



Dean Subrata Sengupta, center, with Daniel Sanko and Larry Wilson, see page 8 for story.



The University of Michigan-Dearborn
College of Engineering and Computer Science
4901 Evergreen Road
Dearborn, Michigan 48128-1491
(313) 593-5290

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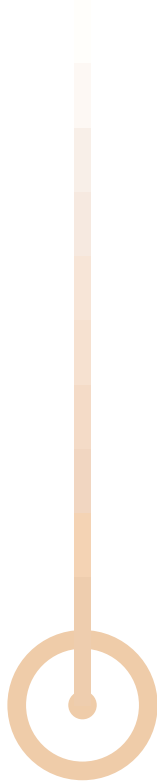
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THE DEARBORN
Engineer
UNIVERSITY OF MICHIGAN-DEARBORN

PARTNERSHIP





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News from the College of Engineering and Computer Science, University of Michigan-Dearborn
www.engin.umd.umich.edu

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Editorial Board

Subrata Sengupta, PhD, Dean
 Keshav S. Varde, PhD, Associate Dean
 Editor: Kathryn Tamborino
 Assistant Editor: Phillip Snyder

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Top: Roger Ruggiero and Daniel VandenBossche
Lower: Gordon Rinschler, Alan Amici, and Gregory Pochmara stand in front of DaimlerChrysler headquarters.

DAIMLERCHRYSLER AND COLLEGE OF ENGINEERING FORGE STRONG PARTNERSHIP

If not for a Chrysler Corporation initiative to form partnerships with universities, Daniel VandenBossche might not have retained his ties to UM-Dearborn after completing his undergraduate education in 1971. He is now senior manager, E-Connect, at DaimlerChrysler Corporation (DCX), a CEEP advisory board member, and the recipient of the 1999 Alumni Service Award from the College of Engineering and Computer Science (CECS).

If not for the Chrysler Institute Program, Gordon Rinschler probably would not have moved to Detroit from New York in 1968 to attend the University of Michigan-Dearborn. He is now vice president, family vehicle engineering, at DCX and an active member of the CECS Visiting Committee.

Because of the DCX Scholarship Program, Nara Piestrzeniewicz can concentrate more on her challenging senior year studies than on the significant financial burden of her education. She is a mechanical engineering student who this year received her first DCX scholarship. Piestrzeniewicz's ultimate goal is to become a patent lawyer.

VandenBossche, Rinschler, and Piestrzeniewicz exemplify the positive impact of the complex and strong partnership between DCX and the College of Engineering and Computer Science. It is a relation-

ship that began with the Chrysler Corporation three decades ago and continues to flourish under DCX's current leadership.

"Our relationship with DaimlerChrysler goes back to the very beginning of this campus," says Subrata Sengupta, dean of the College of Engineering and Computer Science. "Our mission in many ways was focused in the beginning on making sure the automotive industry would thrive."

At that time, he explains, Chrysler was interested in establishing a relationship with an academic institution that was close by that would have its interest foremost in mind. The Chrysler Institute of Engineering became the centerpiece for recruiting the talent Chrysler needed.

"The Chrysler Institute of Engineering began in the late 1930s as an internal training program," explains Gordon Rinschler. "In the late 1960s, it was changed into a formal master of science program in partnership with UM-Dearborn. Undergraduate degree students were hired to work for Chrysler three days a week. They would go to school two days a week and obtain master's degrees while rotating through six to eight different assignments in the company. It was a highly successful program that was good for the school and good for the com-



Gordon Rinschler

DAIMLERCHRYSLER STORY, continued

pany." Although the program has been expanded to other universities, UM-Dearborn continues to be a major participant, says Rinschler.

"We now have a large cadre of people at Chrysler who are graduates of the institute, and the company is seeing the direct benefit. UM-Dearborn provides us with fresh, young, eager members of the profession. There is a positive exchange of ideas and many opportunities to capitalize on projects from the Institute for Advanced Vehicle Systems (IAVS) and its work on the lightweight car."

Alan Amici, DCX senior manager, EE powertrain and chassis systems, agrees that the partnership between industry and the university has value to both. He says DCX hires two Chrysler Institute engineers and two college interns each year.

"There are great tradeoffs," says Amici, who is a UM-Dearborn funding sponsor. "By working with the university to develop engineers we are investing in our own future. They are our 'farm club.' We're on the verge of changing technologies and the university can play a very important role in research. Our future also is tied to 'speed to market' concerns and a rapidly changing manufacturing environment. Society needs a workforce that is technically capable and nimble enough to change. UM-Dearborn and DCX both understand that we need each other's strengths."

DCX and UM-Dearborn are constantly seeking opportunities to strengthen their partnership. The DaimlerChrysler Corporation Fund has provided funding for many years to bolster the company's commitment to providing more opportunities for women and minorities in engineering. Grants from the fund also support a summer bridge program and student minority and women engineering chapters such as the National Association of Black Engineers and the Society of Women Engineers. Over the past decades, DaimlerChrysler has made it possible for hundreds of qualified engineering students to receive a quality education at UM-Dearborn.

Another important area of involvement is the effort to build strong alumni ties. Richard Anderson, a DCX planning specialist, graduated from UM-Dearborn with a bachelor's degree in industrial and systems engineering in 1976 and a master's degree in industrial and systems engineering in

1982. "I hired in at Chrysler in 1977 and have spent my whole career there," he says. Anderson became involved in alumni activities some 12 years ago and has been active with a full range of alumni groups. He is currently the president of the CECS Alumni Board of Governors.

Gregory Pochmara, a UM-Dearborn alumnus and a program management specialist on the DCX family vehicle product team, is also involved with recruiting and in governance through his work on the Alumni Board of Governors.

"Schools need to prepare students for the technical side of the job as well as the business part of the job," he says. "The technical part is fairly straightforward but the business aspect can be a bit of a struggle. Students need to look beyond the classroom."

He emphasizes the importance of leadership in the corporate world and says universities should place greater emphasis on activities that foster leadership in students. "For the most part, UM-Dearborn has done a good job. Kids come to us prepared," he says, adding that because UM-Dearborn is not a residential college, "living is training. They are already meeting the challenge of time management, planning, and being prepared for the unexpected."

"We have received a great deal of support from DaimlerChrysler through research contracts, equipment, scholarships, internships, and advisory activities at various levels," says Dean Sengupta. "Some of our most loyal alumni are there and we value the company's consistent and ongoing commitment. Numerous executives have played an important role in shaping and supporting who we are today. In the '70s and '80s we played a major role in sustaining the Chrysler Institute and we continue to be part of that lead program. We look forward to their participation in shaping the content of the activities within the new IAVS building in the years to come."

"We must develop a continuing technology base in our young people," says Gordon Rinschler. "The challenge is for the large companies not to lose sight of the educational institutions and to work harder at joint projects like IAVS. Despite changes in the manufacturing process, we don't want to be divorced from the process because we are not as involved in the direct recruiting."



Alan Amici



Roger Ruggiero



Daniel VandenBossche



Gregory Pochmara

HAGEN FOUNDATION A FAMILY AFFAIR

When David F. Hagen, a former Ford Motor Company executive, established the Hagen Family Foundation in 1999, he wanted to leave a legacy of support that would continue to make a difference in the lives of people beyond the present generation.

"My wife and I also wanted to generate an ongoing interest in philanthropy in our children and grandchildren," says Hagen, chairman of the Hagen Family Foundation Board of Directors. "We tend to fund educational, religious, or social issues that are part of the communities in which we all live," explains Hagen. His wife Virginia is vice president, treasurer, and secretary and all of the Hagen children serve on the board.

Andrew Hagen is a Lutheran minister in Bolingbrook, Illinois. Patricia Hagen Born is an assistant professor at California State University in Northridge, California. She and her husband have two children, a boy, 10, and a girl, 13. Laura Hagen is a public relations professional in California.

The Hagen Family Foundation (THFF) is a private family foundation established to operate and act exclusively for charitable, religious, literary, or scientific purposes. THFF favors proposals that seek start-up costs for creative new strategies, identify ongoing means for being self sustaining, promote prevention of social problems, demonstrate inter-agency cooperation, and empower targeted populations to meet their own needs more effectively.

"We have the notion that there are many things out there that don't get funded and probably never will," says Hagen. "The senior project grant we recently made to UM-Dearborn falls into that category. "There is a need but no line item in the budget to support it. So we took care of the need with a grant. Now students will have enough money to complete their senior projects."

Each department in the College of Engineering and Computer Science requires students to complete a senior design project related to their fields of study. Projects teach students about planning and implementing an assignment, working within a team, meeting deadlines, and making the tradeoffs needed to accomplish set goals. While some of the senior design projects are carried out in areas submitted and supported by industry partners, the majority of senior design projects are internally initiated. As a result, most senior project teams have no financial resources to purchase the materials, off-the-shelf



Dr. Keshav Varde, associate dean, with David Hagen

hardware, sensors, instrumentation, and other supplies that are necessary to conduct their research.

"The senior design project is an integral part of the education a student receives," says Dean Subrata Sengupta. "For many, it represents the first exposure to an environment that is similar to what they will encounter once they leave school. Working on a senior project encourages students to balance the many non-technical, but highly important, aspects of an assignment against the technical requirements. The \$5,000 Hagen Family Foundation Grant is highly important to the success of the senior project program. It will ensure that many different students have adequate funds to build and evaluate their designs."

A University of Michigan graduate, Hagen began his relationship with UM-Dearborn in the 1960s and 1970s when as a Ford Motor Company executive, he needed to find educational opportunities for employees. He has been a member of the College of Engineering and Computer Science Visiting Committee for five years.

"Membership on the Visiting Committee provides a firsthand look at what is going on at the college," says Hagen. "We act as a sounding board for new ideas and have the opportunity to offer the industry perspective to the college. It has been a very satisfying experience for me."

WELCOME NEW VISITING COMMITTEE MEMBERS



Thomas E. Evans is the chairman and chief executive officer of Collins & Aikman Corporation, a global \$1.9-billion automotive interior trim systems manufacturer. Prior to joining Collins & Aikman, he was president of Tenneco Automotive. Under his stewardship, Tenneco doubled its original equipment business globally within four years and successfully executed a comprehensive worldwide restructuring program. Mr. Evans has also held management positions at Case Corporation and Rockwell International.

Mr. Evans earned a bachelor's degree in mechanical engineering from Pennsylvania State University, a master's degree in mechanical engineering from the University of Michigan-Dearborn, and a master of business administration from the Advanced Management Program at Michigan State University. The Wisconsin Central Transportation Corporation appointed Mr. Evans to its board of directors in July 1998. He also is a member of the board of directors for the National Association of Manufacturers (NAM) and the Institute of Textile Technology (ITT). Mr. Evans is the recipient of the 2001 Distinguished Alumnus of the Year award from the College of Engineering and Computer Science.



John F. Kill is vice president of product development for Visteon Corporation, a position he has held since January of 2001. He began his career with Ford Motor Company in 1971 and held various engineering positions within the company's Powertrain Operations until 1979. He also held planning and managerial positions at Ford before becoming an area manufacturing manager in 1985 at Ford's Saline, Michigan plant. From 1988 to 1993, Kill held managerial positions within Ford's Diversified Products Operations and Powertrain Operations. During 1993 to 1997, he was chief engineer in the climate control division, of what had evolved into Visteon. He was Visteon's European Operations Director from 1997 through 1999 and then became director of Visteon's climate control division.

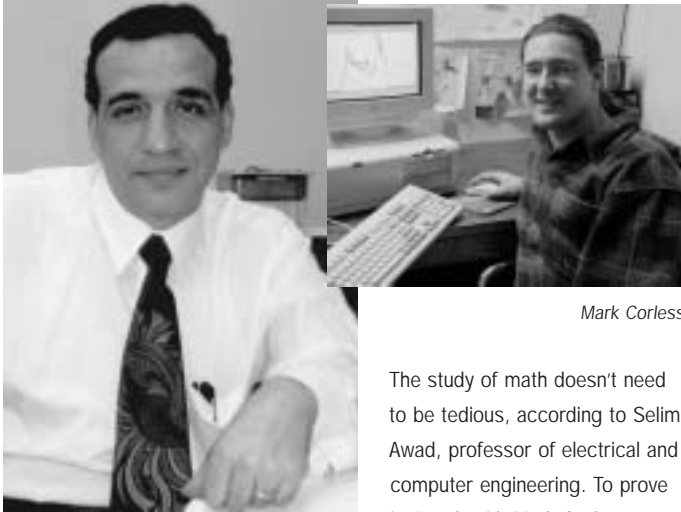
Kill holds a bachelor's degree in mechanical engineering from the University of Dayton and a master's degree in business administration from Wayne State University.



George R. Perry became president and chief operating officer of Yazaki North America (YNA) in April of 2001. Mr. Perry began his career in aerospace and was involved in every manned lunar landing of the Apollo program. His automotive industry experience began in late 1972 when he joined Ford Motor Company as an electronics reliability engineer. In 1975, he moved to Siemens (formerly Bendix) and was selected to play a key role in the launch of a Renault/Bendix JV electronics plant in Toulouse, France in 1979. He became vice president of Siemens' worldwide quality/reliability in 1984 and was appointed vice president and general manager of the fuel system components division in 1987. In this capacity, he successfully tackled the difficult task of creating a world-class competitor to the established market leaders. In 1992, Perry was elected to the board of Siemens Automotive Corporation. He was appointed president and CEO in October of 1993 and served a successful term until his election of an early retirement at the end of 1999.

Mr. Perry holds a bachelor of science degree in electrical engineering from Pratt Institute. He is a past chairman of the Convergence Transportation Electronics Association board, and served as a board member of Jobs for America's Graduates, Oakland County's Automation Alley, and SAE's Vision 2000. Mr. Perry will also be the guest speaker at the University of Michigan-Dearborn's commencement ceremony in December.

MAKING MATH MORE ACCESSIBLE



Selim Awad

Mark Corless

The study of math doesn't need to be tedious, according to Selim Awad, professor of electrical and computer engineering. To prove it, Awad, with Mark Corless, a master's degree graduate and lecturer in the electrical and computer

engineering department, have developed mathematics courses that can be accessed over the Internet or by using a CD. The projects have been made possible through the SBC Ameritech Initiative. The first course, "Introduction to MATLAB and Its Toolboxes" was completed a year and a half ago. "Math Review with MATLAB and Its Symbolic Toolbox" has been available for six months. Both courses can be viewed at <http://www.engin.umd.umich.edu/~sawad>.

"We developed this course for students and faculty," says Awad. "Through the use of sound and controlled information flow, students can review the basics of a wide range of math topics. It walks them through the basics and doesn't allow them to fall behind. Students also can learn powerful math tools to solve involved problems either symbolically or numerically. The narration and animations make the learning experience much more enjoyable than if students were forced to read page after page of course-related documents. Having the information readily available outside of the classroom is in itself a motivator for our busy student body."

"Both undergraduate and graduate students at UM-Dearborn can use the courses as a math review tool for other courses," he continues. "Faculty and continuing education students also benefit. They can learn new methods for preparing web-based materials for educational purposes, enhance their knowledge regarding the MATLAB Symbolic Toolbox, and use the courses in their research work."

Dr. Awad is following work on this course with the development of a web-based, self-learning course entitled "Digital Signal Processing and Its Applications." "The goal is to prepare the teaching material in a multimedia form tailored to distance learning and/or self-teaching purposes," he says, explaining that materials will include animated Microsoft PowerPoint presentations (including sound), computer-based movies (in avi or mpeg formats), and videotaped lectures. "Course material will be organized in modules that will be available to other related courses such as digital control, digital processing of speech signals, and architecture of digital signal processing systems."

AMERITECH GRANTS IMPROVE INFORMATION SHARING

Thanks to a grant from Ameritech, many College of Engineering and Computer Science projects are using advanced technology to find new ways and systems of sharing information and resources with students, industry, and the community. These projects, which include the five grants listed below, were made possible by a five-year \$1.5-million Ameritech Foundation grant as part of the SBC Ameritech Learning Initiative.

Created in 1998, the initiative is a partnership among the University of Michigan's three campuses to investigate, evaluate, develop, prototype, and implement solutions for expanding the possibilities for distributed education available to frontline educators. The fourth installment of the grant was presented in November.

AMERITECH FACULTY AWARDS FOR 2001

Math Review with MATLAB and Its Symbolic Toolbox

Selim Awad, Professor
Electrical and Computer Engineering

A Web-Based Course on
Robotic Technology

Yubao Chen, Professor
Industrial and Manufacturing
Systems Engineering

SME/Ameritech Student
Outreach Program

Elsayed Orady, Professor
Industrial and Manufacturing
Systems Engineering

Enhancing the E100 Web Site
and Student Design Experiences

Malyappan Shridhar, Chair
Electrical and Computer Engineering

Paul Watta, Assistant Professor
Electrical and Computer Engineering

Virtual Learning Tool 2

Armen Zakarian
Industrial and Manufacturing
Systems Engineering

ALUMNI PROFILE: CHRIS THEODORE



Chris Theodore's office is filled with photos of his family and cars—the two great loves in his life. A close third is his love for music—from classical to rock to blues to opera.

"While in college, I played the cello and thought about someday joining the Detroit Symphony Orchestra," he says. "But from a very young age I dreamed about designing cars. And since my talent for cars was greater than my talent for music, I chose engineering."

Theodore's talent for cars has led him to the vice presidency of Ford North America Product Development, a position he has held since September of 2001. In this role, he is responsible for overseeing the design, engineering, and development of all Ford cars, trucks, and SUVs sold in North America.

A native Detroit, Theodore has some 30 years of experience in the automotive industry. While earning his bachelor's degree in mechanical engineering at the University of Michigan in Ann Arbor, he served as an intern in the heavy truck group at Ford. After graduation, he continued his education at UM-Dearborn while working as an engineer at Ford. Theodore received his master's degree in mechanical engineering from UM-Dearborn in 1975.

"I can barely recognize the campus since I first came here," he says. "The growth has been enormous and speaks for itself." But despite the fact that the campus was much smaller, Theodore says the impact on his education has been significant. He believes that UM-Dearborn plays a vital role in educating students for future jobs in industry.

"The school is in a class of probably less than a dozen that have aligned themselves so closely with industry that people who want to excel can get the right kind of training and background in the particular field they are interested in," he says. "Engineering students need an education that goes beyond the core curriculum and fundamentals, as important as they are." He says they need specific engineering principles tailored to the needs of industry.

"My education at UM-Dearborn reinforced the engineering principles I had learned in my undergraduate studies," he continues. "Working towards the master's nailed things down for me in a way that was more significant to me than the actual learning. I'll never forget Professor George Kurajian, the chair of the mechanical engineering department at that time, who finally explained Castigliano's Theorem to me in a way that made sense.

ALUMNI PROFILE: CHRIS THEODORE, *continued*

Theodore left Ford in 1974 to join General Motors as a research engineer in the Detroit Diesel Division. He was director of engine engineering at American Motors Corporation from 1985 to 1989, and when the Chrysler Corporation acquired AMC was named powertrain executive of the minivan platform team. He earned his master's in business administration from Michigan State University in 1989. When he left DaimlerChrysler in 1999, he was senior vice president of platform engineering and was credited with creating and maximizing the efficiencies of the platform team organization in product development.

Theodore returned to Ford as vice president, Ford North America Car in 1999, where he worked to re-energize the car market by bringing back the legendary Thunderbird. In addition, Theodore oversaw ongoing product development of the Ford Taurus, Crown Victoria, Windstar, Focus and Mustang. According to Theodore, if schools and industry are to be successful, they must continue to align themselves to keep pace with growth in technology and a fast-moving, changing society.

"The technology half-life is getting shorter," he says. "And work styles and lifestyles are changing. We live in a 'just-in-time world.' The curriculum needs to continue to adapt as new needs in society and industry emerge."

Theodore says UM-Dearborn does a good job in keeping pace with technology, industry, and society by offering flexibility for students and faculty and establishing good working relationships between college and industry leaders. He sees his work on the college's Visiting Committee as part of that bigger picture.

"We sit down with the dean at least once a quarter to see how things are going," he says. "It is a very focused and collaborative effort and provides an opportunity for an essential continuous dialogue."

Theodore has five children, Terese, Nicole, Dan, Nicolas, and Aristotle, and four grandchildren, Samantha, Kaitlyn, Jacquelyn and Luciana. He and his wife Tracee live in Birmingham, Michigan.



Subrata Sengupta, dean; Thomas Evans, chairman and CEO, Collins & Aikman Corporation; Ronald Modreski, vice president of Aeroquip Vickers Corporation

DISTINGUISHED ALUMNUS OF THE YEAR

Thomas E. Evans, '79 Engineering

With more than 30 years of broad experience in global transportation markets, Thomas E. Evans is an industry leader in product development, manufacturing and international operation management. He is the chairman and chief executive officer of Collins & Aikman Corporation, a global \$1.9-billion automotive interior trim systems manufacturer. Mr. Evans recently joined the College of Engineering and Computer Science Visiting Committee. For additional biographical information, please see page 4.

ALUMNI SERVICE AWARD

Ronald A. Modreski, '65 Engineering

A management consultant, Ronald A. Modreski retired from Aeroquip Vickers Corporation in 1999, where he was vice president/general manager of the electromechanical division for the Aerospace-Marine-Defense (AMD) Group. Prior to that, he had been director of quality worldwide for Vickers AMD Group in Jackson, Mississippi. Modreski received a bachelor's degree from the University of Michigan-Dearborn. He played a key role in building partnerships between alumni and industry, and UM-Dearborn and the West Michigan community. He serves on the Board of Directors of Junior Achievement, the Manufacturing Council of the Right Place Program, and the Michigan Colleges Foundation. Modreski and his wife, Karen, live in Grand Rapids.

A TALE OF FRIENDSHIP AND FAST CARS

Larry Wilson,
Dean Subrata
Sengupta, and
Daniel Sanko



Three years ago Daniel Sanko and Larry Wilson were seniors in their last semester, studying together, taking classes together, working in labs together, and hanging out together. In December 1998, they graduated together.

“Fast forward” to 2001. Sanko and Wilson remain close friends. They see each other frequently and have vacationed with their wives in Lake Tahoe, Whistler, and northern Michigan. It’s a lot like college, except for one important difference—they can’t talk about what they do at work. Why? Because Sanko and Wilson have landed jobs in opposing camps of one of the most fiercely competitive segments of the auto industry—performance cars.

Sanko, a project engineer at Roush Industries, is part of a team contracted by Ford Motor Company to design the Mustang Cobra. Sanko worked on the 2000 Cobra R, a race-ready niche vehicle with no radio, air conditioning, or back seat, that sold for \$55,000. Ford produced only 300 of the cars, which were bought by serious racers and, Sanko says, “people who can afford to say, ‘I have it and you don’t.’” Sanko also worked on the 2002 Cobra, not a race car but still a speedster.

Wilson, meanwhile, is a design engineer on the Corvette, the General Motors Corporation entry that competes with the Mustang in the hearts of die-hard racing fans. Unlike the special-issue Cobra R, the Corvette is a standard production car with all the amenities. But it still burns up the quarter-mile in 12.4 seconds at 104 mph and, Wilson proudly points out, handles like it is on rails. Newer to his job than Sanko is to his, Wilson didn’t work on the current-year Corvette. His assignment is the current-production Corvette body structure and the 2003 XLR Cadillac, which has a body structure similar to the Corvette.

Sanko and Wilson, two auto buffs with great jobs working on fast cars, would have so much to talk about if only they could. But professional duty obligates them to keep mum on the specifics of the cars they are developing. Both appreciate the irony of the situation.

“We cooperated in college,” Wilson says, “and now that we’re in industry, we can’t.”

“It’s just funny,” Sanko says. “We were lab partners in college and talked about everything we did. Then we start working and can’t talk about what we do at all.”

That doesn’t mean they can’t indulge in innocent ribbing though. If the Corvette wins a performance

award, Wilson is sure to forward the information to Sanko. When a new current-production photo of the Mustang becomes available, Sanko sends it to Wilson with the message, “Here’s a real performance car.”

Sanko says he’d welcome the opportunity to race Wilson in their respective vehicles and Wilson admits that when he’s working on a certain part for the Corvette, “I want it to beat the Mustang.”

Of course, they still gab about cars in general when they get together—at least as much as Wilson’s wife, Emily, and Sanko’s wife, Carrie, will allow. “They tell us we can’t talk about cars, or they’ll give us a time limit,” Wilson says.

After graduation, Wilson hired into a design-engineering program at General Motors. For two years, he worked on trucks. When his truck rotation ended, Wilson told his mentor, Khris Lee, he wanted to work on cars, and his mentor’s ties just happened to be with the Corvette.

Performance is the highest concern with the Corvette, but safety and comfort also are important. “People buy a Corvette for performance, but they also want to use it on vacations with their family,” Wilson says. He analyzes parts for possible mass reduction and quality tradeoffs. “On the Corvette, I use more of my engineering knowledge than I have on any other program,” Wilson says.

Sanko also came to his job in a roundabout way. Before hiring on at Roush, he worked with seats, door systems, and latches. Through a job fair, he heard about the opening at Roush, and soon found himself working on the Mustang Cobra developing air induction and fuel systems.

“This is pretty close to my dream job,” Sanko says. “I can’t afford a Cobra, and yet I get to drive it. When I tested the Cobra R, I got to 125 mph and quit; that’s fast enough. You’re just a human missile at that point.” Ford produced the Cobra R in 1993, 1995, and 2000, but won’t be producing any more.

Sanko says his years at the College of Engineering and Computer Science instilled basic problem-solving principles that he uses all the time: Analyze a problem, try a solution, evaluate the results, repeat as necessary.

“It’s the decision-making skills that school gives you, not so much that you know these particular stresses, etc.,” he says. “Even classes that were less applicable materially taught me to organize, pace, and just work hard.”

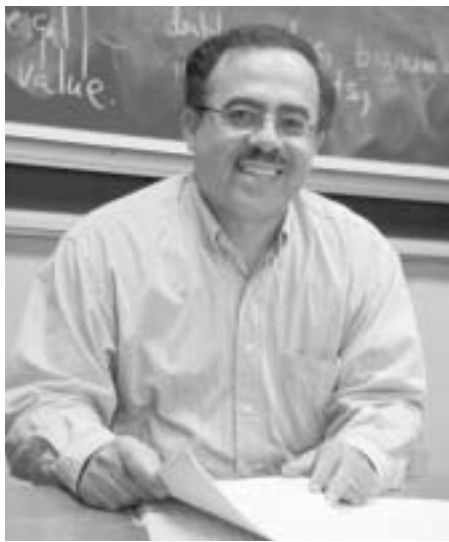
Still early in their careers, both Sanko and Wilson are interested in working on different product lines down the road—as long as it’s still a road where the cars go fast.



Sanko and Wilson

FACULTY RESEARCH GRANTS

Left: Ali Elkateeb
Right: Charu Chandra



A summary of faculty research grants received from outside funding sources since March 2001.

Video-based non-contact vibration imaging system

Alan Argento, associate professor of mechanical engineering, and Sridhar Lakshmanan, associate professor of electrical and computer engineering, have received a \$15,000 grant from the University of Michigan's Office of the Vice President for Research to support enhancement for a video-based vibration imaging system prototype.

Modeling of logistics for reconfigurable supply chain

Charu Chandra, assistant professor of industrial and manufacturing systems engineering, has received a \$150,000 three-year unrestricted grant from Ford Motor Company's University Research Partnership program to develop analytical logistics models.

Knowledge-based system for manufacturing process design

Yubao Chen, professor of industrial and manufacturing systems engineering, has received a \$70,000 contract from Delphi Automotive Systems to develop a knowledge-management framework for metal-forming designs and to create a web-based system to integrate knowledge management with engineering processes.

Optimizing the acoustics package of automotive vehicles

John Cherng, professor of mechanical engineering, has been awarded \$15,795 additional funding from H. P. Pelzer, Inc. to continue development of computer-aided vehicle acoustics analysis, design, and optimization.

Solder material model

Chi L. Chow, professor and chair of mechanical engineering, has received an additional \$100,000 contract from Sandia National Laboratories to develop and validate metal solder materials models.

Microchip for HIV testing equipment

Ali Elkateeb, associate professor of electrical and computer engineering, has been awarded a \$19,140 contract from Medmira Laboratories. This funding will support development of a microchip to be used in HIV testing equipment.

Pre-crash sensing using a vision sensor: applications to side impact collisions

Sridhar Lakshmanan, associate professor of electrical and computer engineering, has received an additional \$50,000 contract from Ford Motor Company to continue development of computer-vision algorithms.

DOE fellowship

P. K. Mallick, professor of mechanical engineering and director of interdisciplinary studies, has received an additional \$50,000 from the U.S. Department of Energy for continuation of the Graduate Automotive Technology Education program through September.

Laser weld microstructure and solidification

Pravansu Mohanty, assistant professor of mechanical engineering, has been awarded a \$14,996 subgrant under the Ann Arbor College of Engineering project "Effect of High Energy Density on Laser Weld Pool Dynamics." The U.S. Office of Naval Research funds this investigation.

LAN for combat vehicles

Paul Richardson, assistant professor of electrical and computer engineering, has received a \$42,000 Intergovernmental Personnel Act (IPA) contract from the U.S. Army Tank-Automotive Research and Development Command (TARDEC) to support collaboration with TARDEC engineers to develop and test a local-area network for combat vehicles.

FACULTY RESEARCH GRANTS, *continued***Algorithms and software for modular systems**

Armen Zakarian, assistant professor of industrial and manufacturing engineering, has received an additional grant of \$50,000 from AutoNeural Systems to support continued development of engineering software.

Flexible robotic assembly for powertrain applications

Dongming Zhao, associate professor of electrical and computer engineering, has received an additional \$30,000 contract from the National Center for Manufacturing Sciences to continue software development.

NSF SCHOLARSHIP GRANT WILL ENRICH CAMPUS

P. K. Mallick

The Department of Mathematics and Statistics and the College of Engineering and Computer Science (CECS) have jointly received a four-year, \$400,000 scholarship grant from the National Science Foundation (NSF) for academically talented, low-income undergraduate and graduate students. The scholarship will provide financial support to 27 undergraduate students and two graduate students per year. It will also provide funds for student mentors and summer research for undergraduate scholarship recipients. Professor P. K. Mallick, director of interdisciplinary programs, is the participating investigator from CECS on this NSF grant.

"This is a substantial grant that we hope will attract high school students talented in math, computer science, and engineering to this campus," says Dr. Mallick. "Based on financial need and test scores, the scholarships will enhance the quality of our student population. Mentoring by senior and graduate students and research under the guidance of faculty will enrich the educational experience of recipients." For additional information, call 313-593-5100.



Roger McCurdy, director of research and advanced development, TRW; Yi Lu Murphey; Phil Snyder, development director, College of Engineering and Computer Science; Ray Haynes, TRW Space and Electronics Group

TRW CONTRACT

Yi Lu Murphey, associate professor of electrical and computer engineering, was recently awarded two contracts with TRW to conduct research on vision system technologies.

With a contract for \$111,384, Professor Murphey, in collaboration with Professors Malayappan Shridhar and John W. Miller, will continue the development of a video camera demonstration model for passenger occupant detection and classification. The goal is to develop algorithms for passenger classification and tracking that ultimately will be used for smart air bag control. An array of neural networks has been developed and integrated into TRW's camera system. They classify passengers as adult, child, empty seat, and child seat.

With a \$30,000 contract, Dr. Murphey will investigate a low-cost stereovision system that can be mounted on an automobile. She will develop effective and efficient algorithms for extracting and matching image features, calculating disparity, detecting moving vehicles and measuring distances to the target vehicles, and calculating the time-to-contact. The project is titled "Development of a Video Camera Demonstration Model for Passenger Occupant Detection and Classification."

Dr. Murphey also has received:

- A \$150,000 three-year unrestricted grant from Ford Motor Company under the University Research Partnership program to support research in incremental neural learning, case-based reasoning, and a support vector machine that will be used in vehicle fault diagnosis and on-board vehicle diagnosis.
- A \$64,018 second-year IPA agreement from the U.S. Army TARDEC to continue collaborative research on video imaging programs.

Professor Murphey and her research associate Dr. AhiHang Chen recently designed and developed a neural network system that won third place in a neural network generalization ability competition sponsored by the International Joint Conference on Neural Networks.



Anthony DeLaRosa

ANTHONY DELAROSA IS NEW CO-OP DIRECTOR

"The mission of the University of Michigan–Dearborn is a perfect fit for my educational, career, and life objectives," says Anthony DeLaRosa, UM-Dearborn's new co-op director. "I receive great pride and satisfaction from helping students explore their career goals and am looking forward to a challenging and rewarding career here."

Mr. DeLaRosa was assistant director of cooperative education and career services at the University of Detroit-Mercy before joining UM-Dearborn. Previous to that, he was an admissions advisor at Oakland University in Rochester, Michigan.

DeLaRosa earned a bachelor of science degree in human resource development, with an emphasis on training and development, from Oakland University. He is currently working toward his master's degree in educational administration at the University of Detroit-Mercy. He is a member of the Michigan Council for Cooperative Education (MCCE), Midwest Cooperative Education Association (MCEA), and Midwest Association of Colleges and Employers (MWACE).

REGENTS ANNOUNCE EMERITUS AWARDS



A. Adnan Aswad

A. Adnan Aswad, professor of industrial and manufacturing systems engineering in the College of Engineering and Computer Science, was named professor emeritus by the University of Michigan Regents at their June 2001 meeting. He retired in April 2001. Professor Aswad, who has more than 40 years of professional experience in education, industry, and as a consultant in the United States and abroad, was an early and leading proponent for strengthening manufacturing engineering education at UM-Dearborn. He is a nationally and internationally recognized authority on quality function deployment and quality systems.

Professor Aswad received his bachelor's degree in mechanical engineering at Robert College in Turkey in 1955, and master's degrees in mechanical engineering (1961) and industrial engineering (1964) and a doctorate in industrial engineering in 1972 at the Ann Arbor campus.

After joining the UM-Dearborn faculty as a lecturer in 1965, Aswad was promoted to associate professor in 1972 and professor in 1983. He served as chair of the Department of Industrial and Manufacturing Systems Engineering from 1972 to 1983, and was associate dean of the School of Engineering from 1983 to 1988.



Syed Murtuza

Syed Murtuza, who joined the UM-Dearborn faculty as an assistant professor in 1971, was named professor emeritus of electrical and computer engineering by the U-M Regents at their July 2001 meeting. "Professor Murtuza was instrumental in establishing the control systems program in the College of Engineering and Computer Science and has taught the entire sequence of graduate and undergraduate courses in the program," according to the Regents.

Murtuza received his bachelor's degree from Osmania University in India in 1958, his master of science degree from Oklahoma State University in 1963, and his doctoral degree from Purdue University in 1967. He was a member of the research staff at Western Electric Company from 1967 to 1970. After joining the UM-Dearborn faculty in 1971, Murtuza was promoted to associate professor in 1974 and professor in 1996. He served as acting chair of the Department of Electrical and Computer Engineering from 1981 to 1983 and in winter 2000. He also served as associate director of the manufacturing systems engineering program from 1990 to 1994.

NEW FACULTY



Vivek Bhise, professor in industrial and manufacturing systems engineering, formerly of Ford Motor Company, has taught at UM-Dearborn as an adjunct associate professor and adjunct professor since 1980. Bhise earned a

bachelor's degree in mechanical engineering at the Indian Institute of Technology in Bombay, India, a master's degree in industrial engineering at the University of California, and a doctorate in industrial and systems engineering at Ohio State University. Bhise's professional interests include designing and evaluating products, designing vehicles, man-machine systems, product development, and production processes.



Mahmut Eksioglu, assistant professor of industrial and manufacturing systems engineering, previously taught at Morgan State University. Eksioglu also worked as a research engineer for the U.S. Department of Health

and Human Services. He earned a bachelor's degree in mechanical engineering at Yildiz Technical University in Turkey, and master's degrees in aerospace engineering and industrial engineering and a doctorate in industrial engineering at Wichita State University. His research interests include work-related musculoskeletal disorders, vehicle ergonomics, human aspects of system/product design, and application of mathematical modeling and optimization theory in ergonomics.



William I. Grosky, professor and chair of the Department of Computer and Information Science, received his bachelor's of science in mathematics from Massachusetts Institute of Technology, his masters of science

in applied mathematics from Brown University, and his Ph.D. from Yale University. Before coming to UM-Dearborn, Grosky was professor and acting chair of the computer science department at Wayne State University. His current research interests are in visual information management, web-enabled multimedia information systems, hypermedia, databases, and web technology.



Taehyun Shim, assistant professor in mechanical engineering, formerly taught at the University of California-Davis. He earned his bachelor's degree in mechanical engineering at Hankuk Aviation University in

Korea and master's and doctoral degrees in mechanical engineering at the University of California-Davis. His research interests include vehicle dynamics, system modeling, control, mechatronics, and vibration. His work has appeared in numerous publications, including the *Journal of Franklin Institute*.



Oleg Zikanov, assistant professor in mechanical engineering, formerly taught at Florida Atlantic University, Moscow Pedagogical University, and Baumann Technical University. He earned his master's degree in

mechanics and his doctoral degree in fluid dynamics and plasma physics at Moscow State University. He served as an assistant scientist at Florida Atlantic University, a researcher at Dresden University of Technology, and an Alexander von Humboldt research fellow at Darmstadt University of Technology. His research interests include computational fluid dynamics, simulation and modeling of turbulence, the theory of turbulence, and magnetohydrodynamics of liquid metals.



Chris Mi is a visiting professor of electrical and computer engineering. He received his Ph.D. in electrical and computer engineering from the University of Toronto. He earned his bachelor's and master's degrees in applied

science in electrical engineering from Northwestern Polytechnic University in China. Before coming to UM-Dearborn, Mi was an electrical design engineer at General Electric Canada, Inc. His research interests include power electronics, speed of variable drives, and hybrid electrical vehicles.

From left to right: Nara Piestrzeniewicz, Philip Lechowicz, Phil Snyder, Shady Awad, Yusuf Afinni, and Tina Thomas



SCHOLARSHIP AWARDS FOR 2001-2002

Detroit Edison Scholarship

Rachel Diehl
Tina Thomas
Bridget Zalewski

Chancellor's Scholarship

Philip Lechowicz

Chrysler Scholarship

Yusuf Afinni
Shabram Amirsadi
Lisa Balger
Margaret Ducusin
Bhavna Mathur
Evrard Ohou
Nara Piestrzeniewicz
Mary Putrus

Csonka Scholarship

Mark Corritore
Wissam Joumaa

Professor Aswad Scholarship

Jason Mahler

Violet Sharpe Scholarship

Kimberly Austin
Shady Awad
Gais Elmadari
Lisa Ghannam
Brian J. Lee
Francesco Mangano
John Moore
Raymond Ng
Girish Patel
Jeffrey Pierson
Amanpreet Sandhu
Nasleen Soomar
Brian Stobbe
Jason Ueda
Emily Waller

Nicholas Schomer



2001 SAE LONG-TERM MEMBER SPONSORED SCHOLARSHIP

Nicholas Schomer became active within Society of Automotive Engineers (SAE) and the University of Michigan-Dearborn collegiate chapter in 1998. He has been vice president and president of the chapter and has participated in the UM-Dearborn formula car activities. This past year, the chapter expanded its "formula car only" lineup and added a Baja vehicle program. Members must now overcome problems such as how to structure multiple projects. Schomer is currently helping the rapidly growing UM-Dearborn chapter organize itself for the 2001-2002 term.

EPD TECHNICAL SHORT COURSES

JANUARY

Introduction to MATLAB and Its Toolboxes

January 15, 17, 23, 25

Fundamentals of Finite Element Linear Analysis in Solid/Structural Mechanics

January 18, 25, February 1

Design of Digital Filters and Applications with MATLAB

January 29, 31, February 1

FEBRUARY

Fuzzy Logic

February 7, 8

MATLAB Toolbox: Statistical

February 22, March 1, 8

Overview of Multivariate Data Analysis Techniques

February 26

Overview of Nonparametric Data Analysis Techniques

February 28

Metal Machine Processes

February 5, 11, 19, 26

MARCH

MATLAB Toolbox: Control Systems

March 5 and 6

Automotive Manufacturing Processes

March 4, 11, 18, 25

Introduction to Simulink and Its Application

March 4, 5, 7, 8

Introduction to Digital Signal Processing

March 12, 14, 19, 21

Fundamentals of Vehicle NVH

March 14, 15, 18, 19

Value Engineering/Value Management

March 19, 21, 26

Engineering and Technical Leadership

March 25

APRIL

Introduction to MATLAB and Its Toolboxes

April 11, 12, 15, 16

Vehicle Crash Mechanics

April 16, 18, 23, 25

Vibro-Acoustics Modeling and Analysis

April 17, 18, 19

Introduction to MATLAB GUI and Advanced Programming Techniques

April 22, 23, 26

MCSE WINDOWS 2000

(Microsoft Certification System Engineering)

As the personal computer world continues to use Windows 2000 operating systems, it creates a high demand for individuals responsible for the support and administration of systems built on Windows 2000 workstations. The University of Michigan-Dearborn's College of Engineering and Computer Science has created a certificate program that helps individuals acquire Microsoft certification.

Windows 2000 Network and Operating Systems Essentials

January 7-12, 2002

Supporting Windows 2000 Professional and Server

January 22-February 9, 2002

Supporting a Network Infrastructure Using Windows 2000

February 18-28, 2002

Implementing and Administering 2000 Directory Services Windows

March 11-21, 2002

Designing a Windows 2000 Networking Services Infrastructure

April 8-18, 2002

MANAGEMENT OF TECHNOLOGY

Systems Thinking April 10

Marketing New Technology April 17

Financial Justification of New Technology April 24

Supply Chain Management May 1

Relationship between Technology Innovation and Strategy May 8

Lean and Agile Manufacturing May 15

Management of Product and Process Design May 22

6 Sigma Quality and Profitability May 29

Product Liability Issue June 5

Organizational Architectures for the Development and Implementation of Innovation June 12

Engineering Professional Development (EPD) courses are offered from 8 am to 5 pm (except as noted) and are held on campus.

For more information or to register, contact Theresa Ceccarelli at

(313) 593-4000

or visit our web site at <http://epd.umd.umich.edu>

ALUMNI UPDATE

Hiroshi Morihara, PhD, '64

BSE-ME, is the CEO for Persimmon Group Inc. in Gresham, Oregon. He received the Dean's Award from the University at Buffalo in 1998 and received the Patron Saint Award from Mt. Hood Community College in 2001. He is the chair of the mayor's business advisory round table, which is attempting to bring the Oregon Science and Technology Park to the region. Mr. Morihara and his wife, Mary McSwain, reside in Gresham, Oregon.

Thomas Taylor, '88 MS-EE,

is the vice president of marketing at RockAuto.com, a business venture launched with his brother, sister-in-law, and father in October 2000. RockAuto.com features a unique Java-based catalog/parts database for the sale of auto parts.

Gerald J. Weis, '98 BS-CIS,

works as a software developer at Compuware in Farmington Hills, Michigan.

Peter Schaefer, '99 BSE-ME,

is a project engineer at TI Automotive in Warren, Michigan.

Mark Zylka, '94 BSE-ME,

graduated from the University of Cincinnati's College of Law in May 2001 and is currently working as a patent lawyer at Akerman Senterfitt in West Palm Beach, Florida.

CALLING ALL GRADUATES

University of Michigan-Dearborn College of Engineering and Computer Science

Alumni Open House

March 6, 2002

Mark your calendars now for the University of Michigan-Dearborn College of Engineering and Computer Science Alumni Open House. Dean Subrata Sengupta and the Alumni Board of Governors will be there to greet you as will your former classmates, faculty, and friends. This special event will be held on Wednesday, March 6, 2002, from 5:45 to 8:00 p.m., at the Crowne Plaza Pontchartrain, Two Washington Boulevard, in Detroit, directly across from the Cobo Center.

The open house is being held in conjunction with the 2002 Society of Automotive Engineers (SAE) World congress, to be held at the Cobo Center from March 4 through 7. Adding a new dimension to the congress this year is the SAE Digital Car Conference, also to be held during the week of March 4, 2002. Co-sponsored by the Consumer Electronics Association, the conference is an interactive meeting designed to highlight the synergy between automotive engineering and a new generation of electronics, computers, and software applications.



Alumni Kiana Whitehead, '99 BSE-EE, and Jessica Crespo, '00 BSE-ME



QIANG ZHU PROMOTED

Qiang Zhu was recently promoted from assistant to associate professor of computer and information science. Dr. Zhu teaches database systems, the fundamentals of computer systems, and algorithm design and analysis. His current research project will establish dynamic cost models for multidatabase systems.

Keep in Touch

Help us keep in touch by making sure our alumni information is up to date. Use the form below to send changes to the address at the right.

Dean's Office
College of Engineering and Computer Science
University of Michigan-Dearborn
4901 Evergreen
Dearborn, MI 48128-1491

Name

Address

City State ZIP

Phone

Year of Graduation

Degree

Department

Occupation

Employer

Employer's Address

City State ZIP

Please list any activities or recent honors you would like reported in future issues of the Dearborn Engineer.
