MICHIGAN STATE UNIVERSITY COLLEGE OF ENGINEERING • FALL 2007

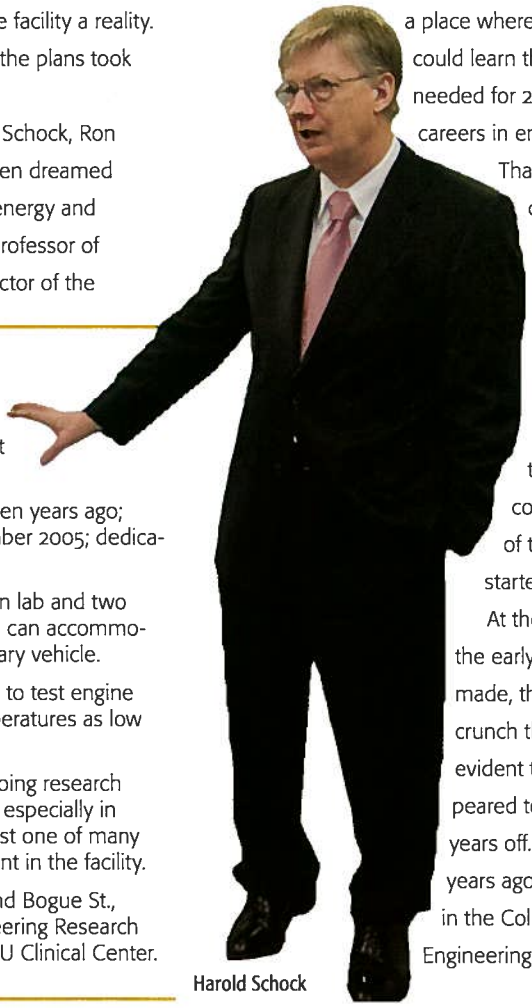
ME@MSU

DEPARTMENT OF MECHANICAL ENGINEERING

Energy & Automotive Research Laboratories Bring Vision to Life

Vision, determination, and teamwork. More than bricks and mortar, these were the key elements in creating the new Energy & Automotive Research Laboratories, dedicated in August. When you look at the glistering structure, which is being filled with the most up-to-date equipment and testing facilities, it is easy to overlook what it took to make the facility a reality. Like most visions, implementing the plans took years of hard work.

Almost a decade ago, Harold Schock, Ron Rosenberg, and George Van Dusen dreamed about expanding facilities to do energy and automotive research. Schock is professor of mechanical engineering and director of the Automotive Research Experiment Station. Rosenberg is the former department chair of mechanical engineering and now associate dean for research and graduate studies, while Van Dusen, at the time, was the acting dean of the College of Engineering. They envisioned a place where 21st century research could be done and a place where students could learn the skills needed for 21st century careers in engineering. That's where determination played a big role because years passed before the actual construction of the facility started in 2005.



Harold Schock

At the time that the early plans were made, the energy crunch that is so evident today appeared to be many years off. "Nearly 10 years ago, our team in the College of Engineering effectively identified the energy challenges we would be facing today and developed plans for a research facility that would enable them to lead the way toward more environmentally responsible and economical ways to power transportation and industry," said Lou Anna K. Simon, president of MSU. Simon is credited with signing off on the final plans for construction of the facility. She and many others are part of the team that made it all happen. "The Energy & Automotive Research Laboratories allow us to develop the next generation of solutions at the same time that we're working on applications to address current global energy concerns," said Simon.

Eann Patterson, professor and chair of the Department of Mechanical Engineering, calls the building "a world-class facility that puts MSU in an elite group of universities to have this quality of laboratories and equipment." Patterson, who became chair of the department before construction on the building began, has been instrumental in seeing the project to completion.

The new facility more than doubled the previous space for energy and automotive research. The new automotive laboratories will seek alternatives to fossil fuels as well as identify ways to realize greater fuel efficiency. The energy laboratories will focus on combustion and will support work in fluid mechanics as well as control, particularly related to hybrid electric vehicles.

The laboratories have also meant a 10 percent increase in faculty. Three new researchers are

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Fast Facts About This World-Class Facility

- $10 million, 29,000-square-foot research complex
- Original concept was created ten years ago; construction started in November 2005; dedication was August 24, 2007.
- Laboratories feature powertrain lab and two engine test cells, one of which can accommodate a large SUV or small military vehicle.
- There also will be a cold room to test engine starting and operation in temperatures as low as -40 degrees C.
- A giant hot press is key to ongoing research on alternative energy sources, especially in thermoelectric projects. It is just one of many state-of-art pieces of equipment in the facility.
- It is located at Service Road and Bogue St., adjacent to the existing Engineering Research Complex, just south of the MSU Clinical Center.

from the Chair

EANN PATTERSON

Mechanical Engineering at Michigan State University is going through an exciting period in its history. In August we dedicated our new 29,000-square-foot Energy & Automotive Research Laboratories, which will allow us to make a substantial contribution to the campus-wide collaboration on fuel creation and performance. We are enthusiastic about the role we are playing in the crops-to-wheels approach to research at MSU and believe it will have a major impact on the emerging bioeconomy in Michigan.

Earlier in the year, the Composite Vehicle Research Center was inaugurated and will be housed in a 21,000-square-foot facility at the University Research Park. The Center is focused on developing composite shells and structures for lightweight, safe, and durable vehicles of all types: air, ground, and marine.

These two new facilities represent a huge expansion of our capabilities, and we are recruiting new faculty to consolidate our expertise in these fields. Seven new professors have joined the faculty in the department since August 2005, and we have three more searches underway with another two planned for 2008.

At the same time, we are making changes to our undergraduate and graduate programs to both incorporate new knowledge in key areas and to improve the skill set of our students so that they are better able to compete in the global economy. We are committed to providing our students with a greater awareness of other cultures and of the role of the engineering profession in creating a global society. As part of this commitment, a group of students visited Tanzania during spring break as a supplementary part of their Capstone Design project and we hope that this will be the first of a series of such visits. In addition, we have redesigned our long-standing study abroad program in Aachen, Germany; we are exploring a new program in Taiwan; and we plan to rejuvenate our program in the UK.

Despite the enormous effort required to bring about all of these changes, our faculty continue to increase their research productivity with a 21 percent increase from 2005 to 2006 in the number of research papers published in journals listed in Science Citation Index and a 15 percent increase in research grants awarded in the same period. We are delighted that the research prowess of Professors Cloud and Haut has been recognized by the conferment of the title of University Distinguished Professor. Two in one year!

Energy & Automotive Research (continued)

already working in the new facility. In addition, the College of Engineering has active searches underway for additional faculty. Eventually, the new facility will house 14 faculty and 50 graduate and doctoral students.

Another benefit of having such advanced research and testing facilities is that they are bringing in grant funding. MSU was recently notified that it will receive more than $2 million from the U. S. Department of Energy to perform research that couples biofuels with efficient automotive engines. Much of this work will be conducted in the new facility.

The research center also increases learning opportunities for graduate and undergraduate students, enabling them to work in labs alongside faculty mentors, doing multidisciplinary research and getting real-world experience.

While the original vision for an outstanding research facility is now complete, it is inspiring other dreams. "Our entire team is working together," says Satish Udpa, dean of the College of Engineering. "We want to make Michigan a better place to live and work. This facility puts us in a much better position to respond to the needs of the energy and automotive industries."

— Jane L. DePriest

Photo by Kurt Stepnitz, University Relations, Michigan State University

Left to right: Richard H. Brown (Brown Foundation); Lynn Bechtel (General Motors Corporation); Kathy Burgess (Ford Motor Company); Roy H. Link (donor); James B. McKeon (donor); Satish Udpa (Engineering Dean); Lou Anna K. Simon (MSU President); Kim Wilcox (MSU Provost); Eann Patterson (Chairperson, Department of Mechanical Engineering); John D. (Jack) Withrow (donor); Pete Hoekstra (U.S. Congressman); Ian Gray (MSU Vice President for Research & Graduate Studies).

Generous Support Made Facility Possible

Nearly half of the financial support for the Energy & Automotive Research Laboratories was provided by individual and corporate donors, including:

The Richard H. Brown Foundation
Consumers Energy Foundation
Ford Motor Company Fund
General Motors Corporation
Hallenbeck Construction Co., Inc
Roy H. and Dawn I. Link
James B. McKeon
John D. and Dortha J. Withrow

The MSU Provost's Office and the College of Engineering provided funding as well. There are continuing opportunities for contributions to this facility. For information, please contact Engineering Development at 517-355-8339 or e-mail egrdevel@egr.msu.edu.

McKeon Enrichment Fund Supports Promise of College

Photo by Pat Power

When Jim McKeon walked away from MSU with a mechanical engineering degree in 1950, he had no idea the course his career might take. The early years were indeed focused on engineering with more than 10 years at the Ford Motor Company doing strategic planning. Then he joined the family advertising business and later an interest in real estate lead to a commercial real estate business. "That engineering degree absolutely helped me with other projects in my career," Jim says. "A degree in mechanical engineering can translate into many different things." Two basics that he believes engineers should have are writing skills and financial expertise.

The value Jim puts on his engineering education motivated him and his wife, Shirley, to establish the James B. and Shirley J. McKeon Endowed Enrichment Fund at the MSU College of Engineering. It is intended to provide flexible, unrestricted support of the areas of greatest need or promise within the college, and the fund can be used for purposes determined at the discretion of the dean.

Jim also provided support for the new Energy & Automotive Research Laboratories with funding for a faculty office. He was on campus in August for the dedication of that building.

Jim and Shirley both believe in the value of education. "Today four years in college is a basis to gain wisdom," says Jim, "but you need more. If you look back over 10 years, what did you know then that you use now? Things change so fast."

Jim and Shirley are from Fenton, Michigan, but have lived in the Plymouth, Michigan, area since 1962. Shirley is a University of Michigan alumna and was a middle and high school educator. They have been married 56 years; they have six children and 15 grandchildren. Jim and Shirley have both been active in community affairs in Plymouth. Jim served two 2-year terms as mayor of the city.

Jim's degree is more than 50 years old, but he remembers his professors well and was impressed that they had strong morals and were focused on "doing it right" in the classroom. As for his generous gifts to MSU, he says, "At my age, I am thinking about many things, especially ways that I can give back to the people and organizations that have helped our family."

— Jane L. DePriest

Donation Information

If you would like information about establishing an endowment or planning a gift from your estate to benefit the MSU College of Engineering, please contact Engineering Development at 517-355-8339 or e-mail egrdevel@egr.msu.edu.

ME Students Working to Transform Lives in East Africa

Five students, four alumni, and a faculty member in the Department of Mechanical Engineering spent spring break 2007 working with a Michigan nonprofit organization, Solar Circle (www.solar-circle.org), to launch an industry in Tanzania that will supply this East African nation with solar ovens manufactured from materials available in that country. These domestic appliances, which harvest the intense heat of the tropical sun, are extremely important to the welfare of the people in this very poor country. Currently, Tanzanians rely on wood fires for cooking. This practice is responsible for deforestation, degraded ecosystems, and smoke-related respiratory diseases that represent the second leading cause of death.

During the 2006-07 academic year two capstone design teams, advised by the mechanical engineering associate chairperson for the undergraduate program, Craig Somerton, developed a solar oven specifically tailored for manufacture in Tanzania. After developing several conceptual designs, the teams decided on a box oven design, which consists of a cooking chamber fitted with reflectors that direct sunlight into the chamber. Materials were tested and selected. A key aspect was optimizing the positioning of the reflectors so as to maximize the delivery of solar energy to the oven. Four different oven configurations were identified that would be tested in Tanzania.

During the 2007 spring break, these teams were able to take the product development process a step further by traveling with Professor Somerton to Ndanda and Masasi, Tanzania, to build the ovens, test them, and refine the design. A key aspect of this trip was to meet the people who will benefit from the oven. "Engineering is about helping people and we met people whose lives will be transformed by this solar oven," Somerton says. The trip was funded by private donors, including a generous gift from the Somerton Family Trust.

Stacie Proctor, a mechanical engineering senior said, "This was a once-in-a-lifetime trip for all of the students. We met people and shared information on solar ovens but we also went beyond that and just found a connection as people. I know I have made some lifelong friends from this trip and I am changed forever. I hope I left the people I met changed for the better as well."

For an animated look at how a solar oven works, visit www.lsj.com/multimedia/lsj07/solar_oven/.

Photos by Heather Pung.

Above: Stacie Proctor, left, and Allison Lewis make oven seals.

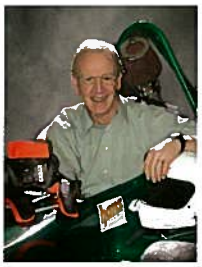
Left: Solar oven team at the mission in Masasi, Tanzania.

Faculty and Staff @ ME

Patterson Named SEM Fellow

Eann Patterson, professor and chair of mechanical engineering, was named a Society for Experimental Mechanics (SEM) fellow for his contributions to the society and the technical community. The award was presented at the All Society Award Luncheon during the SEM annual conference in June in Springfield, Massachusetts. Patterson received the society's Zandman Award in 2004 for his innovative contributions to the field of photoelastic coatings.

Hubbard Named SAE Fellow



Robert P. Hubbard, professor emeritus of mechanical engineering, was recognized as a Society of Automotive Engineers (SAE) fellow during the 2007 SAE World Congress and Exhibition in April. The award honors SAE members who have made a significant impact on society's mobility technology through research, innovation, and/or creative leadership. Recipients of the honor are nominated by their peers and elected by the board of directors.

Haut and Cloud Named University Distinguished Professors

Two mechanical engineering faculty members were named University Distinguished Professors in June in recognition of their achievements. Gary Cloud and Roger Haut are among 10 MSU faculty selected for the honor in 2007. This title is one of the highest honors that can be bestowed on a faculty member by the university. Those selected have been recognized nationally and internationally for the importance of their teaching, research, and public service.

Gary Cloud is the director of the MSU Composite Vehicle Research Center, which recently received $5.5 million in annual funding from the U.S. Defense Department to work, in cooperation with an industrial consortium, on advanced composite materials for air and ground vehicles. Cloud has been an MSU faculty member for 41 years. A Fellow of the Society for Experimental Mechanics (SEM), Cloud received the society's F.G. Tatnall Award (2006) and the M.M. Frocht Award (2000). Since 1995, he has been MSU's faculty adviser for the Formula SAE racing team, bringing the team significant improvements in professionalism and performance.

Roger Haut is director of MSU's Orthopaedic Biomechanics Laboratories (OBL), where the primary focus is to understand mechanisms of osteoarthrosis. He has an international reputation in the interrelated fields of trauma biomechanics, tissue mechanics, and biomedical engineering. An MSU faculty member since 1986, Haut has been active in curriculum development and originated a number of courses in engineering mechanics and biomechanics. He is described as a consummate teacher and mentor.

Hinds, Rhoads Receive University Awards

Timothy Hinds (right) and Jeffrey Rhoads were recognized at the annual university-wide Awards Convocation last February. They were among 30 members of the campus community honored at the ceremony.

Timothy J. Hinds, an academic specialist in mechanical engineering, received one of four MSU Distinguished Academic Staff Awards. The award acknowledges the achievements of professionals who serve the university in advising, curriculum development, outreach, extension, research, and teaching. The award is given to outstanding individuals with careers demonstrating long-term excellence and exceptional contributions to MSU.

Jeffrey F. Rhoads, a PhD student in mechanical engineering, received one of six MSU Excellence-in-Teaching Citations. The award is presented to teaching assistants who have distinguished themselves by the care they have given and the skill they have shown in meeting their classroom responsibilities. Rhoads most recently taught ME 391, Mechanical Engineering Analysis; and ME 471, Mechanical Design II.

Mukherjee Receives Teaching Excellence Award

Ranjan Mukherjee, professor of mechanical engineering, received a Withrow Teaching Excellence Award at the 17th annual Engineering Awards Luncheon in March. This award recognizes faculty and staff who have demonstrated excellence in instructional and scholarly activities and rendered distinguished service to the university and the student body. Selection is based primarily on nominations from students. Mukherjee is respected by his students as being passionate about the material he teaches and caring that his students understand the material. He is known for his ability to communicate complex ideas in a form that is readily understood by everyone. One of his students put it this way: "I've never had a teacher break down complicated material so well. He is an awesome teacher!"

Meet our new faculty

Seungik Baek joined the department as an assistant professor. He earned his PhD ('03) in mechanical engineering from Texas A&M University and a BS ('96) in agricultural engineering from Seoul National University in Seoul, Korea. Prior to coming to MSU, he was a postdoctoral fellow in biomedical engineering at Texas A&M University. His research focuses on cardiovascular mechanics and characterization of biomaterials, in particular theoretical modeling and computational simulations of cardiovascular diseases and their clinical interventions; constitutive modeling of biological tissues and biomaterials; and characterization of thermally and biochemically induced changes in material properties of soft tissues.

Jongeun Choi joined the department as an assistant professor. He received his PhD and MS degrees in mechanical engineering from the University of California at Berkeley in 2006 and 2002, respectively. He earned a BS degree in mechanical design and production engineering from Yonsei University in Seoul, Korea, in 1998. His research interests include adaptive, learning, distributed and robust control, with applications to unsupervised competitive learning algorithms, self-organizing systems, distributed coordination algorithms for autonomous vehicles, multiple robust controllers, and micro-electromechanical systems (MEMS).

Oguzhan Guven joined the department as an academic specialist. He earned his PhD ('02) in mechanical engineering from Rice University and his BS ('95) from Istanbul Technical University in Turkey. Prior to joining MSU, he worked as a design engineer and team leader for Schlumberger Technology Corporation in Houston, Texas. His work experience includes design and development of oilfield equipment, primarily down-hole connectors for pressure/temperature sensors, fiber optic systems for distributed temperature measurement systems, and deformable structures for well-bore isolation. He was also involved in the recruitment of design engineers for Schlumberger product centers.

Tonghun Lee joined the department as an assistant professor. He received his PhD ('06) and MS ('02) in mechanical engineering from Stanford University and his BS ('00) in mechanical engineering from Yonsei University in Seoul, Korea. Prior to coming to MSU, he worked as a graduate research assistant in the High Temperature Gasdynamics Laboratory at Stanford University. His research interests include laser spectroscopic imaging of advanced propulsion and energy conversion systems. Lee received the Bernard Lewis Fellowship from the Combustion Institute in 2006 for high-quality research in combustion by a young scientist. He will work in special labs in the new Energy & Automotive Research Laboratories.

L. Guy Raguin joined the department as an assistant professor. He also holds an adjunct appointment with the MSU Department of Radiology and is a member of the Biomedical Imaging Research Center in the Departments of Physiology and Radiology. He earned his PhD ('04) and MS ('00) in mechanical engineering from the University of Illinois at Urbana-Champaign (UIUC). He also earned an Engineering Diploma ('99) and BS ('98) in energy/materials science from the Ecole Nationale Supérieure des Mines de Nancy (France). Prior to coming to MSU, he was a research associate at UIUC, where he developed magnetic resonance imaging protocols for microfluidics and biomedical diagnostics.

Guoming (George) Zhu is the newest faculty member of the department. He is an associate professor of mechanical engineering. Prior to joining the department, he was a technical fellow in advanced powertrain systems for the Visteon Corporation. He also worked for Cummins Engine Co. Zhu earned his PhD ('92) in aerospace engineering at Purdue University. His BS and MS degrees ('82 and '84 respectively) are from Beijing University of Aeronautics and Astronautics. His current research interests include adaptive control of electro-pneumatic valve actuators as well as closed loop combustion control of internal combustion engines. Zhu will work in special labs in the new Energy & Automotive Research Laboratories.

Students @ ME

2007-2008 Von Ehr Scholars Named

Four freshman students have been named as the 2007-2008 Von Ehr Scholars. Two of them are majoring in mechanical engineering. The ME students are Kenneth Newsted, Westland, Mich.; and Erik Sundberg, Williamsburg, Mich. The James Von Ehr Scholars Program was established in 2006 by James R. Von Ehr II, a 1972 computer science graduate and entrepreneur.

ME Graduating Senior Honored by Trustees

At its spring 2007 meeting, MSU's Board of Trustees recognized graduating senior **Melissa R. Carrier** for academic achievement. The mechanical engineering major is also a member of the Honors College. She was among 23 seniors to receive this honor, all of whom had achieved a perfect 4.0 grade point average. Board of Trustees Awards are granted at each commencement to students having the highest GPA at the close of their last semester in attendance. Carrier, of Jenison, Mich., is the daughter of William and Denise Carrier.

ME Senior Wins Trip to Germany

Eric Tingwall, a senior with a double major in ME and journalism, got an opportunity to hone his skills by winning an essay contest, sponsored by *Inside Line*, an online car magazine. The prize was a four-day trip to Germany this September to participate in the Frankfurt Auto Show as a correspondent.

2007 Academic Awards

The following students from the mechanical engineering department were recognized for academic excellence and service to the community during the 2007 College of Engineering Student Awards Reception this spring. Congratulations to all!

Outstanding Graduate Student Award Recipient: Michael Lavagnino.

Service Award Recipients: Agatha Bone, Jessica Theis, Stanislav Todromovich, and Adam Zemke.

Undergraduate Academic Achievement Awards: Logan Beam, Melissa Carrier, Christopher Cater, Brandon Gulker, Thomas Hull, Michelle Marincih, Sara Murawa, Basak Oguz, Andrew Schafter, Adam Sneller, Paul Strefling, Christopher Sweeney, Bryan Wagenknecht, and Mathew Winkley.

Teamwork Pays Off for Baja Race Team

The MSU Baja SAE racing team fell short of capturing first place in Honda's (Dayton SAE) invitational race in East Liberty, Ohio, on September 29. The MSU team was second to Auburn University by only 17 seconds. There were 24 schools in the competition. The car raced at this event, known to the team as "Turtle," is in its third season of racing, proving the team's quality of engineering and design. The team received a prize of $400 and a plaque.

The Baja Team also successfully competed with two cars in all three 2007 North American off-road events held by SAE last spring. During the competition at the Rochester Institute of Technology in Rochester, New York, the MSU car flipped, resulting in a cracked roll cage. However, the team pulled together. Within four hours the car was repaired, the safety inspection was completed, and the team was ready for competition.

The 2007 MSU Baja Race Team.

Members of the MSU Baja race team include Jacob Shultz, Ben Usher, Josh Thomet, Ken Maisonville, Andres Gillett, Dave Klipfel, Brent Rowland, Emily Duszynski, and Matt Werner. The faculty adviser for the team is André Benard.

More information and sponsorship opportunities are available at www.egr.msu.edu/baja.

Formula Racing Team Finishes in Top 10

Visit to Jay Leno's Garage Highlight of Trip

The 2007 MSU Formula Racing Team finished 10th overall from a field of 80 domestic and international teams at the FSAE West competition, held in June in Southern California. The car set a North American record in acceleration and took second in autocross.

A thrilling conclusion of the journey west was an invitation to be filmed with Jay Leno for his Web site "Jay Leno's Garage." For those not familiar with Leno, he is the host of NBC's "Tonight Show." He has a world-renowned automobile collection. The Web site highlights technical aspects of Leno's vehicles as well as others.

The 2007 team included Jonathan Luckhart, Joshua Heyden, Adam Zemke, Andrew Gryczan, Benjamin LeVesque, Nicholas LaPlaca, Richard Reichenbach, Brandon Goad, Elizabeth Carroll, John Tysman, Scott Williams, Michael Hundt, Nathan Crosty, Erin Machinchick, Paul Strefling, Jordan Smart, Eric Partlo, James Guitar, Kyle Bateman, Richard Hollern, and Shawn Swartzendruber. Gary Cloud, Distinguished University Professor of mechanical engineering, serves as the faculty adviser. Special thanks go to alumni John Lankes, Jerry Dixon, Dagan Mishoulam, Jon Denton, and Jeff Schmitz for their advice throughout the year.

Details about the race and the team's appearance with Jay Leno can be found at www.egr.msu.edu/fsae.

The 2007 Formula SAE Team with Jay Leno.

ME Students Lead, Create, and Innovate

The great tradition of Design Day continues to be an example of MSU at its best as mechanical engineering students demonstrate their amazing talents through design competitions, oral presentations, and posters. On Friday, April 27, the MSU Union hummed with excitement as busloads of school kids, hundreds of MSU students, dozens of faculty members, and industry sponsors participated in the activities.

Approximately 250 middle school and high school students participated in the Dart Foundation Day of Engineering Innovation and Creativity for 7th-12th Grade Students. These students explored engineering principles with hands-on projects that required the application of their creativity and ingenuity. They also interacted with MSU students and faculty by judging the innovative machines the mechanical engineering juniors had created. These young people should be convinced of the bright future they can have in engineering.

The headliners of the day were the graduating seniors as they presented their Capstone Design projects through posters and oral presentations. These projects provided unique opportunities for the seniors to demonstrate all that they have learned and mastered. Each senior was a member on one of 24 teams that designed a new or improved product or process for a project sponsor, which included Cummins & Barnard, General Motors, Dow Chemical, DaimlerChrysler, Borg Warner Thermal Systems, Louis Padnos Iron and Metal Co., MACSTEEL, Stryker Corporation, and Shell Oil Company. Projects included:

- Solar ovens for Tanzania
- High-performance airplane for a startup company
- Adaptive shower chair for children with disabilities
- Tee shirt shooting robot for MSU intercollegiate athletics
- Robotic arm for NASA
- Braking system for a hospital bed

Other design activities included competitions among mechanical engineering students in machine design and thermal design.

Coordinating the event for the department were Tim Hinds, academic specialist, and Craig Somerton, associate professor.

Alumni @ ME

Paul Receives ME Distinguished Alumni Award

Donald B. Paul (BS from MSU '68, MS from Southern California University '71, PhD from Ohio State University '80) received the Mechanical Engineering Distinguished Alumni Award at the annual College of Engineering Alumni Awards Banquet in May. Established in 2004, this award honors an alumnus of MSU's Department of Mechanical Engineering who has more than 15 years' engineering experience, shows leadership, contributes to the department, the college, or MSU, and is actively involved in the community.

Paul is chief scientist for the Air Vehicles Directorate of the Air Force Research Laboratory at Wright-Patterson Air Force Base, Ohio. The directorate conducts research and development on flight vehicle integration and flight demonstration, flight vehicle structures, flight control, and aeromechanics. Paul began his career in 1968 at the Naval Weapons Center in China Lake, California.

After joining the Air Force Flight Dynamics Laboratory in 1971, his career progressed from basic research to providing scientific advice and guidance throughout the Air Force Research Laboratory. He led the National Aerospace Plane Airframe Structures and Materials Team. He has been central in expanding the role of Unmanned Air Vehicles to enable affordable and responsive access to space and space travel. As the Air Force lead for international groups, Paul expanded the existing national aging aircraft program to the international community and led the development of national and international coalitions to identify and advance technologies that solve critical aging aircraft structure problems.

He is the recipient of many honors, among them the U.S. Presidential Meritorious Senior Professional Rank Award for lifelong service (2004). He first became involved with the American Society of Mechanical Engineers as a student at MSU and was named an ASME fellow in 1996. He is active in the American Institute of Aeronautics and Astronautics and became an AIAA fellow in 2001.

Paul is frequently invited to speak at universities and international technical symposia, and he has been the chair of many workshops and conferences. He also has presented mechanical engineering seminars at MSU.

Paul enjoyed intramural sports at MSU. He managed the Shaw Hall softball team and played basketball and flag football. He fondly remembers playing pickup basketball with mechanical engineering professor Merle Potter (now retired) and members of MSU's then–national champion football team.

He and his wife, Leslee, have lived in Bellbrook, Ohio, outside of Dayton, since 1971. They have two adult daughters, Michelle and Jennifer. The couple is active in the Bellbrook garden club. First introduced to sailing while at MSU (on Lake Lansing), Paul still enjoys it. His favorite vacation place is the family's home on Lake Michigan in Charlevoix, where, of course, he sails.

ME Alum Dave Seyfert Helps Engineer Indy 500 Victory

Dave Seyffert (BS '00) is assistant engineer for Dario Franchitti, who won the Indy 500 race the last weekend in May this year. Just before his December 2000 graduation from MSU, Seyffert completed an independent study based on racecar vehicle dynamics with mechanical engineering professor Steven W. Shaw. Seyffert then began his career with a small race team in Indianapolis. Since then he has moved to Andretti Green Racing, where he works on several different programs. He does many of the team's simulation programs in preparation for upcoming events. Seyffert is also involved with the team's wind tunnel program. As the assistant engineer for Franchitti, Seyffert is in charge of fuel strategy for the race, which includes determining how far the car can go on a tank of fuel.

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