

Fall 2002

Volume 2002-2003 - Issue 1 - Fall, 2002

Echoes Staff

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Echoes

ROSE-HULMAN INSTITUTE OF TECHNOLOGY

Fall 2002

Vol. 2002-2003, No. 1

Pioneer

*Ernest Davidson receives National
Medal of Science for research in
computational quantum chemistry*



CAMPAIGN SURPASSES \$202 MILLION

Some goals of "Vision to be the Best" continue

SERVICE LEARNING

Students learn through community service



heard in the halls of Moench

“We are all a product of both what we learn and what we are taught. We are taught simple things such as mathematics and/or physics through books and instruction. We learn the hard things such as honor, dignity, humor and truthfulness only by example. The enclosed donation is not just for the lessons I was taught. In reality it is more a product of the lessons I learned. My thanks to professors Roger Lautzenheiser, Michael McInerney, Gary Sherman, Azad Siahmakoun and Arthur Western.”

— *Arthur Usher IV, (Class of 1991)*

(on a note accompanying a financial donation to Rose-Hulman this fall)

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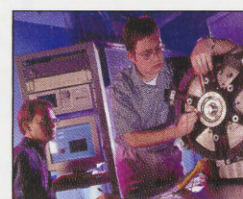
alumni

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ON THE COVER

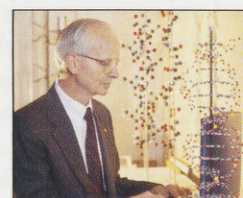
Ernest Davidson was recognized this year by President George W. Bush with the National Medal of Science. Davidson was cited for his groundbreaking quantum chemistry research. The cover portrait was photographed by Kathryn Sauber, Seattle, Washington.



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Great Days

A LETTER FROM THE PRESIDENT

BUILDING ON THE "VISION'S" MOMENTUM

I would like to start this column by saying thank you. On behalf of the whole Rose-Hulman family I want to express our appreciation to the thousands of people who are making our "Vision to be the Best" fund-raising campaign such a success.

Eight years ago, we embarked on an ambitious program to raise \$100 million for various campus projects in 10 years. We raised more than \$202 million as of this fall. The amount of money raised and the time in which it has come in are astounding. When we started "Vision to be the Best" I personally had no doubt we would hit our initial goal, but I could not foresee accomplishing as much as we have to this point.

Not everybody shared my initial optimism. When we began the "Vision" planning process back in the early 1990s, there were some naysayers who said a college our size could not raise \$100 million in 10 years. After we surpassed that goal with \$116 million in 1999, some people said continuing it to 2004 with a \$200 million goal was impossible. Today, we celebrate an alleged impossibility that has become a reality.

So much has been accomplished thanks to the generosity of the alumni, friends, parents, faculty, staff, corporations and businesses that support Rose-Hulman. **Just within the past three years that support enabled:**

- Increased scholarship aid on campus.
- Rose-Hulman Ventures to become a force in Indiana business development and in providing project-based educational experiences for our students.
- Construction of Hatfield Hall that provides a new theater and alumni center on campus.
- Development of a new applied biology/life sciences program.
- Construction of White Chapel.
- Enhancement of the campus computing infrastructure.
- Expansion of the studio lab concept in various academic departments.
- Creation of a new microelectromechanical systems (MEMS) program on campus.
- Development of a web mall project called Engenius Solutions that lets students market their project ideas on the Internet.
- Improvements of our outdoor track and field facilities.
- Expansion of the Homework Hotline.

That list provides just a sampling of the many projects we have been able to conduct because of support for "Vision to be the Best."

While we have taken time to celebrate those accomplishments this fall, much work remains to be done. We surpassed our dollar goal for the campaign, but some of the projects on our "Vision" goal list were not totally funded. Some donors

contribute to the college by designating their gift to a specific area. We, of course, honor their wishes, but that occasionally leaves other goals underfunded.

Unmet goals include:

- **Faculty professional development opportunities.** We must enable our faculty to stay current in their fields to give our students the most up-to-date education possible.
- **Endowment for faculty chairs to retain and recruit the best teachers.** Rose-Hulman competes with other top colleges for the best faculty in the country. An endowment for faculty chairs would give us a competitive edge in that recruitment.
- **A new building for applied biology, biomedical engineering and chemistry.** What the physical sciences were to our society in the 20th century, the life sciences will be in this century, and we lack the proper facilities to meet the needs of that program.
- **Technology for renovated laboratories and to support curricular innovations.** Our hands-on education requires the latest equipment and space to let our students learn by doing.

To meet those goals, we are continuing the "Vision to be the Best" through 2004. Momentum is with us and now is the time to make progress. Our fortunes are on the rise and we must continue to make big steps to provide the best education possible. Rose-Hulman has positioned itself for the future, and our success demands more success. We owe it to our students to provide the best education possible.

As we work toward meeting those goals, I want to remind you they were not developed in a vacuum. They are part of a long-term planning process that started in the early 1990s with the Commission on the Future of Rose-Hulman. We have incorporated ideas from all Rose-Hulman constituents and from leaders in business and industry. We continue to seek that input as we update our planning process.

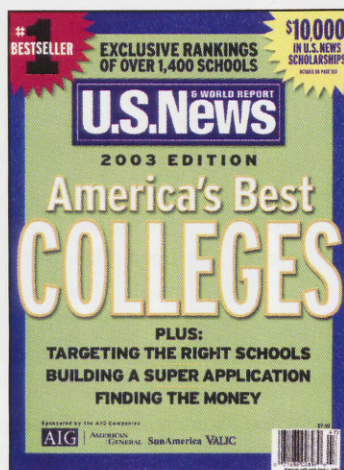
I'm excited by what we have accomplished and by the challenges and opportunities that lay ahead. Again, I express my gratitude for what you have done to this point. I would encourage you to pause and toast Rose-Hulman's success. Then I would ask you to join me as we continue to bring our "Vision to be the Best" into focus. ■



By Samuel Hulbert, President of
Rose-Hulman Institute of Technology

CAMPUS News Notes

ROSE-HULMAN RANKED #1 FOR FOURTH CONSECUTIVE YEAR BY U.S. NEWS FIVE ENGINEERING DEPARTMENTS REPEAT AS #1



The nation's engineering educators for the fourth year in a row have ranked Rose-Hulman Institute of Technology as the best college that offers the bachelor's or master's degree as the highest degree in engineering.

The ranking was based on the opinions of deans and senior faculty who responded to an annual survey produced by *U.S. News & World Report* magazine. The 57 percent response rate was the highest ever for the annual survey.

For the third year in a row, five of the engineering programs at Rose-Hulman were also ranked No. 1. They include chemical, civil, computer, electrical and mechanical engineering.

The survey did not rank undergraduate programs in biomedical engineering, computer science and software engineering, and optical engineering that are also offered at Rose-Hulman.

The rankings are published in the magazine's 2003 edition of *America's Best Colleges* which is now available at bookstores. The results of the national survey are also available via the magazine's web site at www.USNews.com.

"Retaining our No. 1 ranking for the fourth year in a row is another indication that we've earned a national reputation for excellence within the engineering education community," stated Rose-Hulman President Samuel Hulbert. "I know our alumni and other supporters will take pride in this unprecedented ranking as the nation's best," he said.

The survey enabled faculty to rate each program they're familiar with on a scale of

one to five, with five indicating distinguished status. Rose-Hulman's peer assessment score is 4.5 which is the same score it received last year. The rankings of the engineering programs were determined by the programs receiving the most mentions in the survey responses.

The second and third ranked schools, Harvey Mudd College in Claremont, Calif. and Cooper Union in New York City, retained their same rankings as last year.

Other colleges ranked in the top 10 in the same category as Rose-Hulman included the United States Air Force, Military and Naval academies, Bucknell University, Rochester Institute of Technology and Cal Poly-San Luis Obispo, Swarthmore College and Villanova University.

The No. 1 ranking benefits Rose-Hulman's student recruitment efforts, especially in attracting students from outside the Midwest, says Chuck Howard, dean of admissions.

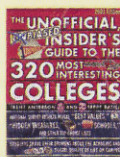
"The ranking certainly increases their curiosity about finding out more about us," he said. ■

COLLEGE GUIDE DESCRIBES ROSE-HULMAN AS A SCIENCE POWERHOUSE

The editors of a new publication titled, "The Unofficial, Unbiased, Insider's Guide to the 320 Most Interesting Colleges," describe Rose-Hulman Institute of Technology as "a science powerhouse" and a college where a degree holds a prestige few other schools can match.

Selection of colleges and universities to be included in the book, published by Kaplan, Inc./Simon and Schuster, was based on a national survey of high-school guidance counselors, candid student observations about the academic and social life on campus, school profile information and expertise of the co-authors.

Colleges are not ranked; instead a two-page profile provides information about academics, campus life, admissions requirements and career opportunities. Other institutions selected for the guide include Harvard, Duke, Northwestern, and Princeton universities along with MIT and CalTech.



The guide is co-authored by Kaplan, Inc. executives Trent Anderson, vice president for publishing and e-Ventures; and Seppy Basili, vice president of learning and assessment. Kaplan is a national provider of educational and career services. It is a subsidiary of The Washington Post Co.

In the Rose-Hulman profile, Anderson says, "Employers and graduate schools in engineering look upon Rose-Hulman as their training ground. Excel here, and you'll impress everyone." The guide cites the excellent job opportunities and internships for Rose-Hulman graduates and students. According to the authors, "Rose-Hulman students are in heavy demand for internships with students assuming quite a bit of responsibility during their learning experiences." The numerous multimillion dollar campus projects to build new academic and student life facilities were also cited by the authors, "Rose isn't one of those engineering schools bunkered in gray strong buildings." ■

ALUMNI NETWORK VITAL TO STUDENTS' JOB SEARCH

Class of 2002 finds success during tough job market

Even though the Rose-Hulman graduating class of 2002 overall had success starting their careers during a period of declining job prospects, the help students receive from alumni regarding leads on part-time or permanent employment has never been more important.

As of November, 96 percent of the May, 2002 graduating class had either accepted a job offer, enrolled in graduate school or had been commissioned in the Army or Air Force, according to the Kevin Hewerdine, director of the Office of Career Services and Employer Relations at Rose-Hulman.

The average starting salary for 2002 May graduates of \$50,100 was \$1,600 higher than the national average as reported by the National Association of Colleges and Employers.

"It's a tough job market. We're being as aggressive and creative as we can to prepare our students to continue to be successful in their job search" he said. "Alumni played a key role in new graduates having more success than their counterparts at most engineering colleges," Hewerdine stated.

"I can't stress enough how much we value the alumni who recruit on campus and alumni who give us advance notice about job opportunities at their company or other businesses," he stressed.

Response to the Rose-Hulman Career Fair this fall remained about the same as last year. Nearly 125 companies were represented during the one-day event in the Sports and Recreation Center. "Considering the economy, we're pleased that the number of companies attending didn't decline. At least 35 companies assigned recruiters to stay on campus for one or two days after the Career Fair to interview seniors," he said.

Interest has increased among the nation's graduate schools when it comes to recruiting Rose-Hulman seniors. Hewerdine reports that a record 19 graduate schools were represented at the annual Graduate School Seminar recently on campus.

Hewerdine can be contacted at Kevin.Hewerdine@Rose-Hulman.Edu or by calling 1-800-248-7448. ■

BEST-EVER STUDENT RETENTION PUSHES ENROLLMENT TO NEW RECORD

The best student retention in school history and the second-largest freshman class to enter Rose-Hulman Institute of Technology have resulted in record enrollment for the fall quarter.

Official enrollment is 1,812 students, which surpasses the previous fall quarter enrollment record of 1,751 last year, according to the registrar's office. The enrollment total includes 165 graduate students.

Retention rates for sophomores and juniors are at an all-time high, according to Pete Gustafson, vice president for student affairs and dean of students. Gustafson reports that 87 percent of sophomores returned to begin their junior year, while 83 percent of last year's junior class are now enrolled. Freshman retention was 94 percent, second-best in school history.

Overall, only 70 students did not return this fall which is a record low number. Last year the number was 94 and two years ago 101 students did not return.

"I'm just as excited and proud of these increasing retention figures as I am about our No. 1 ranking in *U.S. News & World Report*," Rose-Hulman President Samuel Hulbert stated.

"Our outstanding student retention is a key reason why Rose-Hulman has earned a national reputation for quality education," he said.

Gustafson said an initiative that began two years ago to improve retention by offering expanded tutoring services for sophomores living in the college's newest residence hall is one reason for the increased student retention.

"The hall was designed with a classroom and library where additional tutoring services provided by the Learning Center are offered five nights a week," he said. Data from the Learning Center shows that 62 percent of the students who used the new hall tutoring service live in the residence hall.

The 451 students in the freshman class is the second-largest number

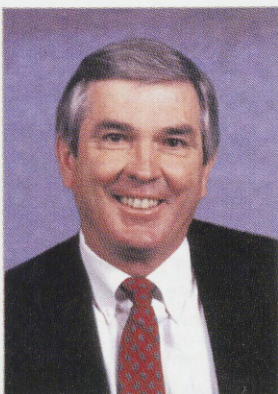
since 1995 when 466 freshmen enrolled. They represent 42 states and five foreign countries.

Ninety-two percent of the freshmen ranked in the top 20 percent of their high-school graduating class. The group includes 60 high-school valedictorians, the second-highest number achieving that honor to enroll as part of a freshman class at the college.

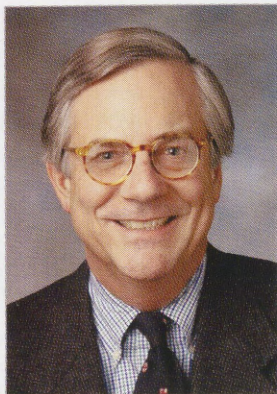
Rose-Hulman Dean of Admissions Chuck Howard cited several reasons for the college's successful student recruitment. "Our increasing national reputation, new facilities, the benefits of the Lilly Community Foundation Scholarship program, and the success of our graduates in the job market are among the key factors," he explained.

A slight majority of the freshman class, 51 percent, live outside of Indiana, while only 25 percent are first-generation college students. ■

CAHILL AND WESTBY ELECTED TO ROSE-HULMAN BOARD OF TRUSTEES



Patrick Cahill



Ronald Westby

Patrick Cahill, president of Wabash Valley Asphalt in Terre Haute, and Ronald Westby, director of North American Business Operations at Ford Motor Co. in Dearborn, Mich., are the newest members elected to the Rose-Hulman Board of Trustees. Both are Rose-Hulman alumni.

Cahill was elected by alumni to replace Fred Clayton whose term as one of two alumni representatives to the Board of Trustees has expired. Cahill graduated from Rose-Hulman in 1967 with a degree in civil engineering. Wabash Valley Asphalt specializes in the areas of asphalt pavement construction, aggregate transport and spreading, site development and

engineering services, excavating and extensive concrete services. Cahill was president of the Rose-Hulman Alumni Association in 2001.

Westby is involved in implementing Ford's Revitalization Plan that is restructuring and refocusing the company's operations. During his 25-year career at Ford,

he has worked with the company's affiliates in Japan, South Korea, Mexico, Brazil, Argentina and Venezuela as well as North America.

His first assignment at Ford was on the finance staff. He has also had responsibilities in corporate strategy, business development, car product development and planning, car power train planning and transmission manufacturing operations. Prior to Ford, he served in the Office of the Secretary of Defense in the Pentagon.

Westby received a Bachelor of Science degree in mechanical engineering from Rose-Hulman in 1972. ■

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If your boss would benefit from a newsletter that provides a summary of some of the latest technical news, send us his or her name. The first issue of TekNext has been mailed to 8,000 senior engineering managers nationwide.

TekNext was created to increase national visibility for Rose-Hulman among readers who are not

familiar with the college. TekNext is a source for information about engineering and science news that will benefit an executive or their business. The newsletter will be published four times a year.

It's easy to add someone to the TekNext mailing list. Simply access the Rose-Hulman web site and click on the "Subscribe to TekNext" button. You can help increase national awareness about Rose-Hulman by adding names to the TekNext subscription list. ■

HOMEWORK HOTLINE RESPONDS TO RECORD NUMBER OF CALLS

**HOMEWORK
HOTLINE**

Rose-Hulman students were kept busy this fall responding to a record number of calls to the college's Homework Hotline toll-free telephone mathematics and science tutoring service.

The Homework Hotline received 2,708 calls in September from middle school and high school students.

That's an average of 159.2 calls per night (Sunday through Thursday, 7 p.m. to 10 p.m.). The average was increasing throughout October.

Last year, the hotline received 676 calls in September.

At this pace, the hotline will have no trouble achieving its goal of answering 15,500 calls this school year.

The Homework Hotline's primary service area was expanded to include students attending schools in northeast and east central Indiana, thanks to support from the Lilly Endowment Inc. and 3M Corporation. Major cities in this area are Fort Wayne, Anderson, Muncie and Richmond. Schools in the Indianapolis metropolitan area, entire Wabash Valley, Bloomington and Hartford City have been served since 1991.

Approximately 20 students are available to answer calls each night.

The toll-free telephone number is 1-877-ASK-ROSE (275-7673). The service's web site is www.askrose.org ■

RISE PROGRAM SEEKS TO BUILD GREEK COMMUNITY

An effort to build the spirit of community among fraternities and sororities on campus reached a new level this fall with the RISE program. RISE is an acronym for Relationship, Integrity, Service and Enlightenment.

RISE was presented in a special one-day workshop to Greek organization presidents this fall. The goal was to show how much each group has in common with other fraternities and how they can live better lives by following the values held by each group.



Members of the Triangle fraternity "spruce up" their grounds.

"RISE is part of a recent emphasis we have had on campus to build on an already strong Greek community," said Tom Miller, associate dean of students. "This is not a reaction to a 'we have a

problem' scenario. We have taken time for the Greek organizations to refocus on their original values and how they relate to other groups on campus."

"Through RISE, we hope to teach concepts of ethics, friendships, fellowship and business," Miller said. Now that the Greek executive officers have gone through the training, they are expected to carry the concept back to their chapters.

The RISE program included a presentation by President Samuel Hulbert, and it was followed by a program where fraternities and sororities worked "sprucing up" their houses prior to Homecoming.

At many colleges, Greek organizations have come under fire for alcohol abuse and hazing incidents. Some fraternities have closed because of such problems. "Rose-Hulman doesn't want to be a part of that, and our students have taken great strides to stay focused on the original values that were part of their founding," Miller said.

"We are ahead of other colleges in the strength of our Greek community, and bringing everybody together will help continue that process," said Mike Novotney, president of Triangle fraternity and student coordinator of the RISE program.

"We hope this begins a running dialogue between communities and break down stereotypes that one house might hold against another," Novotney said. "We want to make sure everybody realizes we are one community."

"Each organization is individual and different, but we all have similar and shared values," Miller stated. ■

NEW FACULTY JOIN ROSE-HULMAN RANKS

Several new faculty members have joined the Rose-Hulman family this year. They include:

Donald J. Bagert, professor of computer science and software engineering, from professor at Texas Tech University; Ph.D., 2001, Texas A&M University

Mark Brandt, assistant professor of chemistry, from professor, California State University at Fullerton; Ph.D., 1989, University of Miami

Alfred Carlson, professor of chemical engineering, from director of Center for Bioprocessing Research, Penn State University; Ph.D., 1982, University of Wisconsin at Madison

Daniel G. Coronell, associate professor of chemical engineering, from principal engineer of Reaction Design, San Diego, Calif.; Ph.D., 1993, Massachusetts Institute of Technology

Rebecca Dyer, assistant professor of English, from instructor at University of Texas at Austin; Ph.D., 2002 University of Texas at Austin

James H. Hanson, assistant professor of civil engineering, from visiting assistant professor, Bucknell University; Ph.D., 2000, Cornell University

Calvin Lui, assistant professor of mechanical engineering, from graduate student, Stanford University; Ph.D., anticipated 2002, Stanford University

Laurence D. Merkle, assistant professor of computer science and software engineering, from assistant professor, United States Air Force Academy, Colorado; Ph.D., 1996, Air Force Institute of Technology

Zoran Milanovic, assistant professor of physics and optical engineering, from process engineer, Opticote Inc.; Ph.D., 1992, University of Arizona

Penney L. Miller, assistant professor of chemistry; Ph.D., 2001, The Ohio State University

Kie B. Nahm, visiting professor of physics and optical engineering, from professor, Hallym University; Ph.D., 1985, University of Arizona

Lorraine G. Olson, professor of mechanical engineering from professor and interim chair, University of Nebraska; Ph.D., 1985, Massachusetts Institute of Technology

Padmaker N. Puntambekar, visiting professor of physics and optical engineering from professor, I.I.T. Powai, Bombay, India; Ph.D., 1974, Delhi University

Michael A. Robinson, assistant professor of civil engineering, from assistant professor, Marshall University; Ph.D., 1996, Virginia Polytechnic Institute and State University

Aleksey Telyakovskiy, visiting assistant professor of mathematics, from graduate student, University of Wyoming; Ph.D., anticipated, 2002, University of Wyoming

Robert D. Throne, associate professor of electrical and computer engineering, from associate professor, University of Nebraska; Ph.D., 1990, University of Michigan

FACULTY RECEIVE INTERNATIONAL AND NATIONAL RECOGNITION

Rose-Hulman Institute of Technology faculty are increasingly receiving international, national and state recognition that helps enhance the college's reputation with higher-education officials and leaders in the engineering profession. Recent faculty achievements include the following:

- Among the newest members elected to the European Academy of Sciences is **Cary Laxer**, professor and head of the computer science and software engineering. The Academy acts as an advisory body on scientific and technological matters to governmental and private institutions. Academy President Nicola Andreano said, "Cary Laxer's opinion will be important to creating the most efficient policies in science and technology for years to come."
- **Dan Moore**, associate dean of the faculty and associate professor of electrical and computer engineering, has been elected as a senior member of the Institute of Electrical and Electronic Engineers (IEEE). The honor is bestowed on less than seven percent of the organization's 377,000 members.
- Rose-Hulman Chemistry Department head and professor, **Dan Jelski**, was among only eight faculty from across the nation honored this fall by the Department of Chemistry at Indiana University for their contributions in chemistry. Faculty were honored for their research contributions as well as for their work as mentors who encourage students to pursue careers in science.
- The American Council of Engineering companies presented **Jim McKinney**, Roland Hutchins Distinguished Professor of Civil Engineering, with its Public Service Award. The award is bestowed upon a non-member of the council who has made significant contributions to the engineering profession.
- Mechanical engineering professors **Patricia Brackin** and **Darrell Gibson** received the Best Session Paper Award from the Mechanical Engineering Division of the American Society for Engineering Education. Their paper was titled, "Methods of Assessing Student Learning in Capstone Design with Industry: A Five-Year Review." The paper was presented at the annual conference of the American Society for Engineering Education.
- Mathematics Professor **Tom Langley** has been named a NeXT Fellow. He is the fourth Rose-Hulman mathematics faculty member to receive the honor. He will participate in a national conference about innovative teaching techniques, and will be part of a network to enhance teaching by young faculty.
- **Patricia Carlson**, professor of American Literature, has been named co-editor of the Journal of Computing in Higher Education and a member of the editorial board of the Journal of Interactive Learning Environments. Carlson was honored by Sarah Scott Middle School in Terre Haute for her work to help teachers increase the use of computers to improve math and science education.
- **Steve Carlson** was recently presented with the Distinguished Service Award from the Indiana Section of the Mathematical Association of America. Carlson served as an MAA officer for 10 years, including a term as Indiana MAA governor.
- The American Institute of Chemical Engineers has named **Atanas Serbezov**, assistant professor of chemical engineering, as one the nation's top advisers to a student chapter of AIChE. Serbezov has been named an Honor Roll Adviser by AIChE.
- The second edition of **Michael Cain's** textbook, *Discover Biology*, is now in print. It is an introductory biology textbook for non-biology majors. The 751-page textbook is co-published by Sinauer Associates and W.W. Norton & Co.
- **Elaine Kirkpatrick**, assistant professor of physics and optical engineering, received a NASA/American Society for Engineering Education Summer Faculty Fellowship. This highly competitive program allows professors to work with NASA scientists on research projects. Kirkpatrick worked on a project with a shape memory polymer that can be compressed to 1/40 of its bulk size, the polymer can then be "frozen" in the compressed state and finally redeployed by heating the polymer. The report for this project was entitled "Adhesion characteristics and deployment methods of Cold Hibernated Elastic Memory (CHEM) foam". ■

FINISHING TOUCHES



Hatfield Hall construction neared completion this fall. Located at the front of campus, the building houses a new theater, an alumni center, and offices for the development and external affairs staffs. The next issue of *Echoes* will provide an in-depth look at the building and the gift from alumnus Mike Hatfield, class of 1984, that made it possible.



By Dee Reed

VENTURES' CLIENT BASE EXPANDS

THREE NEW DEVELOPMENTS ILLUSTRATE THE DIFFERENT STAGES OF ASSISTANCE THAT RHV PROVIDES TO CLIENT COMPANIES

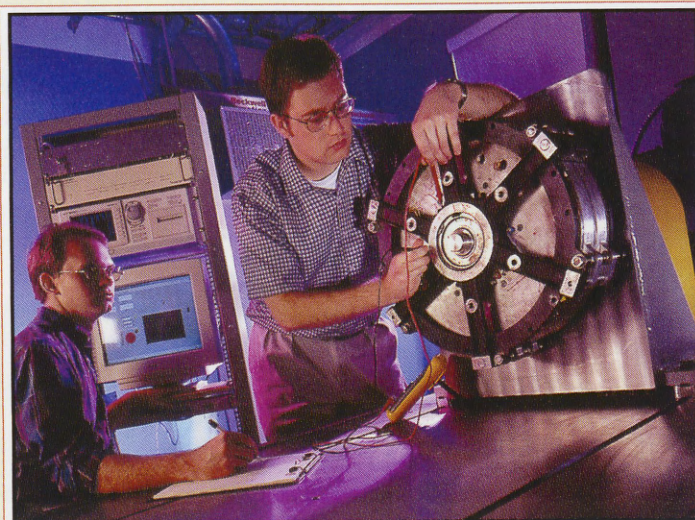
The number of Indiana companies and college students benefiting from the services or educational opportunities at Rose-Hulman Ventures (RHV) continues to increase. RHV's client list now includes 27 companies. During the past two and a half years, nearly 200 students or faculty have worked with clients at RHV.

Three new developments illustrate the different stages of assistance that RHV is providing to client companies. In October, RHV announced it had helped to recruit LE Incorporated from Silicon Valley to relocate in Indianapolis. MusicRebellion, an Internet digital music company located at RHV, recently launched its music download service during a promotion to students at 300 colleges nationwide. Veregon, Inc., which provides human resource software to improve employee efficiency, became the sixth company to complete its initial agreement with RHV and "graduate."

LE INC.

LE Incorporated (LE) is a leading developer and manufacturer of compact, lightweight, high-efficiency amorphous metal motors and generators for the automotive, mobility and power generation markets. Its proprietary technology allows LE to be the only company able to use amorphous materials, making it the clear choice for high-performance, cost-effective applications.

LE recently relocated its headquarters to Indianapolis from San Jose, Calif. RHV was an important part of that decision. LE completed an exhaustive analysis when searching for the company's future headquarters. Indiana quickly moved to the top of the list. According to LE, the talent pool to draw upon in Indiana is second to



Senior Bryan Hunt, left, and graduate student Quentin Kramer run a test for LE Inc. in a Rose-Hulman Ventures lab.

none. LE will be able to expand its rapidly growing market segment and optimize technical expertise and resources at RHV.

RHV is providing financing and engineering services. The first project is for RHV to be the performance testing site of LE's machine designs.

www.lightengineering.com

MUSICREBELLION

MusicRebellion, headquartered at Rose-Hulman Ventures, is an Internet digital music company where independent artists can sell their music to customers who download it from the company's web site, www.musicrebellion.com.

MusicRebellion fairly and legally delivers music to the consumer. Approximately 400,000 titles are available on the web site. Among those titles is music from major label artists such as Elvis Presley, Craig David, and Matchbox 20. The company recently announced its official launch to over 300 college campuses nationwide.

The most distinctive aspect of MusicRebellion is consumer-driven pricing for any product offered. The price of any music file changes as demand for it changes. MusicRebellion will allow the delivery of music files at the lowest possible cost consistent with the market. Music

consumers receive realistic pricing. Artists and record companies receive reasonable returns.

RHV provides MusicRebellion with incubator space including state-of-the-art network, telecommunications, and ample data bandwidth, along with financial assistance.

www.musicrebellion.com

VEREGON

Veregon, Inc., of Indianapolis, provides human resource software to improve employee efficiency by automating and streamlining

the human resource processes and to improve employee effectiveness through better performance management.

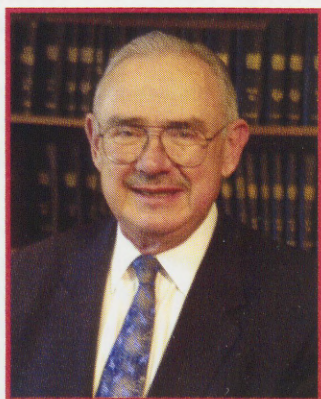
The Veregon Employee Relationship Management (ERM) Suite™ consists of two modules to assist managers with developing strategies to better manage and retain employees. The Veregon Performance Management™ module can be used to disseminate organizational objectives and increase accountability, while assisting employee development and organizational effectiveness. The Veregon Employee Self-Service™ module increases internal efficiency and reduces errors by automating human resource processes through an employee portal. It alerts employees and managers of critical events and improves organizational communication, accountability, and consistency. Veregon's solutions can be delivered as an Internet business service.

Veregon recently became the sixth company, since 1999, to complete its initial agreement with Rose-Hulman Ventures or "graduate." Rose-Hulman Ventures provided software development and business planning assistance.

www.veregon.com

GETTING THE JOB DONE;

CARROTS, CORN AND DOUGHNUTS PROVIDE LESSONS FOR LIFE



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

Having been associated with Rose-Hulman for more than 50 years, I have always been impressed by the college's "get the job done" philosophy and how Rose-Hulman conveys that message to its students. This year marked the 50th reunion of my graduating class, and gave me pause to look back on a fulfilling law career combined with science. Several early life experiences led me to that career and provided lessons on "getting the job done."

One of my first lessons came working at local truck farms near the south side of Indianapolis. I weeded carrots, pulled turnips, picked berries, harvested corn and baled hay. I remember the carrots in particular. The farmer told us the job was to get the weeds out as quickly as possible and never mind that a few of the carrots would get pulled in the process because they had to be thinned anyway. This was a lesson in rapid decision making: yes, no, yes, no, never mind the mistakes.

While at Rose, I encountered a more sophisticated version of getting the job done.

When asked for a little extra time to turn in an organic chemistry term paper, the professor responded: "Yes, but remember a perfect job done in an infinite amount of time is worth nothing."

In grade school, I had a job with the

neighborhood bakery. To my surprise on the first day, the frugal owner said I could eat all the doughnuts I wanted. As you might guess, it wasn't many days before my doughnut consumption declined substantially. By not making the doughnuts a "forbidden fruit," the wise owner averted my continued attack on his inventory.

One of the more interesting summer jobs was detasseling corn the summer after eighth grade. A large group of boys from Indianapolis traveled by bus to the Funk Bros. Co. farms at Kentland, Indiana. For three weeks we worked 10 hours a day at 65 cents an hour, detasseling corn plants. We lived in tents and ate good country food.

That field work came into play 20 years later when I worked with two professors from Harvard and Yale who had invented and patented a genetic process for producing hybrid seed corn without

rattling along a conveyor was deafening.

•Another summer my brother and I worked as pipe fitter helpers, installing overhead sprinklers in a construction site. We had to walk on eight-inch beams one and two stories up, carrying a pipe on one or both shoulders. The foreman warned us, "Don't fall – one story fall you'll wish you had died; two stories you will." There was no net.

I graduated from Rose with a degree in chemical engineering in 1952 and went to work for a large detergent manufacturer, a great company and a wonderful employer. After a few months, I realized my heart was leading me to law and not corporate life. When I informed my employer of my decision, he thought I was crazy but wished me well. Twenty years later, I was asked by the same company to handle a legal matter for them. I told them of my past experience. Seemingly crazy ideas

"I weeded carrots, pulled turnips, picked berries, harvested corn and baled hay This was a lesson in rapid decision making: yes, no, yes, no, never mind the mistakes."

detasseling. They were impressed by the detasseling experience as well as my trial practice, and they hired me to enforce their patent against the seed companies despite the fact I had no background in biology and genetics. We ultimately tried cases against more than 400 seed companies and won.

Other life lessons:

•While in high school I delivered morning newspapers. A newspaper route has many of the entrepreneurial attributes of small business, including sales, delivery and marketing incentives.

•During college I worked one summer in a can manufacturing factory as an inspector on the night shift. The constant noise of thousands of cans, simultaneously

don't always turn out crazy.

In order to specialize in patent law, I needed to relocate to Washington, D.C., where law students could work for the patent section of large companies in the day and go to school at night. Three years later I began the practice of patent law with a plaintiff's patent firm in Chicago and remained there for almost 40 years and then practiced with a large general firm for another six years.

Carrots and corn, doughnuts and detergents – who would think that these things would play a part in a lifetime career in law?

Looking back, the jobs provided the motivation and insight to find the right vocation for me. ■

SPORTS WRAPS

BY KEVIN LANKE, SPORTS INFORMATION DIRECTOR

COACH BILL WELCH TRACK & FIELD COMPLEX DEDICATED AT HOMECOMING

The improvements to Rose-Hulman's athletic facilities continued with the dedication of the "Coach Bill Welch Track & Field Complex" as part of Homecoming festivities.

The red, state-of-the-art, 400-meter track replaces the previous facility installed around Phil Brown Field in 1973.

The track features a Martin ISS 1000 surface, the world's finest

polyurethane athletic surface. The Olympic Games and NCAA championships at all levels are held annually on Martin ISS 1000 surfaces.

Completing the outdoor track is a major step forward for the athletic department. The track improves both the visibility and quality of the college outdoor facilities. For the first time in nearly a decade, Rose-Hulman has a quality outdoor track that can host events and allow student-athletes to compete at the highest level.

The complex is named for current cross country and track coach Bill Welch, a fixture in the Rose-Hulman community since his arrival in 1982. Welch, who took over the cross country program in 1982 before taking the helm as track coach in 1987, has coached countless all-conference and academic all-conference student-athletes at Rose-Hulman for the past generation.

In addition to the track surface, the complex features areas for jumping, pole vaulting, throwing and steeplechase competitions. The track's versatility makes Rose-Hulman one of just four Southern Collegiate Athletic Conference schools with an on-campus facility to host the league championship.



Coach Bill Welch inspects the plaque naming the new track and field complex after him.

Completion of the track facility has been possible through the generous contributions of Rose-Hulman alumni, staff and friends. The facility allows Rose-Hulman to continue its track and field tradition of success, featuring 31 All-American awards and six Academic All-American honorees since 1975.

WOMEN'S GOLF ADDED TO VARSITY SPORTS LINEUP

Rose-Hulman Institute of Technology will add women's golf to its varsity athletic program, effective this fall.

The first spring season of varsity women's golf will be highlighted by Rose-Hulman's role in hosting the 2003 Southern Collegiate Athletic Conference Spring Sports Festival this April, which includes the men's and women's golf championships at Hulman Links Golf Course.

Women's golf will become the 22nd varsity and 11th women's sport offered by the NCAA Division III institution.

Matt Egloff, currently serving on the football and wrestling staffs, will serve as the program's first head coach. Egloff enters his fourth season as assistant football coach and his third campaign as head wrestling coach this year.

FOOTBALL TEAM TOPS FRENCH NATIONALS DURING EUROPEAN TRIP

The Rose-Hulman football team traveled to London and Paris in June, bringing back a gridiron victory and memories that will last a lifetime.

On the field, quarterback Jared Tharpe hit sophomore Sean Ruberg with a 58-yard touchdown pass to break a fourth-quarter tie and lift the Engineers to a 34-26 victory over the French National Team, featuring the 45 best players in the country.



Members of the Rose-Hulman football team pose in front of the Eiffel Tower.

The game served as one of many highlights on the nine-day trip. On Memorial Day, the team boarded an Airbus plane from Pittsburgh to London. The Engineers remained in London for three days, touring Windsor Castle, many sites around the city and several restaurants.

In Paris, the team enjoyed a full-day tour of the city, a trip to Versailles, and tours of the Eiffel Tower and the Notre Dame Cathedral. Rose-Hulman spent four days in Paris before returning home to Indiana.

10 NEW MEMBERS ENTER ATHLETIC HALL OF FAME

The 10th Annual Rose-Hulman Institute of Technology Athletic Hall of Fame Induction Ceremony took place in September at the Sports & Recreation Center. Below is a capsule look at the inductees in Rose-Hulman's 2002 Hall of Fame Class:

Ron Dale (Basketball / 1981) — A Silver Anniversary Indiana Basketball Hall of Fame inductee, Dale tallied 1,194 points to rank 13th on the school's all-time scoring list. He earned third-team Academic All-American honors and was team captain as a sophomore.

Claude Douthett (Baseball / Football / Track, 1909) — Douthett earned 12 varsity letters participating in three sports during his career. The civil engineering major helped lead Rose-Hulman to a 1907 state track and field championship and to runner-up finishes in the state baseball tournaments of 1907 and 1908.

Dave Gowans (Baseball / 1992) — Gowans led Rose-Hulman to its first appearance in the NCAA Division III Baseball Tournament in 1992. He earned team Most Valuable Player, all-Indiana Collegiate Athletic Conference and honorable mention all-region recognition for the 1992 squad.

Mark Guerrettaz (Football / 1992) — Guerrettaz ranks second on Rose-Hulman's single-season rushing list with 1,204 yards in 1991. He earned team Most Valuable Player and all-Indiana Collegiate Athletic Conference recognition and rushed for 205 yards in a victory over Wabash as a senior.



Front, from left: John Smith, Steve White, Matt Morin, and Todd Logan
Back: Ron Dale, Dean Stanley, Scott Johnson, Dave Gowans and Mark Guerrettaz

John Smith (Track / Cross Country, 1983) — A two-time CAC champion in the 800-meter run, Smith set three school records and three track records. He helped lead the track team to four CAC titles and the cross country team to two league championships during his career.

Dean Stanley (Basketball / 1984) — Stanley reigns as Rose-Hulman's career leader in blocked shots (200) and the single-season record holder for blocks (106). He scored 836 points and grabbed 429 rebounds, despite missing most of his senior season due to injury.

Steve White (Track / Cross Country, 1973) — A school-record holder in three track events and on the Rose-Hulman Cross Country Course at the time of his graduation, White helped the 1973 track and field squad finish with a perfect 11-0 record.

Scott Johnson (Baseball / 1988) — Johnson earned two Academic All-American honors for his efforts in 1987 and 1988. At his graduation, the chemical engineering major held five school records and belted a two-run home run that lifted Rose-Hulman to a 7-6 nationally reported victory over Indiana State in 1986.

Todd Logan (Soccer / 1991) — Logan earned all-Indiana Collegiate Athletic Conference recognition in 1989 and 1990 and was twice voted the team's Most Valuable Player. The mechanical engineering major scored four goals in a 1990 win over Franklin and had 45 career points.

Matt Morin (Wrestling / 1992) — Morin earned two GTE Academic All-American awards and qualified for the NCAA Division III National Championships three times in his career. Compiling a career record of 104-23-2, Morin was named the Most Valuable Wrestler in the Indiana Collegiate Athletic Conference twice. ■

Bailey Challenge

By Professor Emeritus Herb Bailey

The last problems were all numbers, the problems for this issue are mostly geometry. To ease this abrupt transition, I give you a pair of warm-up problems involving a bit of both. Add a letter to nine to get 6. Take half of 9 and get 4.

Hint: think Italian.

In the problems for this issue, we consider triangle ABC where C is a right angle, and denote by a , b , and c the lengths of the sides opposite angles A , B and C . Let AE and CD be the bisectors of angles A and C . See Figures 1 through 3.

Problem 1.

Find CD if $a = b = \sqrt{2}$ (Figure 1).

Problem 2.

Find CD in terms of a and b (Figure 2).

Note that a need not equal b .

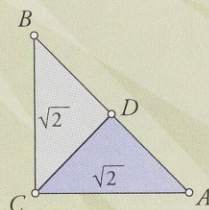


Figure 1

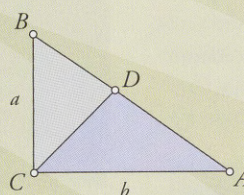


Figure 2

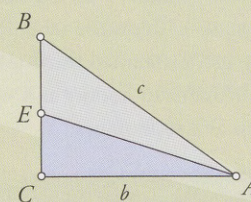


Figure 3

Problem 3.

Find AE in terms of b and c (Figure 3).

As an example, if $a = 96$, $b = 28$, $c = 100$, then $AE = 35$.

The problems for this issue were suggested by problem mm-1649 in the June 2002 issue of the Mathematics Magazine. "Prove that if a right triangle has all of its sides of integral length then it has at most one angle bisector of integral length". My editor, Bryan Taylor, has approved extra credit for solvers of mm-1649 and this problem is suggested only for the retired or others with time on their hands. Note that in problems 1 through 3 it is not required that the sides or bisectors have integral lengths.

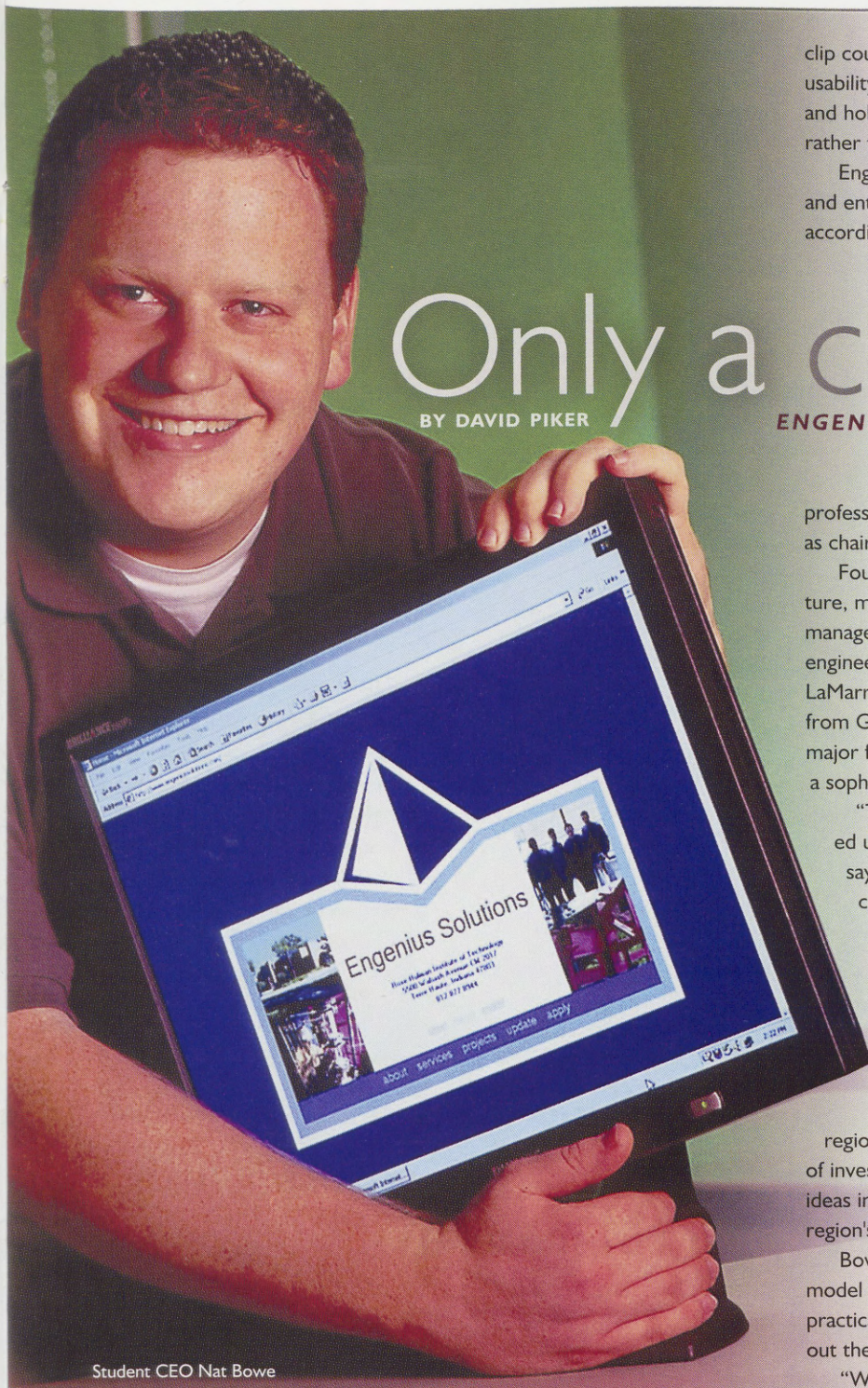
Send your solutions to Herb.Bailey@rose-hulman.edu or to Herb Bailey, Math. Dept., Rose-Hulman, 5500 Wabash Ave., Terre Haute IN 47803.

Solvers of the summer problems are listed below:

Alumni: A. Kelsal, 1940; B. Barrick, 1941; W. Soudriette, 1943; D. Heath, 1943; T. Blickwedel, 1946; C. Cook, 1949; A. Junker, 1950; W. Rinker, 1951; D. Camp, 1955; C. Cooper, 1956; D. Bailey, 1959; C. Sechrest, 1960; J. Tindall, 1961; B. Teegardin, 1964; *S. James, 1965; J. Lafuze, 1967; J. Burke, 1968; R. James, 1968; B. Kraus, 1969; A. Mahler, 1971; S. Sample, 1971; D. Dvorak, 1972; D. Artman, 1976; M. Bailey, 1976; *S. Warner, 1978; R. Joyner, 1980; J. Carr, 1980; M. Muri, 1982; B. Dudley, 1983; G. Hulbert, 1983; D. Dillon, 1984; V. Hasler, 1984; C. Hastings, 1986; M. Walden, 1986; G. Fleck, 1986; S. Johnson, 1988; B. Shew, 1989; C. Abdnour, 1989; *G. Heimann, 1990; G. Heimann, 1990; B. Burger, 1991; N. Wesseler, 1991; D. Hector, 1992; B. Hollis, 1994; P. Neukam, 1994; M. Young, 1994; R. Mohr, 1996; C. Tracy, 1997; T. Patterson, 1997; M. Pilcher, 1998; D. Sing, 2000; J. Trimm, 2001; *D. Harrington, 2002; and J. Lewis, 2006.

Friends: T. Cutaia, J. Ley, N. Flatter, L. Merkle, B. Elmer, N. Moore, D. Voltmer, J. Schultz, W. Orr, D. Templeton, and H. Rosene

Answers to the summer problems were 4 and 728163549. Solvers of the summer problems are listed on the left, and as an added feature I have included late and lost solvers of the spring problems. These are marked with an asterisk. Note, this will not be a regular feature.



Student CEO Nat Bowe

Only a click away

BY DAVID PIKER

ENGENIUS SOLUTIONS WEB SITE MARKETS STUDENT PROJECTS

clip coupled with an innovative audio delivery system for maximum usability to a new type of wired bread board that allows designers and hobbyists more control giving them additional time to design rather than build circuits.

Engenius Solutions' activities will be integrated into engineering and entrepreneurial undergraduate courses at Rose-Hulman, according to Dan Moore, associate dean of the faculty and associate

professor of electrical and computer engineering. Moore also serves as chairman of the faculty governing board for Engenius Solutions.

Four students are responsible for deciding what projects to feature, managing budgets and interacting with external audiences. The management team consists of CEO Nat Bowe, a senior mechanical engineering major from Germantown, Tenn.; Business Manager LaMarr Taylor, a senior electrical and computer engineering major from Gary, Ind.; Marketing Manager Kyle Smith, a computer science major from Crawfordsville, Ind.; and Web Manager Ron Zuckerman, a sophomore computer engineering major from Cincinnati, Ohio.

"The experience of managing a fledgling enterprise has provided us with a real sense of what it's like to be an entrepreneur," says Bowe. "The managers are very passionate about the success of Engenius Solutions."

Bowe added, "The team has received a lot of positive response from inventors and other business contacts from Indiana."

An official involved with enhancing Indianapolis as a site for high-tech business development says Engenius Solutions will stimulate an important part of the state's economy.

"Engenius Solutions is engaging in a vital aspect of our region's economic prosperity," says Jeremy Stephenson, director of investor development for The Indy Partnership. "They are turning ideas into reality through connecting intellectual capital to this region's business community."

Bowe said the students want Engenius Solutions to serve as a model for other colleges and universities. "We hope our focus on practical, interdisciplinary education spreads to other states throughout the Midwest," he said.

"We've started the process to partner with students in business schools at Indiana and Butler universities," Bowe noted.

The Engenius Solutions web site displays prototypes of student projects that would be of interest to venture capitalists, large or small businesses, entrepreneurs, government agencies or non-profit groups.

Bowe said an advisory group of representatives from a variety of businesses is being recruited to provide additional advice to the student management team.

"The increased interaction between students, entrepreneurs and a variety of businesses will encourage more students to view Indiana as a desirable location to develop new companies and products," predicts Arthur Western, vice president for academic affairs and dean of the faculty at Rose-Hulman. ■

"Your next product may be only a click away." That's part of the message being promoted by a Rose-Hulman student team managing Engenius Solutions, a new web-based program that is improving the chances that technical ideas developed by Rose-Hulman students will make it to the marketplace.

Engenius Solutions intends to create more jobs for students at Indiana entrepreneurial companies, encourage additional students to become entrepreneurs, increase sponsored projects available to students, and create more collaboration among students in different academic disciplines.

The web site can be found at www.Engeniussolutions.com

Six student projects are currently featured on the web site. They range from a heart rate monitor that incorporates an accurate ear lobe

Fund Drive Continues to June 2004

VISION TO BE THE BEST CAMPAIGN EXCEEDS GOAL

by David Piker



*Vision to be
the Best*
ROSE-HULMAN INSTITUTE
OF TECHNOLOGY

*"The success of the campaign is a strong indication
of the high level of confidence that so many individuals
and organizations have in this institution."*

The *Vision to be the Best* campaign continues to set fund-raising records. The campaign's first goal of \$100 million was surpassed in 1999, five years ahead of schedule. At that time, the goal was increased to \$200 million with a completion date of June 2004. Now, that goal has been surpassed 22 months ahead of schedule.

"Even though the goal has been exceeded, the fund-raising drive will continue until the 2004 completion date because some specific campaign goals have not been achieved," stated Rose-Hulman President Samuel Hulbert.

"Gifts often are restricted and are used for the purpose stated by the donor," Hulbert stated. "Those donations are always for something we need, however, they may not be for a specific campaign priority."

"The unprecedented level of financial support is certainly a strong vote of confidence in the goals that the campaign has set out to achieve," Hulbert said.

The campaign total includes gifts received, commitments and pledges.

DONATIONS ARE STILL NEEDED TO:

- Increase professional development opportunities for faculty, and to endow faculty chairs to retain and recruit the best teachers;
- Support curricular innovations such as the new microelectromechanical systems (MEMS) program;
- Increase scholarship aid; and
- Construct a new building for applied biology, biomedical engineering and chemistry programs.

"If Rose-Hulman is going to retain its reputation as being the best, I believe we must be a leader in the life sciences as we are in the physical sciences," Hulbert said. "The important role of the physical sciences in the 20th century will be exceeded by the life sciences and biomedical engineering in this century," he says.



"We need to ensure that we provide our faculty and students with the best educational facilities possible," Hulbert emphasized. "We also continue to seek more scholarship funds. Providing a scholarship to a deserving student is an investment in the future," he noted.

"Support to the campaign has been remarkable, especially when the national economic climate is taken into consideration," he said.

Alumni Giving Percentage Among Nation's Best

During the 2001-2002 fiscal year, Rose-Hulman received gifts from 44 percent of its alumni, ranking the college in the top three percent of the 960 colleges and universities that report their annual alumni-giving data to the Council for Aid to Education.

The alumni-giving percentage also ranks Rose-Hulman first among the 18 private colleges and universities that are members of the Association of Independent Technological Universities. The group includes schools ranging from MIT and California Institute of Technology to Case Western Reserve and Clarkson universities.



Clyde Willian, chairman of the Rose-Hulman Board of Trustees, said the record-setting support to Rose-Hulman illustrates the confidence and reputation Rose-Hulman has earned nationwide.

"This is a truly remarkable achievement," he said about the record-setting \$202 million total. "The success of the campaign is a strong indication of the high level of confidence that so many individuals and organizations have in this institution.

"On behalf of the Board of Trustees, I want to thank all the donors, Dr. Hulbert and his staff for their leadership and diligent efforts," he said.

Achievements During Phase II of the Campaign

THE FOLLOWING DEVELOPMENTS WERE KEY FACTORS IN ACHIEVING MANY OF THE PHASE II CAMPAIGN GOALS:

- Funds to expand educational opportunities through the development of unique programs, notably the \$29.7 million grant from the Lilly Endowment to create Rose-Hulman Ventures. It is the largest grant ever received by the college.

- A \$14 million gift from 1984 alumnus Mike Hatfield to create Hatfield Hall, a new theater and rehearsal rooms for student drama and music groups, and new administrative offices.



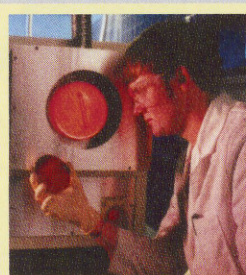
- Increased scholarship aid provided by gifts from alumni, corporations, foundations and individuals. Among the corporations providing scholarship support have been General Motors, Texas Instruments, Cummins and Marathon Oil. Scholarship gifts from individuals included a \$1.3 million gift from the estate of alumnus Charles Yohe, and a \$1.2 million donation from the late Bernard and Gwendolyn Wernsing of Terre Haute.



- A \$1.5 million lead gift from the family of John and Elizabeth White for construction of White Chapel. John was a 1947 mechanical engineering graduate.

- Funds to increase academic programs in applied biology, biomedical engineering and the life sciences. Donors included the Guidant Foundation, a gift from Guidant CEO Ron Dollens, and a donation from Eli Lilly and Co.

- Grants to help improve math and science education in Indiana schools that will result in more students pursuing college degrees in engineering and scientific disciplines. Lilly Endowment grants are expanding the Homework Hotline to the entire state, and making it possible for Rose-Hulman to create a new web portal so teachers can more easily use Internet resources to teach math and science.



- A \$400,000 Keck Foundation grant has launched a program to teach microelectrical mechanical systems (MEMS) technology. The grant is also funding the creation of a MEMS lab.

- A grant from the Caterpillar Foundation created a studio lab environment in electrical and computer engineering.

- Funding from the Lilly Endowment to create Engenius Solutions has developed a web-based project to improve the chances that technical innovations developed by Rose-Hulman students will make it to the marketplace. ■

For additional information about the "Vision to be the Best" contact Mark Richter, vice President for development and external affairs, at 812-877-8211.

BY DALE LONG

ROSE-HULMAN STUDENTS GIVING BACK IN A BIG WAY

By grasping hammers, blowing whistles or designing computer programs, Rose-Hulman Institute of Technology students are providing invaluable assistance to a growing list of organizations through a popular community service program.

At the same time, students, faculty and staff members have applied their engineering and problem-solving skills this school year to construct a unique Habitat for Humanity house. Once completed, the house will be moved into town.

"The support for these community programs is a reflection of the type of students we have at Rose-Hulman. They care about each other and the local community," said Associate Dean of Students Tom Miller, who administers the Community Outreach Program. In its fourth year, the program has become a model for other colleges and exceeds mandates that college students assist at agencies as part of the federally supported work-study assistance program.

However, Miller quickly points out that the 100 students participating in the program don't consider their experiences as "work."

"In most cases, it is a lifetime experience that helps the students appreciate what they have and makes Terre Haute a better place," he said.

Students and agency directors heartily agree.

"Giving is receiving," states Cort Severns, a junior computer engineering major who helped reorganize computerized accounting system for the Terre Haute YMCA.

"It instills the spirit of giving, even if we receive nothing in return," said Eric Blankenship, a sophomore mechanical engineering major who earned the Heart of Relay Award for helping organize local college students for last year's American Cancer Society's Relay For Life, which raised over \$70,000 for cancer research and patient support programs.

"The biggest thing I have come away (from working with ACS) is the impact just a few people can make on someone's life. I had always heard that one person could make a difference. I have seen it happen several times in this position. What's more important is how much difference an entire community can make," Blankenship said.

Briar Colwell, a senior chemical engineering major who is a member of the college's Habitat for Humanity chapter, states, "Rose-Hulman students have been blessed with wonderful God-given abilities and should use those abilities to help as many people as possible. I believe that is why many of us wanted to become engineers."

The YMCA is utilizing 17 students this fall to assist in a variety of projects: designing a new lighting system for the agency's old downtown facility; registering members at the front desk; coaching youth basketball leagues; mathematics tutoring; and providing extra hands in the day care center.

Students donate a Saturday morning to work on the house.

"It's great to see the Rose-Hulman students on the floor, with smiles on their faces, playing with the youths," said Becky Garvin, the YMCA's executive director. "The students like to come here and escape from the rigors of school. It brings a sense of stability to their lives."

From his perspective, Severns states, "I enjoy the relaxed atmosphere, the friendly smiles and satisfaction of knowing I am helping others in their goals."

Students in the Community Outreach Program also provide assistance to the Ryves Hall Youth Center, Wabash Valley Family Sports Center, American Red Cross, 14th and Chestnut Community Center, local Girl and Boy Scout councils, Terre Haute Symphony Orchestra, Wabash Valley Community Foundation, Arts Illiana, Northside Community United Methodist Church, St. Joseph's University Parish, Rose-Hulman's Homework Hotline telephone tutoring program and Terre Haute North High School's Literature Magazine Club.

"We couldn't accomplish most of the things that get done in our office without our Rose-Hulman students," admits Teresa Shaffer, the American Cancer Society's Wabash Valley community development director. The agency has only three full-time staff members for its six-county service area. "Many of the (10) students that work with us have been affected, in some way, by cancer through losing a family member, neighbor or friend. They see their work as a 'calling' and a way to help others."

Blankenship assesses his relationships with ACS staff and cancer patients as "we consider each other to be best friends. We have experienced a lot with each other and supported each other through tough times."

Bryan Tanner, a freshman civil engineering major, was a volunteer for his hometown ACS chapter. In Terre Haute, he is currently recruiting high-school teams for next spring's Relay For Life.

Meanwhile, sophomore computer engineering student Shane Frederick is helping ACS staff members place material orders for cancer patients and their families.

Most students work approximately eight to 10 hours per week with their agencies, and add about two hours outside the office per week.

The commitment of the campus community has also been seen this fall in the Habitat for Humanity house construction project, believed to be only the third Habitat house built on a college campus. Students living in residence halls have joined groups from fraternities and student organizations in working each Saturday since the beginning of the school year.

The construction site for the 1,200 square foot, four-bedroom house is located in the southeast corner of campus, near the Big Foot gasoline station, along U.S. 40. When complete, it will be moved

approximately three miles to a site in the 2400 block of Elm Street in Terre Haute by MCF Movers of Newburgh, Ind. It will become the home for Erin Crews Bluck, a single mother with four sons, 13 to 2 years old.

"Every time Erin stops by, I see how much this means to her," states Sara Page Podolsky, a sophomore electrical engineering major and a member of Rose-Hulman's Habitat for Humanity chapter. "She works so hard and really deserves it . . . It's interesting to see the house go up, piece by piece. I can actually 'see' the additions each week. The closest thing to a complaint that I have heard is that people wish they could work on the house more," she said.

Colwell, vice president of the Habitat for Humanity student chapter, added: "Learning construction skills and techniques that I will be able to use later in life is one of the most exciting aspects of working on the Habitat for Humanity project. It is a great way to build an invaluable skill and help the community at the same time."

Severns' work at the YMCA helped pave the way for a summer

internship related to his computer engineering interests at a local business. He has also expanded his communications skills, which will help him in his future career.

"I have learned how to better communicate with people outside my community of engineers. One of the major challenges of technical work is the communication of that work," Severns said.

Other ways that Rose-Hulman students help the community include hosting campus blood drives each quarter for the Indiana Blood Center

(donating more than 1,000 pints each year), helping the local Trees Inc. organization plant trees to beautify Terre Haute neighborhoods, and assembling bicycles and tricycles for needy children each Christmas.

"The caring attitude of Rose-Hulman students is tremendous," said American Literature Professor Caroline Carvill, director of Rose-Hulman's service learning educational programs.

For the past three years, groups of freshman composition students have researched and written essays about local service agencies. These efforts have been published in the Terre Haute Tribune-Star as a way to educate local residents about the agency's needs.

Meanwhile, Rose-Hulman's student chapter of the American Society of Civil Engineers has constructed or designed several projects for organizations and local citizens, and mechanical engineering students have constructed devices to help disabled youths experience independent lifestyles. ■

"The support for these community programs is a reflection of the type of students we have at Rose-Hulman. They care about each other and the local community."

— Tom Miller,
associate dean of students





It's hard to keep a good idea down.

That's how Ernest Davidson sees his groundbreaking research that paved the way for the development of computational quantum chemistry, now the standard tool utilized by chemists worldwide to better understand the nature of matter. The process makes it possible to model chemical reactions and the response of molecules to radiation.

Earlier this year, Davidson, a 1958 chemical engineering alumnus, became the first quantum chemist and first Rose-Hulman graduate to receive the National Medal of Science from President George W. Bush at a special White House ceremony. The National Medal is the nation's highest award for lifetime achievement in the fields of scientific research. Fred Garry, '51, received the National Medal of Technology in 1990.

"Each of these individuals has helped advance our country's place as a leader in discovery, creativity and technology," President Bush stated about this year's 15 Medal award winners. "Their contributions have touched all of our lives and will continue to do so."

The award validated Davidson's long personal and professional struggle to convince scientists and researchers to use computer software to model chemical properties. At one time, chemists dismissed the field and suggested that the National Science Foundation stop funding research. Other experts in quantum theory preferred a pen and paper approach and dismissed computing as "anti-intellectual."

"Personally, the National Medal meant that what I had done for the last 40 years was useful. It was the first major award from outside my peer group of scientists," Davidson said. "My role was to ignore critics and plow ahead until the field really became useful and was accepted."

Davidson is now held in the highest regard with NSF, and a 2001 international conference on "Molecular Quantum Mechanics: The Right Answer for the Right Reason" was conducted in Davidson's honor.

"No other quantum chemist has shown the diversity of important developments," noted an NSF statement about Davidson's significant accomplishments.

Davidson's idea was to combine his love of chemistry and mathematics, nurtured as the son of a high-school science and math teacher. He thought that molecules and chemical reactions could be modeled, through computational methodology, to aid in the explanation of experimental data. His research started at Indiana University in 1958, shortly after graduation from Rose Polytechnic Institute, and a time when digital computers were arriving on university campuses.

Davidson receives National Medal of Science for groundbreaking quantum chemistry research

HONORING

A QUANTUM LEAP

by Dale Long

The Schrödinger equation that forms the basis for describing the structure of matter had been discovered in 1925. Formal mathematical properties of solutions to this equation had been developed, but closed-form solutions for real physical systems of interest to chemists were not possible. There were fewer than 100 experts in the world in applications to chemistry, and almost all of these were using qualitative methods and avoiding numerical results. There were only five or six centers in 1958 that were trying to use digital computers to extract numerical approximations to the solution.

In 1962, Davidson moved to the University of Washington and his research group, along with a few others around the world, developed the basic methods for obtaining numerically accurate approximate solutions to the Schrödinger equation for the electrons in molecules. By about 1980, some researchers spoke of the "new age" of quantum chemistry, when quantitative results for small molecules became as accurate as provided through experimental means.

The obstacles were many, according to Davidson. Computing was very expensive and no one could afford to pay the cost that university computing centers wanted to charge (Davidson's formal bill from the UW computer center was often over \$1 million per year); computing was extremely cumbersome, with small memories and low reliability; and American graduate students with a typical bachelor of science degree in chemistry lacked the mathematics skills to make contributions to this field.

"The more interesting obstacle was that no one knew how to use computers for this purpose," states Davidson, the only Rose-Hulman graduate named to the prestigious National Academy of Sciences. "So we had to develop approximate methods, develop numerical algorithms, and then turn these algorithms into efficient computer programs. Some of my most cited work deals with how to compute the eigenvalues of very large matrices and how to evaluate billions of integrals efficiently – hardly what you would expect a chemist to do."

Today, computational chemistry (non-quantum) is a large industry, with molecular modeling being used in biological applications. It is now much easier to synthesize new compounds and easy to do a calculation on a hypothetical molecule that does not yet exist.

"What is hard is to think of what molecule should be made or studied," suggests Davidson, who is associate editor of the *Journal of Chemical Physics*. "The real issue for the future is to couple theory with artificial intelligence in order to allow computers to discover new compounds with designated properties. A new field called 'chemical informatics' is still in the process of being defined and is not respected by chemists. I guess that rather than resisting chemical informatics, chemists need to figure out how to make it work."

Davidson's own research has moved more toward inorganic reactions and structure. He is developing methods for describing molecular magnets, generally large molecules containing several transition metal atoms.

Science has always played a large role in Davidson's life. As class valedictorian at Terre Haute's Wiley High School, he won a chemical contest conducted by the Wabash Valley section of the American Chemical Society.

Rose-Hulman professors Oran Knudsen

and Frank Guthrie encouraged Davidson to attend Rose Poly, and a full scholarship paved the way for his undergraduate education in chemical engineering.

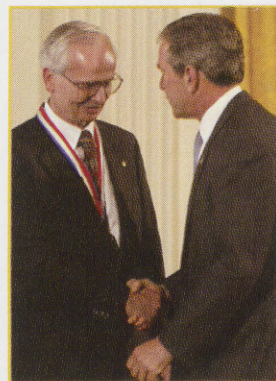
"My education at Rose Poly provided a superior background in applied mathematics, numerical analysis and physics," he concedes. "Mechanical drawing has been an enormous aid in visualizing objects in 3-dimensions and in making freehand sketches. Practice in solving numerical problems prepared me for solving the harder numerical problems of quantum chemistry."

"Most important, a quantitative engineering attitude led me to view molecules as complex mechanical systems whose properties were computable," continued Davidson, who received an honorary doctorate of engineering degree from Rose-Hulman in 1998. "This was the real revolutionary concept to chemists but seemed a natural approach to me with my engineering training. It is still a view that students with a traditional chemical education find hard to accept."

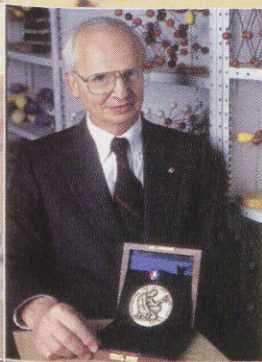
Davidson earned a doctorate in chemistry from IU in 1961, and followed that with an NSF-sponsored post-doctoral fellowship at the University of Wisconsin. He then enjoyed a 22-year career on the University of Washington's faculty before returning to Indiana in 1984 as a chemistry professor at IU. He served as academic department chair from 1999 until his retirement in June.

Today, at 65 years old, Davidson splits time between research professorships at the University of Washington and the University of North Carolina, as he and his wife, Reba, seek to be closer to their children and grandchildren in both areas of the country.

"The National Medal of Science has not had any immediate effect on my life . . . My reaction was one of surprise," Davidson modestly stated. "I felt I was worthy of the Medal, but an element of luck had to be involved." ■



Davidson receives his National Medal of science from President George W. Bush

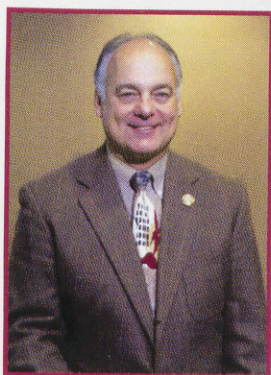


Recipients of the 2002 Honor Alumni Award have had a positive impact on Rose-Hulman's development through their service in the classroom, as alumni volunteer leaders, by helping students begin their careers, as advisers to the institute's strategic planning, and through support of educational and scholarship programs.

Receiving the award during the Homecoming Alumni Awards Brunch Oct. 12 were Don Dekker, Rose-Hulman emeritus professor of mechanical engineering, Bradenton, Fla.; Gene Glass, retired engineering partner, Colley Associates, Corpus Christi, Texas; Bernie Vonderschmitt, chairman of the board, Xilinx Corp., Jasper, Ind.; and Roger Ward, vice president, Great Lakes Division, HNTB Corp., Indianapolis.

Honor Alumni

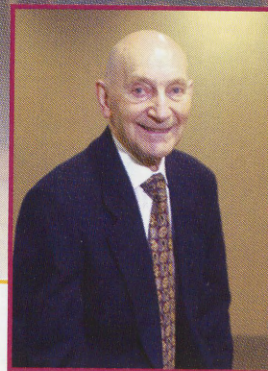
demonstrates commitment to



Roger Ward:
Effective volunteer

Ward has served as an alumni volunteer in numerous capacities, most recently as president of the Rose-Hulman Alumni Association in 2000. He currently serves on the Department of Civil Engineering Advisory Board, and has been an adjunct professor in the department teaching introduction to environmental engineering. Ward has been an effective volunteer

assisting the college's career services staff and providing employment opportunities for Rose-Hulman students. He has served for nearly 15 years as a class agent. Ward received a B.S. degree in biological engineering from Rose-Hulman in 1971. He is vice president of HNTB which is a global architectural, engineering, planning and construction organization. Ward is principal-in-charge of environmental engineering for the company.



Bernie Vonderschmitt:
Electronics pioneer

As an alumnus, Vonderschmitt has brought national recognition to the college through his pioneering work in solid state electronics and integrated circuits. He has been dedicated to helping make a Rose-Hulman education available to talented students through his continued support of the college's scholarship fund. Vonderschmitt is volunteer co-chair of the successful Vision to be the Best fund-raising campaign. He also served on the Commission on the Future of Rose-Hulman, an important strategic planning process that has guided the college to unprecedented successes.

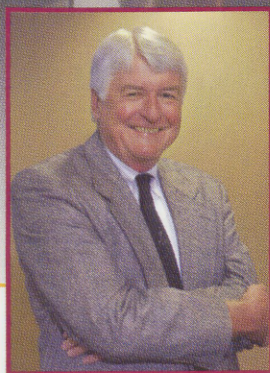
In 1979, Rose-Hulman presented him with an honorary degree for his commitment to the college and his outstanding achievements in the field of engineering and entrepreneurship. A 1944 electrical engineering graduate of Rose-Hulman, Vonderschmitt holds 13 patents for design activities conducted during an illustrious career at RCA. He is the recipient of the prestigious David Sarnoff Outstanding Achievement Award in Engineering. Vonderschmitt co-founded Xilinx, an international company that is a leading innovator of complete programmable logic solutions.

2003 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 Bill Nicewanger ('63), chair of the awards and recognition committee, Rose-Hulman Alumni Association Advisory Board (bill_nicewanger@inter-tel.com).

class of 2002

nt to alma mater



Don Dekker:
Dedicated educator

Dekker retired last year, concluding a 36-year teaching career at Rose-Hulman. He taught courses in creative design, internal combustion engines, thermal design and design methods. He served as chair of the 40th reunion of the class of 1961 last year at Homecoming. During his teaching career at Rose-Hulman, he served on numerous campus committees that focused on service to students. These ranged from committees that advised student organizations to the graphical communications committee and the admissions and standing committee. He was also an adviser to the campus chapter of Lambda Chi Alpha social fraternity.

His talents as a teacher were recognized when he received the Ralph Teetor Award in 1975. The award is presented by SAE International, an engineering society of professionals involved in the design, manufacture and development of land, sea, air and space vehicles. The award is presented annually to one of the nation's top young engineering educators.

In 1986, his faculty colleagues elected him to the Board of Directors of the American Society of Engineering Education. Dekker received the bachelor's degree in mechanical engineering from Rose-Hulman in 1961. He earned the M.S. degree and Ph.D. degrees from the University of New Mexico and Stanford University respectively.



Gene Glass:
Looking to the stars

Glass has been a long-time supporter of the astronomy program and the observatory at Rose-Hulman. Through his commitment, students studying astronomy have had the annual support to continue their work. His generosity enabled the college to purchase a CCD camera for taking astronomical images. He made it possible to refurbish an historic Clark telescope that is now housed at the Oakley Observatory on campus. He is a frequent visitor to the observatory and has teamed with students to learn more about the solar system. In a surprise

announcement at the awards presentation, Glass learned that an asteroid discovered by Rose-Hulman graduate student Chris Wolfe at the Oakley Observatory has been named in his honor. Wolfe discovered the new asteroid in August, 2001. The presentation was made by Oakley Observatory Director Richard Dittion, professor of physics and optical engineering, who recommended Glass for the honor.

Glass was a member of the Rose-Hulman Commission on the Future Task Force on Arts, Humanities and Social Sciences. He earned bachelor's degrees in electrical engineering and mechanical engineering from Rose-Hulman in 1949.

ROSE-HULMAN Homecoming 2002



Members of the Fifty Plus Club gathered for their annual dinner, this year welcoming the Class of 1952 into their ranks.



Tailgaters Dawn Wright, Norm Buckner, Royce Buckner and Phil Wright enjoy a pregame meal at Phil Brown Field.



A full Cook Stadium at Phil Brown field watched as the Fightin' Engineer football team defeated Rhodes College 35-28.



Former resident assistants were among the many different groups conducting special get-togethers.



Teeing it up at the Homecoming golf outing were Mark Mayfield, James Yoakum, Keith Bloomer, Alan Snedeker, Adam Kennedy, Ken Hackman and Dennis Ison, all members of the class of 1987.



Rosie's KidsZone was a special treat for the younger set attending Homecoming events.



President Hulbert leads the Friday night pep rally.



Dave Rodabaugh, right, class of 1967, reviews faculty/staff photos along the 20-year service wall in Moench Hall along with Jana Rodabaugh and Warren Brokering



Homecoming Queen Cassie Mateo and her escort Chris Rumph enjoy the pep rally.



The bonfire tradition blazed on thanks to hard work by the 2002 Bonfire Committee.



Cheerleaders build enthusiasm during the pep rally.



Alumni were able to catch up on the latest in their respective departments at academic department open houses.

ASSOCIATION NEWS

STAY CONNECTED, STAY IN TOUCH, STAY INVOLVED

It's always a pleasure to see how Rose-Hulman's reputation continues to expand. We, of course, all know the school provides an outstanding education and preparation for life but it's nice to see others recognize this also.

The continuing recognition by *U.S. News and World Report* is certainly helpful as is recognition in other media, including the many publications that Rose-Hulman itself puts out. The best form of recognition, however, comes from each one of us who are alums of Rose. Our performance in our jobs, our promoting Rose at work and among our friends and neighbors, and our advice about Rose-Hulman to young people considering a more technical education are all factors in enhancing the image of our school and increasing the awareness of Rose-Hulman as the premier engineering school of its size in the United States.

In order to continue this effort and do our part, we, the alums, need to continue to stay connected, stay in touch, and stay involved.

There are many ways to do this. Among them are: your alumni clubs; using the Rose-Hulman web site; using e-mail (almost 70% of all Rose-Hulman grads have e-mail addresses) to contact others; attending Homecoming and the many other events Rose hosts and sponsors; using the many publications of Rose-Hulman, including *Echoes*.

The point I'm trying to make here is that we all have ample opportunity to be involved in whichever way is the most comfortable for each of us. I hope each of you will take advantage of these opportunities.

Bob Schacht
Class of '72
Outgoing Alumni Association President



Changing of the guard: Bob Schacht, left, turned over the Alumni Association's presidential gavel to Owen Meharg this fall.

ALUMNI OFFICE TO PROVIDE PERMANENT E-MAIL FORWARDING

Soon, Rose-Hulman alumni will have a permanent e-mail address, compliments of the Alumni Affairs Office.

The e-mail forwarding service will provide a permanent e-mail address at the alumni.rose-hulman.edu domain. The e-mail forwarding service will forward e-mail messages to alumni, at any location, as long as they keep us updated with their current e-mail address.

E-mail forwarding requires that you have your own e-mail account with an Internet Service Provider. It sends e-mail to — but does not supply — your own e-mail account. With e-mail forwarding from the Rose-Hulman Alumni Office, you will be able to keep an alumni.rose-hulman.edu e-mail address for life.

Please note that the e-mail forwarding service is not an e-mail or Internet account. It does not provide you with a mailbox or access to the Internet. E-mail forwarding service does not store mail, it only forwards it.

ALUMNI OFFICE OFFERS TOURS TO IRELAND AND AFRICA

For the first time, the Rose-Hulman Alumni Office is sponsoring two alumni tour options for 2003. The first is a Young Alumni Tour of Ireland. Slated for April 19-27, 2003, this tour is geared toward a young alumnus' travel interest and pocket-book. Highlights of the tour include stays in Dublin, Kilkenny, Killarney and visits to the Blarney Castle, Rigg of Kerry and the Cliffs of Moher. Of course, there will be plenty of time to explore the Irish Pubs. Priority will be given to alumni (and their guests) who graduated in the years 1992-2002.

The second tour, an African Safari, will be hosted by President Samuel Hulbert and his wife, Joy. This 16-day luxury "photo safari" will take you to the heart of Kenya and Tanzania. The itinerary includes stays in Nairobi, Lake Manyara, the Ngorongoro Crater, Serengeti National Park, Maasai Mara and the Mount Kenya Safari Club. Dates for the Safari Tour are June 7-22, 2003. For more information regarding tour itineraries contact Bunny Nash at 1-800-248-7448, ext. 8465.



Net Return in the Mud

The Student Alumni Association conducted a 22-team mud volleyball tournament this fall to raise money for Ryves Hall, a community center in Terre Haute. It was just one of the activities sponsored by the association this year.

The Rose-Hulman Student Alumni Association is currently seeking interested alumni volunteers for a new mentoring program for current Rose students. Rose Alumni will be matched with students according to career interests, studies at Rose or graduate studies, and/or hometown and state information. The mentoring program is scheduled to get under way in the spring of 2003. Interested Rose Alumni may communicate with students in the form of e-mail or other writing, and a special homecoming activity may result in the fall of 2003. If you are interested in helping students learn what is in the real world, please fill out the following survey.

ALUMNI MENTORING INTEREST SURVEY

Student-Alumni Mentoring Program

Sponsored by the Rose-Hulman Student Alumni Association

Would you be interested in mentoring a Rose student?

☐ Yes ☐ No ☐ Maybe (i.e. please send more information)

If so or if you answered maybe, please answer the following questions for initial matching criteria and/or contact information.

Name: _____ E-mail or other contact: _____

What was your major at Rose? _____

Did you go to Graduate School? _____ If yes, what did you study and where did you attend? _____

What is your area of study/industry/work? _____

What is your hometown/state?(either now or while growing up) _____

Is there anything in particular that you would like to contribute to Rose students in a mentoring activity?

Do you have any suggestions for student-alumni matching criteria? (Please list below)

PLEASE MAIL OR E-MAIL COMPLETED FORM TO:

Student Alumni Association * Rose Hulman Institute of Technology * 5500 Wabash Avenue, CM 1644 * Terre Haute, IN 47803

PHONE: 812-877-8465 • E-MAIL: saa@rose-hulman.edu • FAX: 812-877-8403

Class Notes

1962

Richard Landenberger (M.E.) and his wife, Anita, are both retired and living in Dallas, Texas.

1964

Charles Spencer (M.E.) has retired from AMSTED Industries after 38 years of service. He spent his last five years serving as the railway equipment engineering and marketing liaison between AMSTED and various railroads in Europe, Asia, Egypt and South America. He plans to remain in Aurora, Ill., with his wife, Pat.

1969

Steve Hillman (M.E.) has a new job as vice president of sales and marketing for Elliott Energy Systems, Stuart, Fla.

1973

Joe Bubenzer (M.E.) has been appointed CEO and president of Bertram Yacht. For more than 40 years, Bertram Yacht has been a leader in the construction of sportfishing yachts. Bubenzer brings more than 25 years of automotive industry experience.

1978

Ken Ferry (C.E.) has assumed the position of chief engineer for the Henderson Water Utility, which provides water, wastewater and storm water utility services for most of Henderson County, Ky.

Erik Jansen (E.E.) reports the birth of daughters Anika Claire and Jill Nicole, born last summer to him and his wife, Gretchen. They join sibling Charlie.

1979

Doug Stearley (M.E.) and his wife, Kris, announce the birth of twin sons, Nathan and Matthew, born last May.

1982

John McHugh (E.E.) recently was named vice president and general manager in charge of Hewlett-Packard's Procurve Networking Business Unit. John continues to reside in Sacramento, Calif., with his wife, Betty, and two children Michael and Mathew.

1983

Robert J. Kuenning (M.E.) and his wife, Terri, had their third child, Nicholas Isaiah, born last spring.

1986

Mike Engle (Ch.E.) has assumed the position of senior intelligence analyst for the Ballistic Missile Systems Division of the National Air Intelligence Center, located near Dayton, Ohio. The center is the U.S. Air Force's single all-source intelligence analysis and production organization. In his new position, Mike serves as the technical leader for a group of approximately 45 scientists, engi-

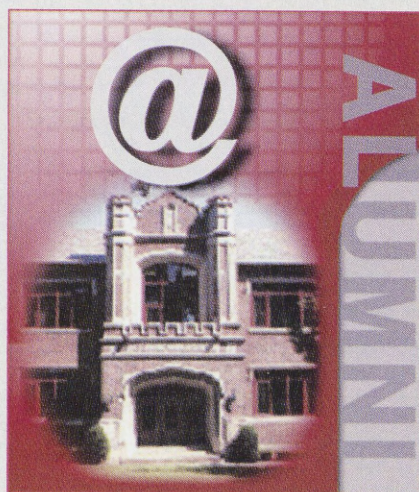
neers and intelligence professionals. He directs the division's research, analysis and production of unique and highly technical foreign intelligence reports. On the home front, Mike and his wife, Lynn, have three children: Tim, William and Carolyn.

Robert L. Wilkins (Ch.E.) has joined the Venable law firm in Washington, D.C. He becomes a litigation partner in the firm's expand-

MAJOR ABBREVIATION KEY

A.O. — Applied Optics
Bio. Eng. — Biomedical Engineering
C.E. — Civil Engineering
Ch.E. — Chemical Engineering
Chem. — Chemistry
C.O. — Computer Engineering
C.S. — Computer Science
Econ. — Economics
E.E. — Electrical Engineering
Math. — Mathematics
M.E. — Mechanical Engineering
M.S. — Master of Science
Phy. — Physics

ALUMNI DIRECTORY AVAILABLE ONLINE



You can now keep up with your classmates via the World wide web at <https://alumni.rose-hulman.edu/directory/index.asp>.

The Rose-Hulman alumni directory went online last fall. Alumni can search the directory by alphabetical listings, class year, geographical location, employer and Greek affiliation. It also has a custom search feature. The directory lets you update your personal file and send a class note to *Echoes*.

The directory runs on a secure server and is only accessible via a password system. All alumni should have received their passwords last fall. If, by chance, you may have forgotten your assigned access codes, contact Trudy Sladek in the alumni office at trudy.sladek@rose-hulman.edu. You can call her via telephone at 812-877-8976. ■

ing corporate defense and white-collar practice. He also will handle general commercial litigation, including intellectual property cases. He is the former chief of special litigation for the Public Defender Service for the District of Columbia who left that job in 2000 to jump-start the creation of a new National African-American Museum and Cultural Complex. In 2001, he was named Pro Bono Attorney of the Year by the American Civil Liberties Union of Maryland, and he received the 2001 Henry W. Edgerton Civil Liberties Award sponsored by the ACLU Fund of the National Capital Area.

1987

Paul Siebels (E.E.) and his wife, Constance, just adopted their first child, Olivia Marie Siebels, born last March. Paul is a major in the Air Force, stationed with NATO in the Netherlands.

Mike Wack (M.E.) has taken a position with Zimmer, Inc., as a principal engineer in the trauma group. He continues to enjoy life in Warsaw, Indiana, with his family.

1988

Steven Kent Anderson (E.E.) reports a busy past couple of years. He and his wife, Michele, have had two boys, Shane and Jack. Steven also has joined an ophthalmology practice specializing in glaucoma in the Detroit area.

Jim Companik (Ch.E.) has been promoted to engineer-

ing manager with Motorola's commercial, government and industrial solutions sector. He and his wife, Jennifer, are relocating to the Schaumburg, Ill., area. They reside in Algonquin, Ill.

John A. Ortiz (E.E.) married Melinda Massi last year. He now works for Veridian Information Solutions, Cyber Assurance Group, San Antonio, Texas.

1989

Tim Lawson (C.E.) is the new city engineer for Shelbyville, Ind.

Floyd M. Yager (Math.) reports he and his wife, Kristin, welcomed their second son last June. His name is Michael Phillip and he joins brother Thomas. On

the work side of the ledger, Floyd is a senior actuary at Allstate Insurance Co., leading the Research and Development Department.

1990

Trevor D. Arnold (Ch.E.) has joined the Intellectual Property Group of Burns & Levinson in Washington, D.C. An associate, he is a member of the American Intellectual Property Law Association, the American Institute of Chemical Engineers, the Defense Research Institute and the Army Engineer Association. He and his wife, Heidi, reside in Arlington, Va.

1991

Paul Boenitz (M.E.) and his wife, Cathy, welcomed the birth of their third child,

Della Nicole, who was born last February. He and his family recently relocated to St. Peters, Mo., for his new position with Boeing Aircraft and Missile Division as a senior test engineer.

Todd Logan (M.E.) completed his first marathon in Cincinnati at the Flying Pig Marathon earlier this year. For you statisticians, his time was 3:57:32.

1992

Jeff Fetters (E.E.) and his wife, Kris, report the birth of their first child, Walker Joseph, last year. Also, Jeff has taken a new job as national sales manager for Iskra Autoelektrika, U.S.A., and he also has completed his MBA.



Tailgatin'

Alumni in the Atlanta/Nashville area gathered at tailgate party during the football team's trip to University of the South in Sewanee, Tenn. Present for the festivities were, from left, John Leonard (class of 1969), Keith Roberts (class of 1971), Matt Warstler (class of 1993), Joe Schmitts (class of 1993), Eric Murray (class of 1984), Brad Bechtel (class of 1992), and Joe Butcher (class of 1992). Not pictured is Rick Brandt (class of 1968).

D. Andrew Hendricks (M.E.) has been promoted to president of Distributors Terminal in Terre Haute.

1993

Chuck Drvol (Ch.E.) has been promoted to the position of Technology Team Leader with the Goodyear Tire and Rubber Company. The new position relocates Chuck to Goodyear's Napanee, Ontario, tire plant.

Jeff Papa (Econ.) married Ann Thrasher last spring. They reside in Indianapolis, where Jeff is an attorney.

Barry J. Weisman (Ch.E.) and his wife, Michelle, report the birth of daughter, Natalie Drew, last spring.

She joins brother Brandon Mitchell. Barry works for GE Plastics in Mt. Vernon, Ind.

1994

James D. Codling (E.E.) reports his wife, Darla, gave birth to James John last March. He joins four older sisters. James (dad) has taken a position as an associate with Hazen and Sawyer Engineers in Raleigh, N.C.

Kelly G. Lewis (E.E.) announces his marriage to Norshidah binti Rahmad last June. They had a traditional Malaysian wedding attended by people of various faiths and cultures.

Fumio Morino (Ch.E.) married Reiko Tomosogi in

August. Also, he has relocated to the Cleveland area for PPG Industries coordinating company efforts with Honda on a global basis.

1995

Tim Hoffman (M.E.) and his wife, Crystal, had their first child on Aug. 2. His name is Aidan Andrew.

Wayne Harshberger II (M.E.) and his wife, Polly, announce the birth of son John Etling, born Sept. 5. He joins sister Mary Elizabeth.

Albert Modglin (M.E.) married Lisa Choate last spring.

1996

Todd Hubbell (M.E.) exchanged wedding vows with Kacy Cooper last April.

Adam Jacob (M.E., M.S.B.E.) received his doctor of medicine degree from the Indiana University School of Medicine last May. He will specialize in anesthesiology during his residency at the Mayo Graduate School of Medicine.

Brian June (M.E.) updates *Echoes* about the birth of son, Noah Alexander, last spring. He and his wife, Debbie, report the family is doing fine. Also, Brian received his master's in mechanical engineering from Purdue University last May, and he has taken a new position as a supervisor in the Development Group at Beckman Coulter Inc., SAGIAN Operations.

1997

John C. Hale (C.O.) and **Abigail Garrett ('99, E.E.)** were married Sept. 7 in Indianapolis.

David Hawkins (Ch.E.) and his wife, Rachelle, had their first child, William Drue, last May. Also, David received his MBA with a major in finance from the Indiana University Kelley School of Business last August.

Russell Nighbert (C.S.) married Rebecca L. Baggett June 1.

Allen James Patrick (C.E.) has earned his professional engineer license. He works for KEBS, Inc., where he has been in charge of



Welcome

Picnics to welcome incoming freshmen were conducted this summer at four locations this summer. Alumni in Indianapolis, Cincinnati, Seattle and Minneapolis gathered to meet incoming freshmen and their families. This photo shows the picnic gathering in Cincinnati.

numerous projects, including the Meridian Mall expansion and Village at the Crossing. Kebs is located in the Lansing, Mich., area.

1998

Benjamin B. Cotton (M.E.) received his law degree from the John Marshall Law School in Chicago last June. He has accepted a position as an associate with Brinks, Hofer, Gilson and Lionne in Chicago.

Ben C. Brown (Chem.) married Jeannette Smith in McAllen, Texas, last June. They reside in Fort Worth, Texas.

Rimas Joseph Guzulaitis (E.E.) married Leslie Anna Almas last June.

Josh Horstman (C.S./Math.) married Lisa King on Aug. 3. They reside in Indianapolis, and Josh works for Eli Lilly and Co.

Matthew Kiel (M.E.) and his wife, Casey, welcomed son Mason William Kiel to the family last June.

Chad Mills (C.E.) married Joellen Weber last July.

Dan Robinson (M.E.) has made a job change to Medtronic Midas-Rex, in Fort Worth, Texas, where he is a senior production supervisor.

1999

Andre M. Guerin (A.O.) has taken a system design engineer position with KLA-Tencor in Milpitas, Calif. He now lives in Palo Alto, Calif.

Kraig Jakobsen (E.E.) has decided to return to school after three years as a computer consultant, most recently with Avanade. He is in his first year of law school at Northwestern University. He plans to focus on intellectual property and patent law.

Eric M. Kleen (Ch.E.), a Navy ensign, recently received his commission as a naval officer after completing Officer Candidate School at Naval Aviation Schools Command, Naval Air Station, Pensacola, Fla.

Jennifer Schmitt (M.E.) married Allen Fleisner last July. They reside in Sheboygan Falls, Wis.

Sarah Waite (M.E.) and Bobby Dale Anderson Jr.

were married last May in Jamaica.

Dave Warmuth (M.E.) married Sara Larsen last June. He still is a lead engineer for General Electric in Louisville, Ky.

2000

Chip Bennett (Ch.E.) has accepted a position as validation specialist for KV Pharmaceuticals in St. Louis.

Travis Hammond (Ch.E.) has accepted a new job with General Mills in New Albany, Ind.

David Lawrence (M.E.) married **Jennifer Lee Krause (C.E., '02)** in a ceremony in Danville, Ind., last June.

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 _____

News for Echoes _____

SEND TO: Editor, Echoes, Rose-Hulman Institute of Technology, 5500 Wabash Avenue, Terre Haute, IN 47803

OR E-MAIL: bryan.taylor@rose-hulman.edu

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

FALL 2002

Christopher W. Maurer (C.S.) and Rebecca A. Cain were united in marriage last June.

Stephen Nelson (C.O.) married **Sarah Greenlee (C.S., '02)** last March. They reside in Santa Clara, Calif.

Rachael Polen (E.E.) married **Chad Wiseman (C.S., '02)** last August in Ferdinand, Ind. They reside in Odenton, Md.

Jeremy Showalter (M.E.) married Sophally Sreng last June.

Scott Spicer (Ch.E.) married Kathleen Cadwalader last August.

Daniel W. Stinimates (M.E.) married Rachel Robinson last May. He also graduated last year from Georgia Tech with a master's in mechanical engineering. He now works at Los Alamos National Laboratory as a technical staff member.

Jacob Stoltzfus (Ch.E.) and his wife, Jamie, announce the birth of Molly Rose last August. Molly joins older brother Elijah James.

2001

Paul Greene (M.E.) recently relocated to the Nashville, Tenn., area after taking a new position in sales and marketing for the Light Vehicle Aftermarket Division of ArvinMeritor.

Chris Guffey (E.E.) married Dana Brooks last May.

Peter Haugen (E.E./C.P.E.), a graduate student at Georgia Institute of Technology, has been awarded first place at an Integrated Supply Chain Management Forum put on by the Entrepreneurship Society, National University of Singapore. Haugen and his four team members were chosen to present their business plan "Smart Box Technologies, Container Security Devices" with 13 other universities from around the world. They tied for first place.

Paul Kappler (E.E.) married **Elizabeth Huttzell (E.E., '02)** last May.

Rania Kashlan (Chem.) married Sammi Dali last June.

Matthew Shike (E.E.) married Laura Murray last June. Matthew currently works at Kirtland Air Force Base in Albuquerque, N.M., as an analyst on the newest version of the Sidewinder missile.

Troy Swan (C.E.) and Lindsay Wisley were married last year.

2002

Charles Nattha Elwood (E.E.) married Elizabeth Lois Musick last June.

Adam Keown (M.E.) married **Jennifer Klingenberg (M.E., '02)** in August.

WEB CHECK

Keep up with the latest alumni events and send us updates on what's happening in your life by visiting the alumni Web site at <http://www.rose-hulman.edu/alumni affairs/>.



Back to the Track

Several track-and-field alumni returned for dedication of the new track named in honor of Coach Bill Welch. Attendees included: Kenny Anderson ('97), Greg Gibson ('84), Chris Goss ('87), Randy Hancock ('82), Arvont Hill ('98), Roger Hruskovich ('87), Bob Jacobs ('90), Hannah Kleeburger ('00), Mike Kosloski ('99), Steve Lawrence ('92), Joe Lemanski ('89), Tony Lenox ('82), Ryan Loftus ('98), Chuck Moseman ('73), Rebecca Moore ('01), Steve Nerney ('85), Brady Neukam ('94), Bill Nicewanger ('63), Mike O' Brian ('83), Rex Phillips ('82), Phil Reksel ('00), Greg Shutske ('71), John Singleton ('83), John D. Smith ('83), Erica Snyder ('02), Mark Stetzer ('00), Nathan Subbert ('98), Keith Sutton ('47), Ann Talbert ('99), John Whitaker ('82), Steve White ('73), President Samuel Hulbert and Coach Welch.

OBITUARIES

1928

Arthur F. Drompp (E.E.) died earlier this year, according to word received in the alumni office. He was a retired principal engineer for Detroit Edison.

1938

Robert E. Pearce (M.E.) died April 18. Survivors include his wife Barbara, sons Robert and David, daughter Janet McThomas and four grandchildren. He resided in West Hills, Calif., at the time of his death.

1941

George C. Harper Jr. (C.E.) died June 14. Survivors include his wife, Helen.

1942

Arthur Wood (E.E.) died May 15 in Kokomo, Ind. He was employed with Delco Electronics from 1942 to 1981. Survivors include his wife, Iris; two sons, Robert and David; three daughters, Rebecca Wood, Sara Deyo and Mary Millikan; and seven grandchildren.

1943

James F. Armacost (M.E.) died May 29 at the age of 81. He was an engineer 20 years for the Indianapolis Water Co., retiring in 1985. Survivors include his wife, Betty, and children Jana Musser, Jeffrey, Vincent, Brad and Scott.

Harry Frye (M.E.) died July 13 at the age of 79. From 1958 to 1982, he was

employed by Libbey Glass, Toledo, Ohio, retiring as director of engineering to Green Valley, Ariz., in October of 1982. Survivors include three daughters Jane McPherson, Betsy Kimbrough and Pat Mount.

1947

Edwin Tao (M.E.), 78, died earlier this year. He had a distinguished career in the engineering profession and as a supporter of engineering education in Hong Kong. He retired in 1981 as managing director of American Engineering Corp and as director of four wholly owned subsidiaries involved with air conditioning and refrigeration sales and design. Most recently he was managing director of Forgen Engineering Co. While active in many engineering and investment ventures, he maintained a high regard for engineering education. He had served on the council of the Chinese University of Hong Kong, as chairman of the board of trustees of New Asia College, and as a member of groups involved in the development of accreditation standards for engineering programs in China. He was a highly regarded member and leader of the American Society of Heating, Refrigerating and Air Conditioning Engineers, and he was a fellow of the American Society of Mechanical Engineers. He received an honorary doctorate from Rose-Hulman in 1988.

1949

Donald Schwartz (M.E.) died June 25. He resided in Springfield, Ill. at the time of his death. He was a retired R&D engineer for the State of Illinois. Survivors include his wife, Jane, and brother Jim (Class of 1954).

Albert D. Stolzy (E.E.)

died May 16. He was a retired patent attorney who practiced law in Washington, D.C., and in California. Survivors include three children, Sandra L. Stolzy, Keigh Stolzy and Beth Stolzy.

Albert N. Strickland (E.E.)

passed away at the age of 83, on July 8. He was an electronic engineer for R.O. Whitesell, having retired in 1983. Survivors include his wife, Bettylou "Betz", and sons Paul, Richard and Raymond.

1957

Robert Wertz (E.E.) died Aug. 8 from heart failure. Survivors include two sons, James, and Michael.

1965**C. Edmund Delporte**

(Ch.E.) died July 3. He was a chemical engineer 33 years for National Starch & Chemical, retiring in 1998. He was an active civic leader in Speedway, Ind., having served on the town council, the chamber of commerce and the Lions Club. Survivors include his wife, Sally, and children Kim Medcalf, Katie Bridges, Eddie Delporte and Mike Delporte.

Faculty

Richard Walter Neithamer died last February in St. Petersburg at the age of 72. He was a member of the Rose-Hulman chemistry faculty from 1961 to 1964.

HOME COMING 2003

October 3 - 4

MAKE HOTEL RESERVATIONS NOW

Looking Back

THE EARLY PERFORMING ARTS AT ROSE

by John Robson, Librarian and Archivist

Editor's note: While the construction of Hatfield Hall Theater and Alumni Center brings a new dimension to campus, it also enhances a long-time tradition in the performing arts that dates back to the 19th century. John Robson provides an interesting trip back to the early days on the Rose Poly stage.

As everyone knows, Rose-Hulman has, since opening day in March of 1883, drawn a very intelligent and serious body of students. What may not be as well known to the outsider is that many of those intelligent students – all male prior to 1995 – were also talented in music and willing to entertain on the stage.

The first sign of such talent came in November 1889 with the founding of the Orchestra Club, the inspiration of Svend Emmanuel Johannesen, class of 1893. In a student body of less than one hundred, Johannesen found twenty-one students who knew how to play a variety of instruments. The first concert was presented on May 23, 1890, and each spring thereafter was given for Rose and the Terre Haute community.

In the early 1890s a group of students would gather at the home of Language Professor James Wickersham on Sunday afternoons to sing German college songs. The professor stimulated an interest in chorus and quartet singing. Although records are conflicting, there is mention of a joint "Glee Club" and Orchestra concert on May 6, 1892. But a truly organized glee club had to wait until 1896.

Joining the ranks of performers in the winter of 1895 was the Mandolin and Guitar Club. The Modulus pictures of the group look pretty odd to modern eyes, but the boys no doubt had a great deal of fun. The club gave its first public concert March 21, 1896.

But then there was The Stage. So it is not too surprising that the Glee Club boys decided to capitalize on talent and community reputation to stage what were called burlesques – with the boys playing all parts, male and female. The date is December 16, 1904 when the first Rose stage performance occurred in a burlesque called Red Riding Hood. That spring, ambition soared with a production of the very popular operetta H.M.S. Pinafore by Gilbert and Sullivan.

World War I and The Great Depression took their toll on the school and her students. But one bright spot was born of our

early establishment of an ROTC unit, one of the very first in the nation. The unit had to march, of course, so a band was established, complete with unique uniforms and a collection of instruments.

The *Technic* (a former technical and news journal about Rose) makes mention of the band playing at football games and community parades. Later articles mention Terre Haute radio station WBOW broadcasting Glee Club performances during the Depression.

The missing piece of the performing history came in 1964 with the establishment of the Drama Club. There followed a series of fall and spring productions alternating between the comic and the dramatic. Such plays as "An Enemy of the People," "Inherit the Wind," "Of Mice and Men," and "Tea House of the August Moon" were performed to great audience approval.

The capstone of student musical talent is, no doubt, the annual Engineers in Concert performance. The 19th century founders of the Glee Club and Orchestra would be proud that the commitment to music and performance remains strong at Dear Old Rose. ■



The Mandolin and Guitar Club during the late 1890s.

FUTURE ALUMNI EVENTS

Contact Brian Dyer or Bunny Nash for more information on all the events listed below.

Phone: 800-248-7448

Email: brian.dyer@rose-hulman.edu or bunny.nash@rose-hulman.edu

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

Alumni Association Board Meeting

February

Terre Haute, Indiana

For more information:

Contact Brian Dyer

brian.dyer@rose-hulman.edu

Alumni Event to be announced

Orlando, Florida

For more information:

Contact Brian Dyer

brian.dyer@rose-hulman.edu

Ireland Tour

April 19-27, 2003

For more information:

Contact Bunny Nash

bunny.nash@rose-hulman.edu

Distinguished Young Alumni Awards

May 2-3, 2003

For more information:

Contact Brian Dyer

brian.dyer@rose-hulman.edu

African Safari

June 7-22

For more information:

Contact Bunny Nash

bunny.nash@rose-hulman.edu

UPCOMING CAMPUS DATES OF NOTE

December 2

Start of Winter Quarter

December 21

Winter Recess Begins After Last Class

January 6

Classes Resume

February 2 - 8

Hatfield Hall Dedication Week

February 24

Winter Term Final Exams Begin

March 10

Start of Spring Term

March 29

Mom's Day

April 18

Spring Break Begins After Last Class

April 28

Classes Resume

May 26

Memorial Day Observed, No Classes

May 27

Spring Term Final Exams Begin

May 31

Commencement

ONE GIFT, TWICE THE IMPACT



Rose-Hulman has a chance to double the impact of your contribution thanks to a special challenge from the Lilly Endowment. This initiative is designed to strengthen support to the college by matching gifts from all alumni, parents, faculty, staff and friends of Rose-Hulman now through December 31, 2003. During this time, your gifts to Rose-Hulman will be matched dollar for dollar by the Lilly Endowment.

To make a gift or for more information about this special program, contact the Development Office at **1-800-248-7448, ext. 8159**



PARTING SHOT

Professor Edward Wheeler teaches in a new studio classroom focusing on electrical systems. The classroom accommodates both lecture and laboratory practice. The new facility was made possible, in part, thanks to grants from the National Science Foundation and the Caterpillar Foundation and alumni working for Caterpillar.

Echoes

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