

Summer 2004

Volume 2003-2004 - Issue 3 - Summer, 2004

Echoes Staff

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ROSE-HULMAN INSTITUTE OF TECHNOLOGY

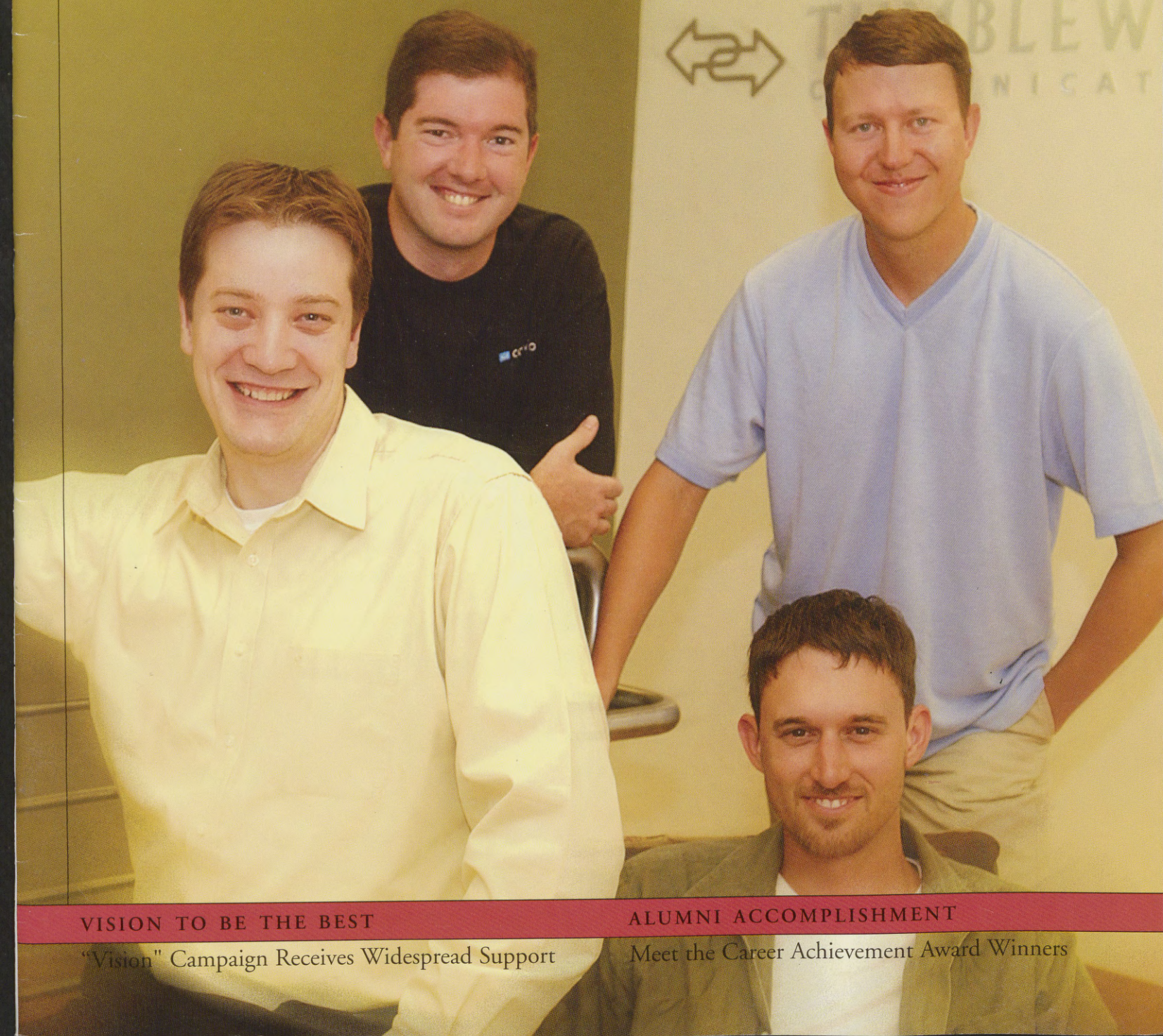
Echoes

Summer 2004

Vol. 2003-2004, No. 3

Dream Becomes Reality

Alumni turn idea into \$41.5 million deal



VISION TO BE THE BEST

"Vision" Campaign Receives Widespread Support

ALUMNI ACCOMPLISHMENT

Meet the Career Achievement Award Winners



heard in the halls of Moench

“ Rose-Hulman’s facilities are the best that I’ve seen. Not too many Division I colleges have facilities like these for both the varsity and intramural student-athlete. I don’t know a better training camp setup in the NFL.

This is very impressive. ”

— *Mike Ditka, football hall-of-famer and current ESPN sports analyst
who visited Rose-Hulman during the Indianapolis Colts summer training camp*

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ON THE COVER

A dream that started eight years ago in a Rose-Hulman entrepreneurship class has turned into a \$41.5 million business deal for (from left) Jeff Ready, Phil White, Scott Loughmiller and Mike Olson.



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PUBLICATION CREDITS

Editor: Bryan Taylor, Director of Publications/Webmaster
e-mail: bryan.taylor@rose-hulman.edu

Contributing Writers:

President: John J. Midgley;
David L. Piker, Executive Director of External Affairs;
Dale Long, Associate Director of Communications;
Kevin Lanke, Sports Information Director; Dee Reed,
Rose-Hulman Ventures Marketing Coordinator; John
Robson, Librarian and Archivist; and Clyde William,
Chairman of the Board of Trustees

Design: WilliamsRandall Marketing Communications
Alumni Affairs and Special Events:

Brian Dyer, Director; Carey Treager Huber, Associate
Director; and Trudy Sladek, Administrative Assistant
Alumni Assoc. President: Doug Stearley, ('79, M.E.).

Vice President for Development and External Affairs:
Mark Richter

Editorial Assistant: Charity Murphy, Administrative
Assistant, External Affairs

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386 DEGREES AWARDED AT 126TH COMMENCEMENT

Rose-Hulman Institute of Technology presented special awards to six new graduates, two faculty and a staff member during the college's 126th commencement ceremonies (May 29). Rose-Hulman also awarded 337 bachelor of science, 44 master's and five honorary degrees.

Three graduating seniors were presented with the Heminway Medal, which is given to an undergraduate who earned the highest grade-point average. Recipients were Elizabeth Cozzie, an applied biology graduate from Ely, Iowa; Alex Kutsenok, a computer science major from Fort Wayne, Ind.; and Bradley Woodcox, a mechanical engineering major from Butler, Ind. Each earned perfect 4.0 grade-point averages during their four years at Rose-Hulman.

Andrew Batta, of Brookville, Ind., was presented with the John Tuller Royse Award; Jillian Kurdys received the Herman Moench Distinguished Senior Commendation, and Scott Ohlmiller was named the recipient of the award for the most outstanding master's thesis.



Board Chairman Clyde Willian (left) visits with honorary degree recipients (from left) Michael Hatfield, Joy Hulbert, Samuel Hulbert, Jeff McCreary and Ben Brian.

The Dean's Outstanding Teacher Award was presented to Galen Duree, assistant professor of physics and optical engineering. Richard Stamper, assistant professor of mechanical engineering, received the Board of Trustees Scholar Award. The recipient of the President's Outstanding Service Award was Tim Prickel, the college's registrar.

Batta graduated magna cum laude and earned a bachelor of science degree in electrical engineering. He received the award in recognition of his outstanding leadership, academic achievement and participation in extracurricular activities.

Kurdys, of Carmel, Ind., was honored as the senior with the most outstanding potential for professional achievement. She graduated magna cum laude with a bachelor of science degree in mechanical engineering.

Ohlmiller received the graduate thesis award for his work titled Programmable Linear Threshold Circuits for Use in Field Programmable Gate Arrays.

Duree teaches courses that include laser systems and



Award winners, front row, from left: Elizabeth Cozzie, Alex Kutsenok, Bradley Woodcox, and Scott Ohlmiller; Back row, from left: Jillian Kurdys, Galen Duree, Tim Prickel, Richard Stamper, and Andrew Batta.

applications, electro optics, modern physics, physical optics, and holography and photography. He also assists students with directed and thesis research.

Stamper was honored for his

scholarly work that involves Rose-Hulman students in his research and published works. His three patents and patent applications list student co-inventors.

Prickel, a 24-year veteran of the Rose-Hulman staff, was honored for his service to the campus community and alumni.

In addition to the special awards, honorary degrees were bestowed upon retiring Rose-Hulman President Samuel Hulbert, his wife, Joy; Ben Brian, vice president of research and development, Radiant Medical Inc.; Michael Hatfield, founder and chief strategy officer, Calix Inc.; and Jeffrey McCreary, senior vice president, manager, worldwide sales and marketing, Texas Instruments.

Hulbert has had an exceptional career in higher education and as an internationally known biomedical engineer. Joy Hulbert was honored for her dedication as a mother, community and campus volunteer leader. (See special insert in this edition of Echoes for more information about the Hulberts.)

Brian, 1982 Rose-Hulman alumnus, was honored for his development of new medical devices that hold promise for significant improvement in the treatments available to heart disease and stroke patients. He led the development and manufacturing of a compact heart-lung bypass system which improves patient care during open-heart surgery.

Hatfield is a successful entrepreneur and engineer who founded Calix, Inc., a leading supplier of telecommunications solutions designed to simplify all aspects of voice, data and video service delivery for local exchange carriers of all sizes. He also co-founded and was chief operating officer of Cerent Corp., an industry leader in high-speed optical transport. He is a 1984 Rose-Hulman graduate.

McCreary, who earned a Rose-Hulman degree in 1979, is responsible for directing Texas Instruments' worldwide account management and sales, field deployed applications support and channel marketing activities that generate \$10 billion in annual sales. He oversees 1,000 employees. Prior to being named senior vice president, he was vice president, Americas sales and marketing. ■

CHALLENGE X TEAM RE-ENGINEERING SUV

Rose-Hulman Institute of Technology is joining an elite group of North American engineering colleges and universities developing a more environmentally friendly sports utility vehicle through Challenge X: Crossover to Sustainable Mobility, a new advanced technology competition developed by General Motors, the U.S. Department of Energy and other government industry leaders.

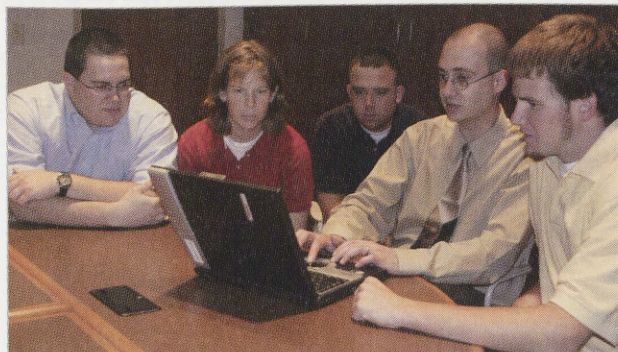
A team of nearly 75 students, primarily undergraduates, will begin this fall working on 15 teams to re-engineer a 2005 Chevrolet Equinox, a new compact SUV, to reduce energy consumption and emissions, while maintaining or exceeding the vehicle's performance.

The three-year project will include students majoring in mechanical engineering, electrical engineering, computer engineering, chemical engineering, computer science, engineering physics and economics. Faculty advisers will be Zac Chambers, assistant professor of mechanical engineering, and Marc Herniter, associate professor of electrical and computer engineering.

Rose-Hulman's competition proposal, written by 60 students, was selected from more than 3,000 schools in North America. Other colleges participating include the University of Michigan, Texas, Penn State, Ohio State, Tennessee, Texas Tech and Wisconsin.

"Our selection for Challenge X is a huge testament to the national reputation Rose-Hulman has earned and the quality of our students," Chambers said. "We will have a large group of motivated undergraduate students tackling a unique real-world engineering problem. Once we get over the learning curve the playing field will be more level and we should be very competitive."

Utilizing the General Motors Global Vehicle Development Process, students follow the steps necessary to manage, design, build and test their Challenge X vehicle. The first year will focus on modeling, simulation and testing of the powertrain and



Learning Vehicle Modeling Software: Some members of Rose-Hulman's Challenge X project team used the summer to learn about the state of the art computer software that will help model, simulate and test the powertrain and vehicle subsystems. The group included (from left) Jarrod Sands, Laura Nash, Mike Anderson, Mechanical Engineering Professor Zac Chambers and Adam Jarboe.

vehicle subsystems. In the second and third years, students will integrate their advanced powertrain and subsystems into the Chevrolet Equinox.

Competitions are held at the end of each academic year to showcase the teams' learning and vehicle development.

"Challenge X brings Rose-Hulman undergraduate students into the real world of vehicle development and prepares Rose-Hulman students to be better equipped to make a faster contribution to the engineering profession and the automotive industry," stated Chambers. "Our students are going to get an unbelievable design experience."

Jarrod Sands, a junior mechanical engineering major, concurred, stating "this should be an exciting experience and should supplement what we're learning in the classroom. I jumped at the opportunity to play a role in this project."

Interested persons can find out more information about Challenge X on the Web at <http://www.challengex.org/>. ■

TALK ABOUT GOOD GAS MILEAGE

A team of 25 Rose-Hulman students designed a fuel efficient one-person vehicle that achieved 1,194 miles per gallon of gasoline to finish third in the collegiate division of the Society of Automotive Engineers' Supermileage Competition, conducted in early June at Eaton Corporation's vehicle proving ground in Marshall, Mich.

This was Rose-Hulman's first entry in the national contest, which included 24 teams from the United States, Canada, Puerto Rico and Mexico.

Rose-Hulman's vehicle, powered by a highly modified single cylinder, 3.5 horsepower Briggs & Stratton engine, needed barely one ounce of gasoline to complete a



Front row (from left) are Joshua Peersels, Michael Haughney, Elliot Goodman, John Frey and Brittani Elkins. In the **back row** (from left) are Tim Berowski, Robert Lally and Matt Neisen. **Not pictured:** faculty adviser Richard Stamper.

9.6-mile test run. The University of British Columbia (Canada) won the contest with 1,747.4 mpg.

"People certainly took notice of our performance this year. Achieving over 1,000 mpg is quite an accomplishment, especially for the first year," stated Rose-Hulman Team President Matt Neisen, a sophomore mechanical engineering major.

Rose-Hulman's car was eight feet long, 26 inches wide and weighed approximately 80 pounds. It had two wheels that provide steering in the front and a single drive wheel in the middle of the back. The main structure of the vehicle was provided by a honeycomb carbon-fiber panel which rests approximately a half inch above the pavement. ■

ENGINEERING AND ENTREPRENEURIAL PIONEER, BERNARD "BERNIE" VONDERSCHMITT PASSES AWAY

Bernard "Bernie" Vonderschmitt, a noted Rose-Hulman alumnus, internationally known engineer and business executive, whose expertise helped create color television and major develop-



Bernie Vonderschmitt

opments in the semiconductor industry, died June 9 in his hometown of Jasper, Ind. He was 80 years of age.

Vonderschmitt is survived by his wife, Theresa; a brother Ralph, and sisters, Genevieve Schmidt and Dolores Lienenbach. Vonderschmitt earned a reputation as an innovative engineer and entrepreneur whose expertise led to major advancements in solid-state electronics and integrated circuits. He began his exceptional career as an electrical engineer with RCA and received promotions to the position of vice president and general manager of the RCA Solid State Division. He also held 13 patents for his design activities at RCA.

At the age of 60, he co-founded Xilinx which has become the worldwide leader in Field Programmable Logic solutions. He helped develop technology that created a Xilinx chip that could be programmed by a customer after it was manufactured. Vonderschmitt and his fellow Xilinx founder, Ross Freeman, were pioneers of the fabless semiconductor business model and programmable logic technology. Xilinx, a publicly traded company based in San Jose, Calif., has achieved over \$1 billion in annual sales.

"Bernie and his wife, Theresa, were an inseparable team helping manage day-to-day and strategic business decisions at Xilinx," noted Erik Jansen, a Rose-Hulman trustee, alumnus and friend of the Vonderschmitts. "She would assemble real-time and critical information technology for Bernie's team as well as contribute international business acumen, always considered critical by Bernie in his planning processes," he stated.

Vonderschmitt was admired for his strategic vision and humanistic, modest and gentlemanly leadership style.

"Bernie was an advocate for the highest levels of integrity, diversity and international cooperation in business and education. He always gave any person with talent, capabilities, and commitment an opportunity," said Jansen, who considered Vonderschmitt to be an invaluable advisor and mentor.

"Through the Vonderschmitts' vision, Xilinx pioneered a manufacturing partnership with Japan-based Seiko, Inc. which continues to this day as a model relationship and backbone of the company's many successes," Jansen said.

Vonderschmitt was the recipient of numerous honors from the electronics industry and from Rose-Hulman. Vonderschmitt received the prestigious David Sarnoff Outstanding Achievement Award in Engineering in Recognition of his work in integrated circuits and his contributions to the invention of color television.

In 2002, nearly 1,600 electronics industry officials attended an awards dinner in Santa Clara, Calif. where he received the Dr. Morris Chang Exemplary Leadership Award for outstanding achievements and unique contributions to the fabless semiconductor industry. During the same awards program, Xilinx was named Most Respected Public Fabless Semiconductor Company.

Rose-Hulman bestowed several honors upon Vonderschmitt for his long-time, loyal support to the college and for his outstanding career achievements in the semiconductor industry. Vonderschmitt graduated in 1944 with a degree in electrical engineering and was presented with the Heminway Medal designating him as the top student in the graduating class.

In 1979, Vonderschmitt received an honorary doctor of engineering degree from Rose-Hulman. The Honor Alumnus Award was presented to him by the Rose-Hulman Alumni Association at Homecoming in 2002.

The Vonderschmitt Dining Room in the Hulman Union is named in honor of him and Theresa. The Vonderschmitts have been generous in their efforts to help make a Rose-Hulman education available to talented students through their continued support of an endowed scholarship fund they established.

He was volunteer co-chair of the successful Vision to be the Best Campaign, the largest fund-raising effort in Rose-Hulman history, and he served on the Commission on the Future of Rose-Hulman.

In addition to his Rose-Hulman education, Vonderschmitt earned a master's in electrical engineering from the University of Pennsylvania and the MBA and honorary doctorate of laws from Rider University.

At the time of his death, he was chairman emeritus and former chairman of the board of Xilinx. ■

FACULTY LEAD IN CREATION OF NATIONAL WIRELESS EDUCATION MODEL

BY DAVID PIKER

Rose-Hulman faculty members are making major contributions to the success of an academic and industry partnership to create a national model for wireless technology education. Rose-Hulman has emerged as a leader in the Global Wireless Education Consortium (GWEC), which was created to meet the wireless industry's need for more and better engineers. The partnership is also creating numerous educational benefits for Rose-Hulman faculty and students.

When Rose-Hulman Professors David Voltmer and Bruce Black attended their first GWEC conference in 1999, they could foresee the partnership's potential to enhance wireless technology education at Rose-Hulman and nationwide. That potential is being realized and, perhaps, exceeded. Contributions by Voltmer, Black and their colleagues in the Department of Electrical and Computer Engineering have resulted in significant growth of wireless technology programs on campus. Partnering with GWEC has helped Rose-Hulman receive major funding from corporations and foundations to support new, basic and advanced wireless technology courses, and to create new laboratories and innovative teaching materials.

The largest grant received thus far was \$250,000 from Texas Instruments. The grant is funding the remodeling this summer of existing labs into an advanced communications laboratory and a second studio lab. The advanced communications lab will benefit 440 students enrolled in courses ranging from high-speed digital design to electromagnetic compatibility. The funds are being used to create new courses, multimedia simulations, a new textbook, education modules and tutorials. Other funds have been received from the National Science Foundation, the National Collegiate Inventors and Innovators Alliance, the Kern Family Foundation, and the Alden Trust.

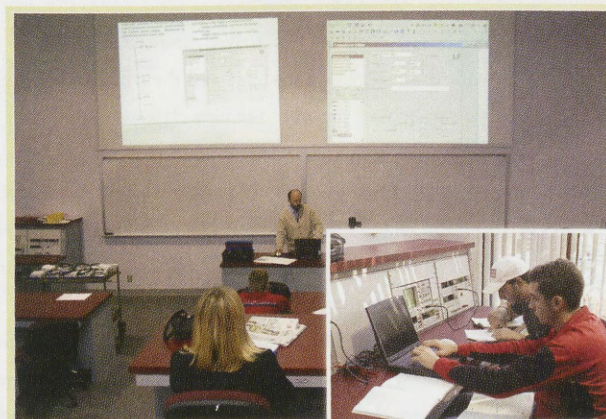
"We became involved in the early stages of the consortium, and that was

important to establishing our leadership role," stated Fred Berry, head of the Rose-Hulman Department of Electrical and Computer Engineering (ECE). Berry serves on the GWEC Board of Directors, and he also chairs a subcommittee on four-year education programs for the GWEC Curriculum Committee.

Seventy-seven institutions serve as GWEC academic partners. The institutions include colleges such as the University of Texas, Auburn University, Stevens Institute of Technology, Florida Institute of Technology and universities in Canada, Europe, Asia and Mexico. GWEC industry members include AT&T Wireless Services, Award Solutions Inc., Cingular Wireless, UGS, Emona Instruments, Motorola, Movilnet, Sprint, Texas Instruments, and Verizon Wireless. The Institute of Electrical and Electronics Engineers (IEEE) is an affiliate member.

"Rose-Hulman is a proven leader in wireless technology education at the four-year undergraduate level," stated Susan Sloan, GWEC executive director. "Upon formal release of the GWEC wireless curriculum in October of 2001, Rose-Hulman was quick to access and utilize the materials online," said Sloan, who serves as a member of the ECE department's advisory committee.

Writing and critiquing online education modules was the first contribution made to the GWEC initiative by ECE Professors Voltmer and Black. "Most of our time was spent editing 25 modules during the summer months," Voltmer recalled. GWEC industry partners and the National Science Foundation funded



A new studio lab, such as the one pictured here, will be one of the benefits realized from the GWEC partnership.

the first 46 modules available from GWEC to educational institutions. The GWEC wireless curriculum is currently composed of 52 modules.

The learning modules are a software product faculty and students can access through the Internet that provides multimedia simulations about engineering principles and how laboratory equipment can be used, according to Berry. Rose-Hulman is collaborating with the Academy of Electronic Media at Rensselaer Polytechnic Institute, which is providing the animation and Web graphic design services for the modules.

Several undergraduate courses in wireless communication have been established around the GWEC curriculum modules, Sloan noted. "Academic institutions with extensive wireless programs view the modules as a valuable resource for augmenting, enhancing and/or expanding their programs," she said.

"Our biggest GWEC project under way is the development of the first textbook that will give the modules a curriculum structure," Berry explained. "The textbook will make it easier for faculty to determine which modules to use for specific courses." Faculty authors hope to have the textbook completed by the end of the year for distribution by GWEC. ■

ENGINEERING THE FUTURE

Dear alumni and friends of Rose-Hulman,

Our new Class of 2008 has just arrived, and the campus is alive with the energy that students and their families bring. You can be very proud of the new class, which includes 476 new freshmen. The Class of 2008 is a well-qualified and fairly diverse group, with median SAT scores of 1300 – in fact, 24 new students earned perfect scores on the math SAT or ACT – and the class comes from 38 states and 7 other countries. The new class includes 111 women and 15 black students, so the Rose-Hulman student body continues to look more like the engineering workforce that most of our graduates will join. Chuck Howard and his admissions team did their customary fine job of recruiting these fine young people.

The summer months gave me a good opportunity to begin the process of getting acquainted with our Rose-Hulman community, including our 11,000 living alumni, staff, faculty, students, trustees and supporters around the world. In the months ahead, I plan to continue this process of listening carefully, to understand the hopes and dreams that we all have for the future of our great Institute. I've already been able to meet with alumni and friends of the Institute in Detroit, Cincinnati, Columbus, Indianapolis and the Terre Haute area, and thanks to the efforts of our alumni leaders, I'll visit about 20 cities nationwide over the next months. As we begin the conversation about the future vision and directions for Rose-Hulman, it seems especially important for me to understand how the Rose-Hulman experience has shaped the lives of our graduates, how we are seen by the many different types of organizations that employ our graduates, and the key requirements and opportunities for our future.

These first few visits produced some very clear messages. Rose-Hulman is a life-changing experience, because of the practice-ready reputation that our graduates enjoy, and because of the friendships they build here. Our graduates are proud of the Rose-Hulman degree, and their employers are too! The institution's focus on undergraduate professional preparation – Rose-Hulman's hallmark since it opened in 1883 – is viewed as our bedrock.

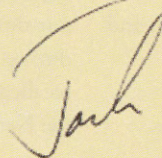
Many of our alumni are engaged in cross-disciplinary activities, and immersed in technologies that did not exist when they were students. These alumni would like to see our new graduates better prepared with the project management, communication and continuous learning skills that support a fast-moving engineering profession.

I learned that you expect us to do better at building a diverse community, because you see cross-cultural experience as vital to professional success. You have asked if we can create stronger links between the Institute and the engineering organizations that hire our graduates. You expect us to become more attuned to the global environment that characterizes much of today's engineering practice. You would like to see more opportunities for involvement in Rose-Hulman's governance by younger alumni, and by alumni living outside Indiana. And you expect us to do better at cost control and financial aid, to keep the Rose-Hulman experience accessible.

Perhaps the most consistent message was that the Rose-Hulman culture of staying focused on our students, and maintaining a family-like environment, must remain strong. The view that each of us on campus – faculty, staff, administrators – is an engineering educator really is a special quality of Rose-Hulman, and this quality is important to our alumni.

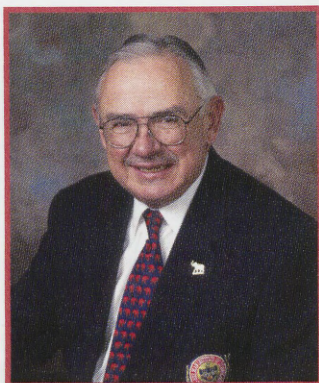
I will be devoting significant time to the process of listening and learning from our alumni and the entire Rose-Hulman community. Ellen and I are very proud to be part of Rose-Hulman, and as we all look forward to building upon the institution's success I want you to know that I need and value your ideas, advice and criticism, and I am making an active effort to meet you where you live and work. I look forward to getting acquainted and to hearing your thoughts about our heritage and our future.

All good wishes,



John J. Midgley

CHANGE AND CONTINUITY



By Clyde Willian, Chairman of the
Rose-Hulman Institute of Technology
Board of Trustees

Change can generate a variety of emotions in any facet of life. Excitement, anxiety, joy, uncertainty and sadness are just a few of the sentiments that can surface when change occurs.

Rose-Hulman has gone through a transition this summer with the retirement of one president and the arrival of another. This can be a watershed event in the life of some colleges, but I am pleased to report that our leadership change leaves me with nothing but confidence about our future.

The reason for my confidence lies not in what has changed, but with the elements of our Institute that remain unchanged. These elements can leave us confident that Rose-Hulman's best days truly lie ahead.

Rose-Hulman's culture of collaboration and collegiality, and our focus on undergraduate engineering and science, have not changed this summer – they are part of the very fabric of the Institute, and have been for more than 120 years. Where did this culture originate? I think the answer lies with Chauncey Rose himself, and with the first president of Rose Polytechnic, Dr. Charles Thompson.

Chauncey Rose was not a learned man, but he was a learning man. He realized that the railroads – the biotechnology of 1870s – needed people who were able, in the words of an early historian of Rose-Hulman, to “blend the industrial sciences with the branches of knowledge usually taught in the schools and colleges.” When he decided to establish a school to accomplish this work, he commissioned a report studying the best educational practices in the U.S., and with those in mind, founded on October 10, 1874, the Terre Haute School of Industrial Science, which was

Today we pride ourselves
on maintaining the same
close community as in 1883,
where we are all educators,
whether we teach in a lab,
an office, an athletic field, a
residence hall, a kitchen or
the boiler room.

later renamed over his objection and against his wishes, the Rose Polytechnic. After Chauncey Rose died, his friends hired Charles Thompson, who opened the school for instruction with a faculty of 6 in March 1883. It was a small, close-knit community, in which every member was an engineering educator – a few professors, and a few shop superintendents, but every one an educator.

Today we pride ourselves on maintaining the same close community as in 1883, where we are all educators, whether we teach in a lab, an office, an athletic field, a residence hall, a kitchen or the boiler room. This culture – which sets us apart from virtually every other institution of higher education – has been with us since Charles Thompson opened Rose Polytechnic 121 years ago. Since that time, employees who worked full-time in the machine shops were considered part of the “faculty of instruction.” The idea that we are all educators is not only a great way of working – it has been part of the fabric of Rose-Hulman for over 120 years. That fabric has not changed, and will not change.

As a new chapter opens in the history of Rose-Hulman, I have the utmost confidence in our new president. Jack Midgley brings a wealth of experience and energy to the office. There is no doubt we have selected a new president who has the leadership, strategic thinking and global experience in education and business that are needed to build upon the tremendous progress that has occurred for more than a century. We will continue to prosper under his leadership, but our success will be determined by all of us. We must work together with President Midgley to carry Rose-Hulman to new levels of success.

As Dr. Midgley steps into the role of president, we are reminded that the only constant in the world is change. At Rose-Hulman, it is time to embrace that constant and bid farewell while extending a welcome. We step forward into a promising future with confidence rooted in our strong heritage of success. ■

CARVILL REPLACES LUEGENBIEHL AS DEPARTMENT HEAD FOR HUMANITIES AND SOCIAL SCIENCES

Veteran Rose-Hulman Institute of Technology American literature professor Caroline Carvill has been named head of the college's humanities and social sciences department by Art Western, vice president of academic affairs. She began her new duties on July 1.



Carvill

Carvill replaces Heinz Luegenbiehl, who is returning to a full-time teaching position within the department.

A member of the Rose-Hulman faculty since 1989, Carvill received the Dean's Outstanding Teaching Award in 1994, served as associate dean of faculty in 1996-1998, and served as interim department head in 2002-2003. She also was division chair of the American Society for Engineering Education's Liberal Education Division in 2001-2002.

Carvill was also named the Triangle fraternity's Teacher of the Year in 1992, has been director of Rose-Hulman's service learning education program, and was named an honorary Rose-Hulman alumnus in 2003 by the college's Alumni Association.

Active as a community volunteer, Carvill received a Terre Award in 2000 for outstanding community service. She has served as a leader for the Council on Domestic Abuse, the United Way, and Wabash Valley Habitat for Humanity, and coordinated efforts as students constructed a Habitat for Humanity house in 2002-2003.

Carvill earned her bachelor's, master's and doctorate from the University of Arkansas. Her academic areas of specialty include 20th century American literature, modern southern fiction and composition. ■

RECENT RETIREES

Three longtime employees retired from Rose-Hulman service this spring. They were honored for their dedication and service to the institute during a June retirement dinner.

THE TRIO INCLUDES:

- **Sonnie Hill**, administrative assistant in the Office of Career Services & Employer Relations, who was employed with the college for 27 years;
- **Billie Holechko**, assistant director of annual giving in the Office of

Development, who worked on campus for 27 years, including several years in the business office; and

- **Pat Jefferies**, a 20-year employee who had worked in the bookstore and was mail services manager in the Office of Administrative Services at the time of her retirement.

Each of the retirees was recognized for their interaction with students. ■

LOOKING AHEAD IN ECHOES

Watch for the fall issue of *Echoes* for an in-depth interview with our new president, John J. Midgley.

SEPTEMBER 30 —
OCTOBER 2, 2004

On the campus of Rose-Hulman
Institute of Technology



This interdisciplinary conference on the visions, technologies, and directions that characterized the Web's first decade will provide a forum in which scholars and practitioners of all disciplines—cultural, historical, and technical—can share perspectives, concerns, and innovative ideas about the World Wide Web.

Invited speakers include: Ted Nelson - creator of Xanadu, a literary structure and software architecture that is considered to be the first hypertext system, a precursor of today's World Wide Web; Louis Pouzin - "father" of the Cyclades network, an early packet-switching network whose datagram design influenced the development of TCP/IP; and Paul Kunz who installed the first Web server outside of Europe at the Stanford Linear Accelerator Center, becoming the first Webmaster in America; and Jean-Francois Abramatic - responsible for establishing the European branch of World Wide Web Consortium (W3C) and later served as Chairman of W3C.

Bailey Challenge

By Professor Emeritus Herb Bailey

We all have money problems but few have equilateral triangle problems. Prob. 1 is an example entrance exam question at Rose Poly in 1883. I am hoping that somebody can solve it. Prob. 2 is a classic money problem and I am hoping that many of you have not seen it. Prob. 3 is from a recent SAT exam. Prob. 4 is similar to 3 but a bit more difficult.

I have never taken a college entrance exam and do not plan to. As a consolation to any of you with low SAT scores, it is not clear that they have anything to do with success in or out of college. Some years ago, I made scatter plots of SAT scores versus GPA for Rose freshmen and found very little correlation.

Problem 1.

Find the avails of a note for \$500 discounted at a bank for 3 months at 8%.

Problem 2.

Three people check into a hotel. They pay \$30 to the manager and go to their room. The manager finds out that the room rate is \$25 and gives \$5 to the bellboy to return. On the way to the room the bellboy reasons that \$5 would be difficult to share among three people so he pockets \$2 and gives \$1 to each person. Now each person paid \$10 and got back \$1. So they paid \$9 each, totaling \$27. The bellboy has \$2, totaling \$29. Where is the remaining dollar?

Problem 3.

Triangle ABC is equilateral and the sides of the inscribed triangle DEF are perpendicular to the corresponding sides of ABC as shown in Figure 1. Find the ratio of the area of ABC to the area of DEF .

Problem 4.

A rectangle is inscribed in an equilateral triangle ABC , with one side of the rectangle along AB as shown in Figure 2. Find the ratio of triangle area to rectangle when the rectangle area is maximal. Full credit for solving with or without calculus. Extra credit for solving with and without calculus.

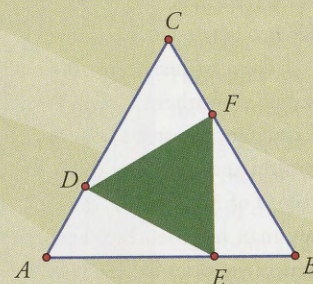


Figure 1

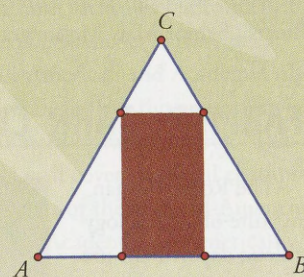


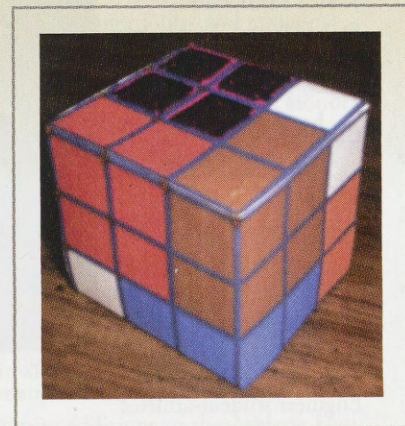
Figure 2

Send your solutions to Herb.Bailey@rose-hulman.edu or to Herb Bailey, Math. Dept., Rose-Hulman, 5500 Wabash Ave., Terre Haute IN 47803.

Solvers of the 'spring problems' are listed. Those who solved the bonus problem had many ingenious ways to communicate their solutions. I made a paper cube as shown in the figure where the three voids are along a body diagonal and are colored white. I tried to form the solution on my Rubik's cube without success. You might give it a try.

Alumni: B. Barrick, 1943; H. Payne, 1947; J. Hurt, 1948; C. Cook, 1949; B. Powell, 1951; J. Lambermont, 1951; D. Camp, 1955; C. Cooper, 1956; J. Chinn, 1956; A. Sutton, 1956; D. Bailey, 1959; J. Snyder 1962; J. Lafuze, 1967; J. Born, 1970; W. Pelz, 1971; D. Willman, 1972; R. Smith, 1973; P. Chilson, 1974; M. Bailey, 1976; R. Priem, 1979; M. Clouser, 1979; J. Slupesky, 1979; B. Wade, 1983; M. Lancaster, 1987; D. Johnson, 1987; S. Johnson, 1988; C. Abdnour, 1989; J. Jachim, 1989; R. Pogliano, 1989; G. Tyrell, 1990; G. Heimann, 1990; B. Burger, 1991; J. Tindall, 1991; D. Hector, 1992; C. Tracy, 1997; M. Pilcher, 1998; B. Monacelli, 2000; B. Creel, 2000; P. Reksel, 2000; L. VanSchoiack, 2002; D. Harrington, 2002; K. Bopp, 2003

Friends: B. Talbot, R. Lindberg, C. Brown, J. Martin, S. Compton, L. Gaintner, E. Mayhew, H. Novak, E. Mahler, M. Rosene



TRIP TO JAPAN CAPS BEST BASEBALL SEASON EVER

The Rose-Hulman baseball team recorded its best season in school history with a 36-8 record, capped by a memorable trip to Kanazawa and Kyoto, Japan.



Matt Moore sets home run record

The Engineers won their second consecutive Southern Collegiate Athletic Conference Eastern Division championship and shattered the previous school record of 30 wins set in 1999. Rose-Hulman recorded the third-most regular season victories in all of NCAA Division III this spring.

Rose-Hulman placed five players on the all-SCAC team as a result of the team's efforts. Senior Matt Moore graduated as

the all-time home run leader at Rose-Hulman with 24, and he established seven career school records. Senior Mike Tranter finished a perfect 7-0 on the mound with a 3.04 ERA. Junior Scott Tourville batted .441 with 20 doubles and a school-record tying eight home runs. Senior Drew Furry batted .337 with nine doubles and 20 RBIs in his first year as a starter behind the plate. Finally, junior Nathan Soyer finished 8-1 with a 3.34 ERA and a team-high 46 strikeouts.

In addition, senior Cort Severns established career school records for hits (186) and doubles (48), while freshman Matt Salisbury batted .373 with 17 doubles and tied a single-season Rose-Hulman record with five saves.

Coach Jeff Jenkins' squad capped the season with a six-day trip to Japan. On the field, Rose-Hulman defeated Kanazawa Institute of Technology 17-3 before falling

CHECK THE WEB FOR ATHLETIC UPDATES

For the latest in Rose-Hulman sports news and schedules, visit our Web page

<http://www.rose-hulman.edu/sports>

to a Division I All-Star Team and Kanzai University in two subsequent games.

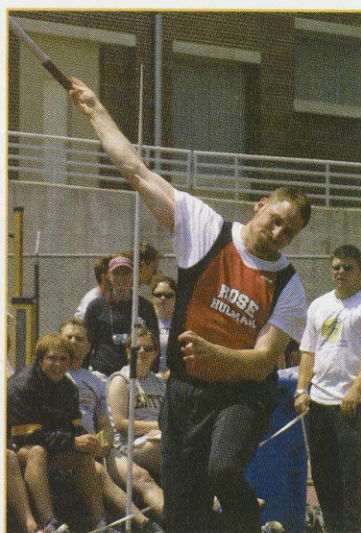
Off the field, Rose-Hulman's baseball team enjoyed two days of tourism in Kanazawa and Kyoto. In Kanazawa, the team visited the world renowned Castle of Kanazawa, the former home of the city's major university. In addition, the Engineers toured the city and visited several other well-known castles. In Kyoto, a city of more than one-million residents, the team visited several shrines and temples which included the oldest wooden structure in Japan. ■

FARMER, TARR CLAIM TOP HONORS AT SENIOR HONORS BANQUET

The Rose-Hulman Institute of Technology athletic department presented Ruel Fox Burns Blankets to seniors Jessica Farmer and Dylan Tarr to highlight the 2004 Athletic Honors and Awards Banquet.

The Ruel Fox Burns Blanket, presented to the department's top senior male and female athletes as voted by the coaching staff, has been awarded to outstanding Engineer student-athletes since 1968.

Farmer earned Southern Collegiate Athletic Conference Women's Soccer Player of the Year honors and all-district



Dylan Tarr earns three SCAC titles

recognition as part of the Engineers 13-4-2 squad in 2003. Tarr earned three consecutive SCAC championships in the discus throw to highlight his track and field career.

Farmer and baseball pitcher Eric Clementoni earned the John Logan Award for compiling the highest female and male grade-point-average among four-year letter winners.

The Samuel Hulbert Award is presented to

the male and female senior athletes who contribute the most in terms of team spirit, sportsmanship and a determination to succeed. Baseball infielder Cort Severns

and softball outfielder Lynsey Hart claimed the award for reinforcing winning attitudes and creating a positive atmosphere for their respective teams.

Samuel Hulbert received the John Mutchner Award, presented to the man who has unselfishly given his time and support to the athletic department. Joy Hulbert earned the Rosie Award, presented to the woman who has contributed to the success of the athletic department through her tireless dedication and commitment.

The Jess Lucas Spirit Award is presented annually to an individual or group whose support of the Rose-Hulman athletic department moves above and beyond the norm. Kevin Lanke, sports information director, received the 2004 award. ■

SPRING SPORTS ROUNDUP

SPORTS ARTICLES BY KEVIN LANKE, SPORTS INFORMATION DIRECTOR

SOFTBALL TEAM TURNS PROGRAM AROUND

The Rose-Hulman softball team improved by 19 victories in a 21-18 season that featured the second-most wins in the five-year history of the program.

Second-year coach Brian Shearer helped lift the team to its second Southern Collegiate Athletic Conference Eastern Division championship and a third-place finish in the league standings.



Lynsey Hart named to first team SCAC

Senior Lynsey Hart earned her third consecutive first-team all-SCAC honor after leading the conference with a .441 average, 16 doubles and five triples. Other all-conference honorees included junior Janae Chaney, with a .298 average and a league-best 14 stolen bases, and junior Lauren Clark, who finished 13-11 on the mound with 109 strikeouts.

TENNIS, GOLF TEAMS ENJOY MODEST SUCCESS

The Engineer tennis and golf teams continued their development with ninth-place finishes at the Southern Collegiate Athletic Conference Sports Festival in April.

The men's tennis team recorded its fifth consecutive non-losing season with a 13-13 record, led by sophomore Alex Hayes with a 16-11 mark. The women earned four victories, highlighted by No. 1 player Megan Lafferty. Sophomore Cory Wright earned second-team Academic All-District honors to lead the golf squad.

TRACK & FIELD TEAMS SHOW IMPROVEMENT

The track and field teams recorded their best finishes in six years of Southern Collegiate Athletic Conference competition with a fifth-place men's finish and a seventh-place women's placement, under first-year head coach Larry Cole.

Senior Dylan Tarr won the discus and shot put competitions at the league championship, while freshman Ryan Schipper claimed the pole vault title. For the women, freshman Ashley Bernal became the first all-SCAC female athlete in school history with a third-place finish in the 200- and 400-meter dashes.

ROSE-HULMAN INDUCTS SIX INTO HALL OF FAME

Six new members were added to the Rose-Hulman Institute of Technology Athletic Hall of Fame during the team's first football home game on September 4.

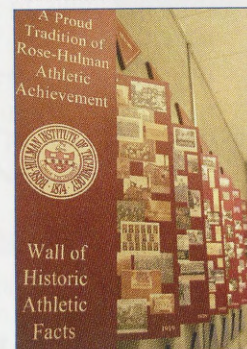
Bob Bright, a 1957 chemical engineering graduate, led the basketball team to its best season in school history as a senior and held the school's career scoring record at the time of his graduation. Jim Gidcumb, a 1976 chemical engineering graduate, became the second player in school history to snag 100 pass receptions in a career. Todd Holthaus, a 1994 electrical engineering graduate, earned first-team All-America and Academic All-American honors as the placekicking national champion as a junior.

Kurt Kelso, a 1987 mechanical engineering graduate, still holds four school records and six top-five honors for his efforts on the track and field squad. Basketball alumnus Jim Pettee, a 1968 chemical engineering graduate, scored over 900 points and earned two team Most Valuable Player honors under John Mutchner.

The sixth honoree is Bob Thompson, who mentored Chris Trapp to three national titles in the javelin and coached 10 All-American honorees as the track and football head coach.

ATHLETIC HALL OF FAME RECEIVES MAJOR UPGRADE

Rose-Hulman Institute has added a seven-panel timeline of the college's athletic history and a large wall display featuring its All-Americans and Academic All-Americans to the Sports and Recreation Center.



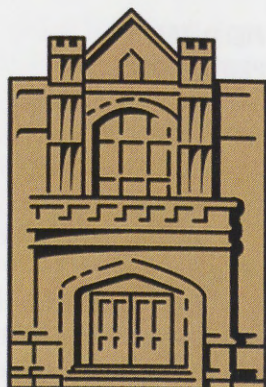
The seven-panel timeline depicts Rose-Hulman's history of inter-collegiate athletic success, both in the classroom and on the playing field. Each

panel covers a historical time period, containing both facts and photos depicting the accomplishments of the era.

The All-American and Academic All-American wall displays the name and accomplishment of each honoree. The three-panel wall covers national championships and players of the year, All-American honorees and Academic All-American recipients.

Historical visual upgrades have also been made within the Sports and Recreation Center lobby and athletic department. A wall displaying the current all-Southern Collegiate Athletic Conference honorees has been placed within the athletic department. The Athletic Hall of Fame area features a new title board, along with backgrounds for each grouping of plaques earned by inductees. Finally, new trophy cases have been purchased to display significantly more memorabilia earned by Rose-Hulman student-athletes.

Future additions to the Athletic Hall of Fame will include a kiosk featuring photos and memorabilia from various eras of the college's athletic history.

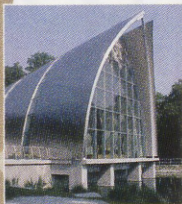


*Vision to be
the Best*

ROSE-HULMAN INSTITUTE
OF TECHNOLOGY

10-YEAR FUND-RAISING CAMPAIGN RECEIVES WIDESPREAD SUPPORT

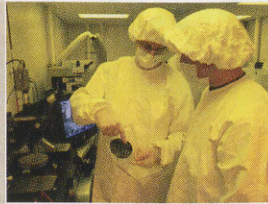
BY DAVID PIKER



White Chapel



Olin Advanced Learning Center



MEMS Laboratory



Studio Laboratory



Hatfield Hall

The \$200 million goal of the Vision to be the Best campaign, the largest fund-raising effort in Rose-Hulman history, has been exceeded by \$53 million. The campaign officially ended June 30.

The campaign total includes cash gifts and financial commitments.

Early success of the fund-raising effort resulted in the original \$100 million goal being increased to twice that amount in September, 1999, because the goal was exceeded after only five years of the scheduled 10-year fund drive.

Approximately 70 percent of Rose-Hulman's alumni and 95 percent of the college's employees contributed to the campaign. Major gifts were received from alumni, corporations and foundations. Support from its alumni recently ranked Rose-Hulman among the top three percent of the 960 colleges and universities that report annual alumni-giving data to the Council for Aid to Education, noted Mark Richter, vice president for development and external affairs.

Richter described the campaign's success as a milestone for Rose-Hulman. "Support to the campaign is a strong indication that our constituents have a high level of confidence in the institution and pride in what we have achieved and will achieve in the future," he stated.

During the campaign, new facilities have been constructed to enhance academic programs, athletics and recreation, campus services, and student life.

"While the \$100 million in new facilities is easy to see and has been vital to the college's progress, it is also important that the campaign has received \$80 million for student financial aid. An additional \$20 million has been received for technology and laboratory equipment," Richter said.

The campaign was supported by the largest gift Rose-Hulman has ever received from an individual. The \$14 million gift from Michael and Deborah Hatfield resulted in the construction of Hatfield Hall that includes a new theatre, facilities for student performing arts groups, alumni center and administrative offices. Hatfield, a 1984 Rose-Hulman graduate, is the

founder and chief strategy officer of Calix Inc. in Petaluma, Calif.

The largest scholarship gift in school history was announced last November when Rose-Hulman was notified that it would receive \$7 million for financial aid from the estate of alumnus and former trustee Michael Percopo of New York City. The gift will increase the number of four-year, full-tuition scholarships offered through the Michael and Christa Percopo Scholarship Fund. Percopo was a 1943 graduate of

The F.W. Olin Advanced Learning Center, The John T. Myers Center for Technological Research with Industry, Renovation and expansion of the Hulman Union, The Sports and Recreation Center, Hatfield Hall, The White Chapel, A new residence hall for sophomores, Cook Stadium, The Oakley Observatory, The creation of Rose-Hulman Ventures, Renovation of the Moench Hall, Auditorium into space for the Department of Computer Science and Software Engineering, Renovation of the track and field complex

Rose-Hulman. He retired as president of Squibb International and then served as president of MWP Associates International in New York City.

Vital support came from the Lilly Endowment of Indianapolis in the form of gifts to create and grow Rose-Hulman Ventures, assist in the construction of a new residence hall, develop the highly successful Homework Hotline, and provide funds for improvements to academic facilities and programs.

New undergraduate degree programs started during the campaign include applied biology, biomedical engineering, engineering physics, and software engineering. A new graduate program in engineering management was started during the second year of the campaign.

"The campaign has created new sources of gifts that will be important as Rose-Hulman seeks to acquire increased support to meet the financial challenges associated with continued improvements to our academic programs, facilities and increasing scholarships to worthy students," Richter noted.

Helping Others



Senior Project Brings Smiles: Aaron Bruce of Terre Haute sits in the Dixie Chopper riding lawn mower that was modified to allow him to control all operations with arm movements. Members of the senior mechanical engineering design team were (back, left to right) Michael Bergfeld, Drew Lyons, Chris Nordyke and Ron Nicholls. Rose-Hulman alumnus Parke Lucas (back, right), territorial manager of Dixie Chopper, played an instrumental role in completing the project.



Aaron Bruce visits with design team members during a test drive session on campus.



Test Driving Lawn Mower: Rose-Hulman senior mechanical engineering majors Chris Nordyke (left) and Ron Nicholls help Aaron Bruce get used to operating the modified Dixie Chopper riding lawn mower during a test drive on campus.

Students solve various real-world projects

Aaron Bruce was smiling almost immediately after being set into the driver's seat of a used Dixie Chopper riding lawn mower that had been modified to allow the disabled 15-year-old boy to improve his self-confidence.

Aaron's parents, Bill and Tina Bruce, were also smiling, along with Parke Lucas, a 1997 mechanical engineering graduate, and territorial manager of Dixie Chopper.

All those smiles brought a sense of satisfaction to the four Rose-Hulman Institute of Technology 2004 mechanical engineering graduates who had completed the project as a precursor to their careers.

"We were excited to play a part in helping (Aaron) realize that he could make a valuable contribution to the community," stated Ron Nicholls. Other members of the design team were Drew Lyons, Chris Nordyke and Michael Bergfeld.

Aaron Bruce has suffered from spina bifida since birth and is paralyzed from the waist down. His parents sought a device that would allow Aaron to participate in an aspect of life not previously open to him. The students studied several options before settling on the lawn mower.

Modifications allow Bruce to mow using hand controls, instead of the customary foot controls. The manual blade engagement was replaced with an electric clutch, allowing the teen to engage the mower blades with the flip of a switch. Dixie Chopper also donated an electric clutch assembly. A seat belt and roll cage were added to the mower as safety precautions.

"Aaron has always wanted to feel a part of the family and helping around home," Tina Bruce stated. "This mower allows him to do that and possibly earn money by cutting other lawns in our neighborhood."

The mower modification was among several projects completed during the 2003-2004 academic year by Rose-Hulman students as part of senior-year Capstone design initiatives for industry and corporate clients, and not-for-profit organizations.

A collaboration between electrical and computer engineering students from Rose-Hulman and Florida Institute of Technology resulted in the Wireless Patient Management System, a wireless network of electrical devices and computer databases that could make it easier for doctors to identify and retrieve patient information at large health-care facilities.

Three teams of Rose-Hulman students developed a system that uses RF Identification (RFID) tags, embedded in a patient's bracelet, to uniquely identify each person in a hospital. A Personal Data Assistant (PDA), iPAQ or TabletPC handheld computers would be used by doctors and nurses to retrieve the patient's records for viewing and editing. Wireless networking provides connectivity to a database server containing patient records. A Web interface allows those records to be edited from any network personal computer.

The wireless patient system someday could replace the current paper-and-pen medical board and patient information system, according to Fred Berry, head of the Department of Electrical and Computer Engineering. Use of the handheld device, with wireless capabilities, may also provide more time for doctors to provide individual attention to patients.

s Mow Down Obstacles

In another project, four students constructed a mock-up of an automobile that is being used in the rehabilitation unit of Terre Haute's Union Hospital to assist knee, hip and leg patients who need to practice getting into and out of automobiles. The door, door frame, seat and dashboard were used from a salvaged automobile to create the device, which has protective covers on all edges and added weight to improve stability.



Other inventive projects completed this past year included:

Cellular Car Alarm: A prototype was developed that will call a person's cell phone when his/her car alarm has been activated in case of a theft, other emergency or just a false alarm. This will decrease response time and reduce alarm noise annoyance in a crowded parking lot. A unique aspect of the system is that the person can be contacted anywhere within receiving distance of a cellular telephone signal. So, a person traveling on business in California could be notified about the possible car theft. The person could then contact authorities, family members or friends in his hometown to check on the vehicle.



Web Content Management System: Computer science students designed a software-based content management system for the Southwest School Corporation of Sullivan County (Ind.) that has improved the ease in which employees can update the school corporation's Web pages. The system allows parents to be better informed of upcoming school events and latest school news, download permission slips or order forms that students may have lost on the way home, and provides an e-mail link to teachers.

Bridge Replacement For Base Security: A civil engineering team designed two replacement bridges within the Naval Surface Warfare Center in Crane, Ind. The project required field reconnaissance to document current conditions and develop options for a replacement structure at each site. The selected solution was designed and developed to the extent that a contractor can execute the chosen design. The design captured first place honors in the American Society of Civil Engineers' Indiana Student Project Presentation Competition.

Automated Feeding Device: A prototype of a feeding aid was designed for an eight-year-old child who suffers from arthrogryposis, a congenital disease. The child has limited mobility and range of motion in his arms and legs; therefore he can't feed himself. The feeding device gives the child greater independence, self-confidence and the ability to eat solid food, without assistance from his parents or school teachers.

Clock Synchronization: Students designed a wireless system that allows all digital clocks around a house, commercial or industrial environment to stay synchronized, provided each clock has the designed apparatus. Each embedded clock sets itself to the time of the master clock. The device can be very handy following a power outage or when multiple clocks have to be reset for daylight savings time.

Alternative Design for Wheelchair Manipulation: Modifications were made to a wheelchair that will allow a person to move using simple movements. A woman requested the device after suffering injuries in an automobile accident. She can only use one arm and has experienced great difficulty moving her wheelchair with one hand at work or in her backyard. The device utilizes bicycle hand brakes, two slide manipulators from file cabinet drawers and a four-bar linkage system on the wheelchair.

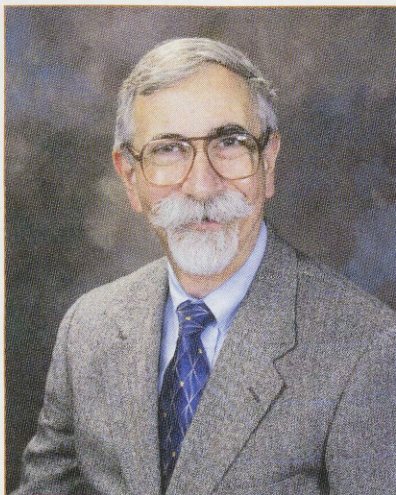
Automatic Dartboard Scoring: A system of three visible lasers, polygonal scanning mirrors, inexpensive lenses and light sensors detect the dart's position after it sticks on a game board. Using that position, a score is calculated using computer software implemented on a PIC microcontroller.



Theater Office System: A relational, menu-driven database computer system was adapted by computer science and software engineering students for the Community Theatre of Terre Haute. The new system will help staff members manage data for ticket sales, financial matters, advertising, marketing and fund-raising.

ROSE-HULMAN'S BRUCE BLACK NAMED WIRELESS EDUCATOR OF YEAR

Rose-Hulman Institute of Technology Electrical and Computer Engineering Professor Bruce Black has been awarded the Wireless Educator of the Year Award from the Global Wireless Education Consortium (GWEC), a collaboration of wireless industry companies and academic institutions.



Bruce Black

Black was selected for demonstrated leadership in the wireless field, documented collaboration within the wireless industry, support of students in wireless projects or educational initiatives, and for his efforts in preparing students for employment in wireless and wireless-related industries.

"This award underscores the importance, from an educational perspective, of keeping pace with technological advancements when developing tomorrow's technology leaders," stated Susan Sauer Sloan, executive director of GWEC. "Bruce Black's distinguished career, and clear dedication and commitment to wireless education are exemplary and commendable."

Black, a Rose-Hulman faculty member since 1983, was chosen from a competitive pool of nominees that represented colleges and universities worldwide. GWEC also honored an educator that teaches at the associate degree level.

The Educator of the Year Awards will be presented at one of the nation's largest wireless conventions, the Cellular Telecommunications and Internet Association's Wireless I.T. and Entertainment 2004 show on Oct. 25-27 in San Francisco.

Black teaches a senior-year class on wireless systems, which

introduces students to mobile radio communications with application to cellular telephone systems, wireless networks, and personal communication systems. He also teaches classes on communication networks, electrical systems, and the analysis and design of engineering systems. He has conducted research on wireless systems, opto-electronic systems and the development of optical radar systems for the U.S. military.

"Bruce was teaching students about the importance of wireless communication systems well before the field became novel. He has been an educational leader in this area for some time," said Fred Berry, head of the Department of Electrical and Computer Engineering at Rose-Hulman. "It's gratifying to see Bruce being recognized as an educator because he does his best work in the classroom. He is admired by students and his faculty colleagues."

Black also joined Rose-Hulman and Rensselaer Polytechnic Institute (N.Y.) faculty in developing educational modules on wireless communications systems that will be used in colleges and universities throughout the world. He is a contributing author of a textbook on wireless systems engineering that will be published next year.

"Bruce was teaching students about the importance of wireless communication systems well before the field became novel. He has been an educational leader in this area for some time."

— Fred Berry, head of the
Rose-Hulman Department of Electrical and
Computer Engineering

GWEC is focused on expanding wireless technology curriculum at the undergraduate and graduate levels worldwide, anticipating employment demands with the unprecedented growth in the wireless industry. Rose-Hulman is a GWEC member and is a recognized national leader in emerging technologies. GWEC's industry members include Motorola, Sprint, Texas Instrument, UGS Corp. (formerly a division of EDS) and Verizon Wireless.

"To meet current and future product and service demands, it is imperative that we grow the wireless workforce so that companies have a pool of highly-qualified individuals to employ and students graduate with a skill set and knowledge base that is current and fully recognized by the wireless industry," Sauer Sloan stated. "Bruce Black and Rose-Hulman are helping develop this pool." ■

ASSOCIATION NEWS

A MESSAGE FROM YOUR ALUMNI ASSOCIATION

On behalf of all alumni, I want to express a sincere welcome to the new president of Rose-Hulman, Jack Midgley, and to his family. Jack brings an impressive academic and professional background to his role as leader of our Institute. His combination of successful business leadership in global settings, combined with award-winning teaching and team-building, make him the ideal leader as we prepare to take Rose-Hulman to the next level of excellence.

Recently, your Alumni Advisory Board enjoyed the opportunity to have dinner with Jack and his wife, Ellen. The Midgleys are excited and proud to join the Rose-Hulman community. Jack is a dynamic, high-energy leader who I know will work closely with alumni.

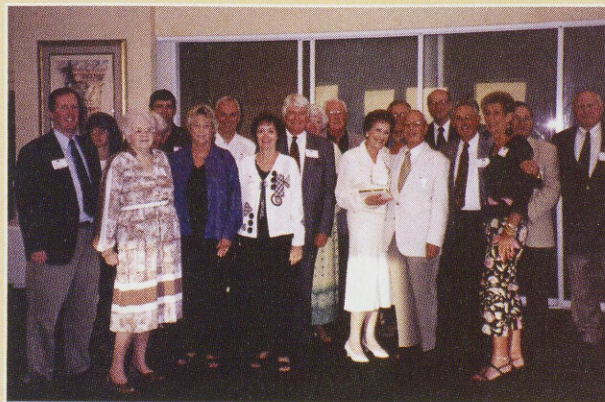
He will travel extensively over the next few months to meet with our alumni nationwide and listen to our ideas about the future direction of Rose-Hulman. Cities that Jack will visit are listed on the inside back cover of this issue of Echoes, and we expect to have a final schedule very soon. If you would like to help with these visits, please contact me or call Brian Dyer at 812-877-8359.

During his first few weeks as president, Jack has already met with many alumni in Detroit, Indianapolis, Terre Haute and Columbus, Ind. He is working hard to learn about the expectations and hopes of our alumni, and I know that he is listening carefully.

I encourage you to meet Rose-Hulman's new president by attending one of the upcoming alumni events and by participating in Homecoming Oct. 8-9.

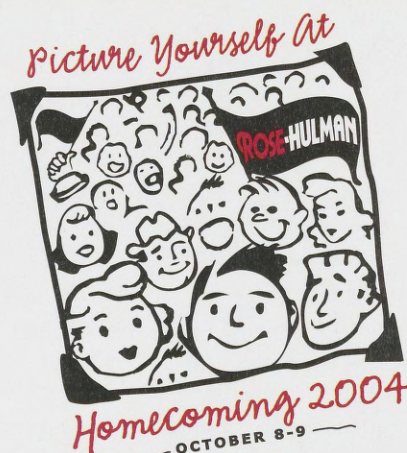
Doug Stearley, President
Rose-Hulman Alumni Association
dougstearley@alumni.rose-hulman.edu

P.S. The terms for three of our committee chairs on the Alumni Advisory Board will expire this fall. This is a great opportunity to get involved in the activities of your alma mater. Please contact Brian Dyer in the Alumni Office at (812) 877-8359 or brian.dyer@rose-hulman.edu if you have any interest or would like more information.



Sarasota alumni meet

Alumni in the Sarasota, Fla., area gathered this spring. Attendees included Mark Richter, Jill Pickett, Ida Marie Baker, Joe Pickett, Sam Hulbert, Joy Hulbert, Bill Waggener, Cathy Dekker, Don Dekker, Phyllis Smith, Carter Smith, Tom Reifenberg, Jim Sherman, Ray Baker, Sam Hart, and Myrna Hart.



Make Plans Now!

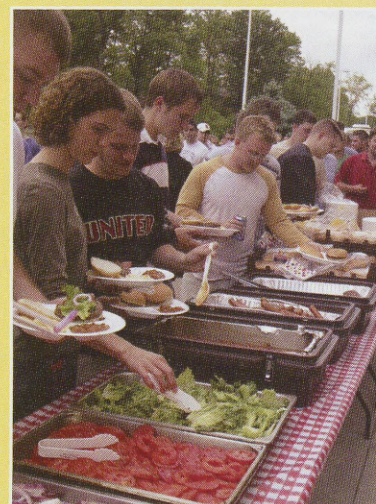
The annual Homecoming activities are set for Oct. 8 and 9. Visit the Rose-Hulman Homecoming web page at <http://www.rose-hulman.edu/homecoming/> or contact one of the persons listed below.

ALUMNI OFFICE CONTACT INFORMATION

Brian Dyer
DIRECTOR OF ALUMNI AFFAIRS
812.877.8359 | brian.dyer@rose-hulman.edu

Carey Treager Huber
ASSOCIATE DIRECTOR OF ALUMNI AFFAIRS
812.877.8465
Carey.TreagerHuber@rose-hulman.edu

Trudy Sladek
ADMINISTRATIVE ASSISTANT
812.877.8976
trudy.sladek@rose-hulman.edu



Senior Sendoff

Once again, the Alumni Association sponsored the Senior Sendoff after commencement rehearsal. The graduating seniors enjoyed a picnic dinner on the patio of Cook Stadium.

LET US HEAR FROM YOU

SEND CLASS NOTE INFORMATION TO:

Bryan Taylor
Rose-Hulman, 5500 Wabash Avenue, Terre Haute IN 47803 or
via email at bryan.taylor@rose-hulman.edu



DREAM TURNS

INTO \$41.5 MILLION BUSINESS DEAL

By David Piker



Mike Olson (kneeling), Scott Loughmiller, Jeff Ready, and Phil White

A dream that started eight years ago in an entrepreneurship class at Rose-Hulman Institute of Technology has turned into a \$41.5 million business deal for four, young Rose-Hulman alumni.

Scott Loughmiller, Jeff Ready, Mike Olson and Phil White earlier this year sold their anti-spam company, Corvigo, Inc. in Mountain View, Calif., to Tumbleweed Communications. Corvigo was created after Loughmiller, Ready and Olson developed their first company, Aureate Development in Terre Haute. That venture moved to Indianapolis and later to California. Loughmiller and Ready graduated from Rose-Hulman in 1996. Olson received his Rose-Hulman degree a year later. Also involved in the creation of Corvigo was 1998 Rose-Hulman graduate Phil White who is now a software architect for Tumbleweed Communications. The company, in Redwood City, Calif., is a provider of secure Internet messaging software products.

Corvigo created patent-pending intent-based filtering, artificial intelligence technology that eliminates junk e-mail. The company's customer base includes over 100 businesses. Corvigo's Linux-based, anti-spam appliance, MailGate, was rated as the best of its kind against major competitors in real-world testing by InfoWorld trade magazine in February.

"We invested in Corvigo after we concluded that their MailGate anti-spam appliance was the most effective and easiest-to-employ solution," said Mark Kvamme, partner at Sequoia Capital and Corvigo board member, in a statement released by Tumbleweed Communications. *"Combined with Tumbleweed's security expertise and marketing leadership, we feel that the Corvigo product line has the potential to dominate the anti-spam market."*

Loughmiller, Ready and Olson showed early indications of talents that would lead to their recent success, according to Rose-Hulman Professor Tom Mason, who teaches entrepreneurial and economics courses, and serves as director of the college's engineering management graduate program.

"From the time they were in my entrepreneurship class, Scott and Jeff had the 'right stuff' to be technical entrepreneurs," Mason recalled. *"They were technically competent, motivated to be successful in business and, along with their friend Ehren Maedge, they made a great team."*

"They had the confidence to create a business even before graduation, yet they had enough humility to listen to advice and look for people like Mike Olson, who are very smart," Mason stated. Mason said one of the most important attributes of this group of young entrepreneurs is that they realized almost instinctively that technology-based business was all about the customers, not the technology.

Loughmiller and Olson also participated in the Ewing Marion Kauffman Entrepreneurial Internship Program at Rose-Hulman. The internship provides undergraduates with the opportunity to report directly to a chief executive officer, chief technical officer or chief engineer at an emerging, technical growth company.

"The Entrepreneurial Internship Program makes this career path a rational decision, instead of a roll of the dice," stated Olson, research and development architect at Tumbleweed Communications.

The Rose-Hulman graduates moved their first company, Aureate Development, which provided Internet access and consulting services, to California's Silicon Valley in 1999.

"Rose-Hulman was very supportive of our efforts from providing us with business advice, to sharing contacts, and even providing us with temporary office space to get started," stated Ready, who is now vice president of marketing for Tumbleweed Communications.

"We were given encouragement to follow our chosen career path to become entrepreneurs. I believe this speaks not only to the college's efforts to foster entrepreneurship, but also to the overall Rose-Hulman theme of being student-focused throughout the undergraduate experience," he said.

Olson said the team's years together have been an advantage: *"Scott, Jeff and I have been working as a team since we were in classes together. Having that experience has been a huge advantage for us. We know implicitly who is responsible for getting what done. It makes organizing and managing a startup almost effortless."*

"We still apply the principles we learned while working on our senior project to our everyday work experience," Olson said.

"I never doubted we would succeed," Olson said. *"Looking back, I think that's a crucial part of our success. We weren't afraid to try."* ■

A CHANGE OF CLIMATE?

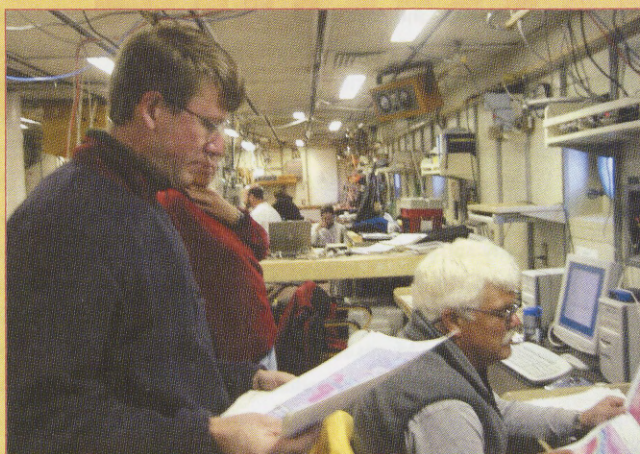
BY DALE LONG

PHYSICS ALUMNUS CRUISES WORLD IN STUDY OF GLOBAL WARMING

If you think the summers are getting increasingly warmer in your part of the world, Rose-Hulman Institute of Technology alumnus Terrence Joyce shares your concern, and he has the scientific data to back it up.

As senior scientist at the Woods Hole Oceanographic Institution (WHOI), Joyce (Physics, '68) has spent most of the past 30 years examining climatic change through groundbreaking research into the increasing temperatures of oceans. His findings, concurred by internationally respected scientists, assert that common fears over global warming may be misguided.

In a New York Times op-ed article, titled "The Heat Before The Cold," (April 18, 2002) Joyce advised that global warming could actually result in colder temperatures for Eastern North America and Western Europe, and set off catastrophic changes to the global system of ocean currents. This phenomenon could plunge a portion of the northern hemisphere back into mini ice-age conditions. He reminds persons that about 500 years ago a reduction of the ocean currents may have turned the climate in northern Europe and the northeastern United States much colder, during what became known as the Little Ice Age, which lasted for about 300 years.



Joyce, right, on the job monitoring global warming.

Joyce's conjectures may receive even more exposure this summer with the film "The Day After Tomorrow," which depicts global warming triggering a cascade of events that practically flash-freeze the planet. The movie could do for interest in climatic issues what "Jurassic Park" did for dinosaurs.

"Anything that reawakens the issue of abrupt climate change as a possible consequence of global warming is a positive thing," Joyce says. "There simply has to be more research in this area."

Hoping to add more evidence to global warming issues, Joyce has made 25 extensive research cruises to observe the changing ocean climate. In his latest journey, conducted last fall, he led a

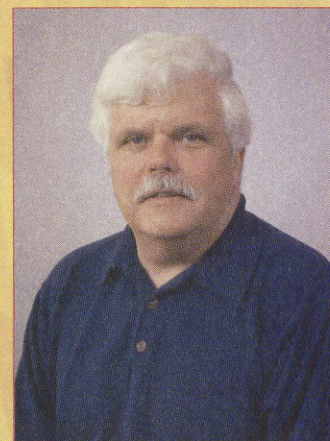
25-person American team on a 24-day excursion that conducted a hydrographic survey of Atlantic Ocean waters near Trinidad. The cruise is part of a large international effort to understand how the ocean is changing globally and how it may be influenced by and, in turn, influence future climate variability.

"The ocean is a huge reservoir of carbon dioxide and a huge heat storage reservoir," Joyce observes. "A global ocean-observing system would greatly enhance our ability to monitor changes that can spawn major, long-lasting climate shifts and lead to reliable predictions of what may follow."

Joyce became interested in oceanography after attending a summer educational program on earth sciences at the University of Miami (Fla.) between his junior and senior years at Rose Polytechnic Institute (now Rose-Hulman). He was among the first graduates of a new physical oceanography Ph.D. program at Massachusetts Institute of Technology and WHOI (1972), and has spent his entire professional career with the largest independent, not-for-profit, oceanographic research organization, located on Cape Cod. The center's research is supported by a mix of grants from federal agencies, including the National Science Foundation and the Office of Naval Research.

"Research requires we either relearn or learn something new every day, or risk falling behind," states Joyce, who estimates to be working on as many as three research projects at a time. "The reward is being able to understand something brand new about the ocean and how it works."

"The (New York Times) op-ed about abrupt climate change is certainly not my main contribution to science. Like many researchers, I feel that my best work is yet to come. That motivates me to keep working," he continued. "Although we have been making serious oceanographic observations since the late 1950s, our modern record is too short to draw many definitive conclusions. The period since the mid-1960s until now, for example, can be seen to be rather anomalous, based on late 19th and 20th century air temperature records in the U.S. Yet this recent period is the one with most of our ocean data. So we risk making great errors in our inferences drawn from the most recent, anomalous years." ■



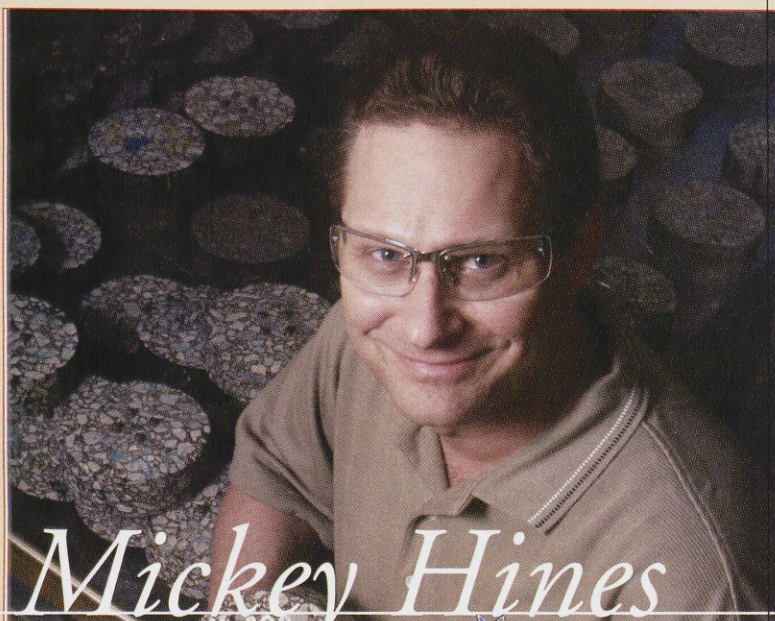
Terrence Joyce

Career Achievement Award

THE CLASS OF 2004

Each year, Rose-Hulman honors alumni who have distinguished themselves in their careers with the Career Achievement Award. The next four pages introduce you to this year's recipients.

BY DALE LONG



Pathways to progress

MICKY HINES AT FOREFRONT OF
INTEGRATED PAVEMENT DESIGN

Call it insight, good fortune or just plain luck, but Mickey Hines has been at the forefront of revolutionary changes in the asphalt pavement road industry that are changing the landscape of transportation across the United States.

As vice president of engineering for Koch Performance Roads, Inc., Hines, a 1984 civil engineering alumnus, leads an engineering team providing integrated pavement design for new and reconstruction highway projects. These projects have helped open pathways for economic development, address America's transportation needs, and include innovations that have received critical acclaim.

Integrated pavement design is a relatively new strategy of roadway construction that's beginning to sweep the country after achieving remarkable success in Europe. That's where Hines learned about the concept while working as an exchange engineer at Elf Asphalt Inc.'s research center in Lyon, France (1992-93). Koch Materials Company bought the ideas, and Elf Asphalt, in 1993, bringing Hines back to the U.S. After gaining further experience in product development and management, Hines was named a KPRI vice president in 2001.

KPRI is a project development, performance engineering and pavement design firm that approaches projects with a basic principle: to design and build roads, layer by layer for specific site conditions. The Wichita, Kan.-based company believes that its staff's knowledge of materials, pavement and Koch-developed technology systems results in better performing pavements.

"Our focus is on finding the best engineering solution for each particular road we design. That makes each road unique in its own special way," Hines states.

Unique to the design concept is the establishment of desired service levels and performance criteria. KPRI then backs its work with performance-based rehabilitation and reconstruction services to ensure the completed road meets or exceeds those pre-determined requirements. The concept results in long-term performance and lowest life-cycle costs.

"What the Europeans learned is that you want the designers to have a

long-term perspective," Hines said. "The better job we do up front is better for us and the client. That's the ultimate win-win situation."

KPRI's alternative delivery system moves construction ahead of the agency's programmed date; provides faster construction due to proactive engineering-construction relationships; reduces costs by minimizing maintenance costs; and ensures higher performance through fiscal obligation, resulting in a shift of public agency risk to the private sector.

"We're on the cutting edge of change in the pavement industry, at least in the U.S.," Hines states. "We have tried to be responsive to those state agencies that are trying to meet their transportation needs."

Hines has helped oversee projects in Colorado, Kansas, Missouri, New Mexico, Illinois, and Virginia with over 500 lane miles of pavement under warranty and performing at or beyond expected performance levels.

The \$314 million reconstruction and widening project involving 119 miles of U.S. Highway 550 (a NAFTA corridor highway) from Farmington, N.M., to Albuquerque, N.M., completed in 2001, featured a 20-year limited pavement rehabilitation and reconstruction contract.

A unique Public-Private Transportation Act project will soon complete a new, four-lane highway of Virginia Route 288 around Richmond, Va. The \$236 million project extends 17.5 miles with 38 bridges and 10 interchanges. KPRI provided pavement design, quality assurance/quality control, and a limited 20-year pavement rehabilitation and reconstruction contract.

Future endeavors include proposed improvements to all 325 miles of Interstate 81 through Virginia, a \$7.9 billion project. Truck traffic sometimes exceeds 40 percent of the number of vehicles on the road — more than double what the road was designed to handle.

"I have been lucky enough to work long enough to know how to implement this system in the U.S.," Hines said. "We're not done learning by any means. You continue to learn where you can be aggressive in your design, where you have to be more careful and when you can help the contractor complete the project to everyone's satisfaction."



Joe Kunkel

Up to the challenge

JOE KUNKEL ADVANCES "NO HASSLE" APPROACH FOR CARMAX

Joe Kunkel tried to get kids to eat healthy snacks. Now, he's trying to change the image of used car dealers. This is a guy who likes a challenge.

Kunkel is in charge of marketing and strategic planning for CarMax, a Fortune 500 company that is trying to persuade consumers that there is a new, no-hassle way to buy a used car.

As the company's senior vice president, Kunkel is part of a business story that he believes will be "the biggest retailing success in the next 10 years." CarMax, based in Richmond, Va., recorded \$4.5 billion in sales in 2003.

His career started on a traditional path when Kunkel worked for two years in the General Electric manufacturing management program at plants in Ft. Wayne, Ind., and Louisville, Ky.

"I started to drift away from engineering," Kunkel says about his job duties. "First it was a move to manufacturing, then I started to learn more about the business side of the company."

Kunkel left GE to earn an MBA from the University of Chicago in 1987, and was recruited by McKinsey, a worldwide management consulting company. During a seven-year stint with McKinsey, he developed a strong interest in creating his own business.

"I consulted with dozens of companies and learned how business really works," the 1984 Rose-Hulman electrical engineering graduate recalled.

As parents of two small children, Kunkel and his wife, Nancy, were frustrated with a lack of ready-to-eat snack food that was nutritious for kids. After talking to other parents, the Kunkels decided they had an idea for a new product.

"I did a lot of consulting work for companies in the packaged food industry," Kunkel noted. "And, we wanted to start a business that we would feel good about."

Kunkel left McKinsey, and Wholesome Kidfoods was started in 1995. The healthy snack food was soon available in 450 supermarkets in the Chicago area, and parts of Indiana, Iowa and Wisconsin. The product sold well. Sales were so good that national food companies took notice.

"Within a year, we went from having two, national competitors to nearly 15. Healthy snacks for children became one of the hottest food products," Kunkel explained. Unable to compete financially with the national brands for space on major grocery shelves, Wholesome Kidfoods ceased production after less than 18 months.

"Being an entrepreneur was exciting, yet it was all-consuming," he said. "It was time to get back to what we considered to be 'the real world.'"

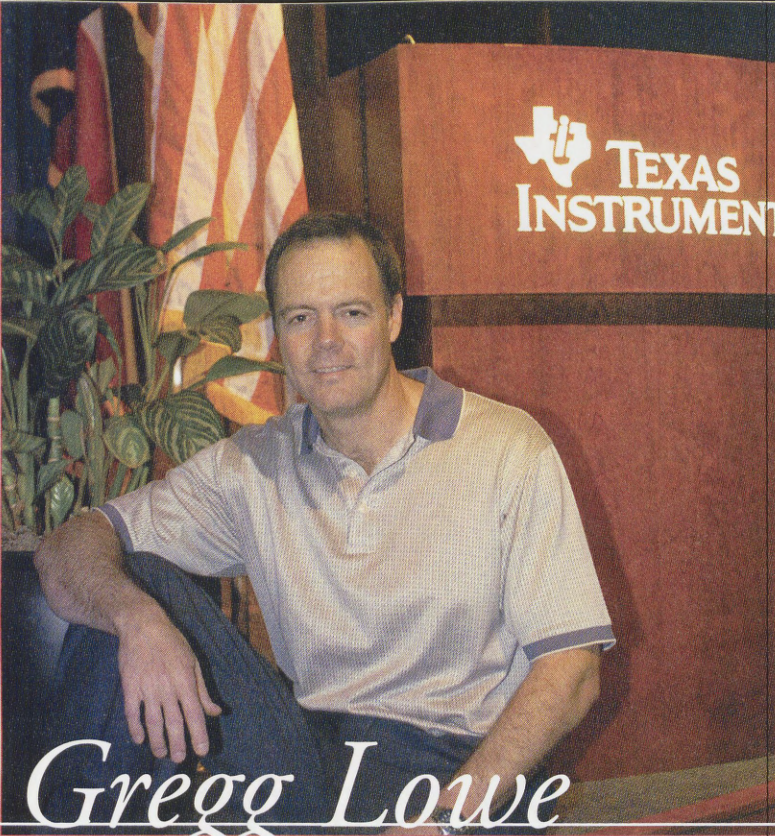
The next opportunity for Kunkel would still satisfy his taste for being an entrepreneur. An executive recruiter for CarMax was searching for candidates who had worked for a major consulting firm, and had been an entrepreneur who knew how tough it was to compete with a new product against national brands. He found the right person in Kunkel.

"I really liked being a consultant because of the constant challenge. The same was true in starting and managing our own business. At CarMax, I was faced with the challenge of a company with an entrepreneurial environment that was struggling and was trying to be reborn," Kunkel said. "It's been an exciting and rewarding time because the business has improved and really taken off."

Kunkel is also challenged to change the negative image of the used car salesman. "CarMax is the white knight in an industry that needs an improved image," Kunkel says in describing the 10-year-old national company.

As head of strategic planning, Kunkel manages activities that include analyzing economic factors impacting the used car business, studying what markets to enter, how to improve the sales process and measuring customer satisfaction. Marketing is aimed at explaining how the CarMax concept of selling used cars differs from what most consumers perceive it to be. The concept is designed to be an easy, no-haggle pricing, guaranteed quality and a large selection of cars.

Redefining an industry's image is a difficult goal. But then, Joe Kunkel likes challenges.



Gregg Lowe

Gregg Lowe expects more.

While that may sound like some catchy marketing slogan, it is the operational philosophy for Lowe in his career as senior vice president of Texas Instruments' high-performance analog business unit.

A 1984 electrical engineering graduate, Lowe manages a \$1.5 billion business that includes 1,700 employees, with 1,100 of them in engineering and design positions. The business sells 15,000 parts to 32,000 customers.

"Our products go into every imaginable end-equipment that exists — MP3 players, fiber optic transmitters, wireless base stations and even a rover on Mars," Lowe explained. "Basically anything that has an electron in it probably needs one of our parts."

The bottom line demonstrates the depth of Lowe's business unit. Its total sales make up an 18-percent chunk of Texas Instruments' overall \$8 billion business. His business unit has offices and design centers throughout the United States and world, including Europe, Tokyo, India, Dallas, Tucson, Chicago, and New Hampshire.

Such global emphasis translates into extensive travel for Lowe, who will have crossed the 5-million-mile mark with American Airlines this year. On average, he visits customers three days a week, and he travels internationally about once a month.

While customer contact and technical knowledge are important, Lowe says the most significant part of his job focuses on raising expectations of his business unit colleagues. "As a manager, if you can get people to raise their expectations of what they can get out of themselves, they deliver," Lowe stated. "And they'll deliver results that are higher than they could have delivered without raising those expectations."

"So that's the biggest challenge in my career. It's not that the people are lazy; it's just that the human tendency is to achieve a certain level and get satisfied with it. That's a big danger in business because you constantly have new competitors and new technologies."

Raised expectations bring a reward that goes beyond the bottom line for Lowe. "It's a fun business because you get to see a lot of innovative

Great Expectations

GREGG LOWE MANAGES \$1.5 BILLION TEXAS INSTRUMENTS BUSINESS UNIT

products that are changing the world," Lowe noted. "We sell products that go into hearing aids, vision-improvement devices and glucometers to help diabetics. The exciting thing about our business is that we can make a difference, not just in the business, but in the lives of people, and technology enables that process."

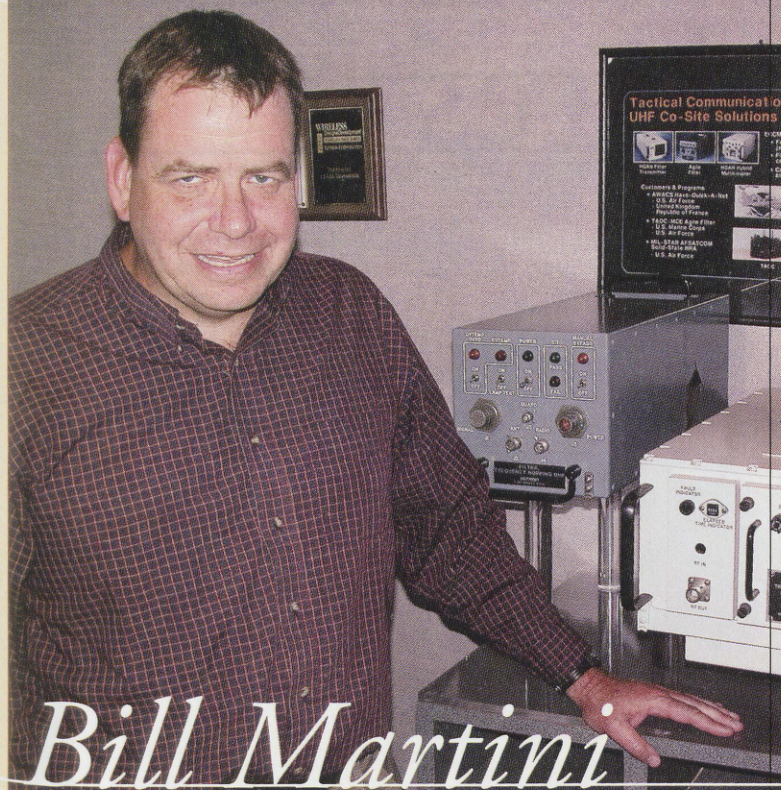
Lowe makes a difference outside the environs of TI as well. He recently provided funding to start a pre-engineering program at his high school alma mater, St. Edward High School in Lakewood, Ohio. Not only did he provide funding, but he assisted with developing the curriculum that includes "hands-on, designing things and building things. It's not so much theoretical as much as it is practical."

"The program provides a focused approach that helps kids see what it's like to be an engineer," Lowe said. "They just think it's a lot of hard work and people with pens in their pockets. These kids don't have to become engineers, but the pre-engineering program helps give them a more focused approach to their education that will be useful in any field."

When Lowe graduated from St. Edward's, he had "a simple spec" for his college education: "I wanted to be an engineer and I wanted to play football." On the recommendation of a high-school counselor, he chose Rose-Hulman, where he provides scholarship support today. "I think the impact from Rose was strong fundamentals and the work ethic they instill in you."

Armed with his Rose-Hulman degree and work ethic, Lowe went to work for Texas Instruments immediately upon his graduation. He began his TI career with responsibility for growing its business with automobile manufacturers. Assignments have included management of the TI European Automotive Sales team, and management of the TI High Speed Communication and Controls group.

Lowe admits moving through the TI ranks was not part of some plan: "Most of the promotions I've ever received took me by surprise." While no plan was in place, his career achievement definitely had its roots in raised expectations.



Bill Martini

Facilitating Issues

WILLIAM MARTINI PUTS PEOPLE FIRST AS DIRECTOR OF ENGINEERING FOR XETRON

As the director of engineering for the Xetron Corporation, Bill Martini works daily with innovative and cutting-edge technologies. The Cincinnati-based corporation focuses on communication systems and information technologies.

Despite the technical nature of his profession, Martini realizes that quality people are necessary to make quality products. This focus has helped Xetron, a wholly owned subsidiary of Northrop Grumman, become an industry leader in its field.

"My job is to help people, and I believe in facilitating issues as a leader. I work to provide strategic direction for the organization, sort through general staffing issues, interface with other parts of Northrop Grumman to solidify our technologies, and focus on executing development programs," said Martini.

Martini earned a bachelor's degree in electrical engineering in 1984, and was hired by Westinghouse. Eventually, Martini moved into an engineering management role for Westinghouse.

After the company sold its electronic systems group to Northrop Grumman, he transferred to Xetron for a more entrepreneurial opportunity. Martini began his Xetron experience in program management and new business development, before taking on his current role as director of engineering.

Today, Martini works with various external constituencies to allow the innovative company to prosper. In addition to promoting existing ideas of a highly proprietary nature, he works with fellow engineers on new project ideas and designs.

The background for Martini's people-oriented approach to engineering began at Rose-Hulman. He remembers life as an undergraduate student, especially his microprocessor course with Keith Hoover that resulted in building a computer with an "ultra-fast" 8088 processor. He fondly recalls playing intramurals and grading papers for then electrical engineering department chairman Buck Brown.

After 20 years working with innovative and cutting-edge technologies, his Rose-Hulman pride has helped form a pipeline of graduates heading to the Cincinnati-based company.

Twenty-one of the 162 engineers employed at Xetron are Rose-Hulman graduates, including 15 graduates who have been hired since 1999. Also, two Rose-Hulman students are interning at Xetron this summer.

Martini helped spearhead a philosophical change at Xetron toward hiring college graduates in 1999. The results have been successful for everyone involved.

"I'm extremely pleased with the quality of Rose-Hulman's students. They have a tremendous work ethic and are very well rounded," Martini said.

Martini saw immediate benefits to his Rose-Hulman education. "I was fortunate to be hired in the same Westinghouse Electronics department as classmate Tom Neufelder. We benefited from more hands-on experience than other recent graduates. They were talented, but we were lucky to have the resources for a better undergraduate experience," said Martini.

In addition to his Rose-Hulman background, Martini earned an MBA from Loyola University of Maryland in 1991 and received a Ph.D. from The George Washington University in 1999. His heart remains with Rose-Hulman, however.

"It's a great honor to receive a Career Achievement Award from an institution that means so much to me. A lot of my classmates have done very well in their positions. I am fortunate to be a graduate who has been really happy with my career," said Martini.

Bill and his wife Cathy, a native of Annapolis, Maryland, live in Cincinnati with their children Kristy (8), Mike (7) and Nicky (4). He credits the family for much of his success.

"There is no such thing as a 40-hour week, but I try to reserve as much time as possible on weekends for the family. They are so supportive in everything that I do," said Martini.

As for the Rose-Hulman pipeline, Martini believes that the road will continue due to the quality of the college's educational programs.

"Every Rose-Hulman engineer that we've hired has been excellent for us. At Xetron, we've been getting some of the top graduates for the last five years. We hope that trend continues for many more."

1954

Donald Fyfe (M.E.) recently finished up a term as chairman of the ASM International Phoenix Chapter.

Bronwyn Hillman (E.E.) recently became a life member of Mensa.

1961

Richard Carter (C.E.) recently was promoted to supervisor, software documentation, at Broadcom Corp., Irvine Calif. Broadcom is a provider of highly integrated semiconductor solutions enabling broadband communications.

1964

Andy Breece (E.E.) recently retired after 40 years of service with the Department of the Navy. He has started a dot-com business and he volunteers with the San Diego (Childrens) Discovery Centers and the Uptown Faith Community Service Center.

1967

Chuck Risch (M.E.) updates *Echoes* that as a Ford Motor Co. retiree, he works part time for Argonne National Lab, and he has started a company that sells boat docks, among other things. He and his wife also do community service work.

1968

Rolf P. Hill (M.E.) recently became a grandparent.

1973

Frank Butwin (Chem.) is serving a second term as chair of the Toledo Section of the American Chemical Society.

1975

Mike Patrick (Ch.E.) has been promoted to vice president of engineering for Penford Corp. He has responsibility for all engineering and capital expenditures across all three divisions of the company. He reports he continues to be based in Englewood, Colo., and the B Concourse at Denver International Airport.

1976

Barry Kress (M.E.) updates *Echoes* that after retiring from Cinergy as district manager in 2002, he has joined the family firm Kress Associates in Indianapolis with his brother Jay (Ch.E., 1987). Also, he recently completed his airplane flight instructor certificate, commercial pilot certificate and multi-engine and instrument ratings.

1977

Jim Trueblood (M.E.) has been named vice president of high-horsepower engineering for Cummins, Inc. Previously he was vice president of engineering and technology and chief technical officer in the Fleetguard division.

1978

Gerry J. Dail (M.E.) has

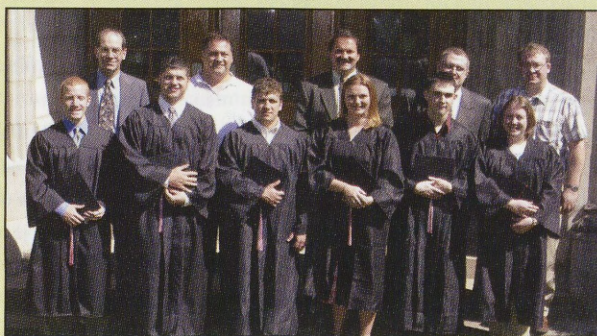
LEGACIES



Each year, Rose-Hulman is proud of its legacy graduates whose fathers and/or grandfathers have graduated from the college. This year saw 17 legacies receive their diplomas. All alumni are fathers unless otherwise designated. In this photo, from left, are Sam Martin whose late father, Steve Martin, was a 1978 graduate, Jon Schroeder, Robert Schroeder ('71), Bryan Bals, grandfather Carl Bals, Jr. ('52), Chris Meyer, Douglas Meyer ('73), Pat Lunsford, Jimmy Lunsford ('64), Jakob Cagle and Philip Cagle ('80).



From left, Kenyon Kopecky ('72), Brian Kopecky, Robert Klimaszewski ('73), Brian Klimaszewski, Richard Schue ('75), David Schue, Seibert Thomas ('51 and grandfather of Allison Burkey), Allison Burkey, John Burkey ('79), Sara Horner, and Ron Horner ('76).



Andrew Batta, George Batta ('76), James Merk, Gerald Merk ('79), Dave Villescas, grandson of the late Paul Dierdorff ('33), Steve Jenison ('77), Sandea Jenison, Brandon Thompson, Mark Thompson ('81), Jenni Matheny, and Tim Matheny ('81).

been promoted to engineering manager of the Lafayette Operations of Alcoa, Inc. He remains the manager of Aerospace tool design-manufacture as well.

Jonathan W. Shoemaker (C.E.) recently came out of retirement to work part-time assisting a general contractor building churches around South Metro Atlanta.

1979

Pete Hylton (M.E.) has ended a 25-year career in the aerospace industry with Allison Gas Turbines/Rolls Royce Corp. He now is a professor for the Purdue School of Engineering and Technology at IUPUI in Indianapolis. Additionally, he continues a sideline as a freelance writer of magazine articles on vintage sports cars and the history of sports car racing.

Dean May (M.E.) and his wife, Tammy, welcomed a new baby girl last January. Her name is Julia Marie, and for those keeping track this gives them a total of six sons, five daughters and two granddaughters.

Dave Raaf (Ch.E.) works as division staff engineer for ExxonMobil Development Co. He recently completed a design engineering assignment in Paris, France, for offshore Nigerian oil and gas production facilities. The assignment included travel to Jakarta, Indonesia, and Pasir Gudang, Malaysia. Also, in December of 2003, he completed executive

MBA studies at the Duke University Fuqua School of Business.

1980

Jonathan Perry (M.E.) has been appointed Wells Project Manager-Exploration for BP in Trinidad.

James S. Skinner (M.E.) reports the recent birth of Ruth Anne Skinner in May of 2003, and the adoption of Steven and Brenda Basnda Skinner from Liberia last December. Jim also ran in the Boston Marathon this year, and he is a captain on Bombardier Q400 for Horizon Air.

1981

Bob Brandel (E.E.) has transitioned from cubmaster of homeschool Pack 330 to being assistant scoutmaster of Troop 77 in Fredericksburg, Va. He continues to work as a senior engineer for General Dynamics, SIGNAL Solutions, Inc.

1983

Ralph Wagle (C.E.) has been named president of C.H. Garmong & Son, Inc., and Hannum, Wagle & Cline Engineering. Wagle, the first non-Garmong descendent to serve as president of the firm, began as a field foreman for W.D. Bartlett & Associates, building pre-engineering buildings and concrete bridges. He also is a past city engineer for Terre Haute, and he received the Rose-Hulman Alumni Career Achievement Award in 2003.

1984

Chris Anderson (Phys.) has been named manager of the new Centennial Observatory at the College of Southern Idaho in Two Falls, Idaho. The observatory features a 24-inch research-grade telescope with a design to make it one of the most handi-capped-accessible public telescopes in the world.

Edward Canary (Ch.E.) has been named general manager at Lilly Clinton Laboratories. He had been plant manager for animal health manufacturing of Elanco products at the Clinton plant since 2000. He joined Lilly in 1985.

1985

William Thomas (M.E.) currently is employed by Eli Lilly and Co as a project manager at Lilly's new site in Manassas, Va.

1986

Stan DeHoff (Math.) announces his marriage to Dr. Carol Ann Nichols in Charleston, S.C.

R. Daniel Harrison (Ch.E.) updates *Echoes* that since we last heard from him, he was activated with the Army in October of 2001 and he returned to Indiana in August of 2003 after 22 months of service. He is a major in the reserves. He and his wife, Cara, have four children: Caleb, Ethan, Emma and Grace. On the job front, Dan has been with Eli Lilly and company for almost six years.

David Price (E.E.) just completed his second master's degree, a master's in project management. He still heads up all software engineering activities in Russia and Eastern Europe for Honeywell's avionics division.

Chuck Smith (C.E.) and his wife, Rhonda, have launched Cabins & Candlelight, a romantic getaway featuring luxury log cabins near Crawfordsville, Ind.

1987

Robert Conroy (E.E.) has been named manager, rates, for Louisville Gas & Electric. He is responsible for all matters related to rates the company charges customers for service.

Jeff Myers (E.E. and M.S. Eng.mgt.) has been named vice president of engineering and operations for Central Indiana Power.

James Yoakum (M.E.) has been promoted to vice president, food division, for the Industrial Technology Group, which provides engineering, controls and reliability support to the food, pharmaceutical and utility industries. James and his wife, Cecilia, continue to live in Tuscola, Ill., with their three children.

1988

Steven J. Powers (E.E.) recently became president of Powers Holdings, Inc., in Milwaukee, Wis.

Kenneth D. Roth (E.E., MSEE, 1996) graduated this March from the University of Chicago's Executive MBA program with a master's in Business Administration.

Bob Tickel (M.E.) and his wife, Sonya, welcomed their first child, Lillie Anne, born Jan. 2.

Bill Whitaker (M.E.) recently married Karen Lipka.

1989

Roderick Dacbeliehn (M.E.) updates *Echoes* that he took a job with Aerojet in Sacramento, Calif., in July of 2002, where he serves as an engineering specialist in the chief engineer's group in hypersonic air breathing propulsion.

Bill Jurasz (C.E.) started working last December for AMD in Austin, Texas, in the company's personal connectivity solutions division. He designs verification of system on chip designs for the embedded markets. He also has started a side business venture called Mercury Photography. It specializes in stock photography of wildlife, nature, Austin (Texas) scenes, and amateur auto racing.

1990

Kevin R. Fesler (M.E.) has been promoted to lieutenant colonel in the U.S. Air Force. He is an instructor pilot, and he flies F-15E Strike Eagles.

Greg Strylewicz (Phy.) has

started his Ph.D. in biomedical and health informatics at the University of Washington.

1991

Jay Ahrens (M.E.) recently accepted the position of vice president of Six Sigma with the Rock-Tenn Company, and he has relocated to Atlanta.

Bob Burger (C.S./Math.) and his wife, Stacy, welcomed Hannah Hope, who was born on April 2. She joins sisters Elizabeth, Ruth, Sarah and Mariah.

Chad Elmore (Chem.) now works as a chemist for AstraZeneca Pharmaceuticals in Wilmington, Del. He resides in Pennsylvania.

Greg Hall (M.E.) and his wife, Jana, recently celebrated the birth of their sixth child, Andrew Timothy, born last August.

Rob Hochstetler (E.E.) has graduated with a master's degree in statistics from Rochester Institute of Technology.

1992

Dustin DuBois (Ch.E.) and his wife, Tonya, announce the birth of Bennett Wayne, who was born on Feb. 5, and joins big sister, Jacqueline.

Doug Guinn (Ch.E.) and his wife, Laure, announce the birth of Jackson Douglas, born last fall. He joins sister Delaney. The family resides in Florence, S.C. On the job front, Doug continues as spin-

JENSEN RECEIVES ENGINEERING EXCELLENCE AWARD

Dave Jensen (Chemical Engineering, 1970) has received the 2003 Lilly Engineering Excellence Award. This award is typically given to only one or two candidates each year, and is Lilly's highest honor in engineering.

Jensen, associate engineering consultant in the process engineering center, was recognized for his contribution to the Treflan®, fenarimol, and tricyclazole processes at Tippecanoe Laboratories and other global sites. He also helped create the global process safety leader training courses. His lasting contribution to Lilly has been his expertise in material selection, according to a company announcement.

ning/production services superintendent at the Wellman, Inc., Palmetto Plant, and he has been named the plant's continuous improvement leader.

Brian Schwager (M.E.) has moved to Modine Manufacturing's European headquarters in Stuttgart, Germany, as part of a promotion to application engineering manager in the company's heavy-duty division.

David Weed (Chem.) and his wife, Diana, announce the birth of son Atticus and David's adoption of daughter Meritt.

David Whitworth (C.E.) reports his wife, Kathy, gave birth to their first daughter, Elise Katherine, last year. In other news, David has been named program development engineer for the Indiana Department of Transportation in Crawfordsville, Ind.

1993

Eric Brodeur (E.E.) started

a new job last February working at Cray, Inc., in Seattle, where he conducts diagnostics engineering.

Doug Childers (A.O.) married Robyn Robinson March 29.

Todd DeVore (M.E.) was part of a team last fall that won the Emerson Technology Award for the introduction of a digital scroll compressor that controls capacity for air conditioning and refrigeration systems. He is manager of refrigeration scroll engineering for Copeland, Corp. His achievement resulted in a financial contribution to Rose-Hulman from the Emerson Charitable Trust.

Jeff Papa (Econ.) was sworn in during April to practice before the U.S. Court of International Trade and the U.S. Court of Appeals for the Federal Circuit. He is an attorney with Barnes & Thornburg in Indianapolis.

1994

Jim Codling (E.E.) and his wife, Darla, report the birth of daughter Hannah Ivey in January and the adoption of daughter Anastasia Grace last fall. That makes seven children in the Codling family.

Foo Hooi Lee (M.E. and M.S.M.E. 1996) has joined Honda Performance Development after leaving Cummins. His new company manufactures race engines for the Indy Racing League.

Justin Gallagher (M.E.) has accepted the position of project engineering manager at Raytheon Technical Services Co., LLC, in Indianapolis. The special support section of engineers he manages is responsible for in-service support and design engineering for the US. Navy's aircraft missile launchers and bomb racks.

Joel Klein (C.S./E.E.) married Leyla Ramiz Babayeva last October.

Eric Potter (E.E.) and his wife, Jill, welcomed their fourth child, Lyndon Robert,

who was born last February. He was welcomed home by sisters Emma and Kailin and brother Grant.

Aaron M. Reynolds (C.E.) and his wife, Amanda, announce the birth of their fourth child, Zachary, who joins siblings Jacob, Sarah and Ethan.

Joe Ricker (C.E.) and his wife, Alison, report the birth of twin daughters, Abigail Ruth and Elizabeth Sage, who were born last year. On the job front, Joe, is employed by Premier Environmental Services.

David A. Sanders (C.E.) and his wife, Carol, had their first child, Ethan David, born March 23. Additionally, David has transferred with URS from Cincinnati to the company's Louisville office.

Brian Stankiewicz (C.E.) and his wife, Alison, announce the birth of their first child, Lawson John, who was born last fall.

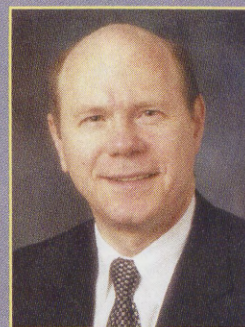
1995

Nathan D. Miller (C.E.) has

GREG SMITH NAMED AS EXECUTIVE VICE PRESIDENT AT FORD

Greg Smith, a 1973 mechanical engineering graduate, recently was named executive vice president and president, The Americas, for Ford Motor Company. He most recently was group vice president, Ford Motor Company and chairman and chief executive officer, Ford Motor Credit Company.

Smith, who will lead company operations in the Americas, led the turnaround at Ford Credit, which contributed significantly to the parent company's bottom line in 2003 and in the first quarter of 2004. Smith joined Ford Motor Company as an engineer in 1973, spending 12 years in engineering and product planning with Truck Operations and three years as director, Strategy and Advanced Planning for Car Product Development.



Greg Smith

received a promotion to team leader of security and emergency response at Eli Lilly and Company's Tippecanoe Laboratories.

Ryan O'Day (M.E.) married Rebecca Edinger last year.

Phillip Stolz (M.E.) married Kiersten Wathen last year.

1996

Brian P. Cahill (B.E.) has resigned from Guidant Corp. and accepted a new position as vice president of Diesel Radiator in Melrose Park, Ill.

Alan Eskuri (M.E.) reports he and his wife, Sheree, had their first child, Karis Jo, born Feb. 20. Alan recently graduated with an MBA from Metropolitan State University in St. Paul, Minn.

Eric Hansen (E.E.) reports he and his wife, Becky, welcomed new son Andrew James, who was born March 9. He joins big brother Jarod.

Ben Hochstedler (C.S.) and his wife, Sarah Mast, are parents of Norah Grace Mast-Hochstedler, born Feb. 27.

Daniel Schuck (C.E.) and his wife, Jennifer, had their first child, Caitlyn Marie, born last January.

1997

Josh Knoefler (C.E.) received his California professional engineer license in January. He also received his California real estate license in January and his general engineering contractor license in April.

Jason Reese (Ch.E.) announces the birth of his first child, Aidan Paul, born last fall. Also, Jason has been promoted to market development manager at NextGen Fiber Optics, a joint venture between General Cable Corp. and GenStone Acquisition. He resides in Cincinnati, Ohio.

ALUMNUS RECEIVES PATENT

Rose-Hulman Institute of Technology Mechanical Engineering Professor Richard Stamper, a 1985 mechanical engineering alumnus, has gained a patent from the U.S. Patent Office for a new halo orthosis concept that will improve medical treatment of cervical spine injuries. The patent, No. 6,659,972 B2, was issued on Dec. 9.

Stamper, a Rose-Hulman professor since 1998, received support from Rose-Hulman; Rose-Hulman Ventures, the college's technology-based incubator and product development center; and the National Institutes of Health (NIH), the world's foremost medical research centers.

Ryan Shaw (C.S.) has accepted a new position with the Delta Faucet Co. as a B2B analyst.

Mark Stangl (M.E.) and his wife, Jacqueline, became parents when Michael Steven was born in January.

1998

Donald Bales (C.E.) exchanged wedding vows with Bonnie Daugherty last November.

Benjamin Byers (Ch.E.) married Dolores Baksh last year. He recently completed his Ph.D. in bioengineering at Georgia Institute of Technology, and he currently is employed as a postdoctoral fellow within the National Institute of Arthritis and Musculoskeletal and Skin Diseases at the National Institutes of Health in Bethesda, Md.

Surat Intasang (Math.) has graduated from Chiangmai University with a master of education (mathematics education).

Nathan Jenniges (E.E.) and his wife, Sarah, welcomed son Adam Josiah, who was born Sept. 4. On the job front, Nathan has taken a new position as product line marketing manager for 3G mobile phones. He is nearing completion of his MBA from the University of Chicago.

Ryan (Ch.E., 1998) and **Mandy (Smith) Loftus (E.E., 2000)** became parents of Camille Theresa, born

last August. Also, Ryan has been promoted to site safety manager at Procter & Gamble's Pringles Plant in Jackson, Tenn.

Chad Mills (C.E.) and his wife, Joellen, became parents when Kate Therese was born on March 27.

Brad Mills (E.E.) and his wife, Kimberly, welcomed their fourth child, Matthew, born last October.

Dave Moore (M.E.) provides the following update: he married Jennifer in January of 2003; daughter Kailee Alexandria was born on Dec. 1, 2003; and Dave has a new job as account manager with NVIC in North Vernon, Ind.

David Schmidt (M.E.) married Valerie Jo Spitzer last fall.

Mike Weinhammer (Ch.E.) married Jennifer Ann Teets last year.

Philip White (C.S.) married Angela Su Pflueger last August.

1999

Cortney Alexander (M.E.) exchanged wedding vows with Claire Zaunbrecher last August.

Angela (Belsky-Vaughan) Anderson (Ch.E.) and Christopher Anderson (M.E.) report the birth of a daughter, Alexandria Marie, born in July of 2003.

Amanda Burch (Ch.E.) has been promoted to team

leader-engineering, pharmaceutical product research and development for Eli Lilly and Co.

Kimberly (Hayden) Henthorn (Ch.E.) married David Henthorn last October, and she received her Ph.D. in chemical engineering from Purdue University this spring. She will start as an assistant professor of chemical and biological engineering at the University of Missouri-Rolla this summer.

Rahul Laxman Iyer (M.E.) married Co Pham Thai Duong. They reside in Dixon, Ill., and Rahul works as a process engineer at Spicer Off-Highway Products, a division of Dana Corp.

Kevin Kaminski (C.P.E.) has taken a new job as a programmer with CIC Plus. He works in Indianapolis.

Eric Kleen (Ch.E.) has been commissioned as an officer in the U.S. Navy Nuclear Power program. He has been stationed at Pearl Harbor, and he has recently qualified as a lieutenant junior.

Brian Leyes (M.E.) and his wife, Megan, announce the birth of their second child, Matthew Joseph, born on March 6. He joins sister Margaret Elizabeth.

2000

Stephan M. Burnside (Ch.E.) has been promoted

Powell receives education award

Ivy Tech State College has selected James Powell, a 1972 Rose-Hulman chemistry alumnus, as one of 14 recipients statewide of the President's Award for Excellence in Instruction. Powell is professor of chemistry and chair of the General Education and Support Services Division.

The award is presented annually to a faculty member from each region of the college who typifies excellence as an instructor and represents the mission of Ivy Tech. Powell received the award for the North Central Region, which serves St. Joseph, Elkhart, Kosciusko and Marshall counties.

to the position of shift engineering manager for the PVD/implant group at Micron Technology in Manassas, Va.

Chris Phillips (E.E.) married Kacey Fetcho on April 24.

Alyssa Riley (Ch.E.) graduated with an MD from Ohio State University in June. She has accepted a residency position in pediatric medicine at the Cleveland Clinic Foundation.

Christopher J. Sanderson (Chem.) married Debra Barry on March 11. They live in North Grafton, Mass., and Christopher

works as a project leader for Chemic Laboratories.

2001

Steve (E.E., 1998) and Susie (Parks) Clouse (M.E., 2001) announce the birth of their first child, Katura Elise, born May 6.

Paul D. Greene II (M.E.) is entering the Stanford Graduate School of Business.

Jon Harris (E.E.) has a new job as an electrical design engineer for DRS Training and Control Systems in Fort Walton Beach, Fla. He is redesigning circuitry for military aircraft generator control units.

Amy Rainbolt (Chem.) and her fiancé Kerry Williams announce the birth of son Tyler Jacob, who was born Feb. 15. Amy works as a scientist at Roxane Laboratories (a division of Boehringer Ingelheim) in Columbus, Ohio.

2002

Michael Baker (E.E.) and

Jamie Searcy Baker (M.E.) announce the birth of their first child, a daughter, Eliana Faith, born on March 4.

Casey Behringer (M.E.) reports he married Shannon Lee on March 22, 2003, and he has started work for Caterpillar in Peoria, Ill., after completing his graduate degree in agricultural engineering at the University of Wisconsin-Madison.

Joel Ericson (C.E.) is now with Shrewsbury & Associates. His current project is working cooperatively with HNTB on the Indianapolis I-465 West Leg Expansion.

Jorge D. Garcia (Ch.E.) married Lauren Michelle Johnson on Feb. 9.

Christopher Hawk (M.E.) married Charlene Weitzel last September. They reside in Lincoln, Neb.

Michael Henderson (C.P.E.) and his wife, Laura, announce the birth of their first child, Edward Allen, born April 27.



Spain Trip

The Young Alumni Council/G.O.L.D. traveled to Spain this spring. The group posed, complete with Rose-Hulman banner, at Costa Del Sol.

Maggie Lelak (Ch.E.) started a new job with Cinergy last January. Her title is chemical engineering, Cinergy CT Fleet, Wabash River Repowering.

2003

David Odle (C.P.E.) and **Adrian Medows (M.E.)** were married in January. They reside in Fort Wayne, Ind.

LET US HEAR FROM YOU

Send Class Note information to:

Bryan Taylor
Rose-Hulman, 5500 Wabash Avenue,
Terre Haute IN 47803 or via email at
bryan.taylor@rose-hulman.edu

CLASS OF '85 ALUMNUS TAKES COMMAND OF TRIDENT SUBMARINE

Cmdr. Paul Skarpness assumed the duties as the Commanding Officer, USS KENTUCKY (SSBN 737) (BLUE) when he relieved Cmdr. Ronald W. Melampy on March 19, 2004. He is a 1985 electrical engineering/computer science alumnus of Rose-Hulman.

Skarpness entered the Navy through the Officer Candidate School in Newport, Rhode Island and was commissioned in September 1985. His continued education

includes a master's degree in engineering management from George Washington University in 1992.

Skarpness is the sixth Blue Crew Commanding Officer of the USS KENTUCKY (SSBN 737). The 12th TRIDENT Submarine, the USS KENTUCKY has state-of-the-art sound quieting design and lethal MK-48 torpedoes, making her the most powerful and survivable ballistic missile submarine in the world.

Commander Skarpness is authorized to wear the Meritorious Service Medal (Two Awards), The Navy Commendation Medal (Five Awards), the Navy Achievement Medal (Two Awards), and various unit awards. He is married to the former Eri Matsushita of Tokyo, Japan. They have one daughter, Noelani and reside in Silverdale, Wash.

OBITUARIES

1932

Myron J. Clark (M.E.) died March 14 at the age of 93. He retired from Inland Container with 40 years of service as manager of technical service. Survivors include his wife of 71 years, Rose; sons Myron (Class of 1956) and John.

1933

Russell A. Powell (M.E.) died May 4 at the age of 92 in Columbus, Ga. He spent the majority of his career designing steel mill equipment for the Koppers Co. in Pittsburgh. Survivors include his wife of 66 years, Anna; a daughter Virginia; and a son, James.

Alfred E. Hilgeman (Ch.E.) died Jan 9. He is survived by his wife, Laura.

1934

James G. Brown (Ch.E.) died Jan. 23. He was a retired chemical engineer with the Atlantic & Pacific Tea Co. in New York. Survivors include a son, Gordon and a daughter, Barbara Gaertner.

1935

Russell R. Kerr (Arch.) died May 1. After serving in the Navy during World War II, he was the chief construction engineer at Texaco and then became co-owner of Reddington & Kerr Construction Firm, which he had for 12 years, retiring in 1972. A loyal supporter of Rose-Hulman, he received an honorary doctorate of engineering

from the college in 1985. He also was active in the United Methodist Church.

1938

Claude J. Zinngrabe (M.E.), 88, died last July in Sun City, Ariz. He was a retired instructor at the Washburne Trade School.

1939

Franklin G. Doenges (E.E.), 91, died April in Louisville. His career included serving as plant engineer for Weston Paper Co. in Terre Haute and director of engineering and chief engineer for Anaconda Aluminum Co. in Louisville, Ky. In 1978, he started the Doenges Corp., an engineering consulting firm. He was a past president of the Rose-Hulman Alumni Association. Survivors include his wife, Helen; and three daughters, Kay Doenges Lord, Margy Thompson Seeboold, Jane Thompson Birkhead.

John Richard Pies (E.E.) died Jan. 4. He was a retired engineering design consultant. Survivors include his wife, Alice; two sons, Dennis and Don; and a daughter, Joyce.

Morris S. Stout died Nov. 21, 2003. He was a retired mechanical engineering consultant and an instructor at Purdue University. Survivors include his wife, Helen, and a daughter, Kristen.

1940

William H. Bradley died March 29. He was president of the Former Taylor Wilson

Manufacturing Co., where he was a mechanical engineer for 47 years.

Chancellor David Montgomery (C.E.) died April 17. He was retired from Andrew Plocher Sons Co. where he worked for 33 years and was chief engineer and president at the time of his retirement. Survivors include his daughter Sally Jo Petruska.

1941

Kenneth O. Hambrock (Ch.E.), 83, died last December at his residence in Tavares, Fla. Through his career, he worked for duPont, Hooker Chemical, Bell Aircraft, Martin/Marietta and NASA. He was a World War II veteran, and during the time he was with the special engineer detachment of Manhattan District with service on atomic bomb project and exercises in the Bikini Atoll, Marshall Islands.

Carlton L. McWilliams (C.E.) 84, died April 1 at his home in Fallbrook, Calif. He was retired from Hughes Aircraft Co. He also served as a chief engineer for the Air Force Flight Test Center at Edwards Air Force Base. Survivors include his wife, Abbie; and two daughters, Pamela Kathleen and Valentina Louise.

1942

Winston H. Cundiff (Ch.E.) died April 24 in Baton Rouge, La. Much of his career was spent with Kaiser Aluminum, includ-

ing a stint as vice president and general manager for Aluminum Partners of Jamaica. He also worked as a private consultant until his retirement in 1990. Survivors include sons, Winston, Timothy and Daniel.

Robert D. Parr died March 2. He was a resident of Irving, Texas. His wife, Virginia, survives him.

1943

Raymond W. France (Ch.E.) died May 13, according to word received in the alumni office.

Paul H. Guhl (Ch.E.), 82, died Oct. 7. He worked as a chemical engineer for Naval Avionics for 46 years, retiring in 1986. Survivors include a daughter, Barbara; and sons, Paul, Brian and Craig.

William F. Rumbley (M.E.), 84, of Fresno, Calif., died Feb. 22. He was president of Rumbley Properties.

1944

Edward J. Hegarty, Jr., died May 30 at the age of 80. He was a civil engineer at Richland Engineering, and resided in Mansfield, Ohio, at the time of his death. Survivors include his wife, Helen; and children James, Elizabeth Gabriel, Michael, Thomas, Timothy, Joan Hegarty and Anne Finn.

1945

Edward "Eddie" McGovern died Jan. 19. He was a

retired superintendent for the American Can Co. Survivors include his wife, Marian; and children, Sandra Funke, Michael, Shara Calhoun, Danny, Janine Heiny, Linda, Christian Hollinger, Patrick and Jeri Ann Slack. He was a member of the Rose-Hulman Athletic Hall of Fame and the Indiana Football Hall of Fame. On Oct. 24, 1942, he set the national collegiate single-game football record by scoring 43 points in a home game against Earlham College.

1947

George M. Staples III (Ch.E.), 79, died at his residence in Ocean Pines, Md., on April 1. Survivors include his wife, Margaret. His career began at duPont and included other employment with Joseph P. Seagrams, Wayne Pump and Northrup Grumman. After retirement, he continued independent consulting in environmental engineering. At the time of his death, he was president of Good Water USA, developing the Biocell concept for wastewater treatment.

1948

Willis I. Hudson (M.E.) died Jan. 26. He was the retired owner of WW Marine and lived in Port Isabel, Texas, at the time of his death.

1949

Ogdon A. Kiefer (M.E.) died May 7, and he is survived by his wife, Mary; and five children, Mary Anne O'Rourke, Patricia Monaco,

Nancy Novak, Paul and Connie Harrington. He worked as a registered professional engineer, designing energy-efficient conversion systems for printing plants.

John H. Todd (M.E.), 83, died Jan. 8. A resident of Noblesville, Ind., he retired from Western Electric in 1977. Survivors include his wife Eileen, and a daughter, Carol.

1953

William W. Luce (E.E.) died last December at the age of 83. A resident of Huntsville, Ala., he was a retired engineer with NASA where he worked for 22 years. Survivors include his wife, Phyllis; three sons, Robert Keene, Gary Keene and Randall Keene; and daughter Cynthia West.

1956

Jack L. Dodson (E.E.) died Jan 2 at the age of 75. He was a resident of Centerville, Ohio, and a retired senior project engineer of Meade Paper Co. Survivors include his wife, Helen; and sons Dr. Michael Dodson and Dr. Peter Dodson.

Don Fordyce (M.E.) died Oct. 2, 2003, at the age of 69. He received an honorary doctorate degree from Rose-Hulman in 1990 in recognition of his contributions to the U.S. space programs. His accomplishments included working with others to design and build the first weather satellite, the Hubble Space Telescope, launching the first man into space and putting the first man on the moon. Survivors

include his wife Marcia, and children Troy, Michelle, Maureen, Lisa, Maria, Marcia and Laura.

1959

William Campbell (C.E.) died Jan. 27. He was a civil engineer for the Indiana State Highway Department. Survivors include his wife, Beverly; and a son, William A. "Tony" Campbell.

1963

Ronald J. Andis (Ch.E.), 62, died Jan. 14. He was a retired manager of Naval Surface Warfare Center-Crane. Survivors include his wife, Theresa; two sons, Gregory Andis and Dodge Andis; a stepson, Jeff Stibers; and two stepdaughters, Laura Kelley and Tonya Stibers.

1968

Harry S. Epply (Math.) died March 27 in Seattle Wash. He is survived by his wife, Donna Reilly McNamara; his son, Harry; and his daughter, Margaret Rose. He worked for The Boeing Company for 35 years.

1974

Michael W. Price (M.E.), 51, died Feb. 6 in Peoria, Ill. A resident of Mapleton, Ill., he was a mechanical engineer at Keystone Steel & Wire. Survivors include his wife, Faleta "Val" M. Gillaspay; a son, Benjamin Price; and a daughter, Katie Price.

1976

Steven L. Dommer (C.E.), 50, died Feb. 26. He lived in the Indianapolis area for 28 years, and was an

employee of V.S. Engineering of Indianapolis. Surviving are his wife, Carolyn, and his father and stepmother, Edward "Bud" and Marjorie Dommer.

1981

Danny Wilgus (M.E.) died Sept. 12 at his residence in Findlay, Ill. Survivors include two daughters Ashley and Laura; and his parents William and Katherine Wilgus.

2003

Douglas Edwin Jeffries (C.P.E./C.S.) died Feb. 7 at the age of 22 from injuries sustained in an automobile accident. He was a software engineer with Logikos in Fort Wayne, Ind. Survivors include his parents, Edwin Kim Jeffries and Vicki Jo Cooper Jeffries; a brother, Drew; and a sister, Lindsay. He was a magna cum laude graduate of Rose-Hulman, and had received a consulting certificate from the college, where he was active in the pep band. A week prior to his death, he had accepted a scholarship at the University of Notre Dame to pursue his doctorate.

HONORARY DOCTORATES

James F. Vance Sr., 75, died April 16. He was general manager of the American Latex Corp. plant in Sullivan, Ind., from 1968-77, and then started and sold several medical-product companies in Spencer, Ind.

NEW RESIDENCE HALL OPENS ITS DOORS THIS FALL

A new apartment style residence hall opened this fall, providing more living options and conveniences for all Rose-Hulman Institute of Technology students. In fact, for the first time in over 30 years, all students wanting to live on campus have a room for the start of the 2004-2005 school year.

The 75,000-square-foot residential complex has 60 apartments, which houses 240 upper class students and other staff members. Each unit includes two bedrooms, a kitchen, living area and a bath for use by four students. Apartments also have their own heating and cooling system and controls, nine computer network connections, three cable television connections and two telephone jacks.

A commons area on the first floor includes a convenience store, Subway restaurant, coffee house, double-sided fireplace and dining area. The lounge area provides access to wireless technology connections.

"This new facility gives us a lot more flexibility in on-campus residence living and provides more services to our students," said Pete Gustafson, vice president of student affairs. "We've never had a convenience store on campus. I believe it will be something that our students will enjoy. The new Subway provides more meal options."

The \$13.5 million apartment style residence hall will help



This exterior photo shows the new apartment residence halls that opened for occupancy this fall. The 75,000-square-foot residential complex will accommodate 240 students. It is located west and slightly north of the existing upperclass residence halls. The commons area includes a convenience store, Subway restaurant, coffee house and dining area.

increase on-campus housing to 1,052 students this fall -- nearly 60 percent of the college's 1,800 student body. The Student Affairs Office also was able to provide 45 students with single residence hall rooms, at an increased price.

"In recent years, we didn't have enough rooms available for all of the upper class students that wanted to live on campus. That's no longer a problem. And, being able to offer single rooms this year was a nice option," Gustafson said. "I believe on-campus housing and activities are part of the educational experience for our students. That experience will be even more enhanced with this new facility."

Rose-Hulman has also provided more than \$1 million in capital improvements to other residence halls and residence life areas on campus. A new sports-theme lounge will enhance the former game room on the first floor of the student union. It will have a 70-inch television, four 42-inch plasma screen televisions, a high quality sound system, deluxe cable television package and seating for 30 guests.

Other improvements include the installation of a sprinkler fire protection system and fire alarms inside several freshmen residence halls; new oak doors for all rooms in the Scharpenburg and Mees residence halls; and a new kitchen in the Deming residence hall. Also, a new entrance has been added to west end of the Sports and Recreation Center, providing students living in residence halls easy access to the popular campus facility.



Rose-Hulman students (from left) Brianna Leahy, Alicia Gehlhausen and Adam Jarboe examine one of the kitchens that are in each suite of the new apartment style residence hall, which will be open this fall for upper class students.

ALUMNI EVENTS

Contact Brian Dyer or Carey Treager Huber for more information on all the events listed below.

Phone: 800-248-7448

Email: brian.dyer@rose-hulman.edu or carey.huber@rose-hulman.edu

Web: <http://www.rose-hulman.edu/alumni-affairs>

MAKE PLANS TO MEET PRESIDENT MIDGLEY AT UPCOMING ALUMNI MEETINGS

In the coming months, President John J. Midgley will be visiting alumni in many areas around the country. Invitations with detailed information will be mailed as soon as dates are finalized. For more information, please contact Brian Dyer, director of alumni affairs and special events, at 812-877-8359. Also, these special events will be listed on the alumni affairs calendar of events website. Cities to be scheduled include:

Atlanta, Georgia	Cleveland, Ohio	Indianapolis, Indiana	San Francisco, California
Baltimore, Maryland	Dallas, Texas	Louisville, Kentucky	Seattle, Washington
Bloomington, Indiana	Dayton, Ohio	Philadelphia, Pennsylvania	Washington, D.C.
Boston, Massachusetts	Denver, Colorado	Phoenix, Arizona	
Chicago, Illinois	Fort Wayne, Indiana	St. Louis, Missouri	
Cincinnati, Ohio	Houston, Texas	San Diego/Los Angeles, California	

"ENGINEERING THE FUTURE" ANNUAL CAMPAIGN KICKS OFF THIS FALL

The "Engineering the Future Through the Annual Fund" campaign will kick off this fall with a goal of raising \$2 million in annual support from Rose-Hulman alumni and friends. Alumni Danial and Anellia Hohne (both members of the Class of 1999) will act as honorary chairs of the annual fund, leading the way for a bright future for Rose-Hulman.

Your support of the annual fund is an investment in people and their potential. Each year, Rose-Hulman relies on the generosity of alumni, friends and parents to ensure that today's students become the engineering and technology leaders of

tomorrow by providing new advancements in technology, state-of-the-art classrooms, faculty support and financial aid.

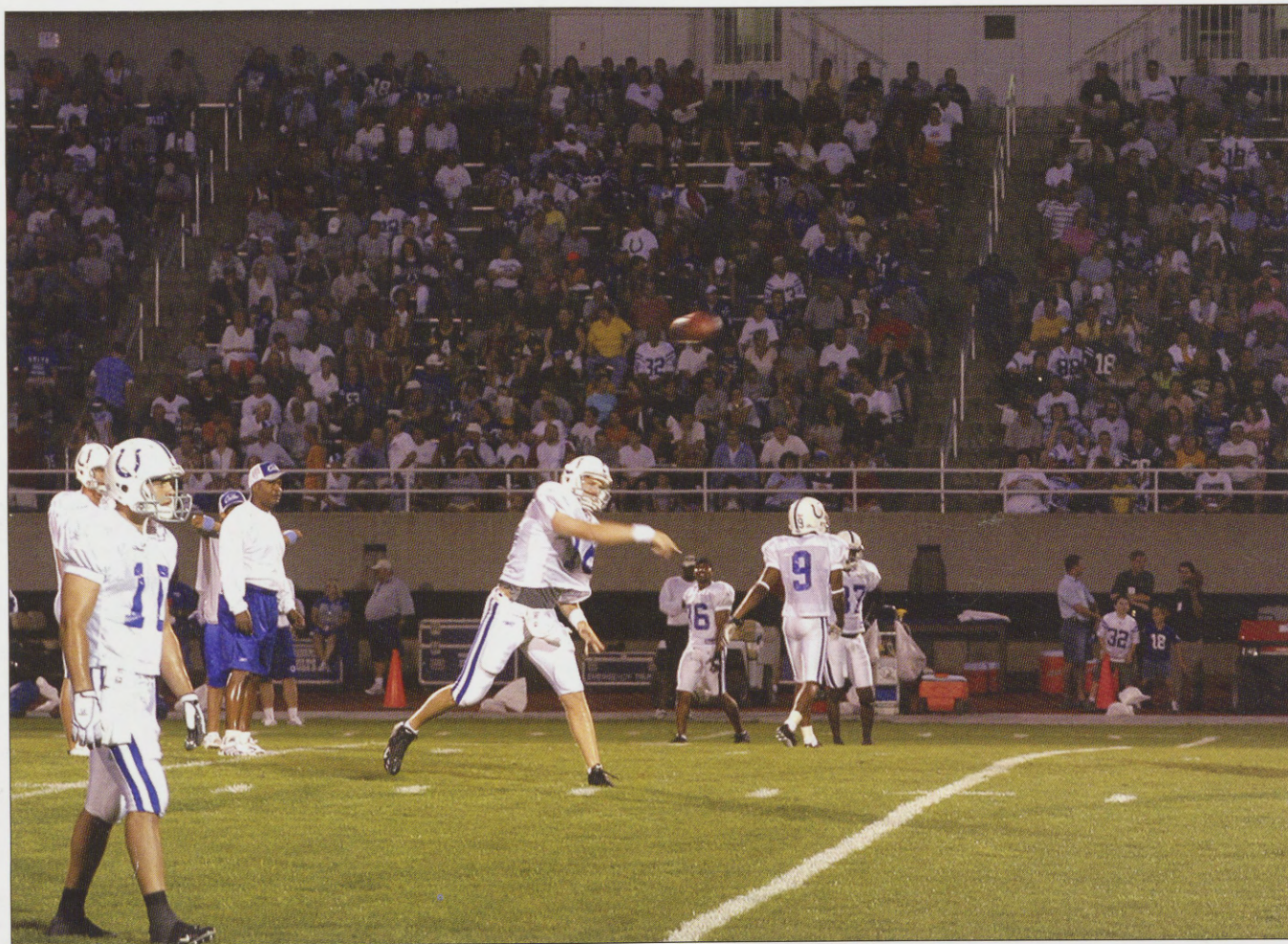
Throughout the year, the annual fund helps meet current needs of the college. Giving to Rose-Hulman does make a difference today in the lives of young engineers, mathematicians and scientists.

Never underestimate the effect of your support in the annual fund. Contributions of all sizes are vital to keeping Rose-Hulman at the forefront of educational advancements. Participation by alumni, parents and friends, indicates a continuing respect for and commitment to the goals of the institute by

those who know Rose-Hulman best! Corporations, foundations and other donors use alumni giving as a measure for their own contributions to the college.

Many companies will match employees' gifts—doubling or even tripling the amount of the gift. If your company matches your gift, you will receive credit for both your gift and the company's match!

Your opportunity to invest in the future awaits! Please send your gift to Annual Fund, Rose-Hulman Institute of Technology, 5500 Wabash Avenue CM 12, Terre Haute, IN 47803 or make your gift today online at www.rose-hulman.edu/give. ■



PARTING SHOT

Indianapolis Colts quarterback Peyton Manning unleashes a pass during an evening practice at Phil Brown Field on the campus of Rose-Hulman. The Colts conducted their summer training camp at Rose-Hulman for the sixth consecutive year.

ECHOES
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5500 Wabash Avenue
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