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ROSE-HULMAN INSTITUTE OF TECHNOLOGY

Echoes

Fall 2004

Vol. 2004-2005, No. 2

Engineering the Future *Hohnes Lead Annual Fund*

ROSE-HULMAN 2015
A Conversation About Our Future

Join the Conversation PAGE 12

GLOBAL RESEARCH

Students, Faculty Study in Antarctica

Q+A WITH PRESIDENT MIDGLEY

Discusses Rose-Hulman Present and Future

heard in the halls of Moench

"The academics set the pace for this commercial network.
It wasn't done by a company.
Thank goodness it wasn't done by government committees."

— *Paul Kunz, developer of the first Web server outside of Europe at Stanford University, comments about the creation of the World Wide Web while speaking at the WWW@10: The Dream and the Reality Conference at Rose-Hulman.*

In This Issue

features

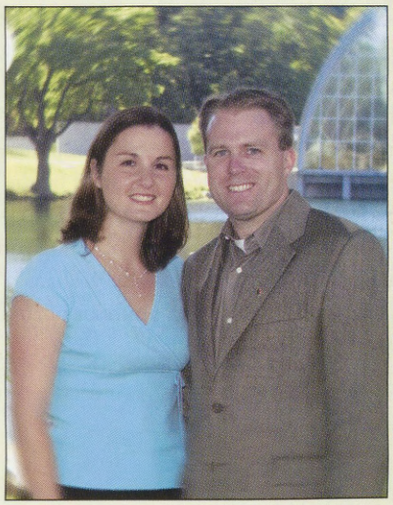
Rose-Hulman 2015: A Conversation About Our Future . . . 12
President Midgley Looks to 2015 . . . 14
Traveling the Course of Discovery . . . 17
Spanning the Globe Through Polar Research . . . 18
Engineering the Future Through the Annual Fund . . . 20
Army Doctor: Alumnus Heads Walter Reed Hospital . . . 22
Honor Alumni . . . 24
Distinguished Young Alumni . . . 26
CEO Steve McCracken Making a Difference . . . 28

campus

International Conference Celebrates www@10 . . . 2
Meet Student Textbook Illustrator Megan Whitaker . . . 3
Filtering the Presidential Election-Year Rhetoric . . . 3
Global Educational Opportunities . . . 4
Three Alumni Join Board of Trustees . . . 4
Ventures Focuses on Student Involvement . . . 5
Lilly, GM Grants Impact Campus Programs . . . 6
Career Fair Growth Mirrors Improving Job Market . . . 7
Two Named as Academic All-Americans . . . 7
Sports . . . 8

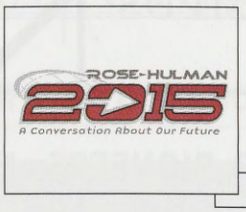
alumni

Homecoming . . . 9
Message from the Association President . . . 29
New Career Web Resources for Alumni . . . 29
Reception Thank-yous . . . 29
Class Notes . . . 30
Tom Sprouse Puts New Spin on Distance Education . . . 31
Kelly Kozdras on South Pole Assignment . . . 32
Steve Kern Associate Publisher of Magazine . . . 33



ON THE COVER

Danial and Nellie Hohne, both members of the Class of 1999, are co-chairing the 2004-05 annual fund. The annual fund program "Engineering the Future Through the Annual Fund" has a goal to raise $2 million by June 30. The Hohnes were photographed earlier this year in front of White Chapel and the large lake on campus by photographer John Camp.



PAGE 12

PAGE 18

PAGE 22

PAGE 28

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WEB PIONEERS, EXPERTS GATHER AT ROSE-HULMAN TO CELEBRATE 10TH ANNIVERSARY OF PUBLIC AVAILABILITY OF THE WEB

We can thank high-energy physicists for the World Wide Web. Their desire to have a free, open source, technical environment for the transfer of scientific data was the dream of academics that launched the digital highway. These pioneers and other noted Web experts gathered at Rose-Hulman this fall to relive the events that led to the Web's creation and to predict the Web's future.

Rose-Hulman attracted an international group of speakers who were featured during a conference titled, "WWW@10: The Dream and the Reality," in reference to the 10th anniversary of the public availability of the Web.

FEATURED SPEAKERS INCLUDED:

Robert Cailliau, who collaborated with Tim Berners-Lee to create The World Wide Web at CERN in Switzerland.

Paul Kunz, known as America's first Webmaster for his development of the first Web server outside of Europe.

Louis Pouzin, the French researcher who invented datagrams that enabled the Internet to expand quickly and inexpensively.

Ted Nelson, who coined the word and shaped the concept of hypertext.

Jean-Francois Abramatic, former chair of the World Wide Web Consortium which developed common standards for the evolution of the Web.

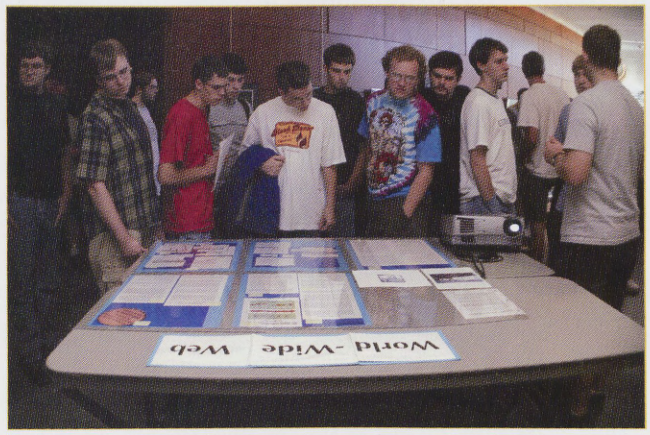
Charles Nesson, founder of Harvard University's Berkman Center for Internet & Society which explores the development and standards of cyberspace.

Lee Rainie, founding director, Pew Internet & American Life Project which studies the impact of the Internet on our daily lives.

Cory Doctorow, award-winning science fiction writer and European affairs coordinator for the Electronic Frontier Foundation.

There were several key developments that occurred that made the Web effort successful, according to Kunz, a physicist at the Stanford University Linear Accelerator Center.

There had to exist a free network where users pay by the month not by the byte, he said. "You had to have a common international network for everybody, the academics, commercial interests and for personal use. There had to exist open network protocols that were not tied to one vendor. The operating system had to know about networking. There had to be a productive software development environment so people could try out ideas without a lot of investment," Kunz stated. "Another key ingredient was an open source environment in which software could be distributed for people to try and provide feedback," he noted.



Students view the original poster used at a conference more than 10 years ago to explain the original software developed to create the Web.

What did these pioneers and researchers think the Web would be like in 15 years? "Life without it would be miserable," Pouzin said. "The Web is still a deceitful place roamed by outlaws. The dream of the self-governed global village would need global laws and police to become a reality."

Doctorow said infinite, less expensive data and video storage capabilities will become a reality. Rainie believes the Web has created new civic environments, spontaneous communities in a way never thought of before.

The original software developed to create the Web was also exhibited at the conference. The software is on indefinite loan to Rose-Hulman as a result of the efforts of alumnus Chadd Taylor ('91). Taylor also provided valuable assistance in contacting the featured speakers.

In addition to the featured speakers, the conference included presentations by faculty representing 15 colleges or universities. Faculty discussed topics that ranged from Web-based course management to computer privacy and language support for mobile Web browsers.

The conference was co-sponsored by the Rose-Hulman departments of humanities and social sciences, and computer science and software engineering. It also was supported by the Paustenbach Lecture Series, the Elsie Pawley fund, SEP Inc., and Reba Weaver. Co-directors of the conference planning committee consisting of faculty, students and staff were William Pickett, professor of history, and Mark Ardis, professor of computer science and software engineering. ■

BIOMEDICAL ENGINEERING STUDENT ILLUSTRATOR BRINGS LIFE TO TEXTBOOKS

Megan Whitaker's ability to artistically illustrate the many stages in the lifecycle of a mushroom or the bones of the human skull is helping schoolchildren throughout the world learn about science.

Nearly 500 detailed illustrations created by the junior biomedical engineering student have appeared in 10 textbooks on such topics as "Exploring Creation With General Science" and "The Human Body: Fearfully and Wonderfully Made" for the home education community and international Internet-based schools. Approximately 130,000 copies of these textbooks are currently in circulation in all 50 states and 13 foreign countries through Apologia Educational Ministries (Anderson, Ind.).

So, seven years after submitting her first simple sketches for publication, a high school hobby has become a passion that has helped Whitaker pay for college expenses and made her the envy of other artists.

Textbook creator Jay L. Wile became aware of Whitaker's artistic talents through their hometown church. He needed illustrations about cells, hydra and fungi for a textbook on biology.

Soon, Whitaker was asked to expand her horizons on topics in chemistry, physics and botany. Whitaker now spends her summers and approximately three hours each weekend completing illustrations on a digital art pad for Wile's textbooks. There are 50 to 150 illustrations in each textbook.

"Megan's strength lies in detailed illustrations which have allowed us to discuss very specific things in our textbooks," Wile says. The duo is currently working on textbooks on marine biology and general high school biology.

Textbook illustrator Megan Whitaker with her electronic drawing board.

Whitaker, daughter of alumnus Steve Whitaker (Mech. Eng., '81), acknowledges that her artistic talents are "God blessed." She hasn't taken art classes.

"As a high school student, I was drawing things that I didn't really know anything about. Now, in college, I know how things are supposed to look," she says, adding that she may continue illustrating during her career as a hospital operating room liaison. ■

FILTERING THE PRESIDENTIAL CAMPAIGN RHETORIC

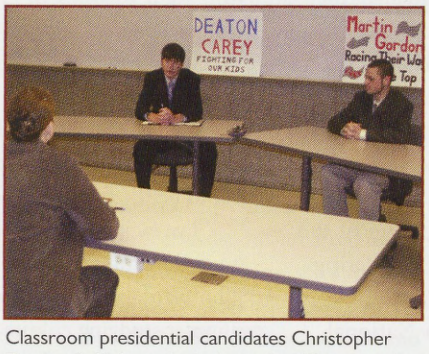
Recognizing campaign rhetoric and the role it played in the 2004 presidential campaign was the focus of a thought-provoking humanities course for Rose-Hulman students this fall.

The Presidential Election Rhetoric class, taught by English professor Anneliese Watt, sought to increase students' awareness and understanding of the rhetoric of presidential campaigns, including debates, speeches, candidate Web sites, news coverage and advertising.

The course also gave students an understanding of how to use language effectively when they become engineers, scientists, plant managers or salespersons.

"I wanted the students to understand how they're being manipulated (by rhetoric) and appreciate when it is done skillfully," Watt stated.

During the class, students conducted their own mock debates, produced campaign literature and discussed presidential campaign issues on a special classroom blog Web site. By doing this, Watt believes, the students became more aware of the political process, how politicians try to manipulate public opinion and the role of the news media in elections.



Classroom presidential candidates Christopher Deaton (left) from the Independent/Conservative Party and Brandon Martin (right) from the Libertarian Party answer questions from English Professor Anneliese Watt during a recent classroom mock debate.

"I was surprised with the thoughtfulness of the classroom discussions and how seriously students examined the political platforms of both the Republican and Democratic presidential campaigns. It has made me more involved in the political process this election year," stated freshman Jennifer Gordon, who was the course's Libertarian Party's vice presidential candidate. "As a part of this class, I knew what the candidates and their political parties truly stood for. It eventually shaped my final (voting) decision."

Freshman Christopher Deaton, the class's Independent/Conservative Party's presidential candidate, added, "There was more interest in the election here than I thought would be at an engineering-and science-oriented college. Students felt that this election could shape their futures. Frankly, it was good to see students engaged in the political process." ■

ROSE-HULMAN EXPANDS GLOBAL EDUCATION OPPORTUNITIES

The officials from Germany, Japan, India and South Korea were invited to Rose-Hulman with the same purpose in mind, to expand global education programs to benefit our faculty and students. A hectic six-month schedule of activities this fall on campus and overseas has already resulted in new educational opportunities.

In early December, Rose-Hulman signed a three-year extension of its exchange agreement with Kanazawa Institute of Technology (KIT) in Japan. On the same day the agreement was signed, Rose-Hulman faculty and students were in Sweden working with colleagues at the University of Uppsala on a joint engineering project.

"It's very important as we plan for the Institute's future that we recognize the global context in which our graduates will work," stated Rose-Hulman President John Midgley. "In the future, Rose-Hulman will establish more extensive educational partnerships outside the United States that will include academic as well as cultural and extracurricular opportunities," he said.

Midgley welcomed a six-member delegation from KIT that included the Institute's President Ken'ichi Ishikawa. Other KIT representatives visiting were its dean of academic affairs, chief of institutional planning, chief of university-industry collaboration, director of international programs, and the dean of institutional assessment and evaluation.

"One of our goals is to expand the KIT partnership so our students and those at KIT can partner on projects, similar to the activity with Uppsala," explained Art Western, vice president for academic affairs at Rose-Hulman.

The Rose-Hulman and Swedish teams are working on a project dealing with an online based training system for use by the medical professionals. The Rose-Hulman group that visited Sweden consisted of four computer science and software engineering (CSSE) students along with CSSE department head Cary Laxer, and Dan Moore, associate dean of the faculty and professor of electrical and computer engineering. The teams also participated in the Collaboration in Engineering Workshop sponsored by the Swedish National Center for Technology Education in the Students' Context.

"The workshop brought together international educators to discuss global cooperation at the undergraduate level," Moore said.

A few months prior to the trip to Sweden, Moore was at Changwon University in South Korea where he was a guest lecturer and met with university officials. As a result, two Changwon students are now enrolled at Rose-Hulman.

German educators from Fachhochschule Ulm met with German Professor Andreas Michel and other humanities and social sciences faculty on campus in November to further discuss the enrollment of Rose-Hulman students in the university's summer programs.

Rose-Hulman President John Midgley (center) discusses global education with Prof. Rajpal Singh Sirohi, (right) director of the Indian Institute of Technology, and Charles Joenathan, head, Rose-Hulman Department of Physics and Optical Engineering.

"Three students have already applied for the program," stated Heidemarie Heeter, associate professor of German at Rose-Hulman. "We anticipate receiving applicants for the two junior abroad programs at the universities in Stuttgart and Magdeburg, and the summer program at Stuttgart. Nine students completed the program last summer," she said.

Heeter is also trying to find internships for five students who want to work in Germany this summer for multinational companies.

Four Rose-Hulman students are now enrolled at the University of Stuttgart and an equal number are studying this academic year at the University of Magdeburg, according to Heeter.

Faculty are quickly responding to requests from students wanting to be the first from Rose-Hulman to study in certain locales.

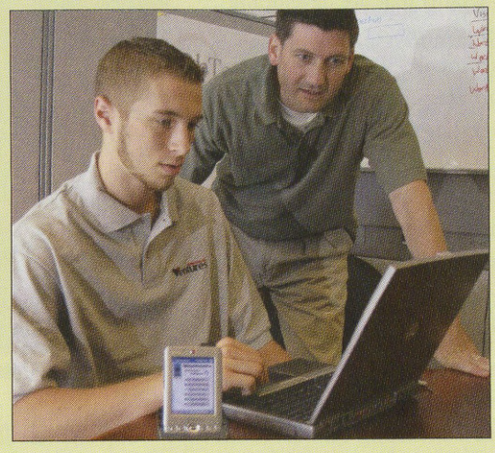
"I've facilitated educational opportunities for students who wanted to study in Chile and France," noted Spanish Professor John Gardner. Students interested in spending six-weeks this summer studying culture and language in Spain have already been in contact with Gardner.

India will be another location where Rose-Hulman students may soon be able to learn more about the international engineering and business environments. Charles Joenathan, head of the Rose-Hulman Department of Physics and Optical Engineering, will visit at least seven engineering colleges in India in coming months. In September, Rose-Hulman hosted renown optical engineer Rajpal Singh Sirohi, director of the India Institute of Technology, who invited Rose-Hulman officials to India to further discuss the creation of an exchange program. ■

ROSE-HULMAN Ventures

By Dee Reed

FOUR ROSE-HULMAN STUDENTS CONTRIBUTE TO MEDICAL SOFTWARE DEVELOPMENT FOR OBTECH



Senior computer science major Peter Winton (seated) and Bill Albert, vice president of engineering for ObTech, discuss software development for handheld computers that streamlines patient information management.

Four Rose-Hulman Institute of Technology students are applying what they've learned in the classroom along with educational experiences while working at Rose-Hulman Ventures to accelerate the software development of *ObGynPocketPro*, a product created by Terre Haute-based ObTech, Inc., a developer of mobile medical information management software for healthcare professionals.

Will Mathies, manager of software development at Rose-Hulman Ventures, said the contributions of Rose-Hulman undergraduates majoring in computer engineering, computer science, software engineering and a graduate student in the engineering management program are instrumental in the product's technical development. "The students are learning how to develop Microsoft .NET applications for the Pocket PC. They are also gaining engineering experience about testing, supporting software engineering processes and developing complex functions," Mathies said.

Rose-Hulman senior computer science student Peter Winton indicated that the professional experience he received working for ObTech has enhanced his education. "Computing resources can be very limited on handheld devices and my data structure courses gave me the tools to code efficient software. Concepts from software engineering courses simplified the planning stages of several ObTech projects," Winton said.

ObTech, a Rose-Hulman Ventures partner, designs and develops software for handheld computers to simplify and streamline physicians' patient care through information management. Focusing on women's health, ObTech's *ObGynPocketPro* saves time by having "always available" patient and medical information, while also reducing tedious and repetitive paperwork.

By using *ObGynPocketPro*, physicians can focus on medical decision-making, leaving the software to manage the information. ObTech accomplishes this through a suite of tools used by ob/gyns, family physicians, physicians' assistants, nurse practitioners, nurse midwives, residents and medical students that includes:

Obstetrical Patient
Multifunctional Due Date Calculator
Coding Assistant
Patient Counseling Images
Reference information

Additionally, ObTech received the prestigious "Editor's Choice Best Healthcare Software, 2004" by PocketPC Magazine Buyer's Guide 2005. *ObGynPocketPro* also ranks as the top download ob/gyn software program on the most popular site for purchasing handheld software, www.handango.com.

In addition to technical assistance, the student project assistants are essential in developing business plans, sales strategies and a new Web site. Project assistants Brandon Cannaday of Lima, Ohio, and Winton of Lake Bluff, Ill., serve as lead software and Web developers while Mark Garringer of Red Key, Ind., and Jeremy Schoen of Arcadia, Ind., provide business planning and market research assistance.

Cannaday, a Rose-Hulman junior, said, "I now have a better sense of the software development process. My development experience was limited to the classroom and freelance jobs. None of these compare to the real-world experiences of working with ObTech."

Jim Eifert, president of Rose-Hulman Ventures, believes the relationship with ObTech provides valuable educational experiences for our students who are significant contributors in the software development.

Winton added that this work experience has given him an appreciation for the challenges of start-up companies. "I learned a great deal about the ob/gyn market, strategic planning and networking that are critical to a startup company. This experience helped to round out my education in a way that classes cannot and I've acquired new business contacts in the industry, as well as more work experience to add to my resume."

Robert Lalouche, president and CEO of ObTech, a practicing board certified obstetric and gynecology physician, founded ObTech in 2001. He completed his master's degree in computer science at the University of California at Los Angeles while obtaining his medical degree in just five years. Lalouche has also earned the distinction of Fellow, American College of Obstetrics and Gynecology.

"With the help of Rose-Hulman Ventures, ObTech enters a new phase of technical development that will expand our distribution channels and accelerate a large-scale market release," said Lalouche. "We are also developing a follow-up release with additional functionality," added Lalouche, who uses the *ObGynPocketPro* in his own clinical practice. ■

GM LEADS SUPPORT FOR ADVANCED TRANSPORTATION SYSTEMS FUND

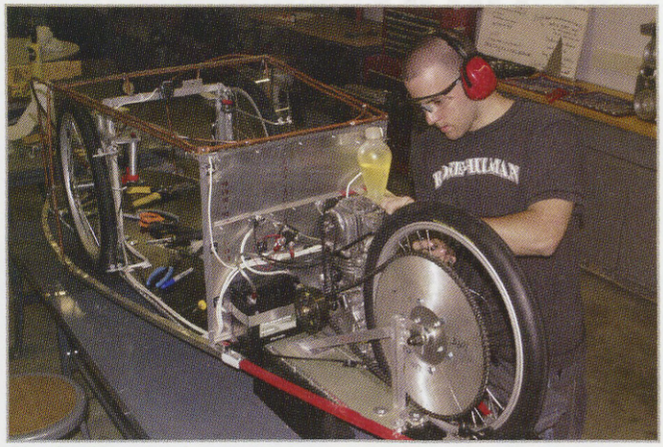
General Motors Corporation has provided the lead donation to support Rose-Hulman's new Advanced Transportation Systems (ATS) Fund for student programs that are developing future engineering and technology initiatives.

The donation was part of GM's annual $50,000 gift to Rose-Hulman under the Key Executive program. The college is one of only 27 colleges that have that significant relationship with GM.

Chet Huber, president and chief executive officer of OnStar and Rose-Hulman's GM Key Executive, presented the donation following meetings with students and faculty advisers involved in ATS Fund organizations.

The fund was initiated to help find financial resources and equipment donations for the new Challenge X: Crossover to Sustainable Mobility project, the Supermileage Vehicle project, the Aerial Robotics Club and Team Rose Motorsports.

"Rose-Hulman's continued commitment to undergraduate excellence in engineering, with an obvious emphasis on both classroom and practical project work, does a wonderful job in preparing graduates to become impact players early in their careers in industry," Huber stated following his campus visit. "The cross-discipline teambuilding projects supported by the ATS Fund are definitely providing very valuable opportunities for the students to practice and become comfortable with the kinds of situations that they will absolutely face when they enter a corporate environment."



Elliot Goodman, a mechanical engineering major, works on the supermileage vehicle.

Portions of GM's annual donation are also supporting Rose-Hulman's student financial aid program and the Admissions Office's recruiting efforts for women and minority students, and provide continued support for the college's student chapters of the National Society of Black Engineers and Society of Women Engineers, and Diversity Council.

ROSE-HULMAN RECEIVES $1 MILLION LILLY GRANT TO RECRUIT AND RETAIN YOUNG FACULTY

Rose-Hulman will use a $1 million grant from the Lilly Endowment Inc. to recruit and retain young faculty by providing them with substantial funding to implement innovative projects to enhance undergraduate education at the college.

"These funds will enable Rose-Hulman to launch a Success Grant program whereby non-tenured faculty will be empowered to develop life-changing educational experiences for students," stated Rose-Hulman President John Midgley.

"Rose-Hulman must continue to attract and excite the world's best students," he said. "These students expect to encounter an innovative, exciting educational environment. Rose-Hulman must match their expectations."

The grant is provided through the Endowment's Initiative to Recruit and Retain Intellectual Capital for Indiana Higher Education Institutions. The initiative encouraged Indiana colleges and universities to consider how they can attract or keep more of the brightest and most talented minds in Indiana. The grant amount offered to each college or university was based on the institution's enrollment.

"We believe that the creative enthusiasm that bright and open minds bring to classrooms and labs and community settings can profoundly advance the school's pursuit of excellence," said Sara Cobb, Endowment vice president for education. "In time, we hope that these new strategies will come together to form a critical mass of excellence and innovation that will continue to build momentum - enhancing the reputation of Indiana and improving the quality of life of Indiana citizens in the years ahead," she stated.

"This generous gift from the Lilly Endowment will create a program to insure that innovations by outstanding non-tenured faculty will enhance the reputation of Indiana as a source of technological expertise and top-quality engineering, mathematics and science education," Midgley stated.

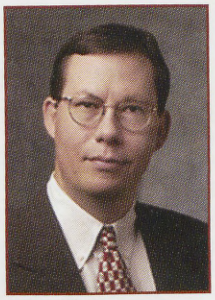
Art Western, vice president for academic affairs and dean of the faculty, said examples of proposals that would be submitted for Success Grants might include the creation of new laboratories, course development, or the authoring of innovative teaching materials.

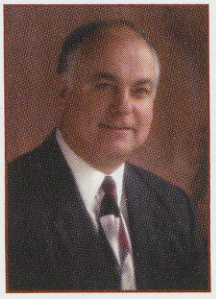
"Special consideration will be given to projects based on collaborative efforts among junior faculty from different departments, and projects that have the potential to establish a non-tenured faculty member as a national or world leader in an area of engineering, science or mathematics," he noted.

"Remaining at the leading edge of engineering and science education requires constant innovation and focused improvement," Midgley emphasized.

THREE ALUMNI ELECTED TO BOARD OF TRUSTEES

Tom Dinkel


Mike Hatfield


Roger Ward

Three Rose-Hulman alumni have been elected to the college's Board of Trustees. New trustees are Tom Dinkel, president of Sycamore Engineering, Terre Haute, Ind.; Mike Hatfield, founder and chief strategy officer, Calix, Inc., Petaluma, Calif.; and Roger Ward, vice president, HNTB, Indianapolis, Ind.

Dinkel was elected after serving eight years as the alumni representative to the Board. Alumni elected Ward to replace Dinkel as one of two alumni representatives. Pat Cahill, president, Wabash Valley Asphalt, Terre Haute, also serves as a trustee representing alumni.

Dinkel is president of a company that offers engineering and construction services in the areas of mechanical, electrical, temperature control, sheet metal and telecommunications.

He has received the Rose-Hulman Honor Alumnus Award which is the highest honor presented by the college's Alumni Association. In 1991, he served as president of the Alumni Association, and has been a member of the Alumni Association Advisory Board for eight years. Dinkel has also been a chairman for reunions, homecoming and senior orientation. He received a mechanical engineering degree from Rose-Hulman in 1972.

Hatfield is a successful entrepreneur and engineer who is leading the growth of a second technology-based company he created in California. As founder of Calix, Inc., Hatfield provides leadership for a company that is a leading supplier of telecommunications solutions that simplify voice, data, and video service delivery for local exchange carriers of all sizes. Prior to creating Calix in Petaluma, Calif., Hatfield was co-founder and chief operating officer of Cerent Corp., an industry leader in high-speed optical transport.

A $14 million gift to Rose-Hulman from Hatfield and his wife, Deborah, resulted in the creation of Hatfield Hall, which opened in 2002. The facility includes a theatre, rehearsal rooms for student performing arts groups, an Alumni Center and administrative offices. Hatfield graduated from Rose-Hulman in 1984 and received a bachelor of science degree in electrical engineering and mathematical economics.

Ward is vice president in the HNTB Indianapolis Water Services practice. He was president of the Alumni Association in 2000 and currently serves on the Department of Civil Engineering Advisory Board. Ward received the Honor Alumnus Award from the Alumni Association in 2002. He has also been a guest lecturer in environmental engineering at Rose-Hulman. Ward graduated in 1971 from Rose-Hulman earning a degree in biological engineering.

CAREER FAIR SEES INCREASE IN COMPANY PARTICIPATION

A twenty-five percent increase in the number of companies that attended the Rose-Hulman Career Fair this fall is another indication of increasing job opportunities for engineering graduates, says Kevin Hewerdine, the college's director of career services and employer relations.

Rose-Hulman hosted at least 250 recruiters from 110 companies during the Career Fair conducted in the Sports and Recreation Center. In 2003, recruiters from 90 companies participated.

"The increased interest in our Career Fair mirrors national trends," Hewerdine explained. "The job market for engineering is improving, but still not near the record pace of the late 1990s and 2000. We're seeing an increase in recruiters from Midwest manufacturing companies and from businesses needing to hire computer science majors," he stated.

"Even though the outlook is positive for 2005 graduates, we encourage alumni to continue to inform us of entry level or summer internship opportunities at their place of employment or that they're aware of through their own networks," Hewerdine noted.

"Opportunities for chemical engineers are especially needed along with job leads for our growing number of biomedical engineering students," he added.

Companies that sent recruiters to the Career Fair included several Fortune 500 firms like General Motors, Microsoft and Northrup Grumman as well as other companies such as Cummins, Biomet, Expedia, Cook Group, the Naval Surface Warfare Center at Crane, Bemis, Caterpillar and Raytheon.

Hewerdine said companies have started earlier in the academic year than ever before to contact seniors. "Some companies contacted us the second week of the school year asking for resumes," he noted.

Hewerdine warned that despite the increase in recruiting, students are being urged to be aggressive to be successful in their job search. "It's still up to the students to be very proactive. They've got to go out and make it happen," he said.

About 70 students are following his advice by volunteering for a committee that works for 10 months planning and conducting the Career Fair. "The recruiters are very impressed that the students are so involved in the event," says Jan Ford, associate director of career services, who coordinates the student committee. Ford credits the committee with recruiting several new companies to this year's Career Fair. Student committee co-chairs were Jake Klug and Brian Edmonson.

ROSE-HULMAN SPORTS ROUNDUP

SPORTS ARTICLES BY KEVIN LANKE, SPORTS INFORMATION DIRECTOR

SCHOOL RECORD 148 STUDENT-ATHLETES EARN ACADEMIC ALL-SCAC HONORS

For the fifth consecutive year, Rose-Hulman set a school record for academic all-conference student-athletes, according to figures released by the Southern Collegiate Athletic Conference.

Rose-Hulman student-athletes combined to earn 148 academic all-conference awards, eclipsing the previous school record of 129 set last year. Previous totals included 111, 104 and 100 academic all-conference award winners, dating back to 2000.

TENNIS TEAMS, SIX PLAYERS EARN ALL-ACADEMIC HONORS

The Rose-Hulman men's and women's tennis teams earned All-Academic awards from the Intercollegiate Tennis Association, while six individuals earned scholar-athlete designation.

Krista Gonnerman

The women's squad compiled a cumulative team grade-point average of 3.41 following the spring, while the men finished with a 3.26 grade point average. Rose-Hulman is one of only 20 NCAA Division III schools to earn All-Academic team honors in both genders, including one of just two Division III schools in Indiana (DePauw University).

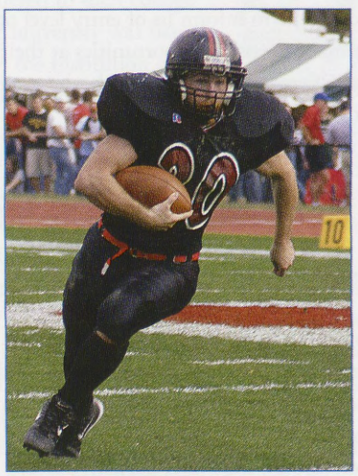
Individually for the men's squad, freshman Joe Rottman, sophomore Kevin Hanson and sophomore Kevin Patel earned recognition. Women's honorees included junior Krista Gonnerman, senior Rachel Rieck and junior Sara Rohrabaugh.

ITA scholar athletes must be letter winners at their school and have a grade-point average of at least 3.50 (on a 4.00 scale). Teams must compile a cumulative grade-point average of 3.20 to earn All-Academic recognition.

47-YEAR-OLD RECORD FALLS AT HOMECOMING GAME

Junior Charlie Key topped a 47-year old school record with 235 rushing yards in Rose-Hulman's 38-31 double overtime loss to Rhodes College in the Homecoming game on Oct. 9.

Key, who scored three touchdowns in a game for the second time in his career, surpassed the previous record of 225 yards set by Carl "Rocky" Herakovich in a 1957 victory over Principia College. Key also moved into eighth place on Rose-Hulman's career rushing list in the contest.



Charlie Key

THREE SOFTBALL PLAYERS EARN ALL-REGION RECOGNITION

Three members of the Rose-Hulman softball team earned all-region honors from the National Fastpitch Coaches Association.

Lauren Clark

Amanda Bower earned first-team at-large honors, while Lynsey Hart and Lauren Clark earned second-team recognition.

The three players become the second, third and fourth female student-athletes to earn all-region recognition at Rose-Hulman, joining 2004 graduate Jessica Farmer.

CHECK THE WEB FOR ATHLETIC UPDATES

Athletic news and schedules for the current season are now available online at Rose-Hulman's sports homepage.

Visit http://www.rose-hulman.edu/sports for all the details.

ROSE-HULMAN
Homecoming 2004

Thousands packed the stands and tents at Phil Brown Field for the annual Homecoming football game.

Queen Pamela Dopka and her escort Mike Reeves during the pep rally.

Freshmen continue the Homecoming bonfire tradition.

Golfers filled foursomes at Hulman Links and the Terre Haute Country Club.

Class agents gather at the class agent hospitality tent.

An evening of vintage music was provided at campus radio station WMHD by 1984 graduates Mike White, left, and Greg Kujawa.

Bailey Challenge

By Professor Emeritus Herb Bailey

Around 2800 BC there was a great flood of the mighty Lo river in ancient China. During this flood there emerged from the river a turtle with a curious figure on its shell. It was a three by three grid with a different number of dots in each of the nine positions. The sum of the number of dots in each row, each column and both diagonals were all the same. My attractive turtle is shown in the figure and the letters *a* through *i* are the integers 1 through 9 in some order. In modern times, this grid is called a magic square.

Bill Soudriette '43 asked me if the values of a through i could be determined without using 'guess and check'. I looked at few of the nearly two million "magic square" hits on Google without success. I was able to find some results and offer them as problems.

Problem 1.

Find *a* through *i* so that all row, column and diagonal sums are equal.

Your solution of problem 1 leads, by symmetry and reflection, to seven additional solutions. Note that that the value of *e* is the same in all of these eight solutions and that $a \neq 9$ in any of them. Solve problems 2, 3 and 4 without assuming that these eight are the only solutions.

Problem 2.

Show that the common sum found in problem 1 is the same for any other solution.

Problem 3.

Show that the *e* found in problem 1 has the same value for any other solution.

Problem 4.

Show that the value of *a* cannot be 9 in any solution.

a	*b*	*c*
d	*e*	*f*
g	*h*	*i*

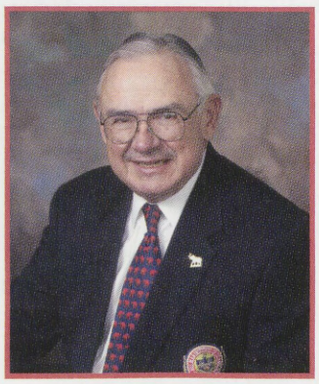
Send your solutions to Herb.Bailey@rose-hulman.edu or to Herb Bailey, Math. Dept., Rose-Hulman, 5500 Wabash Ave., Terre Haute IN 47803.

Solvers of the Summer problems are listed. You came up with a nice variety of non-calculus solutions to the last problem. They varied from the super practical: measure the distances in the Echoes figure, to the super pure: something about an affine transformation. No one noted that the maximum of a parabola is at its vertex. In 1943 at Rose Poly, we had a full semester course in analytic geometry. M. Mergy, R. Gold and M. Bailey submitted a joint solution to the problems and perhaps should get only 1/3 credit each. On the other hand team projects are the current fad, so perhaps they should be given extra credit.

Alumni: B. Barrick, 1941; W. Soudriette, 1943; J. Hurt, 1948; J. Lambermont, 1951; B. Powell, 1951; D. Camp, 1955; H. Smith, 1955; C. Cooper, 1956; Sutton, 1956; J. McCulloch, 1956; H. Brown, 1957; D. Bailey, 1959; J. Kleptz, 1959; J. Tindall, 1961; J. Snyder, 1962; R. Lovell, 1963; K. Metz, 1969; W. Pelz, 1971; M. Bailey, 1976; M. Clouser, 1979; J. Skinner, 1980; D. Johnson, 1987; M. Lancaster, 1987; T. Gazda, 1988; G. Heimann, 1990; B. Burger, 1991; D. Hector, 1992; M. Young, 1994; M. Sommers, 1995; J. Brown, 1998; B. Creel, 2000; B. Monacelli, 2000; D. Harrington, 2002; R. Gold, 2003; M. Mergy, 2004

Friends: T. Cutaia, T. Kelley, M. Carr, Chris, B. Beckham, J. Marks, M. Rosene

ROSE-HULMAN MAINTAINS ITS STRONG COMMITMENT TO TEACHING



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

For more than five decades, I have witnessed Rose-Hulman change in various ways – all for the better – but there is one trait we have not altered, and that is the way it should be. I'm talking about our commitment to teaching. It remains as strong today as it was when I started as a student in the late 1940s.

When I was earning my chemical engineering degree, the only buildings on campus were the Main Building (now called Moench Hall), Deming Hall and Shook Fieldhouse. What a change I have witnessed since my graduation in 1952. Today, the campus map shows more than 30 buildings that serve academics, residential life and athletics.

Alumni returning to Rose-Hulman for the first time in 20 years could get lost on campus because of the physical transformations, but they would feel right at home in the classroom. Sure, they might not be able to solve some of the problems as quickly as in their younger days, but they would instantly recognize the dedicated teaching that has been the hallmark of the Rose-Hulman education.

In my position as chairman of the board of trustees, I have the opportunity to meet with alumni from all generations. Discussions inevitably turn to Rose-Hulman and the experiences alumni had during their student days. Those memories are peppered with recollections of rigorous classes and laboratories along with names of faculty members who made a difference. My classmates talk about Doc Sousley, Ted Palmer, Oran Knudsen, Doc Strong and Hermie Moench, to name a few. The names change as you move through the generations, but what they represent stands strong.

Our faculty are hired and retained because of their dedication to and passion for teaching. They excel at helping our students learn. When you ask our students what makes our faculty special, some common threads emerge. The following is a list of faculty traits gleaned from students through the years:

- always ready to lend a helping hand;
- a caring attitude in and out of the classroom;
- dedication to undergraduate engineering, science and mathematics;
- cutting-edge expertise;
- the ability to understand where a student is having trouble;
- genuine interest in the lives of the students;
- motivator and facilitator; and
- tough, but fair.

That final trait is one that alumni cherish. Rose-Hulman faculty set high standards that do not allow students to "skate through" their college experience. In a recent national survey of select colleges, one of our students described the college's academic environment as being similar to "taking a drink from a fire hydrant—full throttle, all the time." In my day, it was said "if work is a pleasure, you will have a great time at Rose."

The intensity of the Rose-Hulman experience pays off for our graduates who move into business, industry and graduate school. Many alumni report they feel they are better prepared than their peers from other colleges because of the rigorous standards put forth by our faculty. Personally, I found my Rose-Hulman education readied me for the challenges of my law school education at George Washington University.

Our faculty challenge their students to achieve their full potential and they do more than spew facts and figures. They provide the tools that enable students to analyze and properly define a problem, develop a solution and test results.

A trait that puts our faculty among the best is their accessibility. Rose-Hulman faculty make themselves available to their students, whether it is during regular office hours or after hours. That was the case when I was a student, and senior faculty assure me that has been the case as long as they have been here.

A prime example of that accessibility was cited in the spring issue of *Echoes*, which carried a feature story about mechanical engineering professor David Stienstra, the 2003 Dean's Outstanding Teacher Award winner. A student shared that he had 12 problems he couldn't understand and went to Stienstra for help. "Dr. Stienstra turned on his computer and went through each and every one of them with me," the student recounted. "It took about two hours....I appreciated his time and caring attitude very much."

That is just one example. I could go through the annual rosters of our faculty members and cite many others.

Rose-Hulman faculty make a difference in the lives of their students. Their commitment to teaching maintains a heritage that has been central to the success of the college since its inception. Our faculty is the epitome of the maxim that teaching is a noble profession. I hope that in 50 years, the chair of the board will be able to write a similar column about our commitment to teaching that could be summed up in two words: "Nothing's changed." ■

ROSE-HULMAN 2015

A Conversation About Our Future

BY DAVID PIKER

Ten years ago, Rose-Hulman was preparing for its first coeducational class. There were 500 fewer students on campus than today. Laptop computers were not a requirement. The 55-year-old Shook Fieldhouse was still in use, and the first residence hall was being connected to the campus computing network.

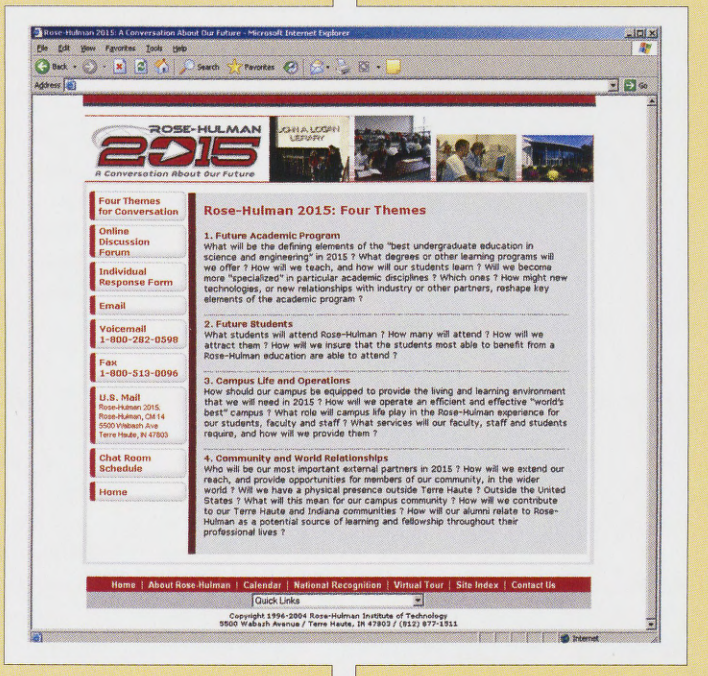
What will Rose-Hulman be like ten years from now? Rose-Hulman seeks your responses to that important question via a new initiative called, "Rose-Hulman 2015: A Conversation About Our Future."

"I strongly encourage the global Rose-Hulman community to engage in conversation around four key themes that evoke our dreams and aspirations for Rose-Hulman's future," stated Rose-Hulman President John Midgley.

"In presenting some broad questions for our conversation, I invite our community to think about and discuss our future, not to critique our present or past. We need to discuss new directions, new opportunities, approaches and qualities that we see as defining Rose-Hulman in the second decade of this century," Midgley said.

"As with any great conversation, we should expect this one to be energized by individual ideas, differences of opinion, and innovative points of view," Midgley added.

"The questions which frame this conversation invite individual reflection, but I hope that you will also find opportunities for formal and informal discussions in groups involving every part of our community," he commented.



FOUR BROAD THEMES WILL FRAME OUR CONVERSATION:

Future Academic Programs

What will be the defining elements of the "best undergraduate education in science and engineering" in 2015? What degrees or other learning programs will we offer? How will we teach, and how will our students learn? Will we become more "specialized" in particular academic disciplines? Which ones? How might new technologies, or new relationships with industry or other partners, reshape key elements of the academic program?

Future Students

What students will attend Rose-Hulman? How many will attend? How will we attract them? How will we insure that the students most able to benefit from a Rose-Hulman education are able to attend?

Campus Life and Operations

How should our campus be equipped to provide the living and learning environment that we will need in 2015? How will we operate an efficient and effective "world's best" campus? What role will campus life play in the Rose-Hulman experience for our students, faculty and staff? What services will our faculty, staff and students require, and how will we provide them?

Community and World Relationships

Who will be our most important external partners in 2015? How will we extend our reach, and provide opportunities for members of our community, in the wider world? Will we have a physical presence outside Terre Haute? Outside the United States? What will this mean for our campus community? How will we contribute to our Terre Haute and Indiana communities? How will our alumni relate to Rose-Hulman as a potential source of learning and fellowship throughout their professional lives?

SEVERAL METHODS FOR RESPONDING HAVE BEEN CREATED. THEY INCLUDE:

An online discussion forum, and an individual response form that are accessible via links at www.rose-hulman.edu

E-mail responses to: conversation@rose-hulman.edu

Leave a voice mail message at 1-800-282-0598

Fax responses to 1-800-513-0096

Mail your responses to Rose-Hulman 2015 at CM 14, 5500 Wabash Avenue, Terre Haute, IN 47803

The discussion forum will provide a continuous Web-based "conversation" that will be accessible 24/7. At least one live, online chat room moderated by President Midgley will also be scheduled.

This conversation will also be the focus of future alumni events, meetings of the Rose-Hulman Parents' Association, and discussions on campus involving academic departments, student organizations, and administrative offices. Input from community leaders in Terre Haute and Indianapolis who are members of the Rose-Hulman Board of Associates will also be gathered during upcoming meetings.

As the conversation evolves, an update will be provided to discuss common themes arising from the responses. By late May, it is expected that a synthesis of the conversation and some thoughts about the next steps in defining Rose-Hulman's future will be provided to the Rose-Hulman community via Echoes and other communications channels.

"The conversations that will take place during the next five months will contribute uniquely as we develop our community's thoughts about where we would like our Institute to be when we celebrate the 140th anniversary of our founding in 2014-2015," Midgley emphasized.

ENGAGING A CONVERSATION ABOUT POTENTIAL AND POSSIBILITY

Dear graduates and friends of Rose Hulman,

Francois Jacob, the French physiologist who won the 1965 Nobel Prize in medicine, claimed that "Without expectations, there is no future, only an endless present." Jacob believed that expectation – an appreciation of future potential and possibility – is the fundamental quality that defines us as human beings. As we begin our conversation about Rose-Hulman's future, we hope to engage your sense of potential and possibility. In the months ahead, I look forward to sharing your expectations as part of "Rose-Hulman: A Conversation About our Future."

We have a lot to talk about! Our institute has never had a brighter future, because the demand for well-educated bachelor's-level engineers and scientists will accelerate in the decades ahead. As you develop your expectations about Rose-Hulman's future, please take some time to reflect on four important and rapidly-changing aspects of our environment.

• **Evolving higher education in Indiana.** Fiscal constraints have forced a rethinking of how our state's higher education resources are focused and financed. In the years ahead, we can expect that Purdue and Indiana Universities will evolve toward a more research-oriented mission, with less access for marginally-qualified undergraduates. As Purdue implements this strategy, the Purdue faculty will be better equipped to recruit and retain top engineering and science students – exactly the students most interesting to Rose-Hulman. We need to think carefully about how we will adapt to a Purdue engineering program increasingly focused on outstanding students, and offered at much lower cost than a Rose-Hulman education.

• **Increasing capabilities in overseas engineering colleges.** When the Commission on the Future in convened 1991, there was no question that U.S. undergraduate engineering and science education was without peer. As we begin thinking about Rose-Hulman 2015, shifts in the global education base have become apparent. Intel's founder Andy Grove recently said that "Any engineering, scientific or management task that can be performed in the U.S. can now be performed in Asia." Recent visitors to our campus from South Korea and India confirm by their personal example the commitment and quality of engineering educators in Asia. How will our future reflect this changing reality, in the relationships that our Institute builds and the experiences that we provide for our students ?

• **Shifting student demographics.** By 2015 we can expect that the high school students we attract as Rose-Hulman freshmen will be drawn from a very different population. The class that will enter in 2015 is already in elementary school. When these young people graduate from high school, nearly 10% of the Indiana graduates will be Hispanic (where fewer than 2% are today). What will this mean for Rose-Hulman ?

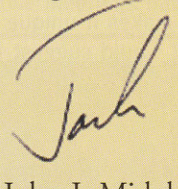
We will also be seeing relatively fewer Midwest high school prospects in 2015. In the next ten years, the population of high school graduates in the Southern states will increase almost 20% and in the Western states by more than 15%. But the Midwest high school graduate population will rise by less than 3%. More of our prospective students will be farther from Terre Haute than they are today. How will we attract them ?

Perhaps most important, nearly half the nation's high school graduates entering college in 2015 will come from families whose total annual income is less than the annual cost of sending one student to Rose-Hulman. How will we be certain that the students best able to benefit from a Rose-Hulman education will receive one?

• **Interdisciplinary knowledge.** Among the most striking shifts in the world of engineering practice is the demand for engineers at every level to work productively in multidisciplinary and multicultural environments. Today, Rose-Hulman graduates are already at work in consumer products companies designing packaging using computational fluid dynamics modeling borrowed from nuclear weapons simulators. Other graduates are engineers in food processing equipment companies building complex machines driven by robots using machine vision and sophisticated software. The days of the single specialty are gone; our most successful future graduates will be able to range productively across disciplines and cultures, adding value to the efforts of more narrowly-focused professionals. These graduates will need continuing development throughout their professional lifetimes to remain leaders in their organizations. How will we prepare our graduates of 2015 for careers that will extend past mid-century ?

Our conversation about the future of Rose-Hulman will surely be a rich and varied one, and I look forward to the insights and new opportunities that will emerge as we share our expectations. Francois Jacob did his Nobel prize-winning work at the Pasteur Institute, which was founded 80 years earlier to solve the problem of rabies. His insights on bacterial genetics could not have been imagined by the scientists who founded his institute. Let's see what future potentials and possibilities develop from our conversation in the months and years ahead!

All good wishes,



John J. Midgley

QUESTION+ANSWER

with President John J. Midgley

Echoes recently sat down with Rose-Hulman President John J. Midgley. In this Question and Answer session, President Midgley related his aspirations and goals for the Rose-Hulman community, some of the challenges he sees ahead, and gave us some insight into his professional and personal life.

Q *What are the key goals you hope the campus community will accomplish by the end of the academic year?*

A At Rose-Hulman our primary goal every year is delivering a top-quality undergraduate experience to every student on our campus. I know the whole community is focused on that and will continue to be focused on delivering a great education for our students. That's a task that's not limited to our faculty. Our coaches, staff, colleagues– every member of the community really is focused entirely on maximizing the experience for each of our students. That's why we're here, and that goal remains the central goal for the campus this year as it does every year.

While we're doing that I hope that in the current academic year we'll begin a conversation within our community about where we want to move to over the next 10 years, out to 2015. This year, the conversation won't be so much about plans as it is aspirations, about our hopes and dreams for Rose-Hulman as it will be in 2015. I think that goal is very central to what we have to accomplish this year.

Q *What does the next level of achievement look like for Rose-Hulman and how do we get there?*

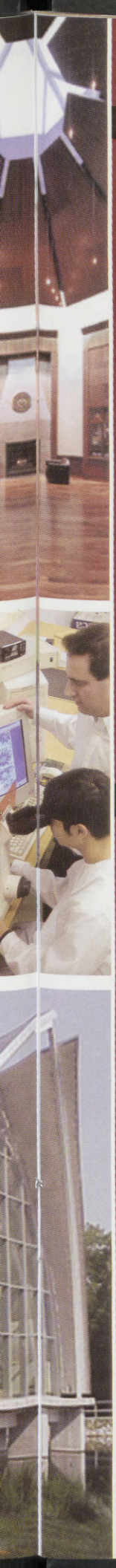
A Deciding what the next level of achievement will be for Rose-Hulman is a process that will involve our entire community. Of course the faculty and staff on campus now, but also our students, their parents, our graduates, the individuals and organizations who invest in Rose-Hulman, and members of the Terre Haute and Indiana communities in which we live. The process of setting the next goals and levels of achievement for Rose-Hulman needs to involve all of those constituencies because each and every one has a stake in our successful future. So I think deciding on the next level of achievement will take time and will involve a significant amount of discussion and debate on and off campus. I'm looking forward to participating in and leading that conversation. Whatever comes out of that exercise for building our plans for 2015, I think that we can count on a number of themes that are likely to permeate that future description of our campus.

The first is continued focus on undergraduate engineering and science education. That really is the bedrock of Rose-Hulman. It's what makes it unique and I have not heard anything that would suggest that focus should change or can change. The second key element I think we'll see as we move into the future is an increasing focus on professional practice experiences for our scientists and engineers. Whether that takes the form of scientific research or design and related project opportunities for our engineering oriented students to give them more opportunities to work closely with real-world clients. In either case I think we will see practice and professional experiences become an even more central part of the Rose-Hulman education.

A third element I think that's likely to characterize our future is a much more significant global presence. It's become almost commonplace to observe that scientific and engineering work that can be done in America can also be done outside the United States and our graduates will increasingly face a requirement to work closely with engineers, scientists, customers, and colleagues from other cultures who have been trained in other traditions. I think it's very important as we plan our future that we recognize the global context in which our graduates will work. I think in the future it's likely we'll see much more well-established, deeper partnerships with institutions outside the United States and a range of experiences from academic to extracurricular and enrichment activities at least that involve working with non-U.S. institutions.

A fourth element will be a need for Rose-Hulman to think through the increased need for continuous education for our graduates. The class that graduates in 2015 will have a career that extends beyond the middle of this century. The disciplines and the work that they engage in will evolve at a very high rate. We need to position our institution as a place to which the graduates can turn throughout their professional lifetime to remain current, to stay on the cutting edge, to really continue to add value in their professions. Whether that's at the master's level or simply in continuing education that goes well beyond what we're able to do today.

And I'd like to say fifth that we'll have to become more affordable. By 2015 more than half the high school graduates in the United States will come from families whose income is less than the cost of sending one child to Rose-Hulman for one year. We have to guard against the possibility that students will come to Rose-Hulman based on their ability to pay and not based on their ability to benefit from a Rose-Hulman education. We have to address the affordability issue and I think that will be a key part of the next level of achievement for Rose-Hulman.



Q *Explain the importance of Rose-Hulman: A Conversation About our Future 2015 in guiding the direction of the college.*

A Rose-Hulman 2015 is a process that will allow us to set our course for the decade ahead. It has to be very inclusive and broad based. It has to be very fact based because we live in a world of physical, financial and other constraints, and it really has to be exhaustive. I think it also has to be a process that produces action. There's no trick to write a plan. What we really have to do is have a conversation that leads to action and that moves us in a direction that we are all very comfortable with in terms of the future of our institute. This year we will begin that process, not by planning, but simply by having a conversation about our hopes and dreams for Rose-Hulman in 2015. That conversation will also highlight issues that we will need to address as we make plans for the decade ahead. I hope we can have that conversation over the next several months and begin to reach some synthesis of it by the time the class of 2005 graduates in May.

In the next academic year, that is 2005-2006, we'll be well-equipped to take a short and focused process to produce a very thorough plan that encompasses our collective vision for what Rose-Hulman should be in 2015. We'll need to take a year to get that work done. By May of 2006 we should be ready to publish our view of what Rose-Hulman will be in 2015 and get to work on creating the institution that we have all dreamed about.

Q *What current challenges does Rose-Hulman face? Ten years from now?*

A Today the central challenge Rose-Hulman faces is a resource challenge and in many ways that's no different than the challenge faced by virtually every other small undergraduate oriented college in America, but it's particularly acute at an engineering and science oriented college. The reason is that our focus on undergraduates means, rightly, that we do not focus on attracting enormous amounts of funded research. That's a great strength for Rose-Hulman because it encourages the faculty to stay focused on teaching our undergraduate students. The cost of that approach is that we don't attract the large research grants that fund the operations of large research oriented institutions. What that means is that we're constantly in the fund-raising mode. The resource challenge shows up in two ways. First as an affordability issue as our tuition continues to rise and we remain challenged to meet the financial need of the students we would like to attend Rose-Hulman.

The second place the resource problem shows up is in our effort to recruit and retain outstanding faculty. The larger research oriented institutions are often able to commit substantial startup and laboratory funds for individual faculty members that outstanding scholars find very attractive. We've received some help in this area recently in the form of a very thoughtful and substantial grant from the Lilly Endowment that will allow us to make substantial awards to young, junior faculty in pursuit of Institute or life changing innovations in the classrooms, but those kinds of resources have to constantly be renewed and raised to address the resource challenge that Rose-Hulman faces. In the longer term I think that resource challenge will always be with us, but there will be two new challenges as we get closer to 2015. The first is the changing student population in the United States and in Indiana. By 2015, most of the growth in high school enrollments will be in the southern states and in the far west. In contrast, student population growth in Indiana will be at about 3 percent a year to 2015, and about 10 percent of the new high school graduates in the class of 2015 from Indiana schools will be Hispanic. That's a new reality for Rose-Hulman and we are going to have to think through how we deal with a population that is farther from Terre Haute than it is today and whose ethnicity and demographics will be quite different from the population we recruit to Rose-Hulman right now.

Second is increasing competitive pressure, and I don't mean from Purdue. By the time the Class of 2015 graduates from high school, I think we will begin to see foreign institutions in China, India and elsewhere competing seriously for high-quality undergraduate scientists and engineers from the United States. The reason I think that this is likely is that their level of quality is already very, very high. And their ability to provide a top quality education at very low cost will emerge as a challenge as those institutions try to attract U.S.-based students. That will be a new challenge for us. And for other similar institutions, but I think it will be a very real and pressing one. Nevertheless, we're well positioned, I think, to address these challenges. We have a loyal alumni base, we have an excellent story to tell about the Rose-Hulman experience and the education it represents and so I think we're going to be able to attract the resources and the students we need to accomplish our mission and we'll be well-positioned to meet these increasing competitive pressures from overseas.

Q *You've been traveling around the country meeting with alumni and constituents of the Institute. What are some of the common threads that have emerged from those conversations?*

A I expect that by late spring I will have had a chance to visit alumni in the cities where about 90 percent or our 11,000 living alumni reside. It seems to me these meetings are a very important part of becoming part of the Rose-Hulman community and I've enjoyed those meetings very much. The messages I've received during those meetings have really been remarkably con-

sistent despite the five decades that separate the oldest and youngest alumni that I've met and despite the very broad range of professions and areas of interest that our graduates represent. I've taken away four broad themes from those meetings. The first is that our graduates really did experience Rose-Hulman as a life-changing period in their lives. Unlike the graduates of many other institutions, our graduates see Rose-Hulman as a key part of shaping their professional lives and their personal lives. They talk about the experience as really central to them as people, not just as engineers or scientists. Many of our most senior graduates who have taken time to reflect with me about the value of the experience at Rose-Hulman talk about how it made possible the great successes, the great adventures of their lives and that is something we have to respect and cherish and build on.

A second theme that emerges from those discussions is how demanding Rose-Hulman was and is. Our graduates talk about and the people who employ them talk about the work ethic of a Rose-Hulman graduate. My own observations on the campus have really confirmed that. Our students are hard working, and our graduates recall their days at Rose-Hulman as very intense and as a time in their lives that they worked very hard and they learned how important it is to work hard. Some people have told me what Rose-Hulman really does is attract workaholics and then give them every opportunity to succeed and I think there may be some truth in that. But the way we teach, the intensity of the focus of our faculty on developing our students, it's a very intense experience and our alumni recall that not always with fondness, but all of them recall it with a deep recognition of how valuable and tough the Rose-Hulman experience was.

A lot of our graduates tell me that they wish they had had more real world experiences. That means different things to different people. For some alumni real world experience means they wish they had had more project opportunities more co-op, more internships while they were at Rose-Hulman. For others, the real-world experience connotes what people refer to as the soft skills, communication skills, some additional business knowledge and in some cases just basic life skills, how you deal with the first job, how you deal with life after the campus. And I think we ought to reflect on that as we build our thoughts and plans for Rose-Hulman in 2015. We need to make sure we're delivering to our students the kind of real word experience that our graduates are reporting as valuable.

Finally almost everyone I've talked with has expressed to me their concern about the rising cost of a Rose-Hulman education. Many of our alumni are thinking about sending their children to Rose-Hulman in the future and they are, as we all are, deeply concerned with the issue of affordability. I think we owe our alumni and our students a very clear explanation of how we are addressing affordability and cost control as we maintain the quality of a Rose-Hulman education. It's been a terrific experience to meet with so many alumni and friends and hear their stories of how Rose-Hulman has changed their lives and I'm looking forward to continuing that process in the months ahead.

Q *You've taught at West Point, Carnegie Mellon and other institutions. Will you be teaching a class at Rose-Hulman? If so, what class will it be?*

A Actually yes, I will be teaching in the civil engineering department during the spring quarter a course called consulting engineering. My colleagues in civil engineering were very gracious to offer that opportunity and I jumped at it. I think it's very important for me as Rose-Hulman's president and as someone who's new to the community to really experience the Rose-Hulman classroom and to be able to work closely with Rose-Hulman students and with faculty colleagues, and frankly to demonstrate that I know the business of teaching undergraduates at the front-line level. I'm looking forward to that experience very much. I'd love to be able to teach every quarter, but I don't think that my role will allow me to do that. I do plan to teach at least one course a year and I hope that I'll be able to do that and to teach it very well.

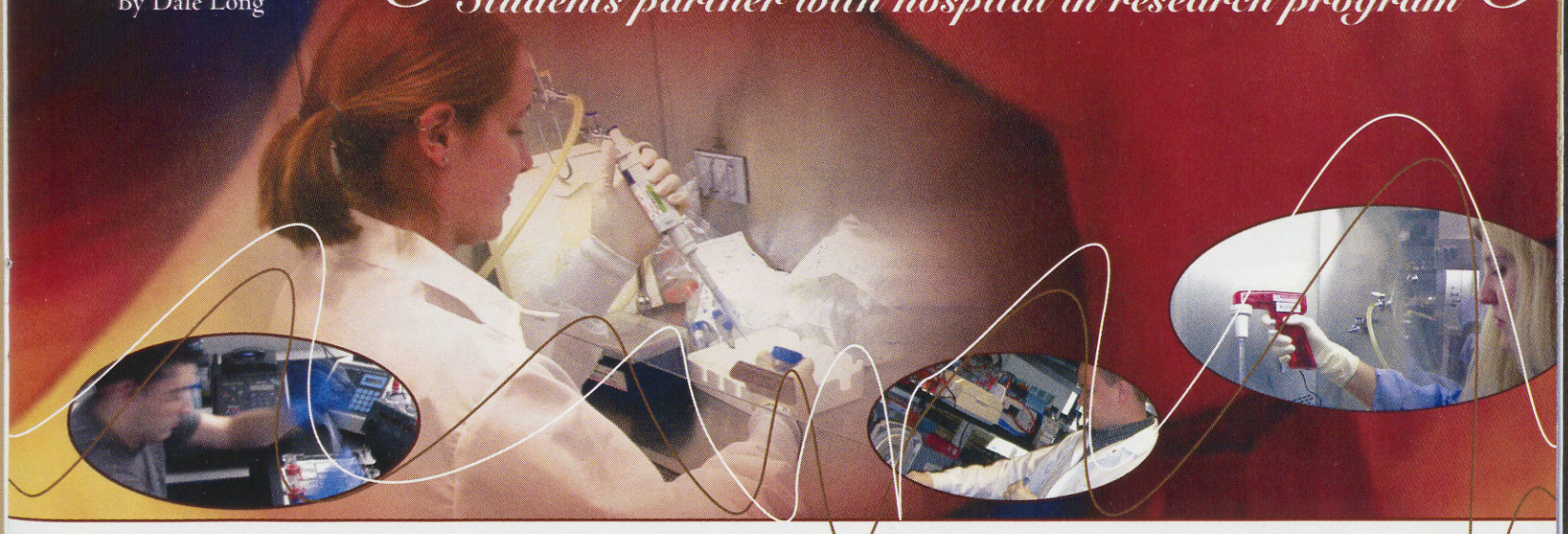
Q *Tell us about your family.*

A My family moved from San Francisco to Terre Haute over the summer and has very much enjoyed becoming part of the community both at Rose-Hulman, in Terre Haute and in Indiana very much. My wife, Ellen, has been a community college teacher as well as a great mom for many years. I think that she's going to continue her career as a community college teacher in Terre Haute. Our oldest daughter, Jennifer, is in the middle of her third year teaching at PS 161 in the south Bronx of New York City. She started that effort as a New York City teaching fellow and has stayed beyond the fellowship because she really does believe in the importance of her work educating young students in really desperate circumstances in New York City. Our son, Patrick, is a sophomore at the College of Wooster in Ohio where he is majoring in history and theater and doing a terrific job. Patrick is an Outward Bound graduate, a track athlete and will be spending the summer producing community theater productions in Ohio. We're very proud of the work that he's been doing there. Our youngest daughter, Julie, is a freshman at Sweetbriar College in Virginia where she is majoring in economics and German and she's a member of Sweetbriar's equestrian team. She's been a rider for years. We're very proud of our children and we're also very happy to be part of this great community at Rose-Hulman and in Terre Haute.

Traveling the Course of Discovery

Students partner with hospital in research program

By Dale Long



A partnership with one of the nation's leading pediatric research institutions is giving Rose-Hulman students majoring in applied biology, biomedical engineering and chemical engineering an opportunity to help develop genetically-engineered cells and to conduct revolutionary stem cell research that could someday save the lives of thousands of infants each year.

The undergraduate summer research program at the Cincinnati Children's Hospital Medical Center provides an environment in which students can develop research laboratory skills, alongside highly qualified researchers, while being involved in projects related to many aspects of genetic cellular engineering.

These educational experiences have been so rewarding – for Rose-Hulman students and CCHMC researchers – that the program has grown from three to eight interns in its first two years. And, the hospital hopes to continue the program next year.

"The experience thus far has been phenomenal," assessed Dr. David Williams, director of the medical center's Division of Experimental Hematology and Associate Chairman for Translational Research. "We continue to be impressed with the quality of Rose-Hulman students. They have excellent work ethic and intellect, demonstrating curiosity about all aspects of our research."

Brandi Williams, a senior applied biology student, spent this past summer helping to develop procedures that correct bone marrow cells. This could become a vital component in the gene therapy approach for restoring the immune system of children born with a severe combined immunodeficiency (SCID), a rare, fatal disease, which can cause serious infections within the first months of life.

Meanwhile, junior biomedical engineering student Joshua Olah contributed to research that is examining the role of a new mutation in genes during leukemia development. Junior chemical engineering major James Voll mastered the principal of DNA cloning to produce small interference genes, which could play a key role in developing future treatments of blood diseases and cancer.

"You can study the course of discovery all your life and never truly appreciate the journey until you walk the path yourself," stated Stefani Vande Lune, a junior applied biology major. "I have read hundreds of pages in textbooks about discoveries and research techniques, but this summer all of those readings came alive and were applicable for the first time . . . This research opportunity has inspired me to gear my last two years at Rose-Hulman toward research-oriented opportunities."

Anna Guy, a junior biomedical engineering student, returned for her second summer internship with researcher James Mulloy. She constructed viral vectors that will be used in projects to knock down the expression of a gene in human stem cell cultures.

"The second summer was an even better learning experience than the first," Guy stated. "Dr. Mulloy's experimental techniques and research were all new to me. I certainly appreciate having the second summer of research available for my opportunity to further my research experience."

About this point, David Williams added, "This is an enormously exciting time in biomedical research. Completion of the human genome project promises to change the practice of medicine in the next decade and has opened vast opportunities to better understand the genetic basis of human disease and the impact of the environment on gene function."

Other students participating in the internship program were biomedical engineering graduate student Christopher Meyer (Chem. Eng., '04) and junior biomedical engineering student Stefanie Powers.

Through CCHMC, junior applied biology major Derek Trobaugh participated in the Physician Scientist Training Program Summer Program last summer at the University of Cincinnati Medical School after spending 2003 in Dr. Williams' lab investigating the structural and functional interactions of two critical proteins. Senior chemical engineering student Crystal Landreth spent the summer of 2003 at the medical research center, which has over 200 clinical and post-doctoral fellows in its laboratories.

Each student presented an oral summary report on their project before division staff – further enhancing the educational experience.

"Our applied biology program produces biologists with the chemistry, mathematics and physics background needed to address practical problems in medical research," states Lee Waite, head of Rose-Hulman's Department of Applied Biology and Biomedical Engineering. "This internship program gives well prepared and highly motivated students an opportunity to apply their knowledge to real world problems at one of the 10 best pediatric hospitals in the United States."

A brief review the students' internship experiences, including their presentations, are available on the Web:
www.cincinnatichildrens.org/research/div/exphematology/education/rhit-intern.html

BY DALE LONG

spanning t

Students learn through cutting-edge polar research

Rose-Hulman Institute of Technology Chemistry Professor Penney Miller and senior chemistry student Jennifer Guerard have spanned the globe to examine polar ecosystems as part of federally assisted research projects studying chemistry in natural and engineered systems. Eight other undergraduate students are also expanding their scientific horizons through these projects.

Miller and Guerard are spending the winter quarter as part of a nine-member American research team working out of the National Science Foundation's (NSF) McMurdo Station at the southern tip of Ross Island, Antarctica. They are taking advantage of the Antarctic summer season to collect and analyze water samples from Pony Lake, a small coastal pond.

In the laboratory, the Rose-Hulman duo will help researchers from The Ohio State University, University of Colorado and Montana State University in investigating the role sunlight plays in the biogeochemical cycling of carbon and nitrogen in Antarctic lakes, playing particular attention to how sunlight chemically degrades dissolved organic matter (DOM). DOM is a significant chemical component in aquatic systems because it acts as an important carbon source for microorganisms and absorbs harmful radiation in sunlight.

Guerard, the only undergraduate student on the team, calls the educational adventure an "once-in-a-lifetime experience."

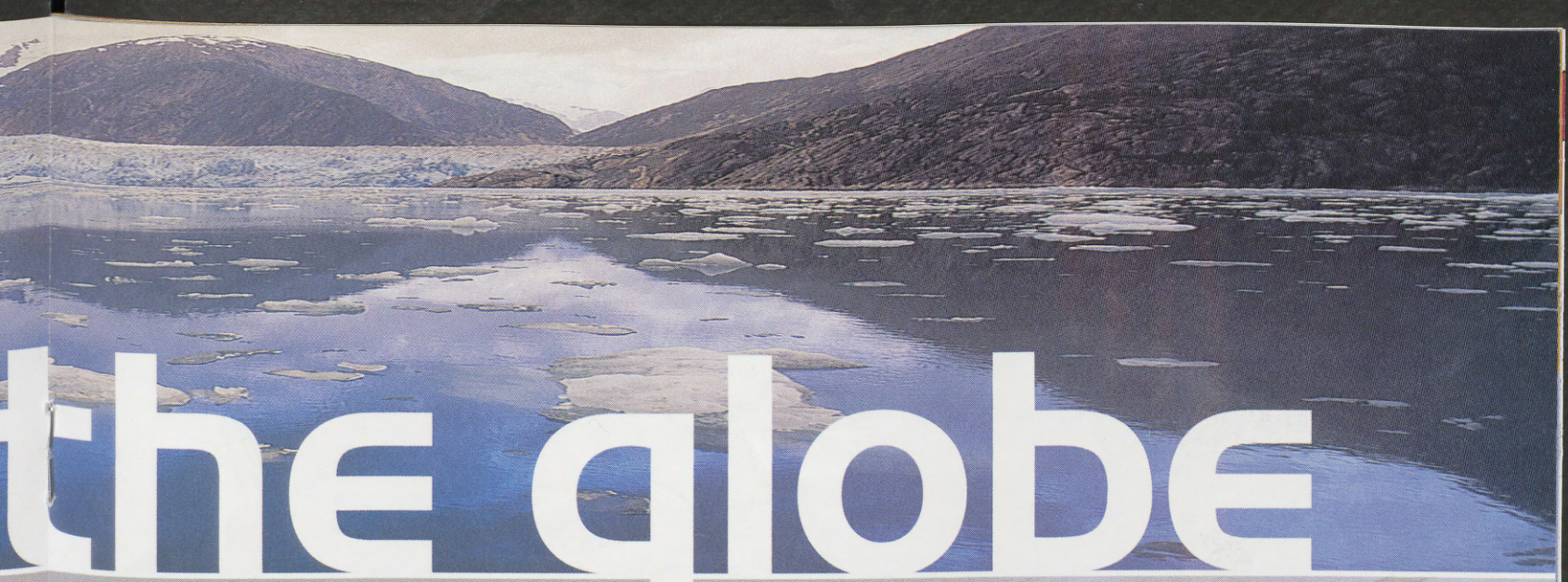
"Much of the work that I am doing will be running photobleaching experiments on the (Pony Lake) water and going on the sampling trips to the lake to collect water, as well as isolating natural organic matter from the lake water," she says. "Sampling trips involve travel to the lake and manually carrying the water about one quarter of a mile to where a helicopter can lift it back to the lab. The lake is in the middle of a penguin rookery, which should be pretty awesome to see."

Back at Rose-Hulman, sophomore computer science major Lissa Avery will assist Guerard in analyzing the Antarctic samples. Avery has been working to develop a computer program to analyze the spectrophotometric data of the natural water samples. This past summer, Guerard and Avery developed the analytical protocol and ran photochemical experiments on DOM extracted from Miller's previous research mission to Pony Lake. They presented their preliminary results at the Indiana Section American Chemical Society Poster Session held this fall at DePauw University.

The Antarctic research project builds on Miller's extensive experience in studying the fate of contaminants in natural and engineered systems. This past summer, Miller and her collaborator, Amanda Grannas of Villanova University, collected sediment samples from NSF's Toolik Lake Field Station research area, located in the Alaskan Arctic, 1,480 miles south of the North Pole.

Samples were returned to Rose-Hulman, where a group of students have spent this school year studying the abiotic degradation of "select" pollutants in the sediments of Arctic waterways.

Junior chemical engineering student Dana Scully is continuing to study the extent that chlorinated organic compounds will degrade in sediments collected from the Alaskan Arctic. Her work is being supported by the Joseph B. and Reba A. Weaver Undergraduate Research Program at Rose-Hulman. The project was started last summer by Scott Noblitt, a senior chemistry and chemical engineering student. Joining Scully in these efforts are sopho-



the globe

more chemical engineering and chemistry students Shannon Jaquess and Christopher Thiede.

Meanwhile, Avery joined junior chemical engineering students Matt Farmer and Zulima Guilarte; sophomore chemical engineering and chemistry major Phillip Flanders; and sophomore civil engineering and chemistry major Matthew Hurst to initiate a third research project examining the development of a novel method for water purification. They are studying the use of visible light and nitrogen-doped titanium oxide materials to treat water contaminated with trace organic pollutants. This work is a collaborative effort between Miller and Timothy Strathmann of the University of Illinois and is sponsored by the Center of Advanced Materials for the Purification of Water with Systems (Water CAMPWS) at the University of Illinois. Water CAMPWS is a NSF-sponsored technology center whose mission is to develop materials and systems to purify the earth's waters for drinking, agricultural, industrial, and ecological purposes.

"The Rose-Hulman students involved in these projects are having the unique opportunity to collaborate with some top researchers in groundbreaking scientific endeavors," states Miller, who participated in her third summer research excursion to the Alaskan Arctic. "When these students graduate, they will have played a role in cutting-edge research. They will also learn skills and gain confidence to help them tackle any problem that's put before them."

Guerard plans to attend graduate school to obtain her doctorate in environmental chemistry.

"I like environmental science because what is learned about how the environment works can be used in a variety of applications to better the world. There is always potential to benefit us," stated Guerard, daughter of alumnus Bill McNabb (Mech. Eng., '83). "The research opportunities that I have been able to be involved with at Rose-Hulman have allowed me to work with people from other universities and completely immerse myself in research. This is an area that is extremely interesting to me, and I am eager to study it more. Dr. Miller has inspired my interest in this field."

To accomplish the objectives of all their research projects, students are using state-of-the-art laboratory equipment, including a gas chromatograph with a mass-spectroscopic detector, high performance liquid chromatography and total organic carbon analyzer. Straightforward wet chemistry techniques are also being employed.

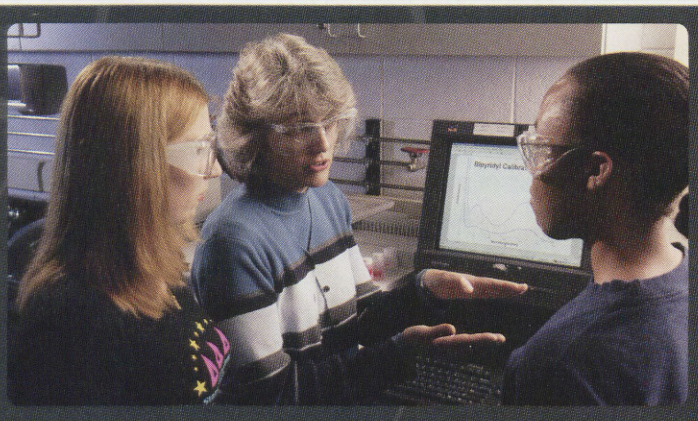
The nine students joined Miller's research group because of their interest in environmental chemistry and in applying their technical backgrounds to work on environmentally relevant problems. They were also familiar with Miller's laboratory requirements.

"Participating in exciting things like this, after my freshman year, is the reason I'm attending Rose-Hulman. It's an awesome opportunity to explore what I might want to do with my career in chemistry and chemical engineering," Flanders stated.

Rose-Hulman received $83,000 from the NSF grant to participate in the Antarctic research and nearly $59,000 from the water purification study for Water CAMPWS.

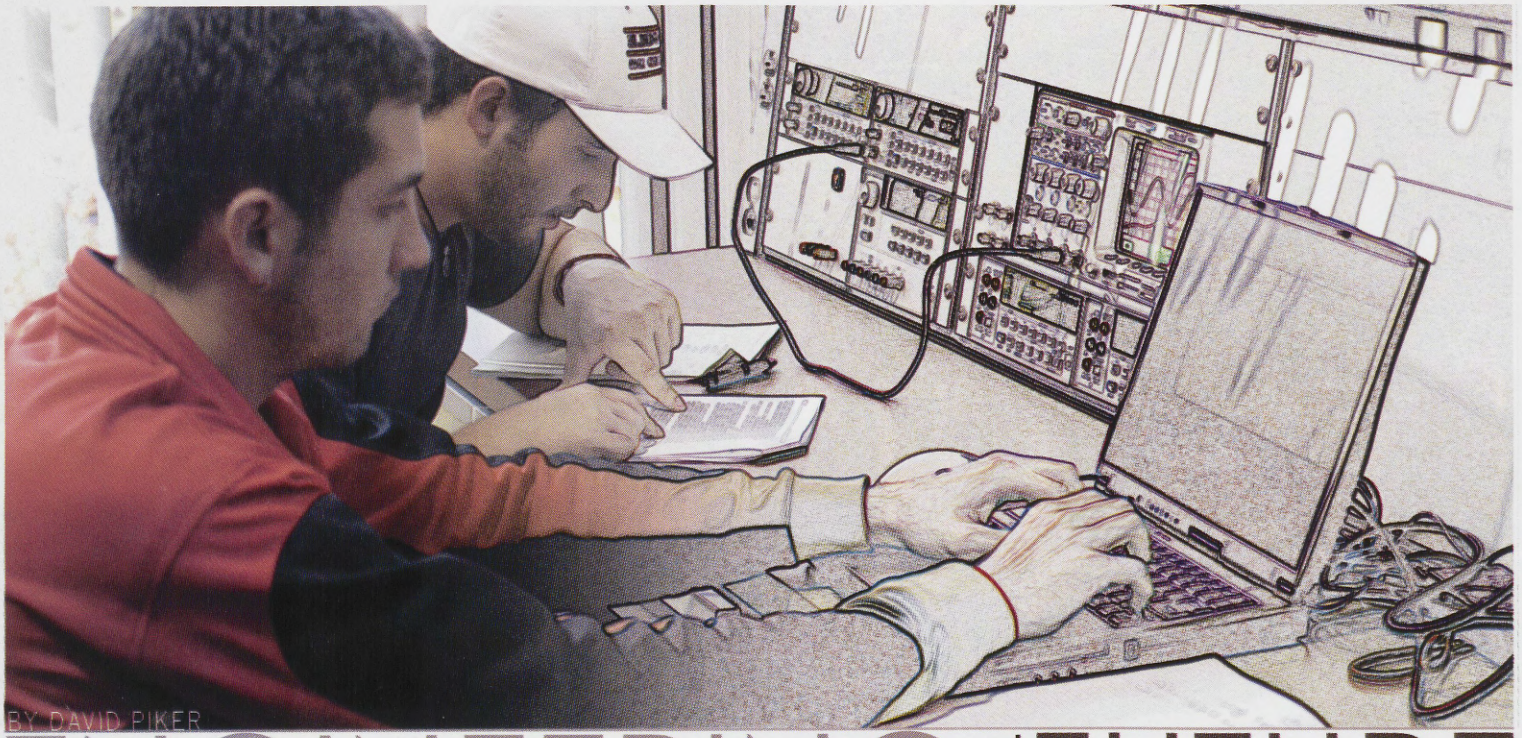
More information about these research projects is available at the following Web sites:

http://www.rose-hulman.edu/biogeochemponylake
http://www.arcus.org/TREC/phpbb/portal_toolik_pollutants.php
http://www.watercampws.uiuc.edu/information/mission.html



Photos on page 18: Professor Miller at Toolik Lake and collecting field samples; Jennifer Guerard at Pony lake near Penguin Rookery.

Photos on page 19: from left, Jennifer Guerard, Penny Miller and Lissa Avery



BY DAVID PIKER

ENGINEERING THE FUTURE

For decades, donations to the Annual Fund have provided Rose-Hulman with resources that have been vital to the college earning a reputation as a national education leader. Today, gifts to the Annual Fund from alumni, faculty, staff, parents and other friends have never been more important.

Support to the Annual Fund continues to be essential because of the resources needed to compete for outstanding students, to purchase increasingly sophisticated and costly technologies needed to teach engineers and scientists, and to recruit and retain exceptional teachers.

Rose-Hulman graduates Danial and Nellie Hohne say supporting the Rose-Hulman Annual Fund is an opportunity for them to make a difference at an institution they believe has made a difference in their lives. That's one reason why the two 1999 graduates have agreed to be the first husband-and-wife team to be honorary co-chairs of the annual fund program, "Engineering the Future Through the Annual Fund." The goal is to raise $2 million by June 30.

Gifts to the Annual Fund increase financial aid, provide funds for new educational facilities and enable faculty to improve education in the classroom and laboratory. "Tuition alone can't provide the college with the resources it needs to be the best," Dan Hohne stated. "The Annual Fund is an excellent way for alumni and others to contribute resources that give immediate support to areas where the need is the greatest."

Providing support to faculty is among the fund's priorities. "My professors did an outstanding job educating me to be a problem solver," said Hohne. "Contributions to the Annual Fund will help insure that such an outstanding level of teaching continues at Rose-Hulman," he stated. Hohne earned a bachelor's degree in chemical engineering. After working at General Motors for several years, he has returned to school full time to pursue a doctorate in chemical engineering from the University of Michigan.

PERCENTAGE OF ALUMNI GIVING HAS FAR-REACHING IMPACT

Unlike some other colleges or universities that Rose-Hulman competes with in recruiting outstanding students, Rose-Hulman is unable to provide enough financial aid to equal the unmet financial need of the talented high-school seniors admitted to the college. Gifts to the Annual Fund help at least close the gap and reduce the amount of funds students must borrow for their education.

"We don't want students to miss out on a great education because they lack the funds," Nellie Hohne noted. "Gifts for scholarships are a critical need. We need to help current students and lessen the burden of the student loan debt they will face after graduation," explained Hohne, who is a vehicle integration engineer for General Motors.

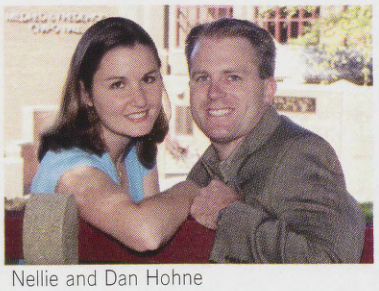
"All of us can help keep the costs as low as possible for future students. As volunteers for the admissions office, Dan and I meet parents at college fairs

and their chief concern is how to pay for their child's college education," she noted.

Alumni donations to the Annual Fund have far-reaching impact, not just because of the amount of the gifts, but because of the number of alumni who donate, according to Karen O'Rourke, director of the annual fund.

"The support Rose-Hulman receives from those who know us best is an important factor that corporations and foundations review when considering whether to provide financial assistance to the Institute," she said.

During the 2003-04 fiscal year, the alumni giving percentage increased over the previous year to 43 percent. Even though the percentage is higher than most independent engineering colleges, Rose-Hulman's goal is to be among the very top in alumni percentage among all types of institutions.



Nellie and Dan Hohne

"Contributions to the Annual Fund will help insure that such an outstanding level of teaching continues at Rose-Hulman"

– Dan Hohne

Because about 30 percent of Rose-Hulman's 11,500 living alumni have graduated in the past 10 years, the participation rate of this group is important to current and future Annual Fund success. A new program will provide recognition for younger alumni who become consistent donors to their alma mater.

"Young alumni need to get into the habit of making an annual gift to the college," Nellie Hohne stated. "The Young Alumni President's Club is being established to honor those graduates whose donations total at least $5,000 during a ten-year period. If new graduates start early and make Rose-Hulman a priority in their philanthropy, they will be surprised how fast their donations will accumulate," she said.

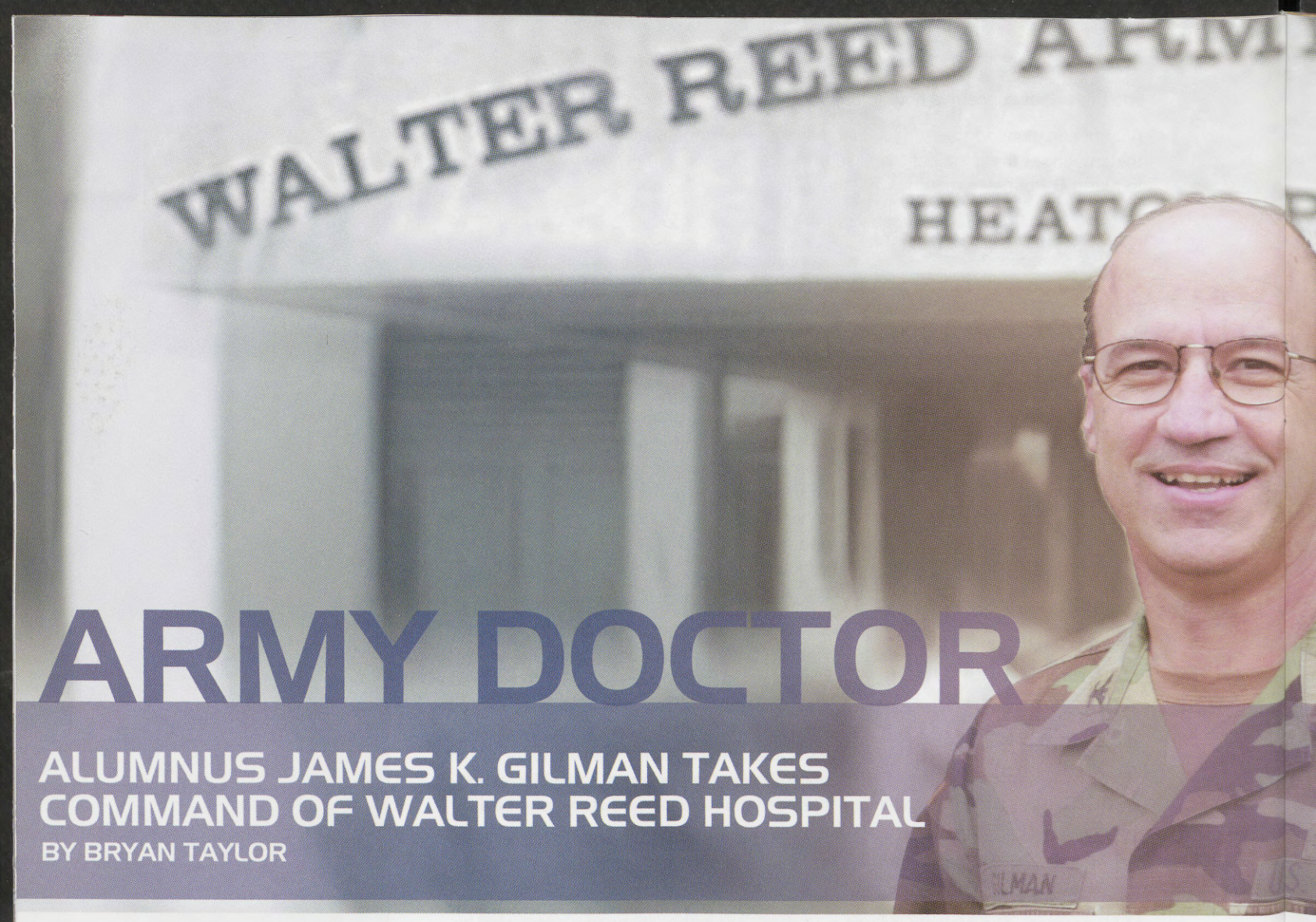
MANY PROJECTS ENABLE DONORS TO SUPPORT THE ANNUAL FUND

Many projects are under way to encourage giving that will reach a participation rate of 50 percent. The projects include a 13-week phonathon campaign conducted by students, the Reflection Plaza Brick Walkway Project and the Gateway Project to raise $250,000 from parents of current students and alumni to improve the main entrance to campus. The Indiana commemorative license plate project is also part of the program. The Reflection Plaza project has generated $370,000 in gifts through the sale of nearly 1,700 commemorative and memorial bricks. Space for 1,300 additional bricks is still available to complete the walkway. Direct mail, e-mail and meetings with donors are also part of the Annual Fund initiative to generate needed funds.

"A key to the success of our efforts is the dedication of over 300 class agents," O'Rourke notes. "They do an outstanding job contacting their classmates to remind them of the importance of their annual support. Class agents also volunteer to help our students during the phonathon campaign," she said.

Nellie Hohne said among the fondest memories of her Rose-Hulman education is the sense of community that existed on campus. "Terre Haute was a long way from my home in central Texas," she noted. "The family atmosphere on campus always made me feel very welcome. When Dan and I return for Homecoming, we still experience that family feeling, even though it's been five years since we graduated," she remarked.

"Supporting the Annual Fund will make it possible for Rose-Hulman to continue to develop and enable other students to experience what makes Rose-Hulman so special," Hohne stated.



ARMY DOCTOR

ALUMNUS JAMES K. GILMAN TAKES COMMAND OF WALTER REED HOSPITAL

BY BRYAN TAYLOR

Learning about an organization is a big part of any new executive job, but James K. Gilman took his new-employee orientation to an unexpected level this summer as commander of the prestigious Walter Reed Hospital. Just two months into the assignment, Gilman received a patient's-eye view of his new command when he had to undergo an emergency appendectomy performed by the staff he oversees.

Operating on the boss could cause anxiety in some hospitals, but such pressure performances are a regular part of life at Walter Reed Hospital, located in Washington, D.C. "The guys who operated on me operate every day on people whose names you would recognize in the paper," said Gilman, a 1974 biology graduate. "If you had difficulties working under that kind of pressure, Walter Reed would not be the right kind of place for you."

Walter Reed became the right kind of place for Gilman, a colonel in the U.S. Army, when he received the assignment earlier this year from the surgeon general. He took command of the facility on June 21.

Technically, Gilman's assignment is commander of the Walter Reed Health Care System, which includes Walter Reed Hospital, an Army hospital in Fort Belvoir, Va., the clinic at the Pentagon and the clinic at Ft. Meade. Almost 90 percent of his job deals with Walter Reed Hospital where he serves as the "chief operations officer."

In describing his new assignment, Gilman said "This is about as good as it can get for an Army doctor. Walter Reed has always had a reputation as a first-class health care facility. It is the one place in the Army you can be assigned and nobody has to ask you where it is."

Part of its reputation is based in its 95-year history that has included service to military and political giants such as President Dwight Eisenhower, General Douglas MacArthur and Secretary of State John Foster Dulles.

Walter Reed Hospital is the Department of Defense's biggest hospital, with 5,000 employees (half military, half civilian), 220 beds and an extensive outpatient program.

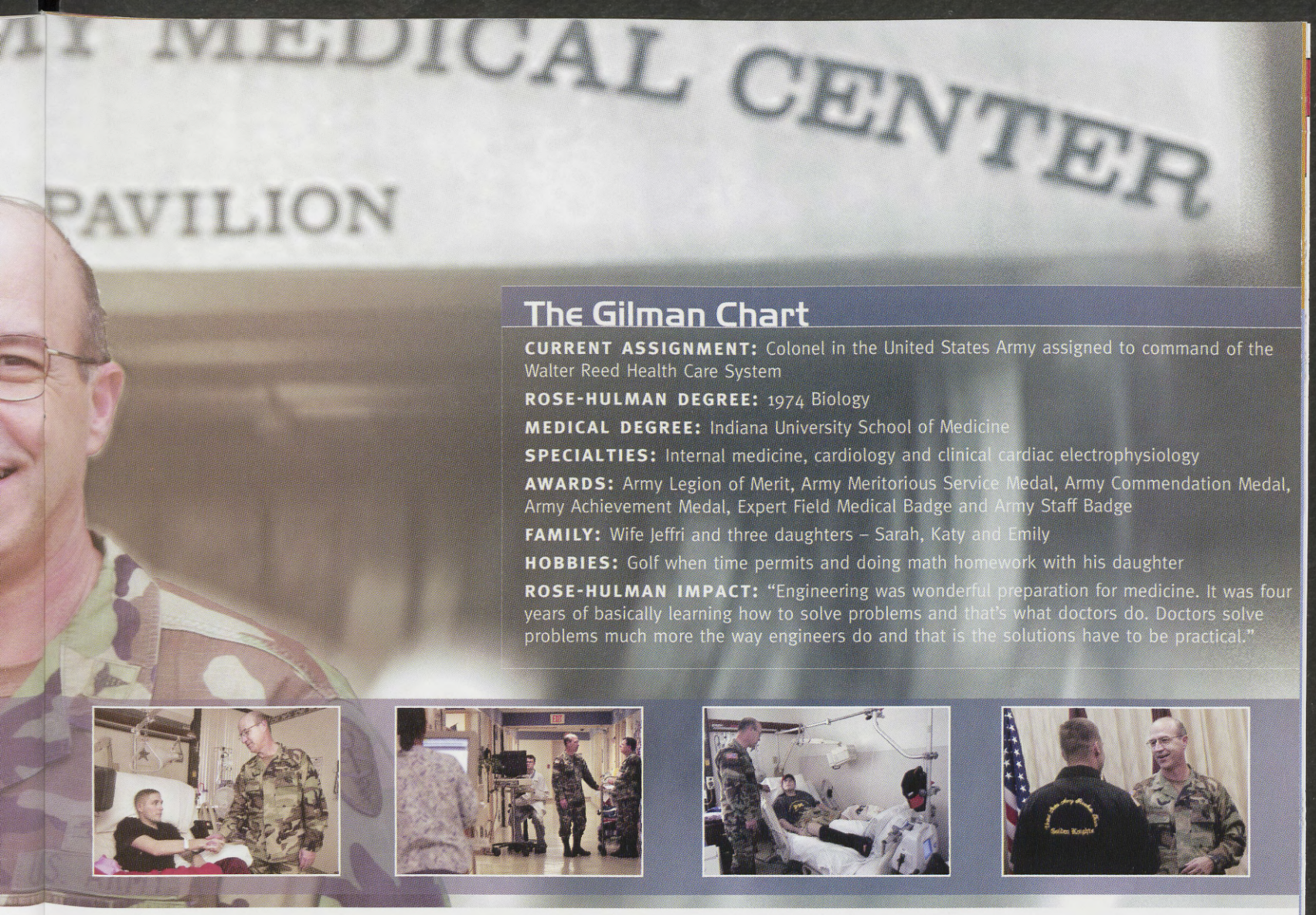
"At Walter Reed, we're about three things," Gilman explained. "They are:

- "The readiness mission of fixing America's heroes;
- "Quality health care that includes a huge training mission for physicians and nurses; and
- "Customer service – making people feel cared for."

With the current fighting in Iraq and Afghanistan, a major focus of the hospital is treating battle casualties from those areas. "That's the biggest part of what we do," Gilman said. "On any given day, we'll have between 50 and 60 Operation Iraqi Freedom and Operation Enduring Freedom battle casualties among our 220 inpatients.

"The job doesn't stop when they leave the hospital. We have about 600-650 casualties from Iraq and Afghanistan physically located around Walter Reed. We are responsible for their continuing care and rehabilitation."

A typical day for Gilman includes receiving information from his staff, dealing with human resources issues, strategic planning and a "VIP tour or two." He sets the expectations and standards, and holds the right people accountable for reaching those standards.



The Gilman Chart

CURRENT ASSIGNMENT: Colonel in the United States Army assigned to command of the Walter Reed Health Care System

ROSE-HULMAN DEGREE: 1974 Biology

MEDICAL DEGREE: Indiana University School of Medicine

SPECIALTIES: Internal medicine, cardiology and clinical cardiac electrophysiology

AWARDS: Army Legion of Merit, Army Meritorious Service Medal, Army Commendation Medal, Army Achievement Medal, Expert Field Medical Badge and Army Staff Badge

FAMILY: Wife Jeffri and three daughters – Sarah, Katy and Emily

HOBBIES: Golf when time permits and doing math homework with his daughter

ROSE-HULMAN IMPACT: "Engineering was wonderful preparation for medicine. It was four years of basically learning how to solve problems and that's what doctors do. Doctors solve problems much more the way engineers do and that is the solutions have to be practical."

Because of its high profile, Walter Reed Hospital draws plenty of attention and visitors. "On any given week, we'll have visits from a few senators, a few members of Congress, and two or three of the highest ranking military officers in the land, including the chairman of the Joint Chiefs of Staff and senior civilian leadership of the Department of Defense," Gilman reported.

"High visibility creates a great deal of turbulence in the organization, but it also creates tremendous opportunities," Gilman stated. "While we have to organize several visits by dignitaries, it is very gratifying to see the impact those visits have on the soldiers, sailors and marines."

In dealing with a variety of constituencies, Gilman stresses the importance of being able to synthesize data and being able to communicate. He also believes he needs to insulate the people in his organization from the outside influences. "They can know about it, but you can't let it change the way they're going into the operating room to take care of an injured soldier," Gilman said. "I need to collect most of the outside influences on my back so our people can do their jobs."

Prior to joining Walter Reed, Gilman served as director, Health Policy and Services Directorate, Office of the Surgeon General. Prior to that Washington, D.C., assignment, he was commander, USAMEDDAC, Fort Wainwright, Alaska. Other assignments have included serving as deputy commander for clinical services at Fort Hood, Texas, and chief of cardiology service at the Brooke Army Medical Center, Fort Sam Houston, Texas.

Gilman earned his medical degree from Indiana University School of Medicine. He is board certified in internal medicine, cardiology and clinical cardiac electrophysiology, and he is a fellow of the American College of Cardiology.

As he looks back on his career stops, Gilman said "they were not among my goals when I graduated from Rose-Hulman. I would have been pretty happy to just be a doctor, serve out my military obligation and go into private practice.

"The longer things went, I kind of felt I was an army doctor first and a cardiologist and electrophysiologist second. I enjoyed the opportunity to lead and the opportunity to take care of literally thousands and thousands of patients. I became more interested in being responsible for whether people got up and went to work in the hospital and that they were happy to be there. Probably about 1995, I reached a decision that getting out of the army and going into private practice probably wasn't what I was going to do. That's when we started moving pretty frequently going from one hospital to the next. We moved about four times in seven years."

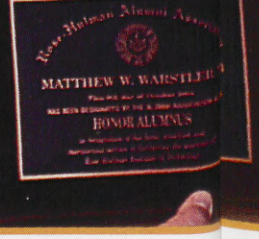
The term "army doctor" holds special meaning for Gilman. "An army doctor," he said, "implies somebody who is flexible and adaptable who can apply his or her craft in the middle of a modern medical center like Walter Reed, but could do the same thing in a tent in the desert. Army doctors truly love the young men and women they serve.

"We're about taking care of soldiers and their families. We're also about reassuring the American people their sons and daughters who go into harm's way are going to be taken care of. That's why after 26 years and all these moves, I'm still doing this." ■

Four graduates who have helped recruit new students, coordinate special alumni events and assist academic departments received the 2004 Rose-Hulman Honor Alumnus Award. The recipients were Winston Fowler, Northville, Mich.; David Maxwell, Edwardsville, Ill.; Bill Perkins, Bloomington, Ind.; and Matt Warstler, Alpharetta, Ga. They were honored during the Alumni Awards Brunch.

Honor Alumni

demonstrates commitment to



David Maxwell

Helping Civil Engineers Begin Their Careers

Maxwell is project manager and bridge engineer for Howard R. Green Co. He serves on Rose-Hulman's Department of Civil Engineering Board of Advisors. Maxwell has helped several new Rose-Hulman graduates get successful starts on their careers through his campus recruiting efforts for his company. Maxwell received his bachelor's degree in civil engineering from Rose-Hulman in 1991. He has coordinated tours at St. Louis-area major construction sites for freshman design classes. During the most recent tours, students visited construction sites for the new Cardinal's baseball stadium and the MetroLink.

Matt Warstler

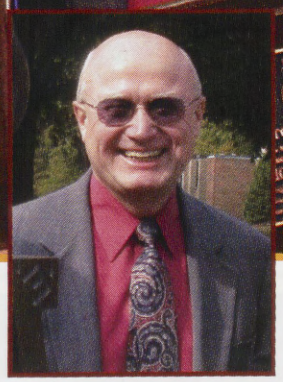
Keeping Alumni Involved in Atlanta

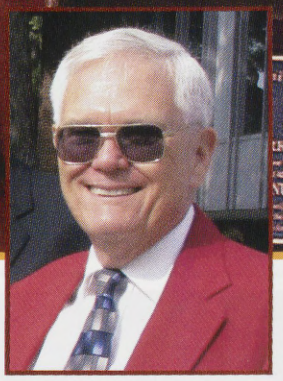
Warstler has served for several years as the Atlanta coordinator for the Alumni Association. He has also been a volunteer for the college's admissions office. Warstler has planned many successful events for alumni in the Atlanta area. One of those has become a tradition for Atlanta alumni who travel to the University of the South in Tennessee to support the Engineer football team when they play at Sewanee. He is a senior transmission specialist in the Transmission Engineering and Construction Division at Georgia Power Co. Warstler earned the bachelor of science degree in civil engineering in 1993.

2005 NOMINEES SOUGHT –
The Alumni Association Advisory Board seeks nominees for next year's Honor Alumnus Award. Send nominating information to either Brian Dyer, director of alumni affairs and special events (d.b.dyer@Rose-Hulman.Edu) or John Brabender ('81), chair of the awards and recognition committee, Rose-Hulman Alumni Association Advisory Board (john.brabender@cinergy.com).

class of 2004

t to alma mater





Winston Fowler

A Dedicated Volunteer in Detroit

Fowler has been a long-time volunteer for the Alumni Association in the Detroit area. He has coordinated alumni events, helped the Rose-Hulman admissions office recruit students, and he has been an alumni class agent for many years. Fowler worked for 18 years at Ford Motor Co. He has been director of program and account management for different tier-one automotive suppliers. He is director of special projects, SportRack Automotive, an advanced accessory systems company. Fowler received a bachelor's degree in mechanical engineering in 1971. His son, Bo, is a 1998 Rose-Hulman graduate.

Bill Perkins

Giving Back in Many Ways

Perkins has helped his alma mater in a variety of activities. He has worked with faculty to develop new courses and he has advised students about graduate school. The 1960 civil engineering graduate also served on the Commission on the Future of Rose-Hulman and the college's National Board of Advisers. In addition, he was a class agent for many years. Perkins recently retired after a distinguished 37-year teaching career in the School of Business at Indiana University. He taught 23 different courses, authored six books, and received the university's Distinguished Service Award.

Young Alumni Council Presents Distinguished Young Alumni Award

DISTINGUISHED YOUNG ALUMNI 2004

This was the first year the award was presented using new criteria whereby nominees must have graduated within the past 10 years. Previously, the award was given to graduates who had graduated within the previous 20 years. The recipients were honored for their early career achievements during a special event sponsored by the Young Alumni Council on the Friday evening of homecoming weekend.

Greg Hubbard

Developing Hybrid Vehicles

Hubbard, a 1994 mechanical engineering graduate, is leading a team at General Motors on the development of hybrid power trains for passenger vehicles. He received the Chairman's Honors Award presented by the president and CEO of GM for his work on the electric drive component for a hybrid transit bus. Hubbard has received 14 U.S. patents, and he has 25 patents pending. He helped develop the transmission used in the vehicle selected in 2001 as the Motor Trend "Truck of the Year." He assists the mechanical engineering department by submitting proposals for senior design projects.

Erik Hayes

Helping Students Every Day

Hayes oversees programs that provide activities and services for about 1,000 students living in eight campus residence halls at Rose-Hulman. He supervises residence assistant staff and serves as adviser to the Residence Hall Association. Erik received the Outstanding New Professional Award for the Great Lakes Region from the Association of College University Housing Officers following his first year as director of residence life. He serves on the Young Alumni Council and volunteers for several education organizations in Terre Haute. Hayes earned the bachelor's and master's degrees from Rose-Hulman in 1997 and 2000 respectively.

Four alumni were presented with the Distinguished Young Alumni Award by the Young Alumni Council. Honored were Erik Hayes, director of residence life at Rose-Hulman; Gregory Hubbard, General Motors Engineering Group Manager for Hybrid Power Train Control Systems, Brighton, Mich.; Scott Loughmiller, director of product management, Tumbleweed Communications, Redwood City, Calif.; and Jeff Ready, vice president of marketing for Tumbleweed Communications, San Jose, Calif.

Scott Loughmiller

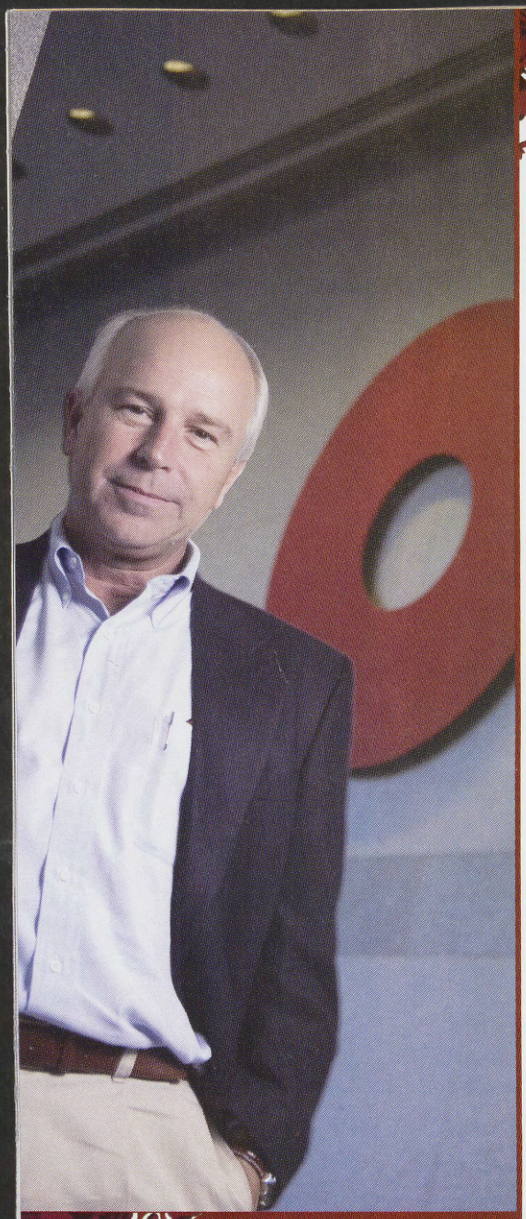
Following a Dream

Loughmiller became a successful entrepreneur even before graduation. His first company was Aureate Development in Terre Haute, which was created with fellow students Jeff Ready and Mike Olson. They also partnered to create Corvigo, which was sold in a multi-million dollar deal to Tumbleweed Communications. He has developed several technical innovations including Intent-Based Filtering which uses artificial intelligence to filter junk e-mail. Loughmiller has been a guest lecturer in entrepreneurship classes at Rose-Hulman, and his companies have created employment opportunities for several Rose-Hulman graduates. He earned a bachelor of science degree in computer science in 1996.

Jeff Ready

Success in the Silicon Valley

Ready has teamed with other Rose-Hulman alumni to create several companies, the most recent being Corvigo which was bought by Tumbleweed Communications. He has received the Blue Chip Award from the U.S. Chamber of Commerce and the Best Technology Award from Ziff Davis for his technical innovations. Ready started Internet Measurement Initiative, a non-profit industry association which is a leading authority in measuring Internet audiences. He has provided summer internships for Rose-Hulman students and he has been a guest lecturer on campus. Ready earned the bachelor of science degree in computer science in 1996.



MAKING A DIFFERENCE BY BEING DIFFERENT

BY DALE LONG

It's not every Fortune 500 chief executive who is as comfortable talking about the coefficient of friction as he is the company's earnings ratio.

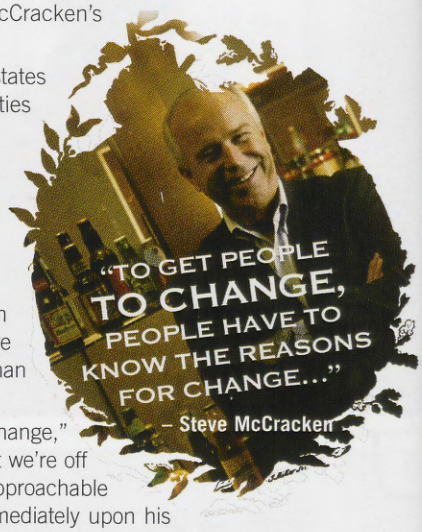
Steve McCracken takes pride in being different. Since April 1, the 1975 Rose-Hulman Institute of Technology mechanical engineering graduate has been the top executive of Owens-Illinois, Inc. (O-I). The corporation is the largest manufacturer of glass containers in the world, with leading positions in Europe, North America, Asia Pacific and South America. About half of all glass containers made worldwide are manufactured by O-I, its subsidiaries or licensees, whether you're talking about spaghetti sauce, jams, juice, beer, wine or spirits. Customers include Coors, SABMiller, Anheuser-Busch Diageo, Heinz and Nestle's.

O-I is also a leading manufacturer of health care packaging and specialty closures, including tamper-evident caps and dispensing systems.The company reported 2003 net sales of $6 billion.

However, McCracken was brought in to reenergize O-I, improve its Fortune 500 standing (now No. 298), redefine its market presence and regain investor confidence. He's the first CEO in O-I's 101-year history not from the glass industry.

"O-I has great potential, but the company has underperformed," admitted the 51-year-old executive during a telephone interview from his office on the 27th floor of the firm's Toledo, Ohio, headquarters. He has introduced a financial turnaround and cultural transformation agenda that could pave the way for O-I to nearly double in size to $10 billion in annual sales by 2014. The firm reported third-quarter profits of $69 million, more than double than a year earlier.

McCracken's early success hasn't gone unnoticed. Forbes magazine named O-I as one of its five turnaround candidates for the year, largely because of McCracken's restructuring efforts.



"O-I needed new insight on how to run the company better," states George Staphos, an industry analyst with Banc of America Securities in New York City. "Thus far, I'm impressed, but it's still early."

Richard Crawford, vice president of O-I's European Glass Integration Team, adds "Steve has brought a global perspective to our organization that is consistent with our global growth efforts within the worldwide glass industry. He has challenged us to look for new growth segments."

McCracken brushes aside such praise, stating that the corporation is reaping the benefits of good business decisions, several made before he arrived; a strong leadership team; and quality work by more than 31,000 employees worldwide.

"My appointment was a signal that the board of directors wanted change," he says. "Change is hard. It's going to be a multi-year process, but we're off to a great start. It's been a lot of fun so far." McCracken's style is approachable and team-based. He's considered a quick study and decisive. Immediately upon his arrival, he conducted a Town Hall meeting for all employees at the worldwide headquarters to calm anxieties about the leadership change.

The outsider also exhibited confidence in O-I by buying a substantial quantity of company stock. He believes top officers should be linked financially to their companies."To get people to change, people have to know the reason for the changes. You can't make progress with a non-motivated work force," he says. "Once you get something started the energy is contagious and the coefficient of friction is lowered to the point where momentum is on your side."Success is nothing new for the Franklin, Ind., native. Before joining O-I, McCracken spent 29 years as an engineer and executive with E.I. DuPont DeNemours & Co. He served in operations, finance, planning, marketing and business management. Leadership positions at DuPont Lycra in Europe and DuPont Corian Surfaces resulted in record financial growth for both entities. Then, he spent three years as president of Invista, a DuPont global textiles unit that had revenues of $7 billion in 2003, before it was purchased late last year. He had been working on special assignments in semi-retirement until being approached to lead O-I.

"I'm a Midwesterner, with Midwestern values, and moving closer to home with a positive career opportunity was attractive after living throughout the world since graduating from Rose-Hulman," McCracken said. He and his wife of nine years, Judy, are the parents of three daughters and one son. "Rose-Hulman provided me a strong foundation in understanding the analytical approach to decision making."Later, he adds, "I like to gather as much data as I can, and then a decision is made, and I have to live with it."Spoken like a true engineer.

A MESSAGE FROM THE ALUMNI ASSOCIATION PRESIDENT

Focusing on scholarship support

$25,686 – that is the Rose-Hulman tuition for the 2004-2005 academic year! Room, board and books – add another $7,100. What was the tuition when you were a student? Historically, the alumni association did not mix alumni events directly with fund raising. Meetings of alumni around the country were to meet up with old friends without any pressure to donate. However, five years ago, the alumni advisory board recognized the growing tuition problem.

Students who should be at Rose-Hulman simply chose other schools because of cost even though Rose-Hulman was their first choice. Your alumni association operates through the alumni advisory board working with the alumni office to address issues important to alumni. After discussions between the advisory board, the alumni office and the development office, the advisory board decided to support a program to raise money for scholarships. The result was the class scholarship program. Through the program, each graduating class over the years would be asked at their five-year reunion to fund an endowed scholarship.

The program has been rolled out over the past five years with the final introduction to past graduating classes at Homecoming 2004. Each class has been challenged by the alumni association at their reunion dinner to raise at least $50,000 within five years to fund a scholarship To date, more than $1.5 million has been raised to fund scholarships and the program will be adding new graduating classes in the future. I encourage each of you to consider an additional gift to help fund this program when you are approached by your classmates.

Jeff Burgan '77
Alumni Association President

ROSE-HULMAN LAUNCHES ONLINE CAREER ASSISTANCE TO ALUMNI

The Rose-Hulman Alumni Association, in cooperation with the career services office, has launched a new job search/networking tool that will benefit our alumni.

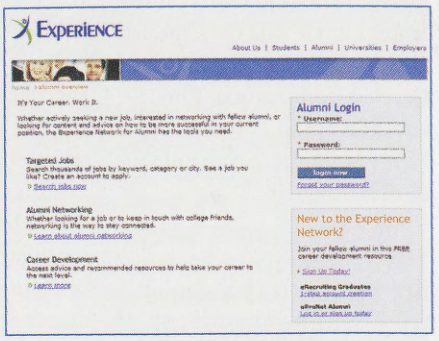
Rose–Hulman alumni in the job market can now take advantage of the free web-based service called Experience Alumni. Alumni can access the site at Web address http://www.rose-hulman.edu/careerservices/alumni.htm.

The Rose-Hulman link will take you to the Experience Alumni site where you can post profile information, network with other Rose-Hulman graduates and search available job opportunities. "The program raises our career help for alumni to the level of what other leading colleges are doing," said Brian Dyer, director of alumni affairs and special events. "It makes it easier and quicker for alumni to network, and is one of the most up-to-date services available."

Kevin Hewerdine, director of career services and employer relations, said there are several advantages offered by a site like this. "Alumni who are in a position to help hire at their present employer will easily be able to view profile information of other Rose-Hulman graduates and initiate contact with them about opportunities they have available," he explained. Employers also will be able to search the site for Rose-Hulman graduates and initiate direct contact with them.

Hewerdine said the ability for employers to search specifically for Rose-Hulman graduates will be available in March of 2005. "We will market this site to our entire employer database and I know it will be frequently visited by employers searching for well qualified, experienced Rose-Hulman alumni," he said.

The site already has more than 200 profiles of Rose-Hulman graduates, and the number grows every day. "In the past, about all we could do for our alumni was provide lists of alumni in certain areas and post jobs that did not specifically help individual needs," Dyer said. "The Web-based approach is quick, current, and allows alumni to cast a broader net in their job search while making use of Rose-Hulman contacts."



SPECIAL THANKS TO ALUMNI ASSISTING WITH PRESIDENTIAL RECEPTIONS

During this academic year, President John J. Midgley has been visiting with alumni around the country. These meetings would not be possible without the assistance of alumni at various cities. We want to thank the following alumni who helped coordinate some of our earlier meetings this fall.

MIKE THOMAS, DETROIT, MICH.
GLEN AND BARBARA RAQUE, LOUISVILLE, KY.
RICK AND PATRICIA GRANT, BOSTON, MASS.
BARON GEMMER AND JACK FOLTZ, PHILADELPHIA, PA.
JEFF PAPA, INDIANAPOLIS, IND.

For a list of future meetings, see the inside back cover of this issue of Echoes.

ALUMNI Class Notes

1956

Bill Gaither (C.E.) has completed his second cross-United States bicycle ride on a specially outfitted recumbent. He traveled from Astoria, Ore., and finished in Portsmouth, N.H. At 71, he was the oldest to make the trip.

1960

Bill Perkins (C.E.) retired last year after 37 years of teaching at Indiana University in the Kelley School of Business. He received a Distinguished Service Award from Indiana University, and he also was made an honorary I-Man by the Indiana University I-Men's Association.

1964

Jim Schulz (C.E.) left his position as one of two managing principals of the consulting firm of Becher-Hoppe Associates after 34 years. He has formed James Schulz Consulting, a limited liability company that has entered into a two-year contract to serve as the owner's representative for Memorial Health Center in Medford, Wis. His duties include facilitating, coordinating and communicating between the owner and the contractor.

1968

David Yeager (M.E.) has been promoted to the position of technical leader for engineer power cylinder system for Ford Motor Co. He has 21 U.S. patents, 12 European patents and three Japanese patents. With more than 30 years of experience in V engine power cylinder component/system design and production, he has received several industry recognitions, including the 2005 Metal Powder Industries Automotive Achievement Award and three Henry Ford Technology Awards.

1970

Jim Brown (C.E.) has semi retired to Key Largo, Fla., where he fishes, scuba dives and raises orchids.

1977

Bill Bayles (M.E.) retired from the U.S. Army this summer. A colonel, his last command was Rock Island District of the Army Corps of Engineers District. He and his wife, Linda, and daughters now live in Colorado Springs, Colo.

Dave Lewis (M.E.) is now with ITC^Deltacom in West Point, Ga. He is facilities manager in charge of the company's real estate.

1980

Bob Pease (Ch.E.) was promoted to the positions of president, Shell Trading U.S. Company, and global advisor for Trading Operations. Bob and his wife continue to reside near Houston, Texas.

1982

Mike Henson (E.E.) has joined MathStar, Inc., as an account manager for the central and eastern United States. MathStar is a fabless semiconductor company that provides field-programmable integrated circuit devices.

Dan Wolodkiewicz (M.E.) is president of Pinnacle Financial Strategies, and opened a new office in Dayton, Ohio.

KEEPING IN TOUCH WITH ROSE-HULMAN

My alumni record should include this important news:

Name _____

Class Year _____ Degree _____

Address _____

City _____

State _____ Zip Plus Four _____

Telephone: Home _____ Work _____

Fax _____

E-mail: Home _____

Work _____

- ❑ Promotion
- ❑ New Job
- ❑ New Address
- ❑ New Telephone
- ❑ Marriage
- ❑ Death
- ❑ Birth
- ❑ Award, Honor

News for Echoes _____

_____

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_____

SEND TO: Editor, Echoes, Rose-Hulman Institute of Technology, 5500 Wabash Avenue, Terre Haute, IN 47803
OR E-MAIL: bryan.taylor@rose-hulman.edu

FALL 2004

1985

Luis Bogran (M.E.) has accepted a new plant manager position with Alcan to build and run a new flexible packaging plant in the Tulsa, Okla., area.

Richard Moore (E.E.) last year completed the translation of Pyotr Ya. Ufimtsev's unpublished Russian manuscript on the "Theory of Edge Diffraction in Electromagnetics." Moore did the translation at the request and sponsorship of the Air Force Institute of Technology. The manuscript is an update of Ufimtsev's original development of Physical Theory of Diffraction. For more information about the book, visit the Web at http://www.techscience.com/books/edem.html. In other news, Richard, a Civil War re-enactor, appeared in several scenes of the film "Gods and Generals," released in 2003. He lives in Alexandria, Va.

Arthur Rawlings (M.E.) graduated from the University of Illinois College of Medicine at Peoria with an M.D. last May. He has started a residency in general surgery.

1987

Mark White (M.E.) has taken a new job with a different company, ATS Automation Tooling Systems, headquartered in Cambridge, Ontario. He works out of his home in Spring, Texas.

Ray Uehara (E.E.) and his wife, Judy, announce the adoption of their daughter, Amanda YuXiang, from Yunnan Province, People's Republic of China. She joined the family on June 21, and turned one year old in September.

1989

Floyd M. Yager (Math.) has been promoted to assistant vice president, actuarial, at Allstate Insurance Co. He leads the research and development team for the property and casualty business unit for Allstate. He lives in Park Ridge, Ill., with wife, Kristin, and sons Thomas and Michael.

1990

Scott C. Webb (M.E.) and his wife, Cindy, became parents through the adoption of son Gage Christian, who was born on April 21. The family resides in Tulsa, Okla.

Scott Weigand (E.E./Phy.) updates *Echoes* that since we last heard from him, has married and become a father. He married Sharon Dash in 2002, and they became parents with the birth of Alissa on July 26, 2004. Scott works at Raytheon in Indianapolis.

1991

Phil Banet (Math.) married Kristine Reifsteck Koester on Sept. 9.

J. Lawrence Elkin (M.E. and M.S.M.E. '93) and his wife Katherine welcomed their second child Elena, who born June 24. On the job front, he has partnered with three other engineers to form Applied Building Sciences, which provides forensic investigation services for construction-related failures. He also has been elect-

ALUMNUS CLEANS ATTIC AND SPAWNS SENIOR PROJECT

A trip to the attic by alumnus Tom Sprouse resulted in a Rose-Hulman senior civil engineering project last year.

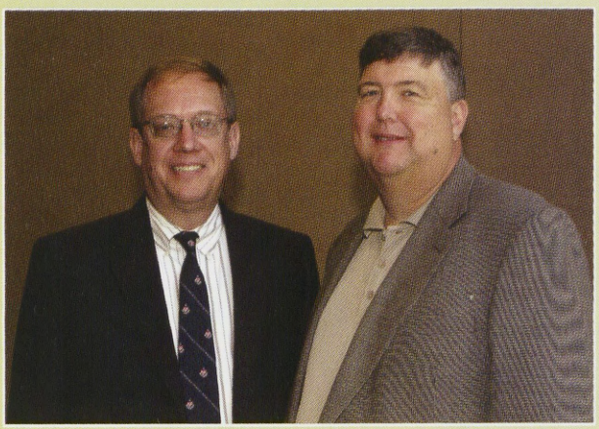
Sprouse, a 1966 civil engineering alumnus, approached a team of civil engineering students to design an energy-efficient subdivision in Davidson County, North Carolina. Sprouse said he was trying to design a practical energy efficient community and asked the students to look at various alternatives.

The team focused on a whole subdivision and individual homes, according to Robert Houghtalen, head of the Rose-Hulman Department of Civil Engineering. Because the subdivision was in North Carolina, the students did the work on a remote basis using e-mail and Geographic Information Systems (GIS) on the Web, he added. GIS provides mapping with a database behind it that allowed the students to study elevations and existing improvements in the area under study.

"The team did a great job of analyzing the property and preparing a document that will be used as the basis for project justification and scope," Sprouse said. He noted that work should begin on part of the study site next spring.

The motivation for the project came when Sprouse was cleaning his attic and came across his senior project which focused on a future design for Hulman Field (the Terre Haute airport). "I saw our senior project and wondered if they still did that at Rose-Hulman," he explained. "I called the civil engineering department and submitted my project for consideration."

Energy-efficient housing has become a sideline for Sprouse who works full time in his software business that provides process modeling for major pulp and paper companies in the United States, Canada and South America.



Presidential Exchange

Doug Stearley, class of 1979, left, completed his term as president of the Alumni Association during Homecoming, and turned the leadership over to incoming president Jeff Burgan, class of 1977.

ed to the Building Environmental and Thermal Envelope Council's Board of Direction, and he holds a voting position on ASHRAE's Technical Committee for Building Materials and Building Envelope Performance. He also served as an adjunct professor of engineering at Trident Technical College and an adjunct faculty member at the Medical University of South Carolina.

John Knight (Ch.E.) and his wife, Beth, report the birth of second child Melissa Irene, born last year. John is a senior engineer for Zimmer in Warsaw, Ind., and he recently transferred from manufacturing to the polymer research department.

Samuel H. Mark (M.E.) updates us with news about the birth of a third child, Joshua ChiQuen, who was born July 21. He joins siblings William and Christina.

Scott Simmonds (M.E.) and his wife, Brenda, had their fourth child, Emerald, born last May. She was welcomed home by Amethyst, Corden and Jaydann. On the job front, Scott has graduated from the Indiana University School of Law – Indianapolis, and he works as an intellectual property attorney for the Barnes & Thornburg law firm in Indianapolis.

1992

Tom Baker (Ch.E.) and his wife, Krista, added a fourth boy, Jacob Matthew, to the family earlier this year. He joins brothers Zack, Justin and Adam.

Brian Miller (Ch.E.) and his wife, Dorcas, welcomed a son, Nolan Gray, born July 3. They live in Spartanburg, S.C.

Warren "J.R." Shrader (Ch.E.) is scheduled to receive his Ph.D. in philosophy from the University of Notre Dame in January, and he has been hired as a tenure-track assistant professor in the philosophy department at Indiana University-South Bend.

1993

Jeff Papa (Econ.) has been elected vice chair of the Indiana Chapter of the American Immigration Lawyer's Association. He also recently returned from a volunteer service trip to Mongolia, where he worked with San Francisco-based Cultural Restoration Tourism Project to help restore an 18th century monastery that was destroyed by invaders in 1937.

Chad Powers (M.E.) and his wife, Tish, announce the birth of their second daughter, Olivia Grace, who was born in February.

Richard Ryan (M.E.) and his wife, Marie, announce the adoption of their son, Jonah Conlan.

Doug Sowder (M.E.) announces the birth a second child, Reid Douglas, born last May. On the job front, Doug has been promoted to engineering supervisor for the Automotive Systems Division of the Bose Corp., Southeast Operations.

HOMECOMING 2005 HAS BEEN SET FOR SEPTEMBER 30 – OCTOBER 1

Make plans now to return for the annual get-together.

Stephen Varga (E.E.) has been named assistant coach for the Cincinnati Excite professional indoor soccer team.

1994

Matt Leach (M.E.) and his wife, Pam, had their third child last April. Allison Jane joins siblings Marcus and Maggie. Matt has been promoted to plant manager of Superior Essex-John County Plant. The family resides in Greenwood, Ind.

1995

Michael A. Benefield (Ch.E.) graduated magna cum laude from Indiana University School of Law – Indianapolis. He is employed as a patent attorney at the Indianapolis-based firm of Woodard, Emhardt, Moriarty, McNett & Henry LLP.

Dennis Burgess (Ch.E.) has been promoted to production manager at Ecolab's Shenandoah Valley Service Center near Washington, D.C.

ALUMNA WORKING AT THE SOUTH POLE

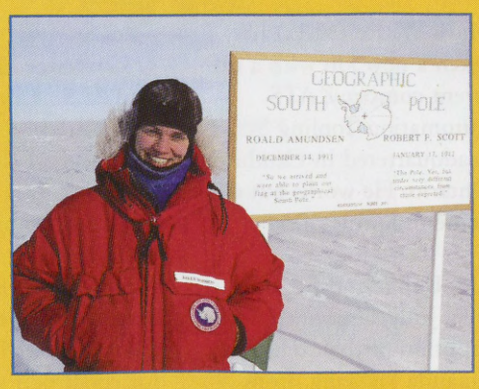
Kelly Kozdras doesn't shy away from a challenge. She's completed marathons, served as an AmeriCorps volunteer and survived living in the heart of New York City as an electrical engineer for the New York City Transit Authority.

Now, the 1999 electrical engineering graduate is spending the next year helping construct a new National Science Foundation research station at the South Pole.

Kozdras arrived in Antarctica in mid-October to provide field engineering support for construction of the South Pole Modernization project on the geographic South Pole. Several wings of the new, elevated station were completed before Kozdras' arrival. The project is set for completion 2007.

It may be summer there now, but Kozdras is nervously anticipating the frigid winter months when temperatures reach -117 degrees F and there will be 24 hours of darkness for months.

"This is the coolest place I've ever seen, and I'm not talking about the temperatures outside. I'm excited about the whole experience," she stated in an e-mail shortly after arriving at the South Pole.



Scott Clemons (E.E.) updates *Echoes* that since we last heard from him, he married his wife, Elizabeth, in October of 2003.

Eric M. Collins (Phy.) and his wife, Jennifer, announce the birth of son Isaac Matthew, born last December. He joins older sister Katelyn Eileen.

Dan Harshbarger (E.E.) and his wife, Holly, are the parents of a baby girl, Carly Elizabeth, born last June.

Michael Meneghini (C.E.) and his wife, Cindy, celebrated the birth of their second child, Cecilia Rose, in September. The family is in Rochester, Minn., where Michael, a medical doctor, is in a one-year fellowship in lower extremity joint replacement at the Mayo Clinic.

1996

Craig Cutforth (E.E.) and his wife, Liane, announce the birth of a son, Davis Philip, born last May.

Doug Ihrig (M.E.) and his wife, Sarah, announce the birth of their first child, Giselle Marie, born Sept. 1.

1997

Darren Long (M.E.) and his wife, Corrie, had their second child, Kasey Allison, born Sept. 9.

James Poylio (A.O.) married Cyndi O'Connor on July 31. They live in Hawthorne, Calif.

John Rozmaryn (M.E.) and his wife, Gayle, announce the birth of daughter Clara Elizabeth, born last April.

Vincent Valenzuela (M.E.) was promoted to the position of production support senior manager, service engineering – credit operations at Citigroup's Citi Cards division. He has relocated from New York, N.Y., to Hagerstown, Md.

1998

Caleb J. Coburn (M.E.) married Jessica Baranczyk of Krakow, Wis., on June 5.

Craig Meisse (Ch.E.) has received a Ph.D. in chemical engineering from the University of Illinois, and he has accepted a postdoctoral position at the Korean Institute of Science and Technology in Seoul, South Korea.

Aaron Ness (M.E.) updates *Echoes* with news of the birth of daughter Genevieve Elizabeth, born Sept. 8. She joins brothers Michael and Ryan at home.

Nate Van Sell (Ch.E.) graduated last May with an MBA from the Kelley School of Business, Indiana University at Indianapolis. He now is working on a law degree from the Indiana University School of Law in Indianapolis. He also serves on the Rose-Hulman Alumni Advisory Board as chair of that group's Alumni Clubs Committee.

1999

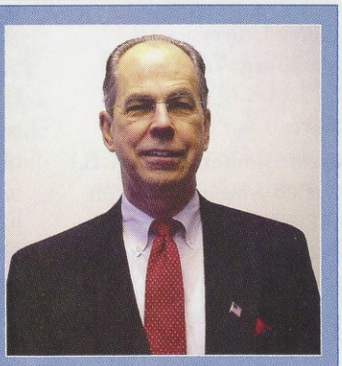
Ben Garden (M.E.) married Jennifer Ganshorn on July 31. He has started a new position as an engineering sales manager for Instru-Med Technologies, a biomedical supplier for orthopaedic companies. They live in Warsaw, Ind.

Michael "M.J." Kratoska (A.O.) married Hanna Hogan last May. They live in Rochester, N.Y., where M.J. is an optical engineer with Eastman Kodak.

Craig M. Martini (E.E.) has accepted a new position as a controls engineer with Procter & Gamble's diaper division in Cape Girardeau, Mo. He also passed the P.E. in electrical engineering last spring.

John D. Rivard (M.E.) completed his Ph.D. in materials engineering from the University of Cincinnati in August. He continues to work at the Oak Ridge National Laboratory in Tennessee, leading research

ALUMNUS STEVE KERN SERVES AS ASSOCIATE PUBLISHER OF DESKTOP ENGINEERING



Steve Kern may not be a practicing engineer these days, but he is helping other engineers stay current in their own practice.

As associate publisher of Desktop Engineering, Kern, a 1963 civil engineering alumnus, helps produce a magazine aimed at keeping design engineers up-to-date about the latest computer software and hardware that helps them do their jobs.

Based in Peterborough, N.H., Kern focuses his specific duties on advertising sales for the 63,000-circulation magazine. He is responsible for sales east of the Mississippi River in the United States and for sales in Europe. His magazine sells advertising mostly to hardware and software companies.

He started in the business in 1969 when he left a job as a structural engineer with Coors Brewery to become an assistant editorial contributor for Design News.

"The Design News people felt they could take an engineer and make him a writer rather than taking a journalist and making him technically savvy," Kern explained of his career shift.

That transition has been rewarding for Kern, who has worked with an assortment of technically oriented publications throughout his career. "Working with a variety of people in this business appeals to me," he said. "You get to meet a lot of terrific people in this business."

projects in the area of materials science.

2000

Trevor Lobo (M.E.) currently serves as environmental health and sanitation volunteer for the U.S. Peace Corps.

Nick Robarge (C.S.) and his wife, **Susan (Howard, C.E., '00),** welcomed their first child, Hannah Nicole, born on June 14.

Jason Walker (C.S.) has accepted a new position as software developer for Liberty University in Lynchburg, Va.

2001

Justin Blomenberg (M.E.) married Megan Meyer on June 12. They live in Seymour, Ind., where Justin works for Cummins, Inc., as a senior performance development engineer.

Kevin Culbreth (M.E.) and his wife, **Marsha (Bergh, M.E., '01)**, became parents when daughter Eliza was born last May.

Greg Gotwald (Ch.E.) graduated cum laude from Vermont Law School last May. He works with the Indianapolis law firm of Plews, Shadley, Racher & Braun.

Andrew Kraling (M.E.) has received an MBA from the Carlson School of Management at the University of Minnesota. His emphasis was entrepreneurial studies and operations.

2002

Jay Brotz (C.P.E.) and **Emily Holzknecht (C.S.)** were married on July 17. They reside in Albuquerque, N.M., where Jay has taken a position at Sandia National Laboratories. Emily will be attending the University of New Mexico for a master's in education.

Jason Childs (M.E.) received his Air Force pilot wings last April. He has been stationed at Little Rock Air Force Base, flying C-130s with the 61st Airlift Squadron.

Chad Crull (M.E.) and his wife, Jessica, report the birth of son, Timothy "James" Otis, born last spring. Chad has taken a position with Lear Corp. in Wentzville, Mo.

Charles Elwood (E.E.) and his wife, Elizabeth, announce the birth of son, Joshua Tevin, born last June.

Eric Faith (M.E.) and **Autumn Weddle (Ch.E., '03)** were married Oct. 16.

Ryan Harris (Ch.E.) and his wife, Heather, announce the birth of their first child, Kaleb Richard, who was born last April.

Cory Miller (M.E.) married **Katie LaFoe (E.E., '04)** on June 26. They live in Fredericksburg, Va., and they both work at the Naval Surface Warfare Center in Dahlgren, Va.

Job Well Done

The Alumni Association Advisory Board went through a changing of the guard this fall with seven people completing their terms on the board. Front row, from left: Doug Stearley ('79), Bill Nicewanger ('63) and Nick Mahurin ('89). Back row, from left: Greg Holler ('79), Becky Smith ('99, M.S. '01) and Tom Dinkel ('72). Not pictured: Pat Goodwin ('95).

Pete Meyers (C.P.E.) married Cynthia A. Pickle on July 10. They reside in Albuquerque, N.M.

Rich Thacker (M.E.) has graduated from Clemson University with a master's in bioengineering. He serves with the Peace Corps in Uzbekistan, where he teaches English in high school and runs an after-school program.

Katherine Titsworth (Ch.E.) and **Robert G. Meyers II (E.E.)** were married last February.

Chris Unton (C.S.) and his wife, Kristy, had a baby, Hanna Grace, born on July 6.

2003

Eric E. Beier (C.E.) married Rachel M. Begle last spring.

Nat Bowe (M.E.) and **Nichole Parke (E.E., '04)** were married June 19.

Joshua Elgin (M.E.) wed Doris Fleenor June 19.

Andrew Feyen (Ch.E.) has accepted a new job as a process engineer for Kimberly-Clark Corp., near Neenah, Wis. He lives in Appleton, Wis.

Dan Gallagher (M.E.) has accepted a position with Federal Mogul, Logansport, Ind., as a design engineer. He is living in Lafayette, Ind.

2004

Heather Coats (M.E.) married Trent Lindenman on Aug. 7.

OBITUARIES

1931

Kenneth Mason (Ch.E.) died Sept. 8 in Portland, Ore. He was a retired foundry superintendent for Nibco, Inc.

1936

C. Daniel Overholser (Ch.E.), died July 22 at his residence in New Albany, Ky. He was a retired research chemical engineer for Joseph E. Seagram & Sons in Louisville. Survivors include sons, D. Kent and C. Daniel.

1939

William M. Noel (E.E./M.E.) died Aug. 2 in Paris, Texas. He was retired from Campbell Soup Co., where he worked for 34 years. Survivors include his wife, Helen Tod Noel, and two sons, Larrance of Ramsey, N.J., and Merritt Andrew of Coppell, Texas.

Malcolm A. Steele, Jr. (M.E.) died May 31 in Richmond, Va. Survivors include his wife, Ruth, sons, Malcolm III and John, and a daughter, Sandra Glasheen of Nashville, Tenn. His career spanned 50 years of service with the United States government, most of it at the Ballistics Research Laboratories at Aberdeen Proving Ground, Aberdeen, Md. He worked on development of the Schleiren camera and other hypersonic data recording instrumentation essential in testing and perfecting projectile and aircraft flight which ushered in space developments of the 1960s.

1941

C. Roger Howle (Ch.E.) died June 6, according to word received in the Alumni Office. He was a retired superintendent for Alcoa. He lived in Seattle, Wash., at the time of his death, and he was survived by his wife, Merry.

1942

Martin J. "Marty" Cavanaugh (Ch.E.) died Aug. 2 at the age of 82. Survivors include his wife, Kathleen. He was employed by General Motors as a personnel manager for 39 years, retiring in 1981.

1943

Jack Leonard Loser (Ch.E.), 84, died Aug. 29 in Indianapolis. He was retired as director of applied research from the Naval Avionics Center in Indianapolis where he worked for more than 37 years. In 1984, he was awarded the Navy's Meritorious Civilian Service Award.

1944

E. James Hegarty, Jr. (C.E.) died May 30. He was a retired consulting engineer who spent much of his career designing portions of the Interstate Highway System through Ohio. Survivors include his wife, of 51 years, Helen, a son James Hegarty (Class of 1976), and brother-in-law Robert Guiler (Class of 1953). His father, Edward J. Hegarty, was a 1915 graduate of the Institute.

1947

Gerald R. Swihart (C.E.), 84, died June 18. He had been a professor at the University of Nebraska for 41 years. Survivors include a daughter Sally Swihart and two sons, Scott and Tom.

1949

Albert Wyatt Schairbaum (M.E.) died last spring. He was a resident of Granbury, Texas, and was a plant manager for United States Gypsum and Masonite Corp. He was a noted artist and outdoorsman. His art involved oils, pen and ink drawings, and model shipbuilding. Survivors include his wife, Marilou, and children, Herbert, Kathleen Erwin, and Edward.

1951

Robert H. Milliken (E.E.) died last April at his home in Prescott, Ariz. He was 78 years of age. Survivors include his daughter Kathy and sons, Joe, Ben, George and James.

1956

Walter F. Johanningsmeier (E.E.) died July 4 at his home in Silver Spring, Md. Survivors include his wife, Mary. He was retired from the FBI. Through the years, he was active in the life of Rose-Hulman, serving the Alumni Association in various capacities.

1981

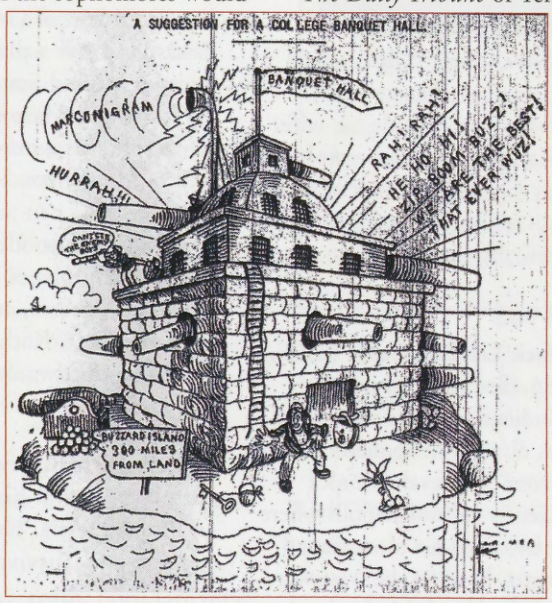
Ernest F. "Ernie" Grube (M.E. and M.S.M.E. '85) died June 25 at the age of 45. Survivors include his wife, Julia, daughters Erin and Kelly, a stepdaughter Amanda Krutz, a stepson David Krutz, his mother Norma Grube and a brother Michael. He was a computer systems manager for Calument Lubricants.

THE CLASS BANQUET THAT BECAME A RIOT

by John Robson, Librarian and Archivist

The fierce rivalry that once existed between the freshman and sophomore classes is heavily documented in the pages of *The Rose Technic*, the monthly journal of school life from 1891 until its death in 1970. From the very first days of the Institute, it seemed the natural order of school life for the sophomores to take it upon themselves to "teach" the raw freshmen the ways of the Poly. There was the usual competition in the fall, often in October, when the sophomores would challenge the "freshies" to a game of baseball that would end quickly in a brawl when the new class would challenge the rule that only upperclassmen could carry pipes.

The rivalry between the class of 1905 and 1906 was something else. Some expected the freshmen to try to bust up the annual sophomore banquet held November 7, 1902, in the Terre Haute House. But all went well except, as noted in the *Modulus Yearbook* of 1905, when "an attempt was made by a Freshie to create disorder by means of mustard oil, but a waiter was the only victim." Disruption was minimal, but the gauntlet had been cast!



A newspaper cartoon suggested a fortress for future class banquets.

Then came the day of the freshman banquet and the annals of student life would never be the same. The banquet date was set for Friday, February 13, 1903. Seeking to outwit the sophomores, the class decided to hold the event out of town at the Davis Hotel in nearby Brazil, Ind. Promptly at 3 p.m., both sections of the class "cut" recitations and quietly left campus, scattering to their homes or boarding houses. By plan, they would meet up again at 3:30 p.m. and board a chartered car of the interurban – an electric streetcar – and make their way to Brazil in style. By 4 p.m., all 51 were marching into the Davis Hotel, full of class spirit and enjoying games and music in the hotel parlors upstairs, awaiting the call to dinner. They were sure they had eluded the intolerable sophomores.

But the plan was quickly spoiled at 5:30 p.m. when 42 sophomores arrived by the interurban. The boys of '06 spotted the sophomores from a window on the second floor. They rushed downstairs to secure the front doors. The sophomores, however, formed into a flying wedge and beat back the defenders and poured into the lobby.

The fight that broke out was long in the memory of all and particularly the citizens of Brazil. The Brazil Democrat headlined "Desperate Mob Threatens Brazil." "Only Valiant Action of Police Prevents Whole Sale Slaughter." "After a Bitter Fight the Mob is Captured and the City Was Saved." *The Daily Tribune* of Terre Haute of February 14 gave the headline lead to the story with the banner "TWENTY-FOUR POLY STUDENTS ARRESTED AT BRAZIL." Lest anyone miss the point, the front page contained that large cartoon that you see here. Titled "A SUGGESTION FOR A COLLEGE BANQUET HALL" the paper poked fun at the student's behavior, recommending that an armed fortress would be an appropriate site for future class gatherings.

The newspapers report that in the heat of the fight several boys were laid out on the floor and that chairs were used as clubs. In addition to damage to Brazil's largest hotel, a number of the boys suffered at the hands of nightstick wielding police. The real crime in the eyes of the sophomores was the charge that the freshmen assisted the police in making arrests. For the freshmen's part, they were battling for the return of three of their classmates who had been "kidnapped" and were being held hostage elsewhere in the hotel.

In the end, twenty-four warring sophomores were arrested and hauled to jail. Citizens gathered to see the "criminals" behind bars, "smoking, talking and singing and braving the terrible fumes of the oil of mustard." After paying $50, the boys were released. By midnight, all had returned to Terre Haute, no doubt to lick their wounds and tell their tales.

One thing for certain, no one would forget the freshman banquet of 1903. What the reaction of President Mees was can only be imagined. As the school doctor, he might first have seen to the injuries. As the stern president, he no doubt meted out appropriate punishment chores around campus.■

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/alumniaffairs

PRESIDENT MIDGLEY MEETS WITH ALUMNI AROUND THE COUNTRY

President John J. Midgley has been visiting alumni around the country this year. He already has been to Detroit, Mich., Louisville, Ky., Boston, Mass., Philadelphia, Pa., and Indianapolis, Ind. First-of-the-year visits are scheduled for the following dates and locations. Alumni living in those areas will receive invitations with detailed information. To learn more, contact Brian Dyer, director of alumni affairs and special events, at 812-877-8359.

JAN.

January 15, San Diego
January 16, Los Angeles
January 22, Phoenix
January 23, Denver
January 26, Hawaii
January 28, Seattle
January 29, San Francisco

FEB.

February 12, Houston
February 13, Dallas
February 19, St. Louis

MAR.

March 5, Washington, D.C.
March 6, Baltimore
March 12, Chicago

JOIN THE CONVERSATION

ROSE-HULMAN 2015
A Conversation About Our Future

Rose-Hulman 2015: A Conversation About Our Future seeks your input on where we would like the Institute to be in 2014-2015 when we celebrate the 140th anniversary of our founding. *Rose-Hulman 2015: A Conversation About Our Future* invites discussion of four themes intended to explore our future directions and priorities.

- **Future Academic Programs**
- **Future Students**
- **Campus Life and Operations**
- **Community and World Relationships**

To learn more and to join the conversation, visit the Rose-Hulman Web site at **http://www.rose-hulman.edu/groups** or call **812-877-8441.**

PARTING SHOT

Student photographer Isaac Sachs photographed this captivating image of the White Chapel at night this fall. The photo was taken from the east side of the large lake on campus.

ROSE-HULMAN INSTITUTE OF TECHNOLOGY
Echoes

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