team worked all year to prepare a vehicle, only to be told it missed some part of the inspection and therefore couldn't compete in all the events at that competition.

- Engaged students—The most exciting part for me is seeing the enthusiasm, energy, and commitment demonstrated by the teams to fix a broken airplane, car, or snowmobile, and get back in the race or prepare for the next event. The lesson that things don't always go perfectly the first time but victory goes to those who persevere is excellent training for the real world of engineering.

- Volunteers—Each competition happens only because a local Section or Sections support the activity with volunteers for judging and conducting each of the events in the competition. I extend my sincere thank you to all of you who help with the competitions worldwide. This is an opportunity to "give back" to your profession and I have seen numerous examples of outstanding local volunteers.

- Corporate support—The student competitions are another example of the outstanding corporate support SAE has always received. Companies provide engines and other components, technology, personnel, and funding for teams that make this all possible. All companies

benefit from the better-trained engineers they employ, with some choosing to start the employment process directly by recruiting at competitions.

- Staff support—SAE staff support these competitions in many ways. Their guidance and coordination assures consistency among events worldwide and continuity from year to year.

The team approach to competitions is excellent training for most future employment. Each team has a leader and each member has responsibilities ranging from concept design to analysis, building, marketing, sales, fundraising, and driving. The "hands-on" experience provides a learning experience not always available to students today. I am always impressed with the new technology or designs developed by teams trying to gain a competitive advantage. Competition has been a major driving force in our industries for the last 100 years and will be even more important in the future. The attitudes and skills developed in student competitions will serve these individuals well throughout their careers.

My final thank you goes to the SAE Foundation for their support of the Collegiate Design Competitions. These competitions, together with the *A World In Motion* program, are excellent training opportunities for our future engineers.

If you regularly attend and support the Collegiate Design Competitions, I thank you on behalf of all of the students and future employers who will benefit from the skills of these graduates. If you haven't been involved, I encourage you to visit the SAE website and find out where the nearest local competition is and what you might do to participate.

Please e-mail me at [dtiede@sae.org](mailto:dtiede@sae.org) with your input on the Collegiate Design Competitions or any other topic you would like to discuss. I look forward to the year and the opportunity to share thoughts with you monthly in this forum.



*Duane Tiede*

SAE International

Knowl•edge *n.* understanding gained through experience or study

SAE TechKnowledge Centers can help in your quest. Find out how.

[www.sae.org/tkc](http://www.sae.org/tkc)

## SAE CENTENNIAL

## Charles F. Kettering: An inventor who touched all aspects of SAE

Perhaps no other industry pioneer reflects the values and ideals of SAE than the society's 1918 President, Charles F. "Boss" Kettering. Kettering was a hands-on inventor who impacted all aspects of the society. His automobile self-starter made the gasoline-powered automobile used today more practical than the once-dominant electric vehicle. His motorized cash register revolutionized commerce as we know it. Summer heat has never been the persistent misery it was before Boss Kettering put Freon to use in homes and vehicles. Safety glass has saved countless lives and debilitating injuries.

Kettering was active in many phases of SAE activity during and after World War I, and it was his influence that helped galvanize the cooperative efforts of both ground vehicle and aviation pioneers of early SAE. Historically known as an automobile man, two of Kettering's early SAE papers, titled "The Future of the Airplane Business" and "Tractor Engine Possibilities," shows the workings of a mind not limited to one mode of transportation.

The Delco Products Division of General Motors Corp. was first created by Charles Kettering and partner Edward Deeds. At the time of his death in 1958, Kettering was a co-holder of more than 140 patents and possessed honorary doctorates from nearly 30 universities. Kettering believed strongly in the combination of hard work, ingenuity, and technology to improve the world and the human condition.

Kettering was a man not only of high intelligence and creativity, but he had an amazing gift for sharing pearls of his wisdom, often called "Ketteringisms." Here are but a few of them:

- "The world hates change, yet it is the only thing that has brought progress."



Charles F. Kettering

- "It is not what we know that is important, it is what we do not know."
- "It doesn't matter if you try and try and try again, and fail. It does matter if you try and fail, and fail to try again."
- "If you want to kill any idea in the world, get a committee working on it."

A short list of Kettering inventions: electric cash register; electric auto ignition and self-starter for automobiles; spark plug; Freon for refrigerators and air conditioners; leaded gasoline; quick-drying paint for automobiles; safety glass; portable electric generator; four-wheel brakes; automatic transmission; electric railway gate; and first synthetic aviation fuel.

As SAE nears its 100th anniversary, it is appropriate to recognize Charles F. Kettering, a man not only dedicated to the ideals of SAE, but also a man that advanced all forms of mobility in ways that perhaps no other individual ever has.

## Special 100th Anniversary programs

From a black tie gala and special Section functions to "mini celebrations" at various SAE conferences and the Centennial Series editions of SAE magazines, you'll have ample opportunity to join SAE in toasting the society's first century.

### SAE 2004 Motorsports Engineering Conference and Exhibition

November 30-December 2, 2004  
Hyatt Regency Dearborn  
Dearborn, MI

### 2005 Foundation Banquet

May 2005

### 2005 Government & Industry Meeting

Reception at the Air & Space Museum  
May 10, 2005  
Washington, DC

### SAE AeroTech Congress and Exhibition

October 3-7, 2005  
Dallas/Fort Worth, TX

### 2005 SAE Commercial Vehicle Engineering Congress & Exhibition

Banquet and other events that will spotlight the 100th Anniversary  
October 18-20, 2005  
Chicago, IL

### 2005 DoD Maintenance Conference

October 23-27, 2005

### SAE 2005 World Congress

Banquet and many other events that will spotlight the 100th Anniversary.  
April 11-15, 2005  
Detroit, MI

### 2005 Student Competition

100-Mile Mini-Baja  
Southern Arizona

## Celebrate the SAE International Centennial



Leading Our World In Motion

From corporate advertising opportunities in special Centennial issues of **AUTOMOTIVE ENGINEERING INTERNATIONAL** to memorabilia and more, join SAE in celebrating the Society's first century in mobility technology. From button-downs to polos, canvas duffels, leather bombers, road racer optical crystal and more, choose from hundreds of exclusive options at value prices. *Great gift ideas or just for you!*

www.sae.org • 1-877-606-7323 (USA & Canada)  
1-724-776-4970 • CustomerService@sae.org

040199

SAE International™

"The premier society dedicated to advancing mobility engineering worldwide"

## 22<sup>nd</sup> Annual Brake Colloquium & Exhibition

October 10-13, 2004  
Anaheim Marriott, Anaheim, CA, USA

Featuring a robust program focusing on the most advanced technology solutions, over 700 engineering professionals assemble each year to introduce cutting-edge technology, exchange solutions, consider new applications, and build business relationships. Learn about the latest technological developments in braking materials, components and systems and discuss hot-button issues such as capacity, implications of low cost country sourcing, emerging markets in China, India, Eastern Europe and expectations of global OEs.

### Brake Friction Industry Executive Management Panel

David Bundred, President, TMD Holdings  
Bill Hilbrandt, VP Research & Development, Akebono  
Kazuhiro Iwata, President, Nisshinbo Automotive  
Kenji Kakihara, General Manager, Brake & Chassis Systems, ADVICS  
Eric McAlexander, VP Global Friction Manufacturing, Federal Mogul  
Josef Pickenhahn, VP Braking, TRW Automotive  
Scott Buckhout, VP & General Manager America, Honeywell Friction Materials

Feature Speaker  
**Shin Taguchi,**  
President, American  
Supplier Institute  
Sponsored by:  
**Delphi Corporation**

Attend • Exhibit • Advertise • Sponsor

www.sae.org/brake • 1-877-606-7323  
(outside US/Canada 1-724-776-4970)

040678

SAE International™

"The premier society dedicated to advancing mobility engineering worldwide"

## International Conference on Environmental Systems (ICES)

July 19-22, 2004  
Colorado Springs, Colorado, USA  
34th Annual Meeting

Join your colleagues to network and explore topics related to the challenges of humans living and working in hostile environments, including:

- aerospace human factors
- environmental control and life support system technology
- environmental monitoring and controls
- EVA system technology
- life sciences
- planetary habitats and systems
- thermal control systems technology for both manned and unmanned vehicles.

Registration and attendee information available online:

[www.sae.org/ices](http://www.sae.org/ices)

**Conference Chair** - Barry Finger,  
Sustaining Engineering Program Manager, Honeywell

**Conference Vice Chair** - Gijsbert Tan,  
Senior ECLS Engineer, European Space Agency

Conference Sponsors



Presented by:

SAE International™

In association with:  
The American Institute of Aeronautics and Astronautics  
The American Institute of Chemical Engineers  
The American Society of Mechanical Engineers  
ICES International Committee

040362

## WASHINGTON REPORT

### SAE Past President Ableson selected to serve on Congressional math and science education steering committee

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

Don Ableson, 1999 SAE President, was recently selected to serve on a prestigious math and science education steering committee dedicated to providing key input to Congress on future legislation.



Doug Read

The Congressional Science and Math (STEM) Education Caucus, announced in March 2004, is made up of the following members of Congress: Rep. Vern Ehlers (R-MI), Rep. Mark Udall (D-CO), Rep. Nancy Johnson (R-CT), Rep. Rod Freylinghuisen (R-NJ), Rep. Judy Biggert (R-IL), Rep. Adam Schiff (D-CA), Rep. Adam Smith (D-WA), Rep. John Lewis (D-GA), Rep. Boucher (D-VA), Rep. Henry Waxman (D-CA), Rep. Nick Smith (R-MI), and Rep. Richard Baker (R-LA).

The Steering Committee on which Ableson will serve is composed of representatives from the business, education, and scientific communities who can serve as links to the grassroots memberships. The primary function of this steering committee is to gather information from a broad spectrum of stakeholders involved in math and science education, provide outreach opportunities to constituents of Caucus members, and make recommendations on the legislative needs for improved math and science education in the U.S.

Other steering committee members, in addition to Ableson, are Vance Ablott, Triangle Coalition; Leigh Abts, Johns Hopkins (engineering K-12 research); Sandy Boyd, National Association of Manufacturers; Paula Collins, Texas Instruments; Patti Curtis (ASME), representing K-12 STEM Education Coalition; Heather Hill (American Chemical Society), representing professional societies Coalition for National Science Funding and Engineering and Science Coalition; Chris Simmons (American Council on Education), representing universities, Association of American Universities, and National Association of State Universities and Land-Grant Colleges; Susan Traiman, Business Round Table; Jenifer Verdery, Intel; and Debbie Witchey, Healthcare Leadership Council.

The first Steering Committee meeting was held on April 30 in Congressman Ehler's chambers on Capitol Hill.

#### SAE sponsors ANSI Caucus Luncheon featuring OSHA Safety

SAE sponsored the May American National Standards Institute (ANSI) Caucus Luncheon held at the University Club in downtown Washington. The keynote address for this event was made by Lee Smith, Director of Safety Systems in the Directorate of Standards and Guidance at the Occupational Safety & Health Administration (OSHA). An emphasis was placed on the elimination of confusing, outdated, and duplicative standards and regulations.

Smith's office develops regulations and guidance materials for safety systems in general industry and provides interpretations of the regulations. OSHA launched its Standards Improvement

Project in several phases to remove and revise provisions of its standards that were outdated, redundant, or unnecessary. Smith currently oversees the implementation of this project and will update caucus attendees on the agency's progress.

"As reflected in ANSI's memorandum of understanding with OSHA, ANSI's interest in the agency's activities is certainly mirrored in their support of our missions," said David Karmol, ANSI Vice President for Public Policy and Government Affairs.

SAE's Ray Morris, Executive Vice President and Chief Operating Officer; Doug Read, Director, Government and Industry Affairs; and Keith Hancock, Public Relations Specialist, were in attendance.

ANSI Caucus luncheons are held on the first Friday of each month and are free to ANSI members.

#### Engineering societies host DOD science and technology briefing

The Institute of Electrical and Electronics Engineers-United States of America (IEEE-USA), ASME International, and the Congressional Research and Development Caucus recently sponsored a luncheon briefing on Capitol Hill titled Department of Defense; Science and Technology: Investing in a Secure Future for America.

The featured speaker was Ronald Segal, Director, Defense Research and Engineering, Department of Defense (DOD). The event was held in the Cannon House Office Building in late April.

Participants were introduced to the importance of the DOD basic and applied research programs to America's war fighting and peacekeeping capabilities, homeland security, and economic prosperity.

#### First Media Focus Group held

On April 30, the Washington Automotive Press Association (WAPA) began a new series of journalist meetings called Media Focus Group. The focus groups will feature automotive industry newsmakers and will be open to journalists only. The first meeting was held April 30 at USA TODAY in McLean VA.

The first forum was "Gasoline and Diesel Turbocharging: A European Perspective for the U.S." European automakers have embraced turbocharging—40% of Europe's new-vehicle market is diesel, and all of them are turbocharged. In fact, even 10% of Europe's gasoline engines come with turbochargers, a number that increases annually. At the same time, only 1% of U.S. automakers are putting turbochargers in their gasoline vehicles. Rob Gillette, President & CEO of Honeywell Transportation Systems, which includes Honeywell Turbo Technologies—the manufacturer of Garrett turbochargers, presented an analysis of boosting trends in the U.S., Europe, and Asia, as well as a preview of emerging turbocharging technologies for both gasoline and diesel vehicles.

Reporters also had the opportunity to drive turbocharged gasoline and diesel vehicles sold in Europe but not the United

States. The vehicles they drove, which included some right-hand drive vehicles, were an Australian Ford Falcon sedan (4.0-L gas turbo), a U.K. version of the Ford Focus RS (2.0-L gas turbo), a prototype Jeep Liberty (2.4-L gas turbo), a BMW 330d (3.0-L turbodiesel), a Mercedes-Benz E320 CDI (3.2-L turbodiesel), an Audi A8 (4.0-L turbodiesel), a Smart City Coupe (800-cc turbodiesel), and a BMW X 5d (3.0-L turbodiesel).

#### Science committee chairman urges investment in Clean School Bus Program

House Science Committee Chairman Sherwood Boehlert (R-NY) recently reiterated his strong support for the Clean School Bus Program. Speaking before the National School Transportation Association (NSTA), National Association of Pupil Transportation, and National Association of State Directors of Pupil Transportation Services—three trade groups representing the entire U.S. school bus industry—Boehlert outlined the environmental and safety benefits of replacing old, pollution-causing school buses with newer, cleaner, and safer models.

"When I started working for clean school buses, more than four years ago, no one gave this issue a chance," said Boehlert. "But I started working with a small group

of interested people, bringing industry and environmentalists together, and look at how far we've come."

Boehlert has been a stalwart champion of the Clean School Bus Program. He introduced legislation in the 107th Congress that would have replaced school buses manufactured prior to 1991 with newer, alternative-fuel versions. In the 108th Congress, that bill was incorporated into H.R. 6, the Energy Policy Act of 2003, and was expanded to also allow for ultra-low-sulfur diesel replacements. It also provides for the retrofitting of newer diesel school buses—those made after 1991—with filters and traps that make them less polluting. The bill authorizes \$300 million over three years for the Clean School Bus Program: \$200 million for school bus replacement and \$100 million for school bus retrofitting.

The Clean School Bus Program is supported by a broad coalition of environmental groups, manufacturers, and school bus contractors. Members of the coalition include Corning, Cummins, John Deere, Caterpillar, International Trucks, NSTA, and the Union of Concerned Scientists. The Bush Administration is also supportive of the initiative and has included \$65 million for the program in its fiscal year 2005 budget request.

## SAE FOUNDATION

### SAE Foundation to auction Cobra die-cast models signed by Carroll Shelby

Here is a chance to own a piece of automotive history bearing the signature of a true performance pioneer. A limited-edition group of 10 1/18 scale die-cast 1964 Shelby 427 S/C Cobra Coupes made by die-cast manufacturer Yat Ming, and signed by Carroll Shelby himself, will be auctioned on eBay to benefit the SAE Foundation. One car per month will be auctioned starting the first Thursday of each month from May 2004 to February 2005.



John Coletti (left), Director of SVT Program for Ford Motor Co., assisted Cobra designer Carroll Shelby while signing model cars at the SAE 2004 World Congress.

Each signed silver car is in a numbered original box and is attached to its original platform. Each winning buyer will receive the signed car, a letter of authenticity, and a framed photo print showing Shelby signing the car at the SAE World Congress in Detroit, MI, on March 10, 2004.

To place your bid on [www.ebay.com](http://www.ebay.com), go to the Toys & Hobbies category and

search under the Diecast, Toy Vehicles section. Every penny of your winning bid payment will go to benefit the programs of the SAE Foundation. What's more—you will be contributing to the future of mobility engineering. To learn more about the SAE Foundation, visit [www.sae.org/foundation](http://www.sae.org/foundation).

## MEETINGS UPDATE

### Meetings and symposia schedule

For more information about meetings and symposia, call SAE Customer Service toll-free at 877.606.7323 (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](http://www.sae.org/calendar/meetings.htm); symposia details at [www.sae.org/calendar/toptecs.htm](http://www.sae.org/calendar/toptecs.htm).

SAE Ground Vehicle Design & Manufacturing Events		
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
Homogeneous Charge Compression Ignition Symposium	August 10-11 2004	Berkeley, CA
International Body Engineering Symposium	September 21-22 2004	Troy, MI
2004 International Continuously Variable and Hybrid Transmission Congress	September 23-25 2004	San Francisco, CA
Small Engine Technology Conference (SETC)	September 27-30 2004	Graz, Austria
*AWD (All-Wheel-Drive) Systems, Security, and Driver Interaction Symposium	Sept. 27-Oct. 1 2004	Ottawa Lake, MI
22nd Annual Brake Colloquium & Exhibition	October 10-13 2004	Anaheim, CA
Convergence 2004	October 18-20 2004	Detroit, MI
DoD Maintenance Symposium & Exhibition	October 25-28 2004	Houston, TX
Powertrain & Fluid Systems Conference & Exhibition	October 25-28 2004	Tampa, FL
*SAE Commercial Vehicle Engineering Congress and Exhibition	October 26-28 2004	Chicago, IL
2004 SAE Brasil Congress	November 16-18 2004	São Paulo, Brazil
Motorsports Engineering Conference and Exhibition	Nov. 30- Dec. 2, 2004	Dearborn, MI
Enhancing Heavy Truck Safety, Security and Efficiency Through Technology: An SAE Symposium	December 1-2 2004	Phoenix, AZ
Innovations in Variable Valve Actuation: "Timing is Everything"	December 7-8 2004	Troy, MI
SAE Aerospace Design & Manufacturing Events		
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
Aerospace Manufacturing and Automated Fastening Conference & Exhibition	September 21-23 2004	St. Louis, MO
DoD Maintenance Symposium & Exhibition	October 25-28 2004	Houston, TX
World Aviation Congress	Nov. 2-4, 2004	Reno, NV
Power Systems Conference	Nov. 2-4, 2004	Reno, NV
*Events at which SAE seminars will be conducted.		

### Enhancing Heavy Truck Safety, Security and Efficiency Through Technology Symposium scheduled for December

SAE is offering an all-new symposium for the heavy-truck community scheduled for December 1 & 2, 2004 in Phoenix, AZ. Presenters from industry and government will discuss various technologies related to engine control, vehicle/trailer/cargo tracking, communications, driver-vehicle interaction and efficient movement of freight. The following topics will be addressed as they relate to truck safety, security, and efficiency:

- Onboard computers that include onboard and remote vehicle shutdown and fuel optimization capabilities
- Adaptive cruise control and driver warning
- Mobile communications, vehicle tracking, GPS, and Geofencing technologies
- Emergency notification, panic buttons, anti-cargo theft, anti-hijacking systems
- Driver ID verification and authentication, smart ID cards, biometric identifiers
- Trailer and cargo tracking systems, smart containers, electronic tags, sensors, RFID
- Closed-circuit video
- Vehicle onboard radar, lane departure notification, rear collision warnings, roll stability
- Human factors considerations in using onboard technologies
- Dynamic routing
- ITS and traffic congestion
- Border crossing issues
- Commercial Vehicle Information Systems and Networks (CIVSN) deployment
- Electronic roadside inspection

Highlights include a Transportation Security Administration Panel, which will discuss security issues in intermodal transport, and a wrap-up panel, which will address the deployment challenges of various technologies, including their adoption for specialized needs such as hazardous materials transportation. There will also be an afternoon of static and dynamic demos at the Exponent Failure Analysis test track as part of this symposium.

Organizers for this symposium include: Victoria Chapman and Amy Houser, Office of Research & Technology, Federal Motor Carrier Safety Administration (FMCSA); Joseph DeLorenzo, Hazardous Materials, FMCSA; Kevin Johnson and Charles Morton, U.S. Department of Homeland Security, Transportation Security Administration; Rob Larson, Exponent Failure Analysis; Doug Reeves, Research and Special Programs Administration, Office of Hazardous Materials Technology; and Marc Sands, QUALCOMM.

Your attendance at this symposium is a must if you are an engineer involved with heavy trucks or buses, a fleet operator, an OEM, a supplier or a state, local, or federal government official interested in heavy vehicle safety, law enforcement, and security technologies.

This two-day program includes one and a half days of presentations and panels, followed by a field trip to the Exponent Analysis Track for truck technology demos.

To register visit [www.sae.org/events/symposia/heavytruck](http://www.sae.org/events/symposia/heavytruck). For information on the technical program, contact Nancy Eiben, Staff Team Leader, at 724.772.8525.

## OFFICER PROFILE

**Alan H. Nye** (Mbr'80), Professor of Mechanical Engineering, Rochester Institute of Technology, has been elected to serve a three-year term on the SAE Board of Directors (2004-2006).



Alan H. Nye

Nye earned his BS and MS degrees in mechanical engineering from Clarkson University in 1969 and 1970. He subsequently earned a Ph.D. in mechanical and aerospace sciences at the University of Rochester in 1975. From 1975-1977, he held a post-doctoral appointment at the Sacramento Peak Observatory in Sunspot, NM, doing research in magnetohydrodynamics of the solar atmosphere. Nye joined the Mechanical Engineering Department of Rochester Institute of Technology (RIT) in 1977. He has risen through the academic ranks and was appointed Professor in 1990. Nye has held visiting positions at the High Altitude Observatory in Boulder, CO; the Naval Research Laboratory in Washington, DC; and the Institute for Astronomy at the University of Hawaii in Hawaii.

At RIT, Nye has been involved in research in the areas of solar energy and alternative-fuel vehicles and taught courses in the design area. Nye was also Chairman of the faculty committee that

developed the automotive engineering option for the Mechanical Engineering Department. As course coordinator for the Senior Design course sequence, he is responsible for generating approximately 30 projects per year. These are mostly industrially sponsored and most have a multidisciplinary component.

Nye has been faculty advisor of the RIT student chapter of SAE since 1978. The student chapter has been very active, participating in many Mini Baja regional and international competitions, the Methanol Marathon, the Methanol Challenge, GM Sunrayce USA, Sunrayce 93, two American Tour de Sols, 15 Formula SAE competitions on three continents, and three SAE Aero Design competitions. The chapter has been named Outstanding Student Branch four times. Nye has been selected by SAE as Outstanding Faculty Advisor three times and received the Ralph R. Teetor Award in 1983.

An SAE member since 1980, Nye has been a member of the governing board of the Western New York Section since 1982. He has held various positions including Chair in 1987-88 and in 1998-99. At the national level, he has served on the Annual Nominating Committee, the Sections Board, and the Engineering Education Board, chairing several subcommittees. He served on the SAE Board of Directors from 1994 to 1998.

## PUBLICATIONS

### A different angle on race car engineering: the practical approach

How important is a tenth of a second? In racing, it can mean the difference between winning and losing. In many cases, finding that tenth of a second may well lie in the accuracy of the set-up of the car—from the very moment its engineering begins.



*Hands-On Race Car Engineer* by John Glimmerveen looks at each part of the process required to enable a car to win. This book will be useful to those involved in the highly complex sport of auto racing. Drivers will develop a better understanding of how changes to the vehicle affect its dynamics. Race engineers will better understand the practical implications of set-up changes. Design engineers will gain knowledge about the impact of operating conditions on their designs. Mechanics will gain insight into how engineers design components. In short, this book will help racing professionals and enthusiasts learn to recognize why they won or lost a race—key information to continually improving performance and reaching the winner's circle.

Chapters include: Assembling the car; Geometrical set-up; Testing, practice, and

qualifying; Racing; Essential spares and equipment; Transporters; Workshops; Electrical systems and data logging; Accident repairs; Nuts and bolts; Keeping records; and Accounting and budget control.

Author John Glimmerveen has been involved in motor sports for more than 30 years. His career started in the UK where he competed in motorcross and road-racing, both solo and side-cars, in a successful career that spanned 18 years. When he retired from racing, he worked for several race teams in Europe and the U. S., culminating in a position as race technician for Keith Huewen in Motor Cycle Grand Prix. He obtained his City and Guilds in both fabrication engineering and motorcycle engineering at the Crewe College. He currently teaches race car fabrication and vehicle dynamics at Lanier Technical College near Atlanta, GA.

*Hands-On Race Car Engineer* (Order No. R-323) by John Glimmerveen is a 252-page softbound book, ISBN 0-7680-0898-0. List price is US\$69.95 (SAE members receive a 20% discount). To order or for more details, call 877.606.7323 or 724.776.4970 (outside the U.S. and Canada), e-mail [customerservice@sae.org](mailto:customerservice@sae.org), or visit [store.sae.org](http://store.sae.org).

### New SAE book invaluable reference for those working in automotive safety

In market research done by the world's automotive manufacturers, safety is continually cited as the performance characteristic most important to consumers. It's no surprise, then, that safety engineering has become one of the most critical research areas in the automotive industry.



Recently published by SAE International, the *Automotive Safety Handbook* is the first and only book with extensive coverage of both active and passive safety systems. It is sure to become the standard reference for automotive safety information. Chapters include: Definitions; Driving Forces for Increased Vehicle Safety; Safety Legislation; Accident Data; Accident Avoidance; Biomechanics and Occupant Simulation; Vehicle Body; Dynamic Vehicle Simulation Tests; Occupant Protection; Interrelationships Among Occupant, Restraint System, and Vehicle in Accidents; Pedestrian Protection;

Compatibility; and Computer Support for the Development of Safety Components.

Authors Ulrich Seiffert and Lothar Wech each have more than 20 years experience in the field of automotive safety. Seiffert is currently acting Chairman of WiTech Engineering GmbH, speaker of the Center of Traffic Management, and a lecturer at the Technical University of Braunschweig since 1982. Seiffert was a member of the Board of Management at Volkswagen AG for seven years until 1995. He has won numerous awards in the area of engineering research. Wech is General Manager of TÜV Automotive GmbH, TÜV Süddeutschland Group. He has given many keynote addresses at automotive safety conferences, and has served as Chairman of the Crash-Tech Conferences since 1992.

The *Automotive Safety Handbook* is a 283-page hardbound book, ISBN 0-7680-0912-X, Order No. R-325. List price is \$99.95 (SAE members receive a 20% discount.) To order or for more information, call 877.606.7323 or 724.776.4970 (outside the U.S. and Canada), e-mail , or visit [store.sae.org](http://store.sae.org).

### New J1939 Standards Collection published

The SAE Truck and Bus Control and Communications Subcommittee has developed a family of standards for the design and use of devices that transmit electronic signals and control information among vehicle components. SAE J1939 and its companion documents have quickly become the accepted industry standard and the Controller Area Network (CAN) of choice for on-highway trucks and off-highway machines in applications such as construction, material handling, and forestry.

The top-level document provides an overview and serves as a master control for common definitions used by multiple applications and industries, while the companion documents define the use of these standards in a particular application or industry. The intent of J1939 is to allow "plug and play" capability for any device that is added to the network.

Users can access these standards in three different ways: practitioners can purchase

individual standards; users can subscribe to *The SAE J1939 Standards Collection* on the Web, a complete set of up-to-date standards and related documents; or purchase a print collection—*The J1939 Handbook Supplement*. This publication is a set of recommended practices that define a data network for use in a wide variety of applications, with primary emphasis on heavy-duty vehicles. It was designed to support general-purpose information transfer as well as the more demanding tasks of distributed control systems on board a vehicle.

The recently published 2004 edition (ID number HS-1939/2004) includes two new and five revised standards developed since the last edition. This new collection can be purchased for \$199 (\$450 less than the cost of buying all included content separately), by calling SAE Customer Service at 877.606.7323 or visiting [www.sae.org](http://www.sae.org).

### Hispano Suiza's aeronautical innovations uncovered in new SAE book

Hispano Suiza, a firm of Spanish tradition with origins of the highest caliber, is little known to recent generations. The luxury automobiles made at the Hispano Suiza factories in Barcelona and Paris during the 1920s and 30s are well known to automotive historians and car collectors. Hispano Suiza, however, embarked on other activities of considerable industrial, commercial, and strategic importance—notably aviation engines produced in Spain and France, and aircraft constructed in Spain.



In *Hispano Suiza in Aeronautics: Men, Companies, Engines and Aircraft* by Manuel Lage, Marco examines Hispano Suiza's evolution and the technological advances of its engines. Starting with circumstances that favored the creation of an indigenous aviation engine, the story follows engine development for a breadth of applications, particularly aviation engines, and describes, in parallel, the birth and development of aircraft in Spain by Campaña Española de Construcciones Aeronáuticas (CECA), La Hispano, La Hispano Aircraft, La Hispano Suiza, SAF-5, SAF-15, and La Hispano Aviación.

Although numerous books have been published on developments of Hispano Suiza as an automotive force, until now

none has been published on the company's primary line of business aircraft and aviation engines. Hispano Suiza in Aeronautics: Men, Companies, Engines and Aircraft is an in-depth study covering a vast period in the history of the Spanish and French aircraft industry (1913-1967) and it offers insight into Hispano Suiza's significant achievements.

Author Manuel Lage has spent his professional career in the automotive industry. He worked for eight years at Chrysler Spain, S.A. (now Renault Truck, S.A.), eight years at Pegaso (Empresa Nacional de Autocamiones, S.A.), and seven years at Iveco Pegaso, S.A., serving in a variety of roles in engine and truck design, product planning, and marketing. He is currently at Iveco headquarters in Torino, Italy, with responsibility for special projects in the Strategic Development Areas Division. Lage has authored several books on motoring history in Spain, including Hispano Suiza/Pegaso: A Century of Trucks and Buses, which won the Estudis Award of the Fundació Bonaplata in 1993.

*Hispano Suiza in Aeronautics: Men, Companies, Engines and Aircraft* (Order No. R-333) is a 495-page softbound book, ISBN 0-7680-0997-9. List price is US\$59.95 (SAE members receive a 20% discount). To order, call 877.606.7323 or 724.776.4970 (outside the U.S. and Canada), e-mail to [customerservice@sae.org](mailto:customerservice@sae.org), or visit [store.sae.org](http://store.sae.org)

**SAE International**

**Smart engineers know the importance of keeping their skills razor sharp.**

**So does SAE.**

View our extensive schedule of seminars offered at our Automotive Headquarters in Troy, MI by visiting [www.sae.org](http://www.sae.org).

## CALLS FOR NOMINATIONS

**Who:** *A World In Motion* (AWIM) volunteers

**Award:** Bill Agnew Award for Outstanding AWIM Volunteers

**Nomination deadline:** June 30, 2004

**Award description:** This award recognizes volunteers who further develop students' understanding and experience in math and science by helping teachers use the *AWIM* materials in the classroom. The nominee must be a volunteer who has assisted a teacher integrating the *AWIM* program in the classroom and must have participated in classroom activities during the current academic year. Nominees do not have to be professional engineers. College and/or high school students who have served as volunteers and non-engineers are eligible for the award, as well as professional engineers.

**Submission:** For further information and a nomination form, go to [www.sae.org/news/awards/list/agnew/](http://www.sae.org/news/awards/list/agnew/).

**Who:** Middle school teacher(s) from public, parochial, and private schools (individuals or teams)

**Award:** The Gary Dickinson Award for Teaching Excellence

**Nomination deadline:** June 30, 2004

**Award description:** 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* 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.

**Submission:** For further information and a nomination form, go to [www.sae.org/news/awards/list/dickinson/](http://www.sae.org/news/awards/list/dickinson/).

**Who:** Elementary teacher(s) from public, parochial, and private schools (individuals or teams)

**Award:** Lloyd Reuss Award for Teaching Excellence

**Nomination deadline:** June 30, 2004

**Award description:** This award is given annually to encourage creative and exemplary teaching of math and science at the elementary school level. The purpose of the award is to recognize teachers who have made creative and exemplary use of *A World In Motion* to further develop students' understanding of the principles of motion in a way that brings to light the excitement of science and math.

**Submission:** For further information and a nomination form, go to [www.sae.org/news/awards/list/reuss/](http://www.sae.org/news/awards/list/reuss/).

**Who:** Engine technology professionals (land, air, space)

**Award:** Max Bentele Award for Engine Technology Innovation

**Nomination deadline:** July 1, 2004

**Description:** This award recognizes an SAE member whose work has furthered innovation in the manufacture, design, and improvement of engine technology for ground, air, or space vehicles. It is designated for engineers under the age of 35 who have made a major contribution through a new idea, concept, innovation, or application that provides a recognized

improvement in engine technology and that has been verified through proof-of-concept demonstrations.

**Submission:** Complete and submit a nomination form online at [www.sae.org/news/awards/list/bentele/](http://www.sae.org/news/awards/list/bentele/).

**Who:** Student authors of SAE technical papers

**Award:** Myers Award for Outstanding Student Paper

**Application deadline:** July 15, 2004

**Description:** This award is given annually for the best SAE technical paper presented by a student. The paper must be based on work done by the lead author(s) while they are a student and must be presented by the student at an SAE meeting between June 1, 2002 and May 31, 2003. Papers can be on any topic and from students worldwide.

**Submission:** Apply on the SAE website at [www.sae.org/awards/myers.htm](http://www.sae.org/awards/myers.htm).

**Who:** College students working in the field of fatigue research and applications

**Award:** Henry O. Fuchs Student Award

**Nomination deadline:** July 31, 2004

**Award description:** The purpose of this award is to promote the education of engineering students in the area of fatigue technology. The award is presented to a college student who is working in the field of fatigue research and applications. The winning student will be required to discuss his or her work related to the field of fatigue research and applications, in the form of a one half-hour presentation with time for questions and answers, at the SAE Fatigue Design and Evaluation Committee meeting in Fall 2004.

**Submission:** Nominations are to be made by submitting a one-page summary explaining the students work. Please submit nominations by e-mail to [rchern@ford.com](mailto:rchern@ford.com), fax: 313.390.0514, or contact 313.594.4626 before July 31, 2004.

**Who:** Women leaders in the mobility industry

**Award:** WEC/BREED Award for Women's Leadership

**Nomination deadline:** July 31, 2004

**Award description:** This award recognizes a woman active in the mobility industry who exhibits the best balance of life through outstanding performance or significant contributions both professionally and personally. Selection is based primarily on how the nominee creatively deals with the challenges that face professional women today.

**Submission:** For further information and a nomination form, visit [www.sae.org/news/awards/list/wec/](http://www.sae.org/news/awards/list/wec/).

**Who:** Passenger car, truck, or bus engineers

**Award:** Henry Ford II Distinguished Award for Excellence in Automotive Engineering

**Deadline:** August 1, 2004

**Description:** This award recognizes SAE members who use their engineering skills to achieve product or manufacturing process contributions that are assessed to have had significant positive effect on the passenger car, truck, and bus industries.

**Submission:** Visit [www.sae.org/news/awards/list/fordii/](http://www.sae.org/news/awards/list/fordii/) for a nomination form.

**Who:** Innovative design engineers

**Award:** Edward N. Cole Award for Automotive Engineering Innovation

**Nomination Deadline:** August 1, 2004

**Description:** This annual award recognizes an SAE member whose innovative design is described in an SAE paper or whose lifetime of accomplishment is judged to be a significant achievement in automotive engineering. Judgment is based upon the value of the work as an original innovative contribution, not upon the application of some development or invention already known.

**Submission:** Retrieve the nomination form at [www.sae.org/news/awards/list/cole/](http://www.sae.org/news/awards/list/cole/).

**Who:** Standards & regulatory engineers

**Award:** SAE/InterRegs Standards & Regulations Award for Young Engineers

**Nomination Deadline:** August 1, 2004

**Description:** This annual award recognizes a practicing engineer under the age of 40 who is involved in standards, regulations, or conformity assessment systems that have improved safety or reduced emissions in a mobility product.

**Submission:** For further information and an application, visit [www.sae.org/news/awards/list/interregs/](http://www.sae.org/news/awards/list/interregs/).

**Who:** Safety engineers — land, air, sea, and space

**Award:** Arnold W. Siegel International Transportation Safety Award

**Nomination Deadline:** August 1, 2004

**Description:** This award recognizes individuals whose accomplishments include outstanding international research, innovation, and contributions to crash-injury protection, biomechanics, and design for all vehicles—land, air, sea, and space.

**Submission:** Visit [www.sae.org/news/awards/list/siegel/](http://www.sae.org/news/awards/list/siegel/) for a nomination form.

**Who:** Professionals that promote the environmental vision within SAE and outside of the society

**Award:** John Connor Environmental Award

**Nomination deadline:** August 31, 2004

**Description:** This award recognizes the accomplishments of an individual to promote the environmental vision of SAE within and outside the Society. It was established to meet the demands of the ever-changing environmental challenges that face manufacturers, suppliers, and professionals in the global transportation industry.

**Submission:** For further information and a nomination form, visit [www.sae.org/news/awards/list/connor/](http://www.sae.org/news/awards/list/connor/).

**Who:** Environmental, safety, materials, testing and emissions professionals

**Award:** Henry Southern Standards Award

**Nomination deadline:** August 31, 2004

**Award description:** This award recognizes the accomplishments of an individual for standards development in the disciplines of environment, safety, materials, testing, and emissions. It is designed to

recognize the ever-changing challenges that face manufacturers, suppliers, and professionals in the transportation industry around the world with respect to standardization.

**Submission:** For further information and a nomination form, visit [www.sae.org/news/awards/list/souther/](http://www.sae.org/news/awards/list/souther/).

**Who:** Candidates may be current or former members of the SAE Engineering Education Board (EEB) or committees reporting to the EEB, faculty advisors, and other individuals who have made contributions toward activities related to the EEB.

**Award:** Excellence in Engineering Education - Triple "E" Award

**Nomination deadline:** September 15, 2004

**Award description:** This annual award recognizes outstanding contributions made by an individual toward activities related to the SAE Engineering Education Board. The award is given for any of the following types of service: promotion of SAE student activities at the international or local levels; contributions that advance engineering education; contributions in support of the SAE Collegiate Design Competitions; and promotion of educational-related activities at any level.

**Submission:** For further information and a nomination form, visit [www.sae.org/news/awards/list/eee/](http://www.sae.org/news/awards/list/eee/).

**Who:** Engineering educators

**Award:** Teetor Award

**Application deadline:** October 16, 2004

**Description:** Engineering professors with more than three but less than 10 years of full-time faculty experience, who are affiliated with an engineering school from which SAE accepts student members, are encouraged to apply for the Ralph R. Teetor Educational Award. Recipients of this prestigious award for outstanding engineering educators will:

- Receive a gratis trip to either the SAE World Congress or an SAE aerospace conference
- Meet one-on-one with practicing engineers to exchange information and views on subjects of mutual interest
- Participate in specialized tours of industrial and research facilities
- Make significant contacts within the industrial community
- Bring valuable information back to the classroom to enhance the student experience and knowledge of real-world practices and theories
- Attend technical sessions and engineering exhibits showcasing the newest technological developments

**Submission:** Interested educators should complete the electronic application on the SAE website at [www.sae.org/awards/teetor.htm](http://www.sae.org/awards/teetor.htm) by October 16, 2004.

## MEMBERS UPDATE

## Members on the move

**Jim Padilla** (Mbr'01) has been appointed Chief Operating Officer and Chairman, Automotive Operations, for Ford Motor Co.



Jim Padilla

**Mark Schulz** (Mbr'96) has been named Executive Vice President and President, Asia Pacific and Africa for Ford Motor Co.



Mark Schulz

**Magdi Khair** (Mbr'80) has been appointed Institute Engineer in the Engine, Emissions, and Vehicle Research Division for Southwest Research Institute (SwRI). The position of

Institute Engineer is one of the three highest technical positions an SwRI staff member can attain. Khair provides technical support and leadership in various aspects of engine exhaust emissions measurement, characterization, and control technology development.



Magdi Khair

**Bruce Bykowski** (Mbr'88) has been named Executive Director of the Engine and Emissions Research Department in the Engine, Emissions, and Vehicle Research Division for Southwest Research



Bruce Bykowski

Institute (SwRI). In his new role, Bykowski will guide the activities of a department concerned with all aspects of engine and emissions research at SwRI.

**Matthew Blue** (Asc'97) has been appointed Director of Product Development for UGN, Inc. In his new position, Blue will oversee research and development and product engineering, while improving and supporting current UGN technologies and managing new product development and customer technical support.

**John Caris** (Mbr'97) has joined GT Development Corp.'s Midwest Sales Office as Sales Engineer.

**Robert Last** (Asc'86) has been named Vice President of Operations and Communications at FEV Engine Technology. In his new position, Last will oversee the operations and associated personnel, marketing, quality assurance,

and information technology activities for the company.

**Soren Sorensen** (Asc'88), Vice President of Special OEM Sales for Hella Inc., has been named to the company's Board of Directors.

**Roman Suter** (Aff'95) has joined GT Development Corp.'s headquarters in Seattle as Sales Engineer.

## Special acknowledgments

**David Atkinson** (Mbr'99), Vice President of Automotive Parts for Filtertek Inc., has been named Treasurer of the Filter Manufacturers Council.

**J. David Bell** (Mbr'80), of Erie Drive Train Inc., has been elected Vice President of the Automotive Aftermarket Industry Association's (AAIA) 2004-2005 Board of Directors.

## CAREER CORNER

## Many companies bring "EQ" into hiring decisions

The world of business is not the same as it was 10, or even five, years ago. "In fact, the one thing that remains constant in today's automotive industry is change," said John Tenerowicz, Vice President of Aerotek Automotive, at the SAE 2004 World Congress Career Development Session. Aerotek is the third largest staffing company in the U.S. and employs 5000 people and 40,000 temporaries per week. Interviewing thousands of candidates for jobs in the automotive, manufacturing, and service industries, they have found that companies are focusing more on competencies, or the softer skills of a job, rather than just technical ability.

Employees need to have certain competencies—more than just the job description or nuts and bolts of the job, "it's the knowledge, skills, and abilities that a person needs to succeed in that particular role," said Tenerowicz. That's where EQ comes into play, he explained. Where IQ measures intellectual ability or "head" skills, EQ, or emotional quotient, measures emotional intelligence, or "heart" skills.

He went on to explain that IQ is linked to the abilities of verbal comprehension, number facility, spatial ability, memory, perception, and reasoning. Intellectual abilities are what an individual has at birth. An individual can gain new skills and knowledge, but his/her capacity pretty much remains steady throughout life. Only 20% of the factors needed to succeed come from an individual's IQ. The remaining 80% of factors that affect success come from the EQ side.

EQ includes emotional awareness, self regulation, empathy, motivation, and social skills. Emotionally intelligent individuals are better at listening and oral communication, adapting to different situations, responding positively to obstacles and setbacks, managing their emotions, and working

with others. These competencies or softer skills are needed to be an effective team member and leader. The good news is that these skills can be easily developed through training, education, and experience.

"In the past, most interviews were focused on the technical side. Now we're spending more time focusing on EQ competencies because companies want to see how well candidates are developed on their emotional side," said Tenerowicz. There are four social skills that enhance emotional intelligence and are sought after in hiring decisions: the ability to organize groups, negotiate, make personal connections, and perform social analyses to build rapport by reading others' feelings.

This does not mean that basic skills are not important. Every job is composed of three different types of skills: self, interpersonal, and fundamental. Self skills are comprised of confidence and self-esteem that come from life experiences—an individual's "being skills." Interpersonal skills include building relationships, the ability to delegate and manage, and are defined as an individual's "understanding skills," according to Tenerowicz. Fundamental skills are the basic skills needed to get the job done. The balance between these skill sets is different depending on an individual's role in the organization, but every position requires skills from each group.

Whether you're looking for your first job, or hoping to advance to executive level, brushing up on your soft skills can go a long way. Tenerowicz closed the presentation with a helpful hint for anyone in the job market "IQ may get you hired, but EQ will get you promoted."

If you have any ideas for future "Career Corner" topics, please email [careerresources@sae.org](mailto:careerresources@sae.org).

## July membership renewal time is here

Check your SAE Membership card...if you have an expiration date of July 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 SAE authorization 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 the 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 at [www.sae.org/renew](http://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 our secure server. You will need your login id and password. Call 724.776.4970 or e-mail [CustomerService@sae.org](mailto: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 the shaded box.*

**Renew by mail:** If you have not yet received a renewal notice in the mail, call 877.606.7323 to request one. Complete your membership renewal form and mail it along with payment—either credit card or check—in the provided envelope.

**Renew by phone:** Call 877.606.7323 (724.776.4970 outside the U.S. and Canada) and an SAE Customer Service Representative will assist you.

**Renew by fax:** Fax your completed form and credit card payment information to 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, and pay the full member dues rate, SAE's newest renewal feature—Automatic Membership Renewal—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 e-mail, 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 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. *\*Only for those who pay full member dues rate.*

## SECTIONS UPDATE

### Racing expert speaks at the 2004 Section Officer's Leadership Seminar

Peter Bryant, Automotive & Racing Car Engineering Design Consultant, spoke to the section officers about the design and construction of the Shelby Series 1 concept car and program during this year's Section Officer's Leadership Seminar (SOLS) held in May. His presentation included pictures and stories of the development of the concept car.

Bryant began his career working for Lotus cars before going into Formula One racing for several well-known drivers including World Champions John Surtees and Sir Jack Brabham. He also redesigned Mickey Thomson's 1964 Indianapolis cars before going to work on the Shelby Cobra Team that won the 1965 World Championship. The highlight of Bryant's racing career was the design of the Titanium and UOP Shadow Group 7 cars, which raced in the 1969 through 1972 Can-am Sports Car Series. Working now as an independent Automotive Engineering Consultant, his most recent projects include the design and build of the Concept Shelby Series 1 Sports Car

and a Trophy Truck for racing in the BAJA 200 for Collins Racing of Las Vegas. Bryant is a 30-year SAE member and has also published SAE papers.

Bryant is one of the 40 plus speakers and programs available through the Local Activities Bureau (LAB), which is offered only to section officers for the purpose of assisting them in obtaining interesting programs and topics for their section activities. Section officers can review the speakers and programs that are available to them by visiting the LAB web pages at [www.sae.org/globalsections](http://www.sae.org/globalsections) or by contacting Janiece Lang at 724.772.7137 or [janiec@sae.org](mailto:janiec@sae.org).



*Racing expert Peter Bryant spoke to section officers about the design and construction of the Shelby Series 1 concept car and program at SOLS in May.*

## STUDENT ACTIVITIES

### Auburn University, MSOE win the 2004 Aero Design East Competition

The SAE 2004 Aero Design East competition, held April 16-18 in Deland, FL, was a great success with the participation of 35 collegiate teams from the U.S., Canada, and Brazil. The event, part of the SAE Collegiate Design Series, was hosted by the University of Central Florida, in association with the Deland Golden Hawks Radio Control Club and North Florida SAE Section.



*Auburn University, Flying Tigers, won 1st Place Overall for Regular Class, and won the Most Professionalism Award.*

Overall winners were selected in two classes based on the performance of their unmanned aircraft (UAV), its ability to achieve flight carrying additional weight, a design report, and oral presentation by the team in front of a panel of judges. Auburn University and the Milwaukee School of Engineering, winners of each class, were joined by the University of Missouri-Rolla, two Brazilian teams, and a Canadian academic squad in achieving top honors. Overall results are as follows:

- Top 3 Overall – Regular Class (point total in parenthesis): 1st Place, Auburn University – (208.4334); 2nd Place, Federal University of Minas Gerais – (208.2843); 3rd Place, Ecole de Technologie Superieure – (202.5802).

- Top 3 Overall – Open Class (point total in parenthesis): 1st Place, Milwaukee School of Engineering (MSOE) – (147.1968); 2nd Place, University of Missouri – Rolla – (147.1475); 3rd Place, Universite Federal do Rio Grande do Norte – (147.0751).

Auburn University received a special award for Professionalism, presented by the North Florida Section of SAE. Recognition for excellence and achievement was also presented in several categories, which include:

- Most Weight Lifted: Regular Class, 33.26 lbs. Cedarville University; Open

Class, 44.10 lbs. Univ. of Missouri – Rolla.

- Best Design Report: Regular, 62.93 pts. out of 70 – University of Kansas; Open, 62.665 pts. out of 70 – Embry Riddle Aero University.

- Award for Engineering Design Excellence (Oral Presentation): 1st Place Regular – Rice University, 29.660 pts.; 2nd Place Regular – Universite Federal do Rio Grande do Norte, 29.360 pts.; 1st Place Open – University of Akron, 25.13 pts.; 2nd Place Open – Universite Federal do Rio Grande do Norte, 24.93 pts.

“SAE extends thanks to all of the competitors, sponsors, and volunteers for this event,” said Shanin Hart, SAE Collegiate Programs and Transition Activities Manager. “In addition to great weather, we saw a great example of how students can transfer technical theories to real-world application and learn from the experience. Education is what this event is all about.”

Lockheed Martin Corp. is set to host the SAE Aero Design West competition, the second of two annual aerospace events, in Fort Worth, TX, from June 18-20, 2004.

Additional information regarding this event or the SAE Collegiate Design Series can be found online at [www.sae.org](http://www.sae.org); click on the students tab.

### Collegiate teams from Mexico and Canada achieve high-honors at the SAE 2004 Walking Robot Challenge

An international field of 22 collegiate engineering teams met April 29 through May 1 to compete in the SAE 2004 Walking Robot Challenge. The two-day event, part of the SAE Collegiate Design Series, was hosted by Union College in Schenectady, New York.

The SAE Walking Robot Challenge engages collegiate teams to design, build, and test a walking machine with a self-contained power source. The event is the culmination of a hands-on educational project that is designed to familiarize students with the advanced components and systems necessary for the construction and development of robots and other intelligent machines.

Teams were awarded points for the design of their robot and its functional performance in six events. The Universidad Autonoma De Aguascalientes, a host for previous competitions, was a standout in winning first-place overall and two special awards for the applied engineering

concepts of their robot. Winners are as follows: Overall winners — 1st place - Universidad Autonoma De Aguascalientes (Mexico); 2nd place - Universidad Bonaterra (Mexico); and 3rd place - Ecole De Technologie Superieure (Canada).

The following special awards were given out: Best New Design- Universidad Autonoma De Aguascalientes (Mexico); Best Analytical Approach - Universite De Sherbrooke (Canada); Excellence in Autonomy - Universidad Panamericana (Mexico); Most Innovative Design - Universite De Sherbrooke (Canada); and Value Engineering - Universidad Autonoma De Aguascalientes (Mexico).

For additional information regarding the SAE Walking Robot Challenge, please visit the event website, hosted by Union College at: <http://engineering.union.edu/WalkingMachine/>. For information regarding the SAE Collegiate Design Series and other educational programs, please visit [www.sae.org/students](http://www.sae.org/students).

### SAE 2004 President visits Oregon Section



*During SAE 2004 President Duane Tiede's Oregon Section visit in late April, he made a stop at NACCO's Material Handling Group, Inc. where he met with Gopi Somayajula, Vice President of Counterbalanced Engineering, and discussed SAE with him, along with SAE Oregon Section Chair, Michael Eagan. While in Portland, Tiede also attended SAE's Mini-Baja West, which was sponsored by the Oregon Section. (Pictured left to right are Brian Taylor (SAE Section Programs and Services Manager), Somayajula, Tiede, and Eagan.)*

## Become a Company Representative

Help spread information about the benefits of SAE by becoming a Company Representative at your workplace. Company Reps are SAE ambassadors who serve as information resources for SAE members and nonmembers. Receive important SAE information first and be responsible for signing up new members, routing timely SAE notices, supplying necessary forms, and answering questions that your co-workers may have about SAE programs and activities. Company Reps receive early SAE news appropriate to their industry, as well as up-to-date membership materials to help them spread the word.

If you'd like to serve as a Company Rep at your worksite, call 724.772.7138, fax 724.776.3393, or e-mail [bonnief@sae.org](mailto:bonnief@sae.org).

## COMMITTEES & STANDARDS

### Electrical/Electronic System Mil-Spec revisions in progress

The AE-8 Aerospace Electrical/Electronic Distribution Systems Subcommittees are currently revising Mil-Specs that were recently converted into SAE documents. Works-in-progress include: AS22759, Wire, Electrical, Fluoropolymer-Insulated, Copper or Copper Alloy; AS39029, Contacts, Electrical Connectors, General Specification for; and AS85049, Connector Accessories, Electrical General Specification for. Companies that use these specs or qualify parts to them are encouraged to participate in the revision process at upcoming meetings of the AE-8 Subcommittees (below). To access discussion forums, meeting agendas, and other committee information, visit the SAE website at [www.sae.org/standardsdev/aerospace](http://www.sae.org/standardsdev/aerospace).

#### Upcoming meetings

- AE-8C1 Connectors  
October 20-22, 2004 - Reno, NV
- AE-8C2 Terminating Devices  
October 19, 2004 - Reno, NV

#### AIR CONDITIONING *continued from p. 1*

Air conditioning in vehicles has direct emissions of hydrofluorocarbon (HFC) refrigerants that are greenhouse gases and indirect tailpipe emissions from the additional fuel that is burned to power the cooling. All vehicles currently use a refrigerant called HFC-134a, which is included in the gases scheduled for control under the Kyoto Protocol. European manufacturers and governments support new regulations that will phase out HFC-134a for vehicles after about 2012, but it is not yet clear whether replacement technology will better protect the climate. This project will improve the existing HFC-134a technology, raising the bar that competing technology will need to clear to capture markets in North America, Asia, and elsewhere.

"I am particularly proud of the support and contributions of the members of the Society of Automotive Engineers (SAE) to this project," said Ward Atkinson, Chair of the SAE Interior Climate Control Standards Committee. "Our cooperative research program documented the opportunity to increase fuel efficiency and cooling performance and our committees are at the forefront of global efforts to encourage new technology."

- AE-8D Wire & Cable  
October 5-6, 2004 - New Orleans, LA
- AE-8A Wiring Systems Installation Subcommittee  
October 7, 2004 - New Orleans, LA

Also of note, the AE-7 Aerospace Electrical Power & Equipment has been restructured into three subcommittees: Generators and Controls and Magnetic Devices; Power Management; and Systems. All three groups are seeking knowledgeable participants for standards development work including the revision of ARP4255, Electrical Actuation Systems for Aerospace and Other Applications plus other projects.

The AE-4 Electromagnetic Compatibility Committee invites industry participation in the review of various SAE standards including ARP4043, Flight Line Grounding and Bonding; ARP4244, Insertion Loss for Power Line Filters; and ARP1705 Gasket Transfer Impedance. New project suggestions for the benefit of the aerospace industry are welcome.

"The companies and technicians who are members of the Mobile Air Conditioning Society Worldwide (MACS) support this project because properly designed and maintained A/C systems will allow our customers to get better fuel economy, provide better comfort, and be more reliable," said Elvis Hoffpauir, President and Chief Operating Officer of MACS. "Our professional technicians have the skills and tools to properly maintain and service the systems."

"The California Air Resources Board (ARB) is grateful for the work of the members of SAE and the Mobile Air Conditioning Climate Protection Partnership who are working to reduce the emissions of greenhouse gases from vehicle air conditioning," said Richard Corey, Chief of the Research and Economic Studies Branch, California Air Resources Board. "The California legislature has directed ARB to craft new regulations that will reduce greenhouse gases from non-commercial vehicles in the most cost-effective ways possible. The partnership represents another important step at facilitating the identification and deployment of technologies to achieve this objective."

## PROFESSIONAL DEVELOPMENT

### SAE Corporate Learning Solutions case studies

SAE has helped a wide variety of companies fulfill their training needs, providing not only stock courses, but also by creating new courses and customizing existing offerings. These two brief case studies show how SAE can create a unique learning opportunity to meet client needs.

#### *Custom New Course Development - Internal Combustion Engines*

**Customer Profile:** Automotive Tier 2 supplier of internal combustion and diesel engines

**Target Audience:** 20 entry- to mid-level design engineers

**Customer Challenge:** The engineers needed a greater understanding of the components and operation of internal combustion engines to better develop their design skills.

**SAE Solution:** SAE designed and delivered a three-day, hands-on Engine Teardown Clinic for 20 engineers at the customer facility. Participants disassembled three internal combustion engines (including diesel). The experience supplemented these interactive tasks with traditional classroom lectures on individual components and interactivity (derived from the SAE seminar, *The Basics of Internal Combustion Engines*).

**Results:** Participants were able to successfully apply their new knowledge directly following the sessions, leading to innovation in the design of critical parts at the engine facility. This ultimately

resulted in increased company/customer satisfaction and significant cost savings.

#### *Custom Course Modification - Geometric Dimensioning and Tolerancing (GD&T)*

**Customer Profile:** Automotive Tier 2 Supplier of Automotive Heating and Cooling equipment

**Target Audience:** 10 entry level and 10 experienced job transitioning engineers

**Customer Challenge:** The engineers needed to build the knowledge and skills necessary for the application of GD&T principles directly to their product. The employer requested an introductory GD&T mini-course for new engineers and an application-oriented course for new and transitioning engineers.

**SAE Solution:** SAE modified a standard three-day GD&T course to deliver a two-day mini-course on GD&T for new engineers followed by a two-day GD&T applications session (for both new and transitioning engineers) working with customer prints.

**Results:** Shortened time-to-market activity through hands-on application sessions; provision of opportunities to directly apply knowledge acquired in the classroom to real-time projects; substantial cost and time savings.

For more information on SAE Corporate Learning Solutions, please visit [www.sae.org/corplearning](http://www.sae.org/corplearning), call 724.772.8592, or e-mail [profdev@sae.org](mailto:profdev@sae.org).

### Vehicle Noise Control Engineering Academy scheduled for September

SAE engineering academies provide comprehensive and immersive training for new and re-assigned engineers. These learning experiences are carefully constructed to help engineers become proficient and productive in a short period of time.

For 2004, SAE has combined two successful noise-related academies into one comprehensive event. This event will cover a variety of vehicle noise control engineering principles and practices, with special focus on two technology tracks: acoustical materials and powertrain noise. The powertrain noise track focuses on the noise, vibration, and harshness (NVH) issues stemming from powertrain noise sources and on design strategies to minimize them. The acoustical materials track focuses on the understanding and application of acoustical materials to optimize NVH in the passenger or operator compartment of a vehicle. Considerable attention is given to current measurement and instrumentation technologies and their effective use.

Prior to the week-long academy, there are important pre-work assignments that may include readings, exercises, and

online computer-mediated discussions with fellow students and instructors. Online activity is structured asynchronously, which means that participants log on at their convenience within prescribed timeframes. The work is structured so that participants should log on and participate in online activity at least every other day during the pre-academy phase. In addition to online activity, three two-hour CDs and handouts (mailed to registrants) are provided for self study on noise and vibration introductory concepts, sensors, and decibels. In addition, a Webex-telephone conference call is scheduled to review fundamentals and answer questions.

The Vehicle Noise and Control Engineering pre-Academy work will take place September 7-19, 2004, and the in-person event will take place September 20-24 at the SAE Automotive Headquarters in Troy, MI. Participants should register before August 27 to ensure full participation. Complete course information and registration is available online at [www.sae.org/events/training/academy.htm](http://www.sae.org/events/training/academy.htm).

**SAE International**

New Look. New Navigation.

**www.sae.org**

Faster. Easier. More convenient. Better.

## PROFESSIONAL DEVELOPMENT

### Courses from **SAE**

Detailed course descriptions are available online at [www.sae.org/contedu/](http://www.sae.org/contedu/). To register, complete the online registration form, e-mail [profdev@sae.org](mailto:profdev@sae.org), or call SAE Customer Service toll free at 877.606.7323 (724.776.4970 outside the U.S. or Canada).

\*\* One of SAE's 40 most popular seminars.

#### July 2004

##### Troy, MI, USA - SAE Automotive Headquarters

- Jul 12-13 Electronics Packaging: Thermal & Mechanical Design and Analysis
- Jul 12-14 Advanced Electric Motor/Generator/Actuator Design and Analysis for Automotive Applications \*\*
- Jul 12-14 Geometric Dimensioning and Tolerancing – Level I \*\*
- Jul 15-16 Simplified Taguchi/DOE Methods \*\*
- Jul 15-16 Selection, Evaluation and Measurements of Acoustical Materials for Vehicle Interior Noise Study
- Jul 19-20 Obtaining the European CE Marking for Your Product
- Jul 19-21 Design of Hybrid Electric Vehicles \*\*
- Jul 19-21 Combustion and Emissions for Engineers \*\*
- Jul 21-22 Powertrain Selection for Fuel Economy and Acceleration Performance \*\*
- Jul 21-23 Vehicle Dynamics for Passenger Cars and Light Trucks \*\*
- Jul 23 How to Give Technical Presentations that Advance Your Engineering Career
- Jul 26-27 **New!** Introduction to Brake Control Systems
- This course provides a fundamental overview and analysis of brake control systems including antilock braking systems (ABS), traction control systems (TCS), vehicle stability enhancement systems (ESP, IVD, VSC, VSE), and their derivative technologies. Starting with vehicle-level performance requirements, participants will be exposed to brake control system architecture, system sensor needs, and the basic control strategies employed by each technology. A brief review of vehicle dynamics, the friction circle concept, and tire-road interface characteristics will be used to examine the limiting factors and compromises that must be made in the design and development of brake control systems. Integrated technologies that employ brake control system functionality and sensing technologies will also be covered.
- Jul 26-27 Managing Integrated Product Development
- Jul 28-30 Cost, Finance, and Economics for Engineers
- Jul 29-30 Engineering Project Management \*\*

#### August 2004

##### Troy, MI, USA - SAE Automotive Headquarters

- Aug 3 Design Reviews for Effective Product Development \*\*
- Aug 4-6 Injuries, Anatomy, Biomechanics & Federal Regulation \*\*
- Aug 4-6 Fundamentals of Metal Fatigue Analysis
- Aug 5 The Tire as a Vehicle Component
- Aug 6 Tire and Wheel Safety Issues \*\*
- Aug 9-10 Diesel Engine Technology \*\*
- Aug 9-10 Fundamentals of Gear Design and Application \*\*
- Aug 9-10 Threaded Fasteners and the Bolted Joint \*\*
- Aug 11-13 Concurrent Engineering Practices Applied to the Design of Chassis Systems \*\*
- Aug 12-13 **New!** Collaborative Supply Chain Integration
- One in a five-course series that leads to a Professional Certificate in Automotive Product Development Management, this course is jointly conferred by SAE and Oakland University's renowned School of Business. It focuses on the product development aspects of supply chain management, but also addresses post-launch operational supply chain management.
- Aug 16-17 Compact Heat Exchangers for Automotive Applications \*\*
- Aug 16-18 Automotive Fuel Cell Systems \*\*
- Aug 16-18 Motor Vehicle Accident Reconstruction \*\*
- Aug 19 Basic Noise Control
- Aug 19-20 Controller Area Network (CAN) for Vehicle Applications \*\*
- Aug 20 Noise and Vibration Measurement: Instruments and Facilities
- Aug 23 Sensor & Actuator Technology: Module 1 - Powertrain (Engine, Transmission, and Onboard Diagnostics) \*\*
- Aug 24 Sensor & Actuator Technology: Module 2 - Chassis (Steering, Suspension, Braking, Stability, Vehicle Dynamics) \*\*
- Aug 25 Sensor & Actuator Technology: Module 3 - Body Occupant Safety, Intelligent Vehicles, Navigation, Comfort, Convenience, Security)
- Aug 25-27 Commercial Vehicle Braking Systems \*\*
- Aug 26-27 Automotive Electronics - An Applications Primer \*\*
- Aug 26-27 Introduction to Failure Modes and Effects Analysis for Product Design & Manufacturing Process Design (Product & Process FMEA)

**SAE Aerospace**  
An SAE International Group

"The premier society dedicated to advancing mobility engineering worldwide"

## Aerospace Manufacturing and Automated Fastening Conference & Exhibition

September 20-23, 2004

Sheraton West Port Hotel, St. Louis, Missouri, USA

**Conference Chair:** John Van Gels, VP of IDS Operations, Boeing St. Louis  
**Event Host:** Boeing

### From Materials to Sub-Assembly to Assembly

The Aerospace Manufacturing and Automated Fastening Conference and Exhibition merges the Aerospace Manufacturing Technology Conference (AMTC) with the Aerospace Automated Fastening Conference (Aerofast) to create is this year's best and only opportunity to explore these diverse technologies and network with important industry insiders – all in one place. Don't miss this unique, comprehensive education and networking event for aerospace manufacturing professionals.

Hot topics include:

- Lean Enterprise & Supply chain Management
- Emerging Manufacturing Technologies
- Information Manufacturing Technologies
- New Applications in Automated Drilling, Fastening, and Assembly Systems
- Conceptual Developments in Automated Systems

Registration, attendee information, and exhibit/sponsorship opportunities available online: [www.sae.org/amaf](http://www.sae.org/amaf)

040360

## Small Engine Technology

### Conference & Exhibition

September 27-30, 2004

Grazer Congress

Graz, Austria

#### Prepare for the future of technology and regulation

The Small Engine Technology Conference & Exhibition brings together international experts to explore important technology issues and environmental policies for small engines, related vehicles and equipment. An applications-oriented program geared toward engineers, managers, product planners and developers, government, and academicians delivers information focused on state-of-the-art technological advances, the effect of US and global regulatory actions on this market, and cost considerations. These considerations are applied to topics such as:

- Innovative combustion technologies
- Emissions control
- Noise, vibration, and harshness (NVH)
- Vehicle dynamics
- Safety
- Human factors

Sponsored by

**SAE International**



SAE of Japan

040594

Plan now to attend, exhibit or sponsor.

[www.sae.org/setc](http://www.sae.org/setc)

Call Toll-free: 1-877-606-7323 Outside U.S. & Canada: 724-776-4970

## 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®

Siemens VDO Automotive Corporation, which specializes in automotive electronic and supply manufacture, seeks the following: **Sr. Engineer:** B.S.M.E. or foreign equivalent; min. 5 yrs experience in job offered or related; experience must have included injection molding, sheet metal design, environmental test specifications. **Module Design Engineer:** M.S.M.E. or foreign equivalent, min. 3 yrs experience in job offered or related; experience must have included mech. product design for plastic & sheet metal component for auto industry; conceptual modeling & drawing in diverse CAD software; GD&T, DFMEA, DFM, DFA, DV and PVP&R. **Project Leader:** B.S.E.E. or foreign equivalent; project management, ensuring that designs meet customer requirements and specifications, budget planning, program development. **Program Manager:** B.S. in Engineering or foreign equivalent; experience with auto. supplier incl. electronics manufacturing, project management, customer quality responsibility. **Web Developer** (our Cedar Rapids, IA location). Master's in MIS or Comp.Sci., min. 1 yr experience must include MS SQL Server administration; Transact-SQL, ASP.NET, Java, VB programming; security control; multimedia applications (Flash), project management. Please send resumes to: N.V., Human Resources, Siemens VDO, 2400 Executive Hills Dr., Auburn Hills, MI 48326, or reply by fax to: (248) 253-2991.

Industrial Engineer. Implement common methods and systems; support advanced process; develop a Web-based data management process to automate Central Industrial Engineering reporting functions and systems involving multiple locations; develop, organize and maintain manufacturing data in a multi-tier Web application with security protocol and capability of replicating existing manual report; use industrial engineering measures for competitive data analyses; migrate MS Access to Oracle. M.S. in Engineering or CIS; 1 yr experience in job offered or as Analyst or Programmer; experience must include Oracle, Access, Excel, Adobe, ER-win, HTML, Homesite, Visio, Fireworks, and Dreamweaver; establishing Security protocol, links, Direct Submit pags.. 40 hours/wk, 7:00am to 3:30 pm; \$83,387.20/yr. Send resume to MDCD/ESA, PO Box 11170, Detroit, MI 48211-1170, Ref. #211262. Employer Paid Ad.

### SENIOR VEHICLE ENGINEER

We seek a mature vehicle engineer with automotive, truck, bus, or heavy equipment design and/or shop repair experience. Excellent analytical and communication skills required. Interesting assignments determining the causes of vehicle crashes in support of litigation. Full-time: St. Louis, MO; Cedar Knolls, NJ; Mineola NY; Lancaster and Pittsburgh, PA; Michigan; Richmond, VA. Robson Lapina provides opportunity for professional and financial growth in an environment that rewards excellence, integrity, and success. More information on and respond via [www.RobsonLapina.com](http://www.RobsonLapina.com).

The U.S. EPA's National Vehicle and Fuel Emissions Laboratory is soliciting resumes for engineering vacancies. The engineering jobs described below are located in Ann Arbor, Michigan, a highly desirable community with excellent schools, safe streets, and many cultural, entertainment, and sports opportunities. The salary for these positions is competitive based on the candidate's qualifications. Please note that US citizenship is required.

**Hybrid Vehicle Development:** Unique opportunity for highly creative, competitive, and dedicated engineers to help design engines and powertrains for the vehicles of the 21<sup>st</sup> century. Selectees will play a central role with a hands-on engineering team that is developing cost-effective technology for the ultra clean and efficient hydraulic hybrid vehicles of the future--without sacrificing safety, performance, size, pollution control, or affordability. Responsibilities of the team include concept generation, design, development, fabrication, integration, assembly, and testing of cutting edge hydraulic hybrid drive technology for demonstration vehicles.

**Advanced Engine Development:** Highly competent, creative and dedicated engineers to serve with our advanced engine development team supporting our advanced powertrain projects. Selectees will have responsibilities for the efficient operation of several advanced engine testing sites and will engage in design and hands-on engineering for control system development and/or advanced fuel injection systems design. Development and testing will be applied to demonstration of EPA's clean diesel combustion, multi-cylinder HCCI demonstration engines, and EPA's unique patented free-piston engine technology.

**Benefits:** Benefits include a stable retirement plan, employer matching of 401(k) contributions, choice among a dozen different health care providers (both HMO and traditional), regular salary increases for inflation and seniority, incentive pay for superior work performance, a merit-based system of promotion to higher levels of responsibility and pay, and a compressed work schedule with flexible starting times and a three-day weekend every other week.

**Contact:** Interested engineers should mail resumes to U.S. EPA, Advanced Technology Division, 2565 Plymouth Road, Ann Arbor, MI 48105 to the attention of Administrative Officer. The e-mail address is: [Group ATD-Admin@epa.gov](mailto:Group ATD-Admin@epa.gov).

Check it  
out!

[www.sae.org/  
careers/  
recrutad.htm](http://www.sae.org/careers/recrutad.htm)

New  
Positions  
Posted Daily

Need to fill  
an open  
position at your  
company?

Contact us today at

724-772-7116

OR

advertising@  
sae.org.

FULL OR PART TIME RETIREES  
AUTO ACCIDENT RECONSTRUCTION  
**Peter R. Thom & Assoc.**  
Fax 925/254-1650  
[www.prtassoc.com](http://www.prtassoc.com)

If you've driven a car, flown in an airplane or visited the dentist, chances are you've used our products. Now here's your chance to work with us. With operations in 26 countries, we employ approximately 26,000 people worldwide and recorded 2003 sales of U.S. \$3.8 billion. We are a leading international manufacturer of highly engineered bearings, alloy and specialty steel and components, as well as a provider of related products and services to more than 24,000 customers. We supply many major markets all over the globe, including aerospace, automotive, energy, industrial, medical, space flight and railroad. We're known throughout the industry for our dedication to quality and performance in all the products and services we offer. That's why we seek quality, high-performing individuals from all disciplines to join our team. Our associates enjoy many opportunities, including diversity of responsibilities, personal and professional growth, room for advancement and competitive salary and benefits.

### Senior Application Engineer - Detroit, Michigan

Job Code: AUTO7337

The Automotive Customer Engineering department provides technical support to our global sales engineering force as it pursues new business development opportunities. This is accomplished by providing engineering analysis of customer transmission final drive and axle applications, bearing design and selection, costing, training, customer service engineering, plant support and project coordination on cross functional teams. This position will provide application analysis utilizing state of the art engineering techniques, procedures and criteria as well as provide support to field service. Qualified candidates will possess a combination of a Bachelor degree in Mechanical Engineering and several years of application study and project experience. A strong sales engineering, bearing research or application testing background would also qualify. Skill requirements include competence in mechanical engineering theory and principles, bearing fundamentals, metallurgy, manufacturing processes, vibrations, heat transfer, computer systems and programming, technical writing, communications and presentations. The individual should be familiar with R&D activities, marketing operations and the field of testing and lubrication.

### Sales Engineer - Detroit, Michigan

Job Code: AUTO 7644

Our Automotive Sales organization is key in the continual growth and profitability of our Company. As part of this group, you will have the opportunity to work with major OEM's and suppliers to the industry such as General Motors, Daimler-Chrysler, Ford, Bosch, Dana and more. Sales Engineers are the frontline to our customers in product application and solutions as well as new business development. As a Sales Engineer, you'll be working with customer engineers and purchasing groups as well as participating in cross-functional teams within Timken to ensure we satisfy customer needs. You will be the voice of the customer - communicating their needs and developing and implementing account strategies to maximize sales and profit for the Company. Qualified candidates will possess a Bachelor degree in Mechanical Engineering or Industrial Engineering and 3-5 years of experience in the automotive industry, preferably in bearings. Candidates must be self-motivated and capable of working independently as well as within teams. Excellent communication, problem solving and innovation skills are a necessity.

Visa requirements: All candidates must be currently authorized to indefinitely work full time with the Timken Company in the United States, under United States immigration laws. The Timken Company is an Equal Opportunity Employer, committed to a culturally diverse workforce.

Interested candidates may submit their resume (please include Job Code noted above) to <http://timken.com/careers/>

TIMKEN