

Summer 2005

Volume 2004-2005 - Issue 2 - Summer, 2005

Echoes Staff

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Echoes

ROSE-HULMAN INSTITUTE OF TECHNOLOGY

Summer 2005

Vol. 2004-2005, No. 2

A Sense of Discovery

Nicholee Nietch Works on a Mission to Mars

ROSE-HULMAN #1 AGAIN

Seven Years Straight in U.S. News

CAREER ACHIEVEMENT

Four Receive Alumni Award



heard in the halls of Moench

“ The killer app for my generation and definitely for your generation is innovation.
You have been Rose trained, educated and equipped to impact our world
with innovation. It's a privilege, and when you get down to it,
it's your job. ”

— *R. Allen Shipp, Vice President of Enterprise Sales, Apple Computer and member of the Class of 1978,
delivering the Rose-Hulman commencement address, May 28, 2005*

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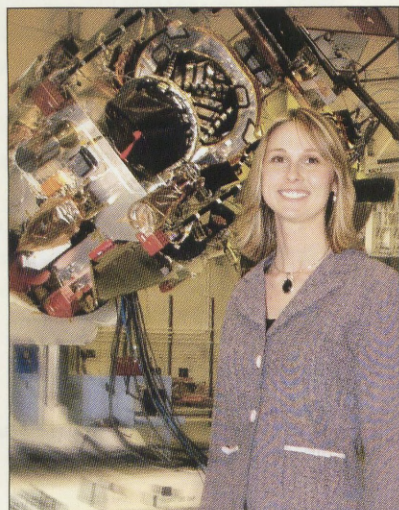
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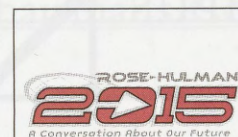
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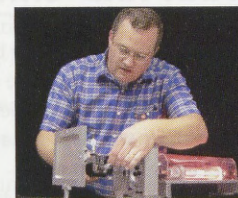
ON THE COVER

Alumna Nicholee Nietch, a systems engineer for Lockheed Martin Space Systems, stands in front of the Mars Reconnaissance Orbiter she helped send to the "Red Planet."

Photo by Marina Behabetz, Lockheed Martin.



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ALUMNUS ROBERT BRIGHT ELECTED AS BOARD CHAIRMAN AND CHIEF EXECUTIVE OFFICER

Robert Bright has been elected as the new chairman of the Rose-Hulman Institute of Technology Board of Trustees, and chief executive officer. His election occurred at the regular May meeting of the trustees.

He will be the college's chief executive officer until a permanent president is selected, according to Donald W. Scott, chairman of the executive committee of the Rose-Hulman Board of Trustees.

A presidential search committee has been created with the goal of conducting a national search culminating with the hiring of a new president who would assume office no later than July 1, 2006. Trustee Bill Fenoglio is serving as chairman of the committee.

"Rose-Hulman is fortunate that someone of Bob's abilities is willing to serve full time in this role to work with the campus community to achieve important goals during the 2005-06 academic year," Scott said. "He is a dedicated alumnus and trustee whose talents will be an asset to the Institute during the next 12 months," he stated.

Bright has been assisting with the daily opera-

tions of the college since the resignation of former Rose-Hulman President Jack Midgley on June 11.

"I'm committed to working with the talented faculty and staff to insure that our efforts will result in continued progress for Rose-Hulman," Bright said. "This is an important period of transition during which I know we will continue to move Rose-Hulman forward," he stated.

As the new trustee chairman, Bright replaces Clyde Willian who resigned prior to the May trustee meeting. Willian was elected chairman in 2001. He remains a member of the Board.

Bright thanked Willian for his commitment to the Board and to Rose-Hulman. "The Board appreciates Clyde's service as chairman and we look forward to his continued contributions as a trustee," Bright stated.

Bright retired in 1994 as a division vice president following a 37-year career at 3M Company. He received an honorary degree from Rose-Hulman in 2001. Bright has been a Rose-Hulman trustee since 1991. He previously served as the chairman of the trustees' student affairs committee. ■

MIDGLEY RESIGNS AS PRESIDENT

The following was a statement from Robert Bright, chairman of the Rose-Hulman Institute of Technology Board of Trustees, issued Sunday, June 12, 2005.

Rose-Hulman President Jack Midgley resigned Saturday, June 11. We are very grateful for his accomplishments during his tenure which include:

- The creation of a 2005-06 budget that includes the lowest tuition increase in 10 years, hiring of 6 new faculty and the largest allocation to the dean's equipment fund.
- The launch of the Rose-Hulman 2015 project to plan the long range future of the Institute.
- Funding from the Lilly Endowment to create junior faculty incentive grants and continued support for the Homework Hotline.
- Refocusing of the Ventures program toward its core academic mission.
- Long term agreement with the Indianapolis Colts and the creation of the Colts Minority Science and Engineering Scholarships.

We wish Jack Midgley well in his future endeavors.

According to the bylaws of the Board of Trustees, as the Board's Chairman, I will serve as the corporate executive officer until the Board appoints an interim president which will occur as soon as is practical. The Board is committed to working in a renewed fashion with the administration and the campus community in their respective roles, closely monitoring progress toward goals that unite us as a team. These include progress in campus relationships, performance in our respective duties, and institutional progress toward Rose-Hulman 2015. All of this will occur while honoring the traditional values of the Institute.

Your Board is listening and working hard in directions we believe are as fair, honest and wise as possible. We know that as a member of the Rose family you will continue your commitment to do the same every day. ■

PRESIDENTIAL SEARCH COMMITTEE BEGINS WORK

A presidential search committee has begun its activities toward a goal of having a new president in place no later than July 1, 2006.

THE 18-MEMBER COMMITTEE CONSISTS OF:

TRUSTEES:

Bill Fenoglio '61 (committee chair)

Retired CEO, Augat Corp.
Avon, Connecticut

Jeff Belskus

Executive VP and COO
Indianapolis Motor Speedway Corp.
Indianapolis, Indiana

Hal Brown '57 — DeSoto, Texas

Tom Dinkel '72

President — Sycamore Engineering Inc.
Terre Haute, Indiana

Mike Hatfield '84

Founder & Chief Strategy Officer — Calix, Inc.
Petaluma, California

Carter Smith '56

Retired, Executive VP — Mead Corp.
Marietta, Georgia

Craig Winn '73

President — The Winn Group
West Bloomfield, Michigan

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Professor of Chemical Engineering

Rick Stamper '85

Associate Professor of Mechanical Engineering

Art Western

Vice President for Academic Affairs, Dean of the Faculty, and Professor of Physics and Optical Engineering

David Stienstra,

Associate Professor of Mechanical Engineering

STAFF:

Rob Coons

Vice President and Chief Administrative Officer

Pete Gustafson

Vice President for Student Affairs and Dean of Students

David Piker

Vice President for Public Relations

David Haynes

Director of Planned Giving

ALUMNI:

Jeff Borgan '77

President, Alumni Association
Attorney — Leydig, Voit & Mayer, Ltd.
Chicago, Illinois

STUDENT:

Stefani Yande Lune

President, Student Government Association
Kokomo, Indiana

TERRE HAUTE COMMUNITY:

Joy Sacopulos

Recipient of an honorary degree from Rose-Hulman in 2003 for her volunteer Leadership

ROSE-HULMAN'S CORE MISSION REMAINS STRONG DURING PERIOD OF TRANSITION



By Robert Bright, Chairman of the Rose-Hulman Institute of Technology Board of Trustees and Chief Executive Officer

Nothing brings home the special nature of Rose-Hulman and its mission more than our annual commencement ceremony.

As our robed graduates walked across the stage during Rose-Hulman's 127th commencement this spring, I was reassured that our core strength of educating students has not been hampered during a period of transition at the college. Each diploma presented on the stage that afternoon represented the culmination of hard work by our students, faculty, staff, alumni, parents and friends of the Institute. Top-flight undergraduate engineering, science and mathematics education is what we're all about at Rose-Hulman, and commencement symbolized the capstone of a job well-done.

Our graduates this year achieved some of the highest academic standards of any graduating class, and the "Senior Class Student Opinion Survey" indicated that this year's class was very satisfied with its Rose-Hulman experience at all levels.

Watching the smiling graduates exchange handshakes, hugs and high-fives with family, friends, faculty and staff after commencement reminded me that Rose-Hulman's success lies in the people who make up the Rose-Hulman community.

I salute our students and our constituencies for continuing the tradition of excellence started when Chauncey Rose founded our college in 1874. You should be pleased to know the tradition will carry on this fall when more than 450 freshmen step on campus and join the Rose-Hulman family.

Much of my summer has been spent working with faculty and staff in preparation for the upcoming year. Rose-Hulman remains in good hands. We have a qualified and motivated group of people working to provide the best education possible. Their zeal for the Rose-Hulman mission breeds a contagious excitement that carries through all levels of the Institute. They are focused and moving forward.

As we forge ahead, we must strive to make a great college even better. Many issues face Rose-Hulman as it continues its march into the 21st century. A priority this year will be the hiring of a new president. A search committee, under the leadership of board of trustee member Bill Fenoglio, began its work this summer to look nationwide for the very best presidential candidates. Our goal is to have a new president on the job no later than July of 2006. The committee will identify candidates who will be brought to campus to meet with the Rose-Hulman community. The final selection of a new president will be done by the full Board of Trustees. Until that time, I will serve as Chief Executive Officer.

Although this year is one of transition, we are not content to maintain the status quo. The campus leadership team has established seven Institute-level objectives to guide us through the 2005-06 school year:

- Maintain Rose-Hulman's focus on outstanding undergraduate education in engineering, science and mathematics through individualized attention to student development;

- Continue to strengthen and value the Rose-Hulman community and culture;
- Increase funds raised from individual major gifts, corporations and foundations;
- Set and meet the number and quality goals for the freshman class that will arrive in the fall of 2006;
- Initiate phase two of the "Rose-Hulman 2015" initiative;
- Complete planning and implement Rose-Hulman Ventures 2.0; and
- Refine the annual planning process.

That list is not for the faint of heart, and it exemplifies the complex challenges facing Rose-Hulman and higher education in general. Meeting those objectives requires a commitment to in-depth planning and strong execution. I can report with great confidence that Rose-Hulman has some of the best people in the country dedicated to achieving those goals. The Board of Trustees shares my high level of confidence in the abilities of our faculty and staff. They have done great work in the past and they continue to do great things today.

Moving forward will take all of us – students, faculty, staff, alumni, parents, trustees and friends – working together to insure that one of the nation's top engineering, science and mathematics colleges will reach the next level of excellence. I consider it a privilege to be a part of the team and I look forward to working with you. ■

GOECKER PROMOTED TO DEAN OF ADMISSIONS AND FINANCIAL AID AT ROSE-HULMAN

Jim Goecker, a 19-year veteran of the Rose-Hulman Institute of Technology admissions staff, has been promoted to dean of admissions and financial aid.

Goecker replaces Chuck Howard, who retired in June after serving 37 years on the admissions staff including the past 23 years as dean of admissions. Goecker will also oversee the Office of Financial Aid which previously reported to the vice president for student affairs and dean of students.

"Creating this new structure will strengthen our student recruitment program and maximize the work of two outstanding staffs," stated Robert Bright, chairman of the Rose-Hulman Board of Trustees and chief executive officer.

"Rose-Hulman is fortunate to have someone of Jim's professional experience and dedication to the Institute to assume this position.

"Chuck Howard and Dean of Students Pete Gustafson have done an excellent job developing our admissions and financial aid programs, and the campus community is confident that Jim will continue that progress," Bright said.

Goecker has served as associate dean of admissions since 2002. He joined the Rose-Hulman admissions staff in 1986 as



Jim Goecker

assistant director and was promoted to associate director in 1991.

Goecker has contributed to a student recruitment program that attracts high-school graduates that rank in the top 8 percent of their graduating class. He created and administered Rose Alumni Recruiting Engineers, a national network of alumni volunteers that assists the admissions staff. He serves on the Rose-Hulman financial aid, and rules and discipline committees.

"I'm excited about this new opportunity to serve the Rose-Hulman community and to work more closely with an outstanding financial aid staff," Goecker remarked. "I'm looking forward to building on the successes of two outstanding colleagues, Chuck Howard and Pete Gustafson."

Prior to joining the Rose-Hulman admissions staff, he served as a residence hall director at Vincennes University and was a teacher and coach at Carr Township Schools in Medora, Indiana.

Goecker received the bachelor of science degree in education and the master of arts degree in American history from Ball State University. He also earned a master of science degree in college student personnel from Indiana State University. ■

ROSE-HULMAN RANKED NO. 1 UNDERGRADUATE ENGINEERING PROGRAM FOR 7TH CONSECUTIVE YEAR BY U.S. NEWS & WORLD REPORT

Rose-Hulman is No. 1 again!

For the seventh consecutive year, Rose-Hulman has been ranked first by engineering educators as the nation's best college or university that offers the bachelor's or master's degree as its highest degree in engineering, according to rankings released Aug. 19 that are included in the 2006 edition of "America's Best Colleges" published by U.S. News & World Report.

The rankings are based on the results of a peer survey of deans and senior faculty conducted by the magazine. Fifty percent of those surveyed returned ratings for the undergraduate engineering programs category.

Each engineering program at Rose-Hulman that is evaluated in the survey has

now been ranked as the nation's best each year that the magazine's survey has included a ranking of individual programs. Retaining their top ranking for the sixth straight year were degree programs in chemical, civil, computer, electrical, and mechanical engineering.

Following Rose-Hulman on the list of top undergraduate engineering programs were Harvey Mudd College, Cooper Union, the United States Military Academy, the United States Naval Academy, the United States Air Force Academy, Cal Poly-San Luis Obispo, Bucknell University and Swarthmore College.

"To be considered repeatedly by our engineering education colleagues as the best college or university in this category is a result of

the hard work and talents of our faculty, staff, students and alumni," stated Robert Bright, chairman of the Rose-Hulman Board of Trustees and chief executive officer.

Bright noted that students and their families should not make a college choice based only on the magazine's rankings. "While Rose-Hulman takes pride in its No. 1 ranking, students should consider many factors when deciding which college or university to attend," he said.

"As an example, students should schedule a well organized campus visit to insure that they are making the right decision as to which institution best meets their needs," he explained.

RESIDENCE HALL DEDICATED IN HONOR OF ALUMNUS AND FORMER TRUSTEE MICHAEL PERCOPPO

Rose-Hulman Institute of Technology named its second largest residence hall to honor the contributions made to the college by alumnus and former trustee Michael Percopo at a dedication ceremony on May 27.

Percopo served as a member of Rose-Hulman's Board of Trustees for 21 years. During a distinguished international business career, he served as president of Squibb International and MWP Associates International in New York City. A 1943 chemical engineering graduate, he died on Jan. 25, 2003 in New York City.

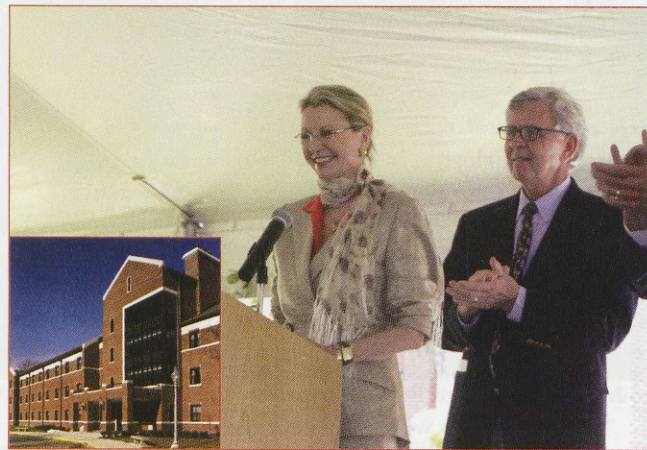
Percopo bequeathed a \$7 million gift for scholarships to Rose-Hulman. His bequest is the largest single gift for scholarships the Institute has ever received. The gift, announced in December, 2003, increases the number of four-year, full-tuition scholarships offered through the Michael and Christa Percopo Scholarship Fund. The scholarships attract top students from the East and West coasts, adding to the geographic diversity of the student body. The first three Percopo Scholars have completed their freshman year at Rose-Hulman. Percopo also established a fellowship at Harvard University for Rose-Hulman alumni who pursue an MBA. Percopo received the MBA from Harvard following service in the United States Army.

"Rose-Hulman was a very important part of Mike's life which makes the naming of this residence hall in his honor so meaningful," stated Percopo's wife, Christa, who spoke at the ceremony. "He was dedicated to helping Rose-Hulman provide its students with the very best education possible. Percopo Hall will be a lasting memory of his commitment to Rose-Hulman and its students."

Percopo Hall was built to enhance the learning experience of sophomores through the use of live-in peer tutors, scheduled study sessions, and numerous group study areas, according to Pete Gustafson, vice president for student affairs. These educational programs have helped improve Rose-Hulman's sophomore retention to 80 percent or better since the building was opened in the winter of the 1999-2000 school year.

The residence hall has 109 double rooms, each sharing a restroom with a second room, is fully air conditioned and carpeted, has a library, classroom, a fireplace and several lounges. A total of 209 sophomores and residence hall staff lived in Percopo Hall this year.

"Percopo Hall is extremely popular with sophomores," Gustafson said.



Christa Percopo finishes her dedication address. On her right is Jack Ragle emeritus, member of the Board of Trustees and longtime colleague of Mike Percopo
Inset: Percopo Hall

Percopo Hall is located near a bluff where Percopo recalled in a video interview that he sat questioning whether he could survive the rigors of a Rose-Hulman education. In the interview, he said, "I remember going to the bluff overlooking the baseball field. God, I'm not going to make it.... I thought pretty hard about it and said, 'You know, I'm going to stay here and make it,'" the Bayonne, N.J. native recalled.

The naming of Percopo Hall is the latest honor that Rose-Hulman has conferred upon Percopo. He received an honorary doctor of laws degree from the college in 1972. In 1997, the Rose-Hulman Office of Career Services and Employer Relations in the Hulman Union was dedicated in honor of Percopo and his late wife, Catharine. Percopo served on the investment management and academic affairs committees of the Rose-Hulman Board of Trustees.

After graduating from Rose-Hulman, serving as a captain in the United States Army and earning an MBA from Harvard in 1948, Percopo began his career with Squibb in Rome, Italy. Promotions came quickly and included positions as assistant to the president of Squibb in Sao Paulo, Brazil, managing director in Turkey and general manager of Middle East Operations. In 1957, Percopo was promoted to vice president, Southern Latin American, and later became president of Squibb for the Western Hemisphere and Middle East. He was appointed president of Squibb International in 1978, and opened new markets for Squibb worldwide in Turkey, Egypt and China. ■

BEST JOB MARKET SINCE 2001 FOR GRADS; AVERAGE STARTING SALARIES TOP \$52,000

A significant increase in on-campus recruiting, higher salary offers and a 92 percent placement rate 30 days after graduation all point to an improved job market for 2005 Rose-Hulman grads.

Campus recruiting by companies increased 20 percent to 25 percent this year, reports Kevin Hewerdine, director of career services and employer relations at Rose-Hulman.

Salary offers are up 3 to 7 percent with average starting salaries increasing to \$52,000. The top salary offer accepted was nearly \$76,000. Many seniors received multiple job offers from different regions of the country.

Another indication of the improved job market for college students was the record 55 companies from throughout the country that attended Rose-Hulman's spring job fair.

"At least 300 jobs were available at the spring job fair," estimates Hewerdine. "Companies came here looking to hire."

Gregg Greathouse, systems lead engineer/customer engineering division for Cummins Inc., was among those attending. "Rose-Hulman graduates have a lot of hands-on experience and are solid technically. Alumni from this college have a proven track record of success with Cummins. That's why we keep coming back for more."

More than 200 companies sent recruiters to campus during the academic year, Hewerdine reports. Seniors in civil engineering, chemical engineering, mechanical engineering and software engineering were the most heavily recruited.

"The number of job opportunities for Rose-Hulman graduates is directly related to the current market conditions," Hewerdine said. "We were slightly impacted by the bust of the dot-com companies earlier in this decade, but job opportunities for our graduates have re-emerged in other high-tech areas."

Even students not graduating saw improved job opportunities, Hewerdine noted. "The prospects for internships and co-ops also increased, which opens the door for students to receive per-



The fall Career Fair in the Sports and Recreation was one of the tools students used to secure jobs this year.

manent job offers from summer employers in the future."

Alumni continue to have a vital role in the success seniors have in their job search, Hewerdine emphasized. "I want to thank our alumni for everything they do to identify job opportunities, promote the quality of our students, and increase their company's involvement with Rose-Hulman."

Hewerdine reminds alumni that May graduates included the first group to receive Bachelor of Science degrees in biomedical engineering. "We need to develop increased job leads for the graduates of this new undergraduate program," he said.

May graduates interested in pursuing a master's degree rather than enter the job market were also successful in being admitted to the graduate school of their choice. Hewerdine said approximately 18 percent of Rose-Hulman's 2005 graduates planned to attend graduate school in the fall.

Dates for the fall, winter and spring campus career fairs are Oct. 19, Jan. 25, and April 19.

FOUR RECEIVE WEAVER UNDERGRADUATE RESEARCH AWARDS

Four Rose-Hulman Institute of Technology students and four professors will explore a wide range of science and engineering projects through a collaborative undergraduate research program supported by Joseph and Reba Weaver of Indianapolis.

The projects began this summer and must be completed by May 2006. The \$2,000 awards cover student wages, campus residential costs, and supply and material expenses. No faculty salaries or major equipment expenses are allowed.

- Studying the in-vitro generation of amoebocytes from the American Horseshoe Crab will be Amber Brannan, a junior applied biology major from Brazil, Ind., and William Weiner, assistant professor of applied biology and biomedical engineering.

- Meanwhile, sophomore chemistry major Dan Szymkowiak of Port Angeles, Wash., will examine an application of the Amberlite resin RA-400 to aqueous-phase palladium catalyzed Suzuki reactions. He will be assisted by Rebecca DeVasher, assistant professor of chemistry.

- Junior applied biology major Derek Trobaugh of New Castle, Ind., will study hydrogen peroxide production in T lymphocytes, along with Kay C Dee, associate professor of applied biology, and Gabi Nindl of the Indiana University School of Medicine.

- Mathematics major Hari Ravindran, a sophomore from Doha, and David Finn, associate professor of mathematics, will utilize their math skills in a project "Modeling the Shape of a Cookie".

TWO RECEIVE FIRST COLTS SCHOLARSHIPS

Two Indianapolis students who are entering Rose-Hulman Institute of Technology this year as freshmen have been selected as the first recipients of the Colts Minority Science and Engineering Scholarship.

The scholarship winners are Joshua Coe and Janelle Crockett. Each scholarship covers full-tuition for four years.

Coe, who graduated with honors this spring from Ben Davis High School, was ranked in the top five percent of his graduating class. He was a member of the school's student council, debate team and served as a senior mentor to other students. Coe is interested in a career in aerospace engineering.

"I'm very grateful to be one of the first recipients," Coe stated. "I appreciate the Indianapolis Colts organization giving back to the community by creating these scholarships," he said.

Crockett is a recent Lawrence North High School graduate. She earned an academic honors diploma, was inducted into the National Technical Honor Society and was a member of the high school marching, pep and concert bands. She intends to pursue a degree in biomedical engineering.

"I was speechless when I learned that I had been awarded the scholarship," Crockett remarked. "I'm very thankful that the Colts made this scholarship available," she said.

Coe and Crockett were honored Saturday (July 30) during the annual Colts Training Camp dinner sponsored by Rose-Hulman for alumni, employees and other friends of the Institute. Nearly 500 guests attended the event during which Indianapolis Colts President Bill Polian was the featured speaker.

"Our organization holds a deep regard for the quality of instruc-



From left: Janelle Crockett, Joshua Coe and Bill Polian

tion and the exemplary national profile that Rose-Hulman has forged through many years," Polian said. We are pleased to contribute to the academic mission of Rose-Hulman with these scholarships, and there is no finer way than to help students from Indiana study at this institution. We will watch with pride as Janelle and Joshua make progress through their chosen curriculum," he stated.

Robert Bright, chairman of the Rose-Hulman Board of Trustees and chief executive officer, said the new Colts scholarships will help the college achieve one of its most important goals. "The support from the Colts organization for these new scholarships is an important boost to Rose-Hulman's efforts to recruit Indiana's very best students," he stated.

AMERICAN SOCIETY OF CIVIL ENGINEERS STUDENT CHAPTER NAMED NATION'S BEST

Rose-Hulman Institute of Technology's Cecil Lobo chapter of the American Society of Civil Engineers has received the Robert Ridgway Award as the nation's best chapter based on outstanding community service, professional activities, campus service and chapter performance reports. This marks the second time that Rose-Hulman's chapter has received this honor.

Patrick Natale, ASCE executive director, cited Rose-Hulman's chapter for "excellence in the effective and meritorious conduct of its affairs as a student chapter of ASCE through the ability and professional diligence of the Chapter officers, members and faculty advisors."

The award will be presented at the ASCE National Conference in October.

The chapter's community service project for a handicapped West Terre Haute woman was commended by the ASCE Ridgway Award review panel. Approximately 20 members spent three Saturdays finishing a 900 square foot home for a woman who had become

homeless following a house fire. Students finished the roof, placed plywood on exterior walls and enclosed the structure with plastic house wrap material to seal out moisture. New stairs for the front and back porches, including a wheelchair ramp, were also installed. The project was completed at nearly no cost to the woman, other than the materials she purchased independently. Project managers were Philip Griffith and Jeffery Poole.

Other service projects completed in 2004-05 were the annual Christmas Basket Fund Drive, which raised a record \$3,528; a fund-raising golf tournament for the Wabash Valley Habitat For Humanity organization, and providing educational programs for local middle school and high school students interested in learning more about civil engineering.

"Community service is what puts our ASCE chapter above its peers and paves the way for our students to become professional engineers that are good citizens in the future," said Kevin Sutterer, ASCE's faculty advisor.

"The credit all goes to our students. They do all the work, complete the service projects and file the necessary reports to qualify for such high honors. Our chapter is highly respected by our peers throughout the country."

Rose-Hulman's ASCE chapter includes 68 students. The 2004-05 chapter officers were Cory Howell, president; Andrew Twarek, vice president; Michael Reeves, treasurer; and David Pirnia, secretary. Professional contact members are Kevin Forbes, director of engineering for the Indianapolis Motor Speedway, and Jim McKinney, Rose-Hulman's R.C. Hutchins Distinguished Professor of Civil Engineering.

Department of Civil Engineering Chair Robert Houghtalen pointed out that the Ridgway Award capped an outstanding year for the 2005 senior class of civil engineering students. The class also had a 100 percent passing rate on the Fundamentals of Engineering exam and completed professional-quality senior year design projects.

STUDENTS TO REAP BENEFITS OF COMPUTATIONAL RESEARCH PROGRAM

\$1 MILLION LILLY INITIATIVE HELPS FUND NEW FACULTY-DEVELOPED EDUCATIONAL PROGRAM

While the name may proclaim it's a Faculty Success Grant, Rose-Hulman Institute of Technology chemical engineering students will be the ones reaping the benefits of a new initiative to develop an undergraduate computational research program.

Starting this summer, a pilot program by chemical engineering professors David Miller, Sharon Sauer and Dan Coronell will provide students with an opportunity to pursue open-ended computational research projects in important, cutting-edge areas of chemical engineering. The program will enable students to be better prepared for both graduate school and careers in high tech industries. In addition, it will enhance the opportunities for collaboration with students and faculty from the mathematics, computer science, physics and chemistry departments.

Development of the new educational program is being supported by the Lilly Endowment Inc.'s Initiative to Recruit and Retain Intellectual Capital for Indiana Higher Education Institutions. Rose-Hulman received a \$1 million grant in 2004 to help young faculty by providing them with substantial funding to implement innovative projects to enhance undergraduate education at the college. Faculty Success Grants will be awarded to create education initiatives, which could include the creation of new laboratories, course development or the authoring of innovative teaching materials, according to Art Western, vice president for academic affairs and dean of the faculty. A total of \$100,000 was awarded to the program outlined by the three enterprising chemical engineering professors.

Computer-based "experimentation" is becoming increasingly important in the chemical industry, according to Miller (Chemistry, '90). The need to reduce costs and increase the speed of innovation requires that expensive and time consuming trial-and-error laboratory experimentation be augmented by a number of computational techniques. The American Chemical Society's Vision 2020 report indicates that increasing and improving the capability to model and predict the behavior of chemicals and chemical systems is one of the most important areas for continued success of the U.S. chemical industry.

Presently, opportunities for undergraduate students to pursue independent research projects with faculty members in Rose-Hulman's Department of Chemical Engineering are limited. This is largely due to the significant time required for students to establish a requisite understanding of some specialized area. In computational research, a significant amount of this groundwork is comprised of the actual programming.

"We believe that the learning curve for computationally-based research projects can be significantly reduced by developing a common, modular infrastructure of tested, well-documented, and reusable computer code," Coronell states.



Working on the pilot program are (left to right) David Miller, assistant professor of chemical engineering; Dan Coronell, associate professor of chemical engineering; Michael Rasche, junior, chemical engineering major; and Sharon Sauer, assistant professor of chemical engineering. Seated is Christopher Emborsky '04, a graduate student in chemical engineering.

Over the course of the program, students and faculty will collaboratively work on research projects while at the same time taking the computer code and transforming it into reusable modules that can be used by future undergraduate research students. This will eliminate a significant amount of the overhead required when a new student starts a project. The structure of the code and algorithms will also provide a format so that new students can immediately begin where another student left off.

"By making the framework common among several faculty members in the department, students will be able to more readily explore research activities in a variety of areas," Sauer observed.

This summer, one graduate student and one undergraduate student are the charter participants in the program, with an additional nine undergraduate students expected to join the effort this academic year and next summer. It is anticipated that the pilot version of the formalized undergraduate research program will be initiated during the 2006-07 academic year.

The Department of Chemical Engineering is in the midst of reviewing the entire curriculum. One common sentiment that has evolved from this review is to allow more opportunities for students to work on independent, open-ended projects. Feedback from the students also indicates that such a program would be well-received.

"We believe the infrastructure developed through this program will support ongoing opportunities for undergraduate students as well as serve as a model for a broader, formalized research option within the department," Miller said.

REMY ADDS CORPORATE SUPPORT FOR CHALLENGE X TEAM

BY DALE LONG



Ready To Continue Work: Members of Rose-Hulman Institute of Technology's Challenge X team are ready to transform the gasoline-powered Chevy Equinox into a high-efficient sport utility vehicle after successfully passing first-year criteria in the National Engineering competition.

Remy International, Inc., has joined a premier group of corporate backers to provide engineering expertise and long-term sponsorship for Rose-Hulman Institute of Technology's Challenge X team, as part of a national collegiate competition, to develop more energy efficient vehicle systems. In addition to the multi-year monetary sponsorship, Remy's electrical engineers will advise Rose-Hulman's Challenge X team members on the latest technologies for electric motors, generators and advanced vehicle propulsion.

The U.S. Department of Energy and General Motors Corporation are teaming up with other sponsors to challenge the best and brightest engineering students in the new competition series, Challenge X: Crossover to Sustainable Mobility.

Seventeen university teams from the U.S. and Canada will follow a hands-on, real world engineering process, based on GM's Global Vehicle Design Process at each phase of a three-year competition. By applying proven methods for engineering successful prototype vehicles, students will learn real-world engineering skills that will make them highly valuable to the automotive community in Indiana and nationwide.

Rose-Hulman students are re-engineering a new Equinox, a GM crossover sport utility vehicle platform, to integrate cutting-edge advanced automotive technologies and alternative fuels, such as hydrogen, ethanol and biodiesel, to develop a process approach for power systems that minimizes total environmental impact and builds sustainable transportation in the future. There are 70 Rose-Hulman students from different engineering and science disciplines currently involved in the project.

Annually, for the next two years, Challenge X participants will come together for the competitive judging and evaluation, based

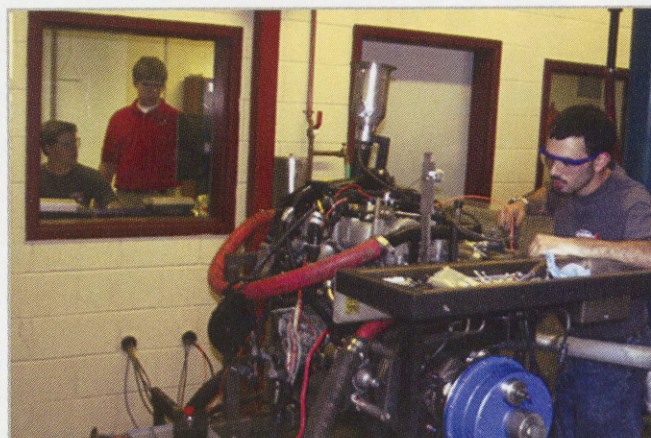
upon energy use improvement, emissions reduction, total vehicle utility, operational performance, quality of engineering and K-12 education outreach.

Assisting Rose-Hulman's Challenge X team in the projects will be Remy Inc. President Richard L. Stanley, and Remy engineers James Spellman, David Fulton, Thomas VanderLaan, Thomas Merrill and Richard Huibregtse.

"We are confident that this partnership with education and the business community will offer unique learning experiences and solutions that will benefit the students, the state of Indiana and the future of the industry," Stanley noted.

The partnership also provides students with the opportunity to participate in summer internships and co-op work experiences, according to Zac Chambers, Rose-Hulman Challenge X team's co-faculty adviser and assistant professor of mechanical engineering.

Remy International, Inc., headquartered in Anderson, Ind., is a leading manufacturer, remanufacturer and distributor of Delco Remy brand heavy-duty systems and Remy brand starters and alternators, diesel engines and hybrid power technology. The company also provides worldwide components core-exchange service for automobiles, light trucks, medium and heavy-duty trucks and other heavy-duty, off-road and industrial applications. Remy was formed in 1994 as a partial divestiture by General Motors Corp. of the former Delco Remy Division, which traces its roots to Remy Electric, founded in 1896.



Working On Stage II: Rose-Hulman Institute of Technology Challenge X team members Matt Lipkowitz (examining engine), Matt DeVries (at right, behind window) and Kenny Hurst (at left, behind window) get ready to test the diesel engine that will be part of the propulsion system in the re-design of a Chevy Equinox.

More information is available at the following websites:

<http://www.remyinc.com>

www.rose-hulman.edu/challengex

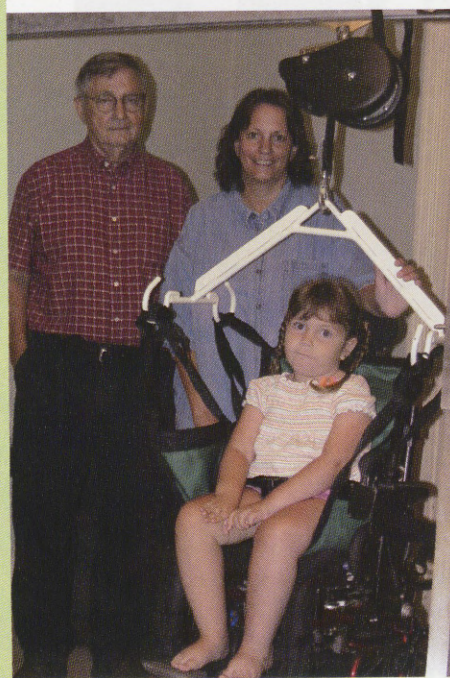
www.challengex.org

Capstone Projects Touch Lives and Lifestyles

BY DALE LONG



Hannah Heaton, Jennifer Heaton and Jim Schwartz



IT DIDN'T TAKE LONG FOR HANNAH HEATON TO EXPRESS DELIGHT in a new mechanical lift device created as part of Rose-Hulman Institute of Technology's mechanical engineering senior-year service learning design project course that allows the 5-year-old to be removed from her wheelchair and perform therapeutic exercises and play on the floor in her home.

"Whee!" she exclaimed as she sat suspended in a harness that's attached to a hand-cranked winch attached to a four-foot long aluminum beam. The winch glides sideways to safely remove Hannah from the chair. "I'm kicking," she tells all who could hear during a recent project demonstration. "Wow, look at me. I'm flying!"

While she can shift and swing her legs freely in the lift device, Hannah's leg muscles aren't strong enough to stand on their own – the remnants of Spinal Muscular Atrophy (SMA), an inherited and often fatal disease that destroys the nerves controlling voluntary muscular movement, affecting crawling, walking, head and neck control and even swallowing. There currently is no cure for the disease.

Desiring help in caring for Hannah's growing needs, her grandfather, Jim Schwartz (Mech. Eng., '54), contacted professors Darrell Gibson and Patsy Brackin, coordinators of the Department of Mechanical Engineering's senior capstone design program, about the possibility of students designing the lifting device. "I wanted something that could help me put her on the floor to exercise and back in her wheelchair. I can lift her now, but as she gets older, this will be nice. This saves my back," said Hannah's mother, Jennifer Heaton. Hannah's father, Dean Heaton, is enrolled in Rose-Hulman's engineering management graduate school program.

Students Neil Harrison, Lindsey Kerbel, Mike Schneck and Nathan Soyer quickly accepted the challenge, according to Brackin, who oversees all of the service learning projects in the design course. Soyer took a special interest in the project since he has a relative that also suffers from SMA.

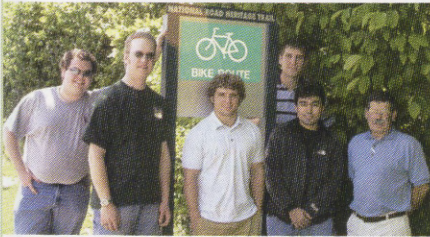
"The students came and met Hannah and were just great. They were very hands-on and wanted to make sure everything was just right," Jennifer Heaton said.

Schwartz, Rose-Hulman's alumni director from 1976-90, made a curved metal hook that holds the harness seat. The hook connects to the winch, which can be used with a hand crank or an electric crank. The lift can hold up to 400 pounds (Hannah currently weighs 52 pounds), meets all safety regulations, is easily portable and can be expanded to meet Hannah's growing needs. Schwartz and the Heatons helped pay for most of the project's expenses.

This fall, the device will be taken to a local school, where Hannah will begin kindergarten.

"This project was a win for the students, giving them practical work experience, and a win for Hannah and her parents," Brackin stated. "Our students really seem to love getting involved in service learning projects like this. They can see that engineers can help people."

Some of the other capstone design projects completed by students during the 2004-05 academic year were:



From left: David Honan, Andrew Twarek, David Pirnia, Philip Griffith, Travis McKittrick and Faculty Adviser James McKinney.

BLAZING NEW TRAILS: The scenic beauty of Parke and Vigo counties could someday be linked through a majestic 18.5-mile paved pedestrian/bicycle Covered Bridge Gateway Trail pathway designed by five 2005 civil engineering students.

The proposed rails-to-trails project would showcase several historic covered bridges; fit into a system of "greenways" to promote healthy lifestyles; and assist with economic development of the region. It would begin in northern Vigo County and follow an abandoned railroad to the Pennsylvania Railroad Depot in downtown Rockville, Ind.

The team of Philip Griffith, David Honan, Travis McKittrick, David Pirnia and Andrew Twarek spent over 1,700 hours on the project. The students presented the proposal this spring to commissioners of both Vigo and Parke counties.

"The students' work on this project is exceptional. I'd expect this type of work from paid consultants, not senior-year college students," remarked Pat Martin, former chief transportation planner for the West Central Indiana Economic Development District, who was the project's client. "Everyone has been impressed with this project. Nobody has said that 'It can't be done.' That's because of the thorough job that the students did."

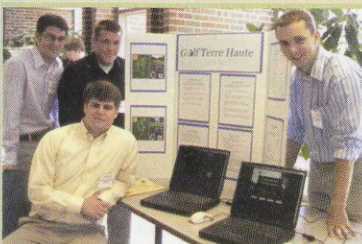
The team's design included site development of the trailheads at each end of the project, as well as creating access points at two communities along the trail. Two bridges were also designed: One timber covered bridge and a railroad-style timber trestle. Recommendations were made for trail width, materials and intersection markings.

WEIGHT-BEARING DEVICE TO HELP PATIENT CARE: Improving patient care for leg, foot and ankle injuries at the Rehabilitation Hospital of Indiana was the goal of a device developed by electrical and computer engineering graduates Cheryl Fang, Richard Graham, Cole Ulen and Matt Robertson.

The Weight-Bearing Detection Device will help physicians, nurses and other hospital staff in measuring the weight a patient places on his foot during walking, running or casual movement. The device consists of sensors that can be strategically placed at pressure points throughout the top of an insole worn by the patient. The pressure is converted to a weight measurement, which is then wirelessly transmitted to a handheld



From left: Matt Robertson, Cheryl Fang, Cole Ulen and Richard Graham



Andrew Boese (seated) and (top, from left) Pat Roby, Dave Knauer and Tyler Hicks-Wright

HITTING THE LINKS THROUGH COMPUTER: Golfers will soon be able to play Terre Haute's Hulman Links Golf Course – without hurting their handicaps – through a new virtual reality computer system developed by computer science and software engineering graduates Drew Boese, Tyler Hicks-Wright, David Knauer, Pat Roby and Matt Weinstock. The Web-based project allows persons to play the golf course through clicking a mouse on a personal computer, from the comfort of their home or office.

HELPING THE BLIND FIND THEIR WAY HOME: Using Global Positioning System technology, Eric Benz, John Harmon and Macie Korte developed a system that could allow a blind/visually impaired person to navigate city streets while walking – improving the lives of blind users by giving them greater independence. The mobile, handheld device relays the blind person's location and direction via audio output. Developed for the Indiana School for the Blind, the proof-of-concept device has been programmed to give people directions in and around Indianapolis.

LILLY ENDOWMENT TO MATCH FUTURE GIFTS; ROSE-HULMAN ELIGIBLE FOR \$4.5 MILLION

Previous success by Rose-Hulman Institute of Technology to achieve initiatives set forth by the Lilly Endowment Inc. to strengthen philanthropy to Indiana colleges and universities has resulted in Rose-Hulman being eligible to receive a \$4.5 million grant to match funds the college's raises during a period that began June 1 and ends Dec. 31, 2006.



The Endowment announced in June that the grant is part of the second phase of its successful Initiative to Strengthen Philanthropy for Indiana Higher Education Institutions. In 2002, the Endowment challenged Indiana colleges and universities to raise funds for needed academic purposes through the Initiative to Strengthen Board Commitment and the Special Initiative to Strengthen Philanthropy for Indiana Higher Education Institutions.

With this new initiative, each of the 34 Indiana colleges and universities invited to participate will be offered an opportunity to receive an amount of matching funds based on the extent of success of the institution in the previous two initiatives. The institutions raised more than \$140 million through the two programs.

Rose-Hulman is one of 14 Indiana higher education institutions eligible for the \$4.5 million grant which is the largest that can be received through the second phase initiative. Other grants total \$2.5 million and \$1 million. In its category, Rose-Hulman is also eligible to receive an Endowment match of \$1.50 for each \$1 raised. Matching ratios for 20 other institutions are \$1.25 and \$1 per \$1 raised.

"We were so pleased with the results of these efforts and hope that this second phase will build on that momentum," said Sara

Cobb, Endowment vice president for education. "It appears that the matching aspect of the initiatives helped these schools raise more funds from their boards of directors, staff and faculty, students, parents, alumni and friends.

"The Endowment continues to believe that there is a strong correlation between giving and engagement. Those who give generously to a school tend to pay attention to its vitality and effectiveness. Such support and engagement can only strengthen Indiana's colleges and universities," she said.

The funds raised to meet the match may come from any private source. No more than 25 percent of the funds from any one source will be counted for the match, according to the Endowment.

The Endowment's matching funds may be used for academic programs including, but not limited to, a permanent endowment account, academic programs, capital needs, equipment, scholarships, curriculum, and faculty development. Other purposes may be accepted if a compelling case is made that the purpose would advance the institution's efforts to recruit or retain faculty, staff or students.

Robert Bright, chairman of the Rose-Hulman Board of Trustees and chief executive officer, praised the Endowment for continuing a program that has had a major impact on Rose-Hulman's fundraising successes. "The previous Endowment programs helped Rose-Hulman raise nearly three times the \$3.5 million the Endowment challenged institutions to raise during the time period allotted," he noted.

"I'm confident that the second phase of the program will have a similar significant impact on Rose-Hulman's ability to raise much needed funds to enhance our academic programs. The Endowment's continued support is a key factor that has led to Rose-Hulman earning a national reputation for excellence in engineering, mathematics and science education," Bright stated.

LONGTIME ROSE-HULMAN EMPLOYEES RETIRE

Some longtime Rose-Hulman employees retired during the past year. Retirees who devoted decades of service to Rose-Hulman include:

- Jack Bagley, manager of print shop and copy services;
- Charles Howard, vice president and dean of admissions;
- Brij Khorana, executive vice president and chief operating officer of Rose-Hulman Ventures and professor of physics and optical engineering;
- Don Morin, professor of mechanical engineering;
- Janet Newman, administrative assistant to the vice president of development; and
- Gloria Rogers, vice president of Institutional Research, Planning and Assessment.

378 DEGREES AWARDED DURING 127TH COMMENCEMENT MAY 28

Rose-Hulman Institute of Technology conferred 378 undergraduate or graduate degrees, and three honorary degrees during the college's 127th commencement May 28.

A crowd estimated at 4,800 packed the Sports and Recreation Center for graduation which included the traditional procession of graduates through campus.

A total of 340 bachelor's degrees and 38 master's degrees were awarded during the two-hour ceremony.

The commencement address was delivered by Al Shipp, vice president of enterprise sales for Apple Computer Inc. Shipp, a 1978 Rose-Hulman electrical engineering graduate, is responsible for business development to expand the worldwide market for Apple Computer Products.

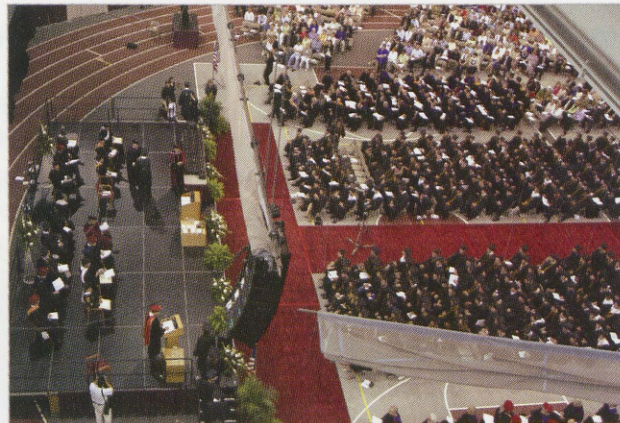
Shipp told the graduates that innovation is the key if American businesses, the government and our country are to continue to prosper.

In order to achieve success, he encouraged graduates to continue to learn, to surround themselves with the best people, to know their strengths and weaknesses, to demonstrate and grow their character, and to be persistent.

In addition to the bachelor's and master's degrees conferred, three honorary doctor of humane letters degrees were awarded to an Illinois Army National Guard soldier cited for bravery in Iraq, to the president of the Indianapolis Colts and to the college's long time dean of admissions during the college's 127th graduation program.

Honorary degree recipients were Sgt. Justin Villanueva, a member of the Illinois Army National Guard who was wounded in Iraq; Bill Polian, president of the Indianapolis Colts; and Chuck Howard, retiring vice president and dean of admissions at Rose-Hulman.

Villanueva has been awarded the Purple Heart and several other medals for his service in Iraq as a member of the 1544th



Graduates fill the fieldhouse floor during Rose-Hulman's 127th commencement.

Transportation Company of the Illinois Army National Guard located in Paris, Ill. On September 5 last year, an enemy mortar attack at a company area killed two soldiers and wounded 16, including Sgt. Villanueva. While being treated for injuries to his eye, jaw and lung, Villanueva was credited with bolstering the morale of soldiers around him.

During a 26-year career in the National Football League, Polian has earned a reputation as one of the most admired and successful executives in professional sports. In his seven years as president of the Indianapolis Colts, Polian has provided the leadership that has resulted in the Colts being one of the NFL's most successful teams.

Howard retired in June after serving for 37 years as a member of the Rose-Hulman admissions staff. He joined the college's staff in 1968 as an admissions counselor. Howard was named dean of admissions in 1982 and promoted to vice president in 1997. He received the President's Outstanding Service Award in 1988 for his contributions to Rose-Hulman. ■

14 SPECIAL AWARDS PRESENTED AT COMMENCEMENT

Rose-Hulman Institute of Technology presented special awards to 10 new graduates, two faculty and a staff member. A record eight graduating seniors were presented with the Heminway Medal which is given to an undergraduate who has earned the highest grade point average. Each earned perfect 4.0 grade point averages during their four years at Rose-Hulman. Recipients were Daniel Cloutier, Christine Katinas, Martin Kuchle, Jennifer Lowe, Christine Meyer, Jamie Myers, Thomas Ng, and Geoffrey Ulman.

Other students honored were Chad Zarse, who was presented with the John



Among the award winners were (left to right) Chad Zarse, Natalie Morand, Prof. Kurt Bryan, Prof. Tom Adams, Matt Sinclair, and Seana Giardini.

Tuller Royse Award; Natalie Morand received the Herman Moench Distinguished Senior Commendation, and Seana Giardini was named the recipient of the award for the most outstanding master's thesis.

The Dean's Outstanding Teacher Award was presented to Tom Adams, assistant professor of mechanical engineering. Kurt Bryan, associate professor of mathematics, received the Board of Trustees Outstanding Scholar Award. The recipient of the President's Outstanding Service Award was Matt Sinclair, director of recreational sports and athletic facilities.

MAJOR SPORTS HAPPENINGS

SPORTS ARTICLES BY KEVIN LANKE, SPORTS INFORMATION DIRECTOR

ROSE-HULMAN TO JOIN HEARTLAND COLLEGIATE ATHLETIC CONFERENCE

The Heartland Collegiate Athletic Conference has voted unanimously to admit Rose-Hulman Institute of Technology as a new conference member, effective July 1, 2006.



The Heartland Conference President's Council, which consists of the chief executive officers of the eight current member institutions, reached a unanimous decision to admit Rose-Hulman during a recent meeting at Anderson University. Rose-Hulman will remain a member of the Southern Collegiate Athletic Conference through the 2005-06 season.

"The HCAC is very pleased to welcome Rose-Hulman as a new member to our athletic association," said Tom Bohlsen, commissioner of the HCAC. "Rose-Hulman is an ideal NCAA Division III institution in that it has a respected and renowned academic profile, a sound Division III athletic program, and a philosophy that properly blends these two entities in a manner that enhances its student-athletes' total collegiate experience."

The move to the Heartland Collegiate Athletic Conference will benefit Rose-Hulman and its student-athletes in many ways.

Participating in the Heartland Collegiate Athletic Conference helps student-athletes spend more time in class, while competing with great schools closer to our campus. The new conference affiliation will also make it easier for the families of student athletes to attend away games, and the conference will enable us to renew long-standing athletic rivalries.

The members of the eight-school HCAC are Anderson University (Ind.); Bluffton (Ohio), Defiance (Ohio),

Franklin (Ind.), Hanover (Ind.) and Manchester (Ind.) colleges; the College of Mount St. Joseph (Ohio); and Transylvania University (Ky.).

INDIANAPOLIS COLTS TRAINING CAMP RETURNS TO ROSE-HULMAN

The annual Indianapolis Colts training camp was conducted at Rose-Hulman for the seventh consecutive year, beginning July 28.

In appreciation of the relationship with Rose-Hulman, the Colts are creating a Minority Science and Engineering Scholarship program. Two, full-tuition, four-year scholarships to Rose-Hulman will be awarded each year to well-qualified students from Indiana.

The Colts and Rose-Hulman have partnered for training camp since 1999, a span that has seen the club amass a 63-33 regular-season record. That record stands as the third-best in the National Football League and the best in the American Football Conference over the past six regular seasons. During that time, the Colts have won three division championships and earned five playoff berths, once reaching the AFC Championship Game.

"In my years in the NFL, I have not experienced an institution or community that provides a finer atmosphere for preparing a team to compete than does Rose-Hulman and the city of Terre Haute," said Colts President Bill Polian. "There are many factors in fielding a winning team in the NFL, and training camp is one of the building blocks that must be in place. We have that foundation, and we are the beneficiaries of outstanding efforts and a tremendous commitment to excellence by the university and community."

VOLLEYBALL TEAM CAPS SEASON WITH TRIP TO ITALY

The Rose-Hulman Institute of Technology volleyball team continued an athletic department tradition with its trip to Italy in April.



The volleyball team relaxes in midtown Florence on its recent trip to Italy

The Engineers spent nine days in Italy and visited Switzerland for one day on the excursion. Despite a pair of on-court losses to elite-level teams featuring players from ages 16-33, the team enjoyed a memorable experience.

Highlights of the trip included ventures to the Castle Medici, Lake Garda, Verona, Venice, San Marco Island, the Statue of David, and the Leaning Tower of Pisa, before departing from Milan.

"Overall, our first overseas trip was a great experience," said head coach Brenda Goble. "It was more fun and rewarding than anything else that our program has experienced."

Previous overseas trips by Rose-Hulman teams include visits to England, France, Greece, Italy, Japan and Russia by the baseball, basketball and football teams.

ROSE-HULMAN TO HOST ANOTHER NCAA DIVISION III CHAMPIONSHIP EVENT

The NCAA Championships Committee has selected Rose-Hulman Institute of Technology as host for the 2007 NCAA Division III Indoor Track and Field National Championships.

Rose-Hulman will host 15 events in both men's and women's track and field at the Sports and Recreation Center on March 9-10 in 2007. Nearly 500 student-athletes participate in the championships each year.

CLARK, VIECK CLAIM TOP HONORS AT SENIOR HONORS BANQUET

The Rose-Hulman Institute of Technology athletic department presented Ruel Fox Burns Blankets to seniors Lauren Clark and Jake Vieck to highlight the 2005 Athletic Honors and Awards Banquet.

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

Clark earned three all-conference awards as a pitcher for the softball team, and helped the squad earn back-to-back SCAC Eastern Division championships in 2004 and 2005. Vieck became the first defensive lineman in school history to earn All-American honors and captured Southern Collegiate Athletic Conference Player of the Year accolades for his efforts last year.

Football standout Neil Harrison, rifle team member Jennifer Lowe and swimmer Jamie Myers earned the John Logan Award for compiling the highest female and male grade-point-average among four-year letter winners.

The Samuel Hulbert Award is presented to the male and female senior athletes who contribute the most in terms of team spirit, sportsmanship and a determination to succeed. Swimmer Jessica Frank and baseball pitcher Nathan Soyer claimed the award for reinforcing winning attitudes and creating a positive atmosphere for their respective teams.

Michael Lanke received the John Mutchner Award, presented to the gentleman who has unselfishly given his time and support to the athletic department. Women's basketball manager Morgan Reeder earned the Rosie Award, presented to the woman who has contributed to the success of the athletic department through her tireless dedication and commitment.

The Jess Lucas Spirit Award is presented annually to an individual or group whose support of the Rose-Hulman athletic department moves above and beyond the norm. The Phi Gamma Delta fraternity received the 2005 award.

ROSE-HULMAN SPRING SPORTS WRAPS

SOFTBALL TEAM TURNS PROGRAM AROUND

The Rose-Hulman softball team earned its second consecutive SCAC Eastern Division championship and recorded a second straight winning season on the diamond this spring.

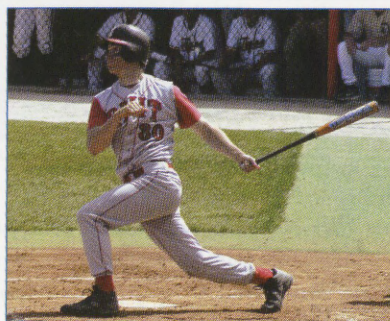


Lauren Clark earned the Ruel Fox Burns Blanket after leading the softball team to another winning season

Senior Lauren Clark led the team with a .317 batting average, six doubles, 13 pitching wins, a 2.04 ERA and 83 strikeouts. Senior Janae Chaney batted .270 with a team-high seven stolen bases.

BASEBALL SQUAD EARNS ANOTHER WINNING SEASON

The baseball team tallied its fifth straight winning season and the 13th in the past 14 years with a 23-18 mark, including a 10-4 record in conference games.

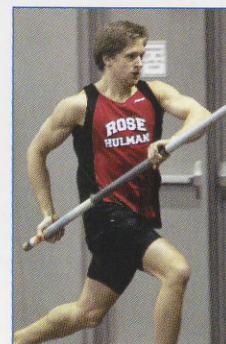


Brad Jones set a single-season school record with nine home runs in 2005, including this blast against DePauw

Senior Brad Jones set a school record with nine home runs, slapped 11 doubles and batted .352 with 44 RBIs to lead the offense. Sophomore Matt Salisbury batted .405 with 16 doubles, four triples and four home runs, while senior Nathan Soyer led the pitching staff with a 7-2 record and a 4.08 ERA.

TRACK AND FIELD ENJOYS RECORD SETTING SEASON

The track and field teams recorded 21 school records, while sophomore Ryan Schipper placed ninth and 10th in the NCAA Division III National Championships to highlight the campaign.



Ryan Schipper finished ninth and 10th at the Indoor and Outdoor Track and Field National Championships this season

Sophomore Mandy Hecker led the team with four school records, including new marks in the indoor and outdoor 800-meter run. Freshman Katy Every added records in the 100- and 400-meter outdoor hurdles events.

Schipper cleared a career-best height of 16' 0 3/4" to defeat a primarily Division I field at the Indiana University Billy Hayes Invitational in May.

TENNIS TEAMS FINISH .500

The Engineer women's tennis team finished 10-10, while the men placed 9-9 in another successful season on the court.



Megan Lafferty finished second in school history with 12 women's tennis singles wins in 2005

Junior Megan Lafferty led the women's squad with a 12-9 singles record, followed by senior Krista Gonnerman and freshman Kate Martin with 10 victories each. Sophomore Joe Rottman compiled a 15-11 mark in men's play.

Bailey Challenge

By Professor Emeritus Herb Bailey

One of the best puzzle books, *Amusements in Mathematics*, was written by Henry Dudeney and published in 1917. There are 450 problems and their solutions. The first 25 of these problems can be found at <http://www.kalva.demon.co.uk/dudeney/dud1.html>. I have modified one of his problems and made it a bit harder for your consideration. The warm-up problem is an easier version.

Problem

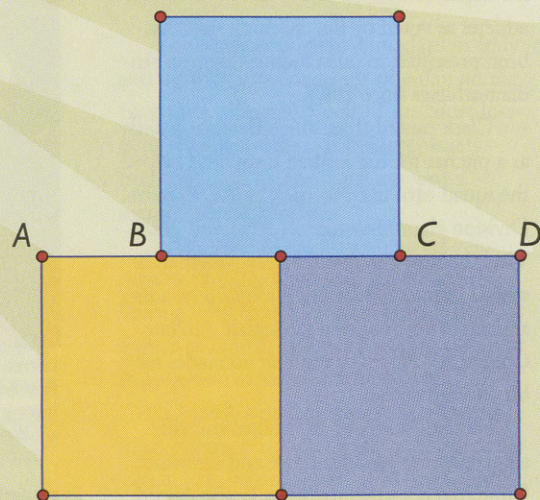
The liquid portion of grandmothers favorite recipe calls for H cups of honey and M cups of milk, $H \geq 0$ and $M \geq 0$. She tells her granddaughter the value of the sum of H and M , and also that $H - M = H^2 - M^2$. The granddaughter, who is a MATHCOUNTS star, finds that H and M cannot be determined from the given information. What was the value of $H+M$ given by the grandmother?

Warm-up

If the grandmother had said that $H + M = 5 - \frac{1}{2}$ then what would be the values of H and M ?

Bonus

Congruent (same size) squares are positioned as shown in the figure, with $AB = CD = 1$. Find the radius of the smallest circle that can cover the squares. That is, one circle must cover all three of the squares.



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

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

Alumni: B. Barrick, 1941; C. Cook, 1949; W. Rinker, 1951; C. Hirshfield, 1954; H. Smith, 1955; D. Camp, 1955; C. Cooper, 1956; B. Waggener, 1957; D. Bailey, 1959; J. Tindall, 1961; J. Snyder, 1962; D. Todd, 1962; R. Mills, 1962; A. McLaughlin, 1967; K. Metz, 1969; W. Pelz, 1971; D. Willman, 1972; L. Ringwald, 1974; M. Bailey, 1976; A. Bailey, 1977; R. Priem, 1979; J. Roman, 1980; B. Wade, 1983; G. Cullen, 1985; D. Duffield, 1986; D. Johnson, 1987; B. Seidl, 1987; A. Cutaia, 1988; T. Gazda, 1988; S. Johnson, 1988; G. Heimann, 1990; M. Melton, 1990; R. Burger, 1991; D. Hector, 1992; P. McCrudden, 1993; C. Rettig, 1994; M. Pilcher, 1998; B. Creel, 2000; A. Primoich, 2000; M. Henderson, 2002; A. Crisman, 2003; P. Gross, 2003; R. Gold, 2003; M. Mergy, 2004

Friends: J. Carson, C. Haala, D. Hinko, J. Kappler, L. Gainter, M. Samuels, P. Pelcer, T. Kelley, J. Ley, J. Armstrong, H. Born, J. Domoradzki, C. Hill, M. Rosene

You produced a wide variety of solutions to the Magic Square problems. The sum of 1 through 15 is 45 and this must also be the sum of the three rows (or columns). Thus the common sum must be $45/3 = 15$. Note that the center digit is in four of the sums (both diagonals and the middle row and column sums). Listing the 8 triples that sum to 15 gives (9,5,1), (9,4,2), (8,6,1), (8,5,2), (8,4,3), (7,6,2), (7,5,3), (6,5,4). The only digit that occurs four times is 5, and thus 5 must be in the center. The digit 9 occurs only twice and thus cannot be in a corner, since the corner entries are in three of the sums.

Another solution is obtained by summing the two diagonals, the middle row and the middle column. This sum will include each digit exactly once, except that the middle entry e will be included three additional times. Thus $(4)(15) = 45 + 3e \Rightarrow e = 5$. If 9 is in a corner then 1 is in the opposite corner and it is easily seen that there is no place for the 8. Thus 9 cannot be in a corner. Both of the above solutions can be easily extended to show that there are exactly eight solutions of the Magic Square problem.

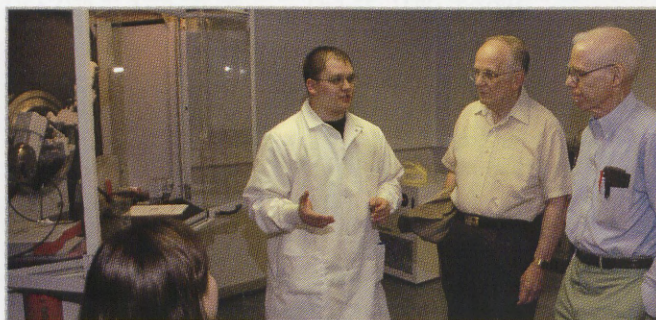
NEW X-RAY DIFFRACTION LABORATORY DEDICATED IN HONOR OF LONGTIME PHYSICS PROFESSOR PAUL MASON

Rose-Hulman Institute of Technology physics and optical engineering students and faculty can examine the specific molecular composition of materials through a new state-of-the-art X-ray diffraction machine and laboratory dedicated to honor the many professional contributions of emeritus professor Paul Mason.

Mason, who served on the physics faculty for 36 years, wrote most, if not all, of the X-ray experiments that continue to be used by Rose-Hulman professors and students, according to Charles Joenathan, head of the Department of Physics and Optical Engineering.

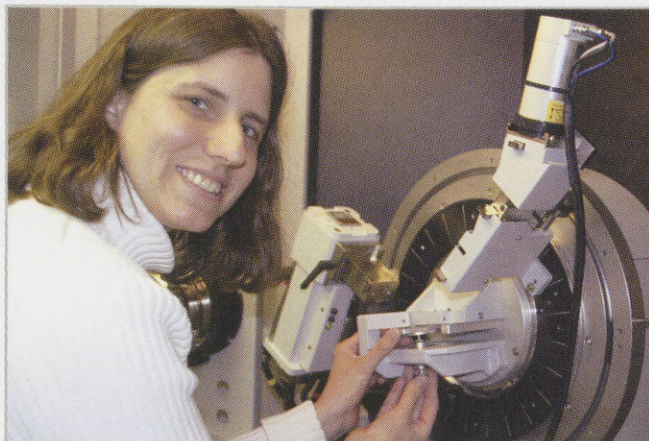
"Paul's many contributions to Rose-Hulman and the Department of Physics and Optical Engineering cannot be understated. His well-crafted experiments have stood the test of time, and will continue for many years to come thanks to this new X-ray diffraction machine," Joenathan stated.

Purchased through a National Science Foundation grant to support Rose-Hulman's Microelectromechanical Systems (MEMS), the Bruker D8 Focus X-ray diffraction machine (XRD) will provide students and faculty access to a modern research tool. XRD has many functions and will be used in a variety of classes, outreach activities and research.



Paul Mason, second from right, receives an explanation about the new x-ray diffraction machine that sits in a lab named in his honor

Several courses will benefit from the new machine, including the nuclear physics course, in which the instrument will be used to study the emission and absorption of radiation; the analytical chemistry course, where the instrument will be used to study the relative abundance of different compounds in a single material; and the X-ray diffraction course.



Elaine Kirkpatrick, assistant professor of physics and optical engineering adjusts the new x-ray diffraction machine.

Elaine Kirkpatrick, assistant professor of physics and optical engineering, points out that new laboratories for other classes (semiconductor, MEMS and materials) could be developed in the future to expand the impact of the X-ray diffraction machine. The new equipment will also be used to educate K-12 students about physics, science and materials.

Materials research will also be enhanced, with researchers measuring patterns of alloys, identifying the crystallographic structure of materials, and probing how structures change with variables such as temperature and stress.

Assisting Kirkpatrick in writing the NSF grant request were two other MEMS faculty members: Thomas Adams, assistant professor of mechanical engineering, and Tina Hudson, assistant professor of electrical and computer engineering.

The Mason name has a long and rich tradition at Rose-Hulman. Paul was an associate professor until his retirement in 1996. His father, Charles, was a distinguished professor at the college from 1943-44 and 1946-66. Paul also earned a bachelor's degree in electrical engineering from Rose-Hulman in 1956 and was recognized with an honorary degree from the Tau Beta Pi national engineering honor society. He and his wife, Jane, live in Terre Haute.

DOUBLE DOSE

TWO STUDENTS NAMED AS GOLDWATER SCHOLARS

For the second consecutive year, a Rose-Hulman Institute of Technology student was selected among the nation's premiere undergraduate students in mathematics, science and undergraduate fields as a Barry M. Goldwater Scholar.

However, the honor was double the pleasure this year as juniors Angela Smiley and Amelia "Mae" Huehls joined students from Harvard, Stanford, Princeton and California Institute of Technology on the list of 320 scholars — from a field of 1,091 nominees — to receive the one- and two-year \$7,500 scholarships.

Virtually all of this year's Goldwater Scholars intend to obtain a Ph.D. as their degree objective.

Smiley is striving to earn bachelor degrees in three academic areas: computer science, mathematics and physics. The 3.9 GPA student also plans to earn a master's degree in electrical and computer engineering at the college, before earning a Ph.D. in computer science, specializing in artificial and simulated intelligence, and becoming a college professor. She hopes to become a pioneer in the field of AI/SL as a researcher and started that goal this summer with an internship at Microsoft.

On campus, Smiley has helped develop educational applets, supported by the National Science Foundation, for use in a geometric modeling mathematics course; has

been a member of Rose-Hulman's College Bowl team; has been a member of the college's programming team in the International

Collegiate Programming Competition; is a staff writer for the student newspaper; and was named Most Outstanding Junior in last fall's Mathematical Association of America Tri-State Mathematics Competition.

Huehls majors in applied biology and hopes to become a college researcher in the field of immunology. Her career goals are personal. She has an allergy to dairy products. Though it was known since her infancy that she was allergic to dairy, as a child she was able to tolerate consuming some dairy products with only moderate discomfort. At the age of 12, she began to suffer from increasingly severe reactions to dairy, and at 16 years of age she was unable to consume anything containing as much as a trace amount of dairy. The allergy profoundly altered her diet and lifestyle, and she has been unable to obtain answers as to why her allergy progressed the way it did at the time that it did.

Alicia Cecil, former assistant professor of applied biology, states about Huehls: "It is somewhat unusual to have a student with such focus and drive to make discoveries in a scientific field at her level of study. I believe her level of desire and focus, combined with her intellect, will lead to important discoveries in the field of immunology."

This summer, Huehls conducted chemical research with Professor Daniel Morris as part of Rose-Hulman's Interdisciplinary Research Collaborative in Biology and Chemistry.

At Rose-Hulman, Huehls is Vice Master Alchemist of the Alpha Chi Sigma professional chemistry fraternity, was secretary of the Alpha Lambda Delta Freshman Honor Society (2003-04), and is a member of the Residence Hall Association — all while maintaining a 4.0 grade point average.



Angela Smiley, left, and Amelia "Mae" Huehls.

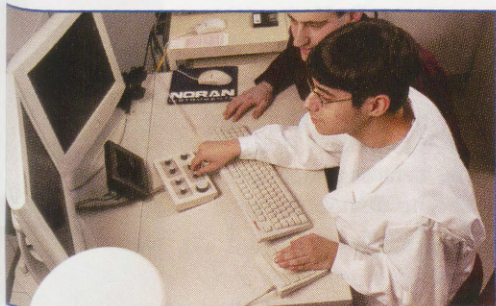
ONE OF THE NATION'S BEST



CHAD ZARSE NAMED TO USA TODAY'S ALL-USA COLLEGE ACADEMIC TEAM

By Dale Long

Chad Zarse's groundbreaking research, a commitment to his community and outstanding academic credentials were recognized by the 2005 Rose-Hulman Institute of Technology graduate being selected one of the nation's top college students — a second-team choice on the 2005 All-USA College Academic Team, published in USA TODAY.



Zarse, right, and Professor William Weiner work on an electron microscope.

Zarse, an applied biology and biochemistry graduate, was among the 85 students named to the first (20), second (20), third (20) or honorable mention (25) All-USA teams. There were 602 nominees nationwide this year.

All-USA Academic Team Coordinator Tracey Wong Briggs states: "The field was particularly strong this year. The students are always impressive, but this year even more so."

This marks the second time in three years that a Rose-Hulman student has received this recognition. Rachel Lukens, a 2003 electrical engineering graduate, was also a second choice during her senior year.

The All-USA College Academic Team program honors students for outstanding academic achievement, leadership and community service.

"This recognition was a good reflection on what I did during my undergraduate college career, a testament to the quality education that I have received at Rose-Hulman, and the fine mentors that I have had along the way," Zarse said.

The centerpiece of Zarse's nomination was a student essay about his scientific research at the Indiana University School of Medicine that developed a novel method by which helical CT "CAT" scans (HCT) can be

used to measure the mineral composition for four clinically-relevant kidney stone types. This was the first study that accurately differentiated common stone types on HCT, and could pave the way for safer, more effective medical treatment of kidney stones, which affect between five and 15 percent of all persons. James C. Williams Jr., associate professor, and James A. McAteer, professor, of the IU School of Medicine's Department of Anatomy and Cell Biology stated in a letter of recommendation that "Chad helped us discover that CT beam attenuation values can actually be used to determine the mineral composition of stones. This is an important advance because knowledge of stone structure and composition helps the urologist decide how to treat the patient."


Zarse was the lead or co-author on nine major research papers or abstracts published in prestigious peer-review journals and national medical journals. He also received the Student Paper Contest Committee's Award at the 2004 Rocky Mountain Bioengineering Symposium, the nation's oldest bioengineering conference.

"Chad's most remarkable attribute is his passion for research," states Rose-Hulman Assistant Professor of Applied Biology William Weiner. "The topics that Chad is investigating are significant, and equally important, Chad has taken a lead role in each of them . . . Chad's scholarly credentials would make the most talented of graduate students envious."

Not surprisingly, Zarse will continue his studies in Indiana University's medical school.

Out of the laboratory, Zarse served as a Homework Hotline tutor, was an officer in the Habitat for Humanity student chapter and was a Big Brother Big Sister volunteer. He received such honors as the Ralph and Dorothy Baumgardt Memorial Applied Biology Scholarship; the Barry Goldwater Scholarship; the Joseph and Rebecca Weaver Undergraduate Research Award; and the Boys & Girls Club's Muriel and Ralph Stahl Scholarship.

"I know firsthand the importance of helping others," Zarse states. "I've always heard about the unfortunate things that happened to my mother (single parent Karen Zarse), and how other people were always there to extend a helping hand. I'm just trying to pay back that generosity and serve as a good role model for others."



RESPONSE STRONG TO ROSE-HULMAN 2015

More than 600 people join the Conversation with more than 1,700 responses
By David Piker



Since its launch seven months ago, "Rose-Hulman 2015: A Conversation About Our Future," has created broad-based conversations and hundreds of written responses to begin to build a consensus about goals to be accomplished by 2015 that will achieve the hopes and dreams the Rose-Hulman community has for the Institute.

More than 600 people have submitted over 1,700 responses to the four themes that are the focus of the conversation. Responses have come from alumni, faculty, staff, students, trustees, and parents of current students and alumni. In addition, input is being received from non-alumni who are leaders in various professions ranging from business and industry to education and medicine. All are constituents who are vital to Rose-Hulman achieving its goals.

"Even though we're in the early stage of this process, the outstanding response shows that the community is enthusiastic and wants to be involved in planning for an exciting next decade at Rose-Hulman," commented Robert Bright, chairman of the Rose-Hulman Board of Trustees.

"During these first few months, we asked everyone to discuss their dreams and hopes with few boundaries," Bright said. "The next step in the process will be to develop plans and action to accomplish specific objectives and goals," he stated.

Even though the conversation has focused thus far on four key themes, those participating have been encouraged to "think outside the box," and discuss additional issues, themes and trends that would influence Rose-Hulman's development during the next decade.

The four themes and some related questions that have stimulated discussion include:

Future academic programs - What will be the defining elements of the best undergraduate education in science and engineering ten years from now? Will academic disciplines become more specialized? How will new technologies enhance education? How will new relationships with business and other partners reshape key elements of our academic programs?

Future students - What will be the demographics of our student population in 2015? How will Rose-

Hulman insure that the students most able to benefit from a Rose-Hulman education are able to attend?

Campus life and operations - How should the campus be equipped to provide the learning and living environment that we will need in 2015? What will be the role of campus life in the Rose-Hulman experience for our students?

Community and world relationships - Which will be our most important external partners in 2015? Will Rose-Hulman expand programs and its educational influence to the nation and world? How will Rose-Hulman contribute to the betterment of Terre Haute and Indiana? How will our alumni relate to Rose-Hulman as a potential source of learning and fellowship throughout their professional lives?

The following summary illustrates the high level of participation resulting from numerous activities conducted to promote and encourage responses:

All academic departments and administrative units met to discuss "Rose-Hulman 2015." Many academic departments involved their Off-campus advisory board members in the discussions.

160 students participated in two forums sponsored by the Student Government Association. Other student leaders including resident assistants and sophomore advisors also met to discuss what Rose-Hulman should be like in 2015.

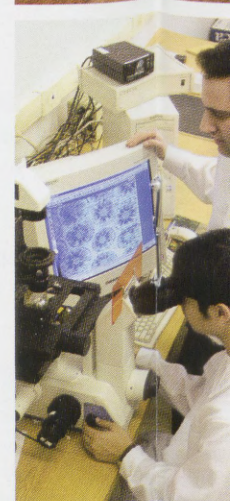
Hundreds of alumni have provided responses and the Alumni Advisory Board provided its input to the project.

More than 350 responses were received from numerous constituents via a Web-based individual response form for "Rose-Hulman 2015."

The Parents Association Leadership Council talked about "Rose-Hulman 2015" during its annual Mom's Day event.

The Board of Trustees conducted a full-day session to provide its responses to the first-phase of the initiative.

The Institute Planning Group met in July to discuss the project's progress, and review objectives for the second phase.





Members of the Rose-Hulman Board of Associates in Indianapolis and the Wabash Valley are meeting to discuss Rose-Hulman's future. The boards are advisory groups of community leaders who are not Rose-Hulman graduates, but who support the Institute in many ways.

Activities to inform and involve the Rose-Hulman community have included a special Web site, articles in print and electronic publications sent to various groups, and frequent updates in campus publications. The project has been promoted at alumni events in 10 states attended by 550 graduates and other friends of the college, and featured on the front page of the Rose-Hulman Web site.

Those taking part in the project have expressed a strong consensus that the following Institute characteristics are cherished and should not be changed:

Focus on undergraduate education in engineering, mathematics and science.

Deliver an exceptional education on a small (2,000 students)residential campus.

Distinguish the educational environment by individual attention to each student's development.

General, common themes that have arisen through the "conversation" thus far include:

- Create the "world's best" model for undergraduate engineering, mathematics and science education.
- Meet the demonstrated financial aid need of each student.
- Educate great people as well as great engineers or scientists.
- Utilize the latest technologies to optimize education.
- Become a more global institution.
- Provide the most modern facilities for learning and personal development.
- Fully integrate professional practice experiences.



- Extend Rose-Hulman's community identity and service orientation.
- Support and celebrate Rose-Hulman's people and culture.
- Expand Rose-Hulman's marketing and communications.

Key outcomes under consideration to be achieved during the next phases of the "Rose-Hulman 2015" initiative are:

- Create "Rose-Hulman 2015: A Comprehensive Strategic Plan."
- Create a broad understanding of support for and involvement in the strategic plan and its implementation.
- Design and implement the largest fund-raising campaign in Rose-Hulman history that will provide resources to achieve the ten-year goals.
- Develop a new Campus Master Plan.

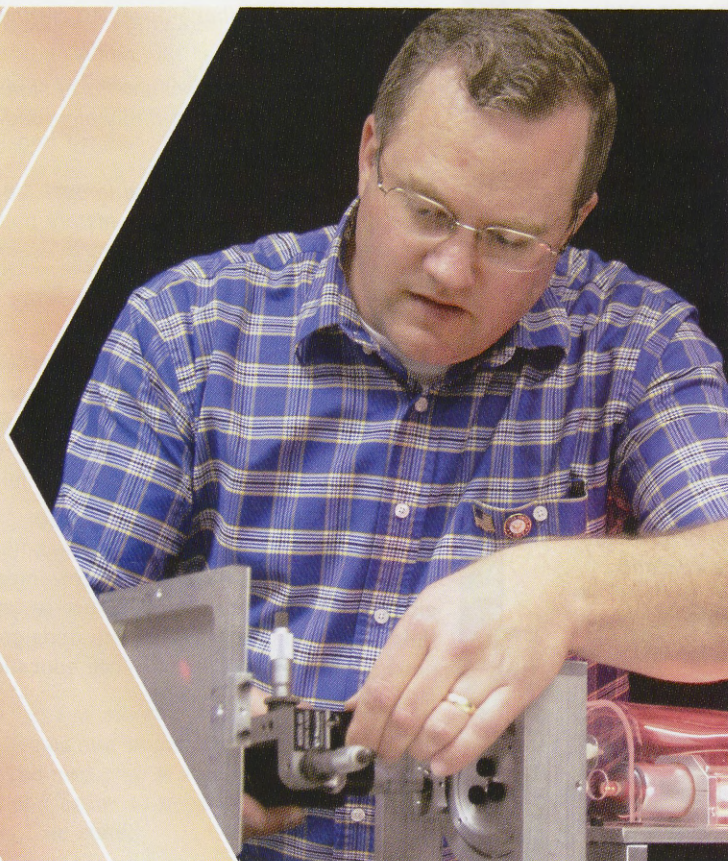
The second phase will create the strategic plan during a process expected to take about a year. The final phase will be the implementation of the plan which will include the beginning of the new fundraising campaign.

Bright said the strategic planning process will involve volunteers representing Rose-Hulman's numerous constituent groups. "This will be a very important strategic activity that will create a plan to insure Rose-Hulman's continued leadership in undergraduate engineering, mathematics and science education for the next decade," he explained.



Galen Duree Opening New Worlds In Science, One Student At A Time

BY DALE LONG



This is a story about a physicist, and Galen Duree already knows what you're thinking. He's quite familiar with the yawns and rolled eyebrows that occur when the topic of physics enter a conversation. But don't turn the page yet.

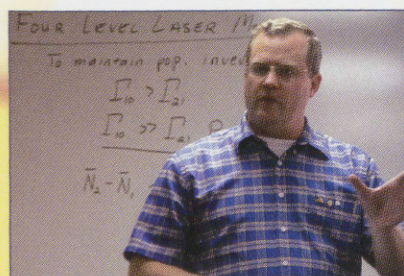
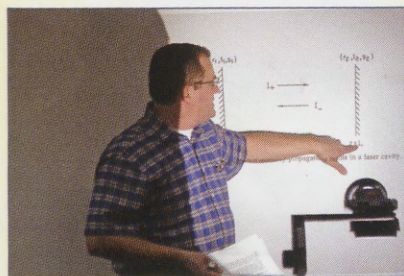
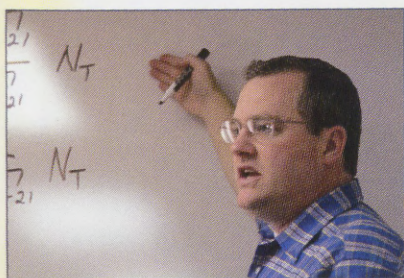
Give Galen Duree a chance.

That's the same deal the 37-year-old assistant professor strikes with students in his freshman-year physics classes at Rose-Hulman Institute of Technology. As they begin to explore the mysteries of science — together in an extraordinary student-teacher relationship — the skeptics are converted into believers. This may reveal why Duree earned the 2004 Dean's Outstanding Teacher Award after just six years on the college's faculty.

"I tell my students right up front that I don't have all the answers. After all, in physics we don't understand everything perfectly. There are discoveries — large and small — around every corner," Duree states during an interview in his office on the ground floor of Moench Hall. "If students can understand the basic models of physics, and how they relate to other elements of science, then they can understand abstract items like examining an atom or studying electrons. If my students can understand those simple concepts, then they will be a better engineer or scientist."

That's why Duree loves to teach the Introduction to Physics course, whenever possible, to freshmen.

"Even after 15 years, every time I teach the class I learn something new. I'm learning along with my students," he says. "It's nice to see, as you work with students, that it (the ideas of physics and optics) clicks and they enjoy the course. I want to show those students who may have a bias against physics, that it is a fascinating area of science."



Just give Duree a chance.

An educator who encourages innovation and non-traditional thinking, Duree likes to involve students in outside research activities, and makes an effort to develop a relationship with each student. He presents personalized gift-wrapped holiday treat packages, created by his family, for each student in his winter-quarter classes.

"Professors like Dr. Duree are a rare breed," assesses Matt McCormick, a 2005 mathematics graduate. "He is a very approachable person and extremely friendly. Every time I needed help with homework or just wanted to talk, he was the same every time, and every time was a great experience."

Therese Scheibelhut, a senior optical engineering major who nominated Duree for the Outstanding Teacher Award, states, "On the first day of class, Dr. Duree makes sure his students are well aware that they are very high among his priorities (after his wife, Amber, and their three children). He encourages us to ask him questions at any time, and he stops to give the student his full attention . . . He may have other projects going on at the same time, but I have never seen him too busy for his students."

Finally, 2005 optical engineering graduate Mark Smith adds, "Dr. Duree is a genius . . . I think he makes his assignments difficult enough so that you have to go talk to him about it. He really understands that science is always changing and recognizes that what he is teaching is only our current understanding of phenomena."

These students gave Duree a chance. And, on his behalf, Duree casually shrugs off the students' high praise.

"What I can give students is my time," he says, as he watches his 8-year-old daughter, Catherine, draw colorful pictures in his office. The child's artwork will soon be added to a family collection on his doorway, desk and walls. "I'm not a good activity leader or group speaker, but I'm there to help my students along the path of learning. I love the one-on-one approach to teaching and learning."

Duree also teaches courses in physical optics, paraxial optics, laser physics and electro optics, and spends time as a laser policy adviser at Naval Surface Warfare Center at nearby Crane, Ind. After working on night vision technology and development of chem-bio project, he is spending this summer leading a team of scientists, technical staff and Rose-Hulman undergraduate students to investigate the feasibility of bringing a free-electron laser system to facilitate numerous research projects in Indiana and aid in the development of the directed energy weapons program for the U.S. military. He has also worked with students in the development of fiber optics concepts for an early stage startup technology company, OptiDigit.

"I have a chance to learn, along with my students, on systems that could play a vital role in the future of military strategies and counterterrorism efforts," he says. "This is really neat stuff and I'm having more fun than I ever could have imagined. Rose-Hulman is really an amazing place. The opportunities here are endless."

Like many scientists and engineers of his generation, Duree became fascinated with the discovery of how things work and evolve after watching "Star Wars" as a fourth grader in his hometown of Nampa, Idaho. Six years later, he was exploring how nuclear physics could solve the world's energy problems by perfecting nuclear fusion. That mindset changed during his senior year as a physics student at Northwest Nazarene College (Idaho), when he was introduced to a course in optics. He became intrigued with the possibilities that laser technology could treat forms of cancer, which had affected several members of his family.

"Optics and lasers opened a whole new world to me. I was really captivated by the wonderment of it all," he says.

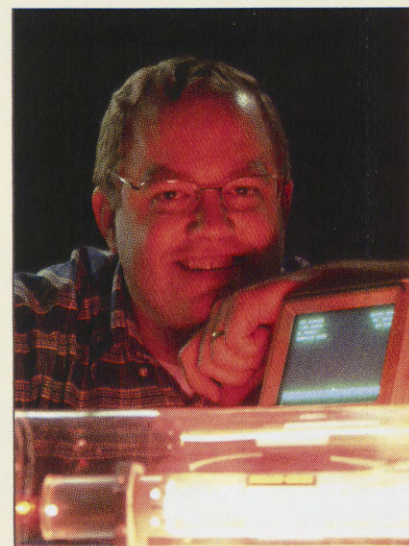
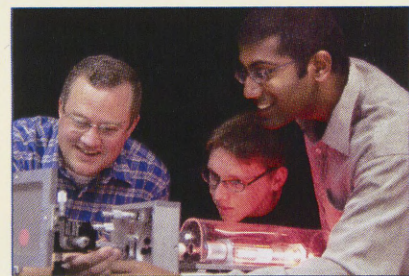
Through doctorate studies at the University of Arkansas, Duree supervised the operations and maintenance of lasers and other laboratory equipment, learning how to use nearly every laser technology known to mankind. He also became aware of the academic work being accomplished by a group of Rose-Hulman alumni enrolled in Arkansas' physics master's degree program.

"I found those guys to be very bright and highly motivated. I thought that Rose-Hulman must be a quality institution," he recalls.

Later, Duree was asked to fill in for a professor teaching a physics course, specifically designated for architectural students. Much to his surprise, he fell in love with helping those students learn, and he readily accepted the challenge to join the Rose-Hulman faculty — recalling the college's high-achieving alumni — in 1999.

"Truthfully, teaching was the furthest thing from my mind as a career. However, once I got into the classroom, it felt very comfortable. Frankly, that feeling surprised me," said Duree, whose father was a high school mathematics and science teacher, while his mother was an elementary school teacher's aid. "It felt like (working with students) is where I was supposed to be, and I couldn't believe that I would have the opportunity to teach at an undergraduate institution that emphasizes optics like Rose-Hulman. Also, I have been fortunate to be associated with Crane (naval base), using my optics knowledge to help the U.S. and its soldiers, and developing my own technology-based company."

All they had to do was give Galen Duree a chance.



A SENSE OF

NICHOLEE NIETCH FULFILLS DREAM

Nicholee Nietch's 20-year-old dream is taking a ride to Mars this summer.

Nietch, a 2001 mechanical engineering graduate, works as a systems engineer on the NASA Mars Reconnaissance Orbiter for Lockheed Martin Space Systems in Denver, Colo. NASA launched the orbiter August 12, and many of its operations will be triggered by programs Nietch developed.

"I'm in the operations development group and I'm responsible for the implementation of activities onboard the spacecraft," explained Nietch whose last name was Page when she was a student at Rose-Hulman.

Computer programs she has written execute various commands when needed. For example, when the orbiter requires trajectory correction, a program written by Nietch begins the correction maneuver. Another example is when it comes time to insert the spacecraft in orbit around Mars. Her program is responsible for starting the insertion maneuver, which if done incorrectly could send the orbiter off mission into deep space.

"It's scary and exciting, but fortunately there are many eyes looking over my work," Nietch commented. "Teamwork is the heart of my position. As a systems engineer, I oversee propulsion, communications and data, instruments, and guidance and navigation teams. I coordinate with each of these subsystems to ensure my programs perform properly."

Much of Nietch's day is spent going from office to office, and she has to work through about 100 e-mails daily.

Involvement with the project will not end when the orbiter is launched. Nietch is responsible for uploading of programs during the actual flight. When the orbiter is launched, she will be on a console at a mission operation center that mimics the one at the Johnson Space Center in Houston. She will be one of the announcers on the event console.

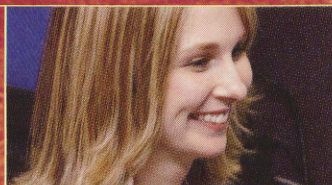
The Mars Reconnaissance Orbiter will carry six science instruments to examine the planet. The science package includes a high-resolution camera, an imaging spectrometer, a climate sounder, a color imager and shallow radar. Each of these instruments will be used to extend the search for water-related minerals on the planet and to assess climate and weather changes.

While her specialty involves writing programs for the spacecraft, Nietch can also speak with authority when discussing the science of the planet. And it's good that she can because her programs also trigger the instruments into action when they are surveying the "Red Planet."

When the high resolution imaging experiment begins, her program will power on the device, direct the focus of the camera and deconfigure the instrument back to low power mode when the work is completed.

Nietch's work with the orbiter fulfills a dream that took root when she was a second grader at Eastview Elementary School

By Bryan Taylor



DISCOVERY

TEAM WORKING ON MARS ORBITER

in Canton, Ill. Astronaut Steven R. Nagel, an alumnus of Eastview, returned to his alma mater to speak to a school assembly. "When he was speaking, I remember thinking I HAVE to work in the field of space exploration. It must be fascinating and rewarding. I was inspired knowing someone from the small town of Canton, Ill., could go on to do such great things.

"I nurtured my interest in space during middle school by going to Space Camp in Huntsville, Alabama, and that's when I made up my mind I was going to be part of the space program."

She attended Rose-Hulman and graduated in 2001 with a mechanical engineering degree carrying a concentration in aerospace engineering. She obtained a master's in aerospace engineering at the University of Colorado.

"There was a time I wanted to be an astronaut, but now I'm more interested in unmanned missions because they can explore places manned missions cannot," she said.

"This is cutting-edge technology and we're gathering scientific data that will benefit not only this generation, but future generations as well," said Nietch. "There are so many things we take for granted today because of space research: global positioning systems, weather forecasting, satellite TV and several high-tech materials."

"Besides the excitement of learning about new places, there also is that drive humans have to explore. I believe we all harbor a sense of discovery. Working on a spacecraft that will be orbiting another planet and retrieving scientific information we've never had before is the biggest reward of my career."

Nietch's zeal for discovery and engineering is matched by her enthusiasm for Rose-Hulman. She sings Rose-Hulman's praises for teaching her problem-solving techniques because "I face new problems every day." She also spoke highly of the group projects she worked on at Rose-Hulman because she works in a group mode daily.

"I'd like to mention how special the people at Rose-Hulman are," she said. "That's what I'm going to remember...how kind and special and unique they are."

What's next for Nietch? "Once we are in the Primary Science Phase and daily operations become routine, I hope to try a new role on a different spacecraft at Lockheed Martin," she said. She's not sure what that job would be, but she has an interest in navigation, attitude control, and testing operations for future Mars projects, which include a lander mission and another orbiter.

The dream continues and the sense of discovery has reached a new level in the life of Nicholee Nietch. ■





Alumnus in charge of Indiana Homeland Security

Securing the safety of yourself and your family at times may seem like a difficult task. Imagine being responsible for the safety of six million Hoosiers. Insuring the safety and security of Indiana residents is the goal of alumnus Eric Dietz and the staff he coordinates in the new Indiana Department of Homeland Security (IDHS).

Dietz was appointed in March by Indiana Governor Mitch Daniels as the state's first executive director of homeland security. He heads a department that combines the state's emergency management and homeland security efforts.

Responsibilities include developing a strategic plan for responding to homeland security emergencies, overseeing the application and disbursement of federal homeland security funds, acting as the single emergency operations coordinator during a terrorist or homeland security attack and serving as the director of the Indiana Counter Terrorism and Security Council.

"Our strategy is an all-hazards approach, meaning addressing any event from natural to human caused," Dietz stated. "This includes planning, training and exercise goals to help Indiana prepare, prevent or respond to any event. In a nutshell, our goal is to achieve an optimum level of preparedness," he explained.

His work also involves a partnership with national Homeland Security personnel. "My department receives funding from the United States Department of Homeland Security for our efforts," he noted. "We

also maintain numerous opportunities to exchange intelligence with the national homeland security officials, and we interact with FEMA when our response and recovery efforts require it."

He has also been directing the reorganization of many of Indiana's homeland security related agencies. "Bringing together agencies covering a broad spectrum of interests can unearth opportunities but also create challenges," Dietz commented.

Dietz earned the bachelor's and master's degrees in chemical engineering from Rose-Hulman in 1984 and 1986 respectively. The Michigan City, Ind. native, earned a doctorate from Purdue University and recently retired after a 22-year career in the United States Army. While in the military, he oversaw a number of technology-oriented projects. These included development of detection programs for weapons of mass destruction, chemical demilitarization and decision-making software.

"Rose-Hulman prepared me to succeed in the Army as a leader and technical manager," he stated. "My current job requires organizational leadership, technical understanding of a variety of problems and decision making that are essential for developing a path that had not existed for Indiana or any other state until September 11, 2001," Dietz said.

Dietz believes the development and deployment of new technology is vital in our nation's fight against terrorism.

"New technologies to prevent cyber-terror that could deliver a tremendous blow to our computer infrastructure are easily applicable in the private sector to help businesses combat viruses, competitive mischief or more garden-variety cyber-crimes like online identity theft," he said.

Port security is another potential area where new technologies could be applied, according to Dietz. "Automatic identification technologies can streamline cargo screening, reducing the time needed to identify and secure freight shipments," stated Dietz.

"Creating and managing systems that connect new technologies like radio frequency identification seamlessly with inventory tracking mechanisms and enterprise management software would also have benefits in the manufacturing and retail sectors. In these sectors, just-in-time inventory and lean operational principles have made taming the modern supply chain a priority, according to Dietz.

Dietz said it is educational institutions like Rose-Hulman that he describes as key players to create new technologies to safeguard Hoosiers and all Americans.

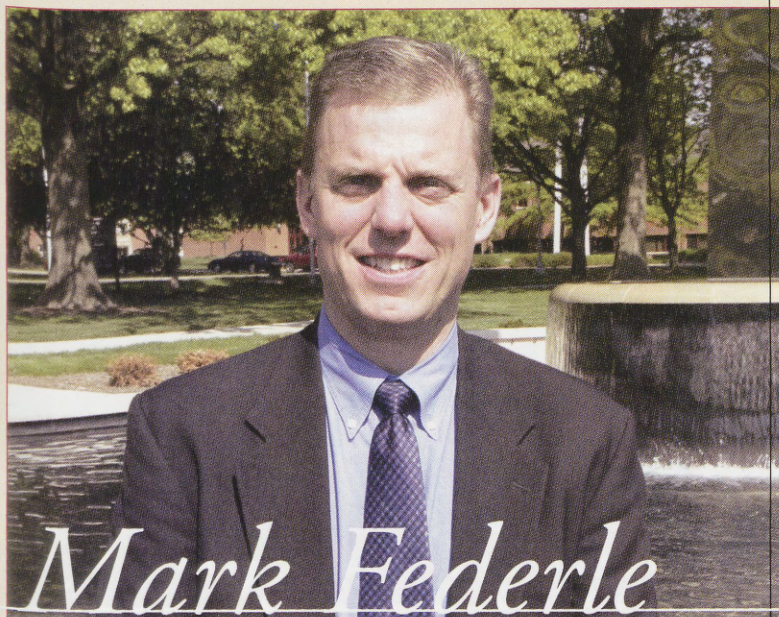
"Rose-Hulman and other universities house the nation's best minds that we need to help develop and apply technologies to advance homeland security efforts from bio-security and power-grid security to economic security," Dietz emphasized.

Career Achievement Award

THE CLASS OF 2005

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

BY DAVID PIKER



Well Coached

MARK FEDERLE LEADS INFORMATION EFFORT FOR BILLION DOLLAR COMPANY

Mark Federle has had a good career coach for 20 years. It's a career that has taken Federle from being an award winning professor to the head of the nation's largest education program in construction engineering to chief information officer for a billion dollar construction company.

His career path wasn't a surprise. Buildings were part of the discussion around the Federle household. His father was a civil engineer, and Mark's summer employment meant work at construction sites.

Federle was attracted to Rose-Hulman because its size was similar to Indianapolis Cathedral High School where he graduated in 1981. Small classes resulted in interaction with civil engineering professors that Federle remembers motivated him to take school a bit more seriously.

It was during his freshman year that his coach first had an influence on him. An influence that Federle says continues 20 years later.

"I saw the passion that Jim McKinney had for teaching. That influenced me then and continues to motivate me today," Federle recalled.

"He has had a tremendous influence on my life," Federle stated. "The best compliment is to call him coach. He's coached me through many career decisions. I wouldn't have gone to graduate school without his encouragement," said Federle.

A slow economy at the time of his graduation, along with McKinney's encouragement and a graduate school fellowship meant Federle and his bride, Michele, were headed to the University of Michigan.

After earning a master's degree, he went to work for a small general contractor. His coach's influence again had an impact on his career decision.

"It didn't take long for the academic bug to bite me," he explained.

"It was the influence that McKinney and others like Cecil Lobo had on students that really interested me," said Federle.

After receiving his doctorate from the University of Michigan, Federle became an assistant professor of construction engineering at Iowa State University in 1990.

"I wanted to teach undergraduates," said Federle, whose lectures often included his notes from McKinney and Lobo classes.

He learned well from his coach. He received outstanding teacher awards from three different organizations, and was named Iowa State's College of Engineering Advisor of the Year. Federle was chosen to be the professor-in-charge of the university's construction engineering program. The program enrolls about 300 students and is considered the largest of its kind in the United States.

However, administrative chores coupled with increasing university bureaucracy led Federle to "think about doing something different."

After a talk with his coach, Federle left academia in 1999 to become director of information technology for The Weitz Company in Des Moines, Iowa. The 150-year-old company is the oldest contractor west of the Mississippi. It has 13 locations and works in 30 states each year. The company is involved in a variety of projects with most of its work in the areas of senior housing, resort construction, multi-family (condo), commercial, retail and hospitality as well as hotel construction.

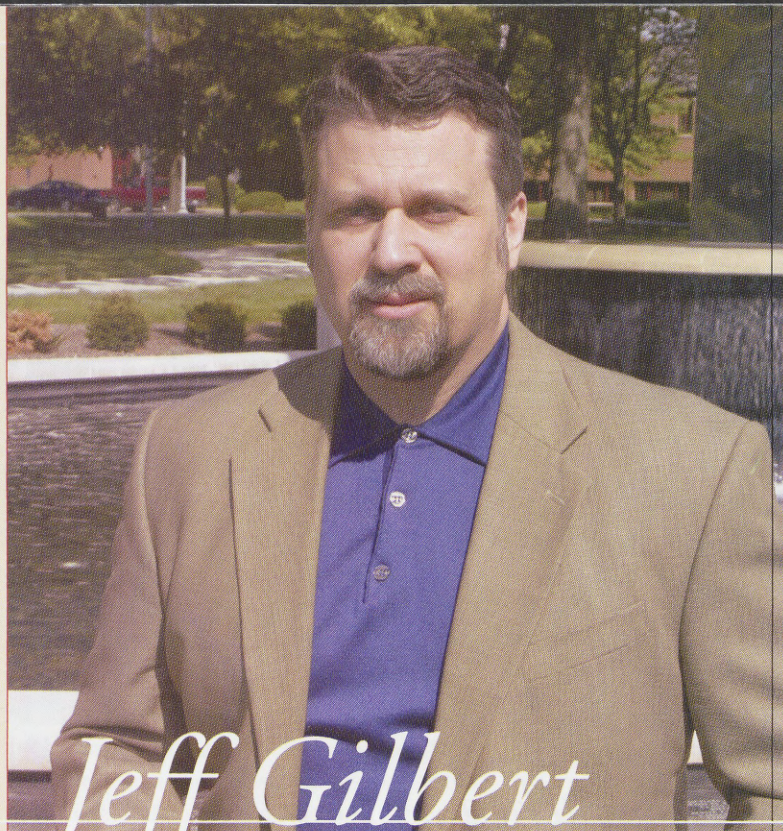
Weitz President and CEO Glenn De Stigter said Federle's job was to become the senior information technology executive for the company.

"Over the next six years, under his leadership, Weitz has completely changed our technology infrastructure and investment. We now have the technology tools that will allow Weitz to achieve our strategic goals related to revenue and profitability," De Stigter said in a letter supporting Federle's nomination for the Rose-Hulman Career Achievement Award.

Federle did a bit of coaching himself when he spoke to about 100 civil engineering majors during his visit to campus to accept his award.

Federle told the students to maintain their core values while they sort through career choices. He advised them it was very important to find their own coaches. The students were reminded to give back to their community and to create a balance between work and other important aspects of their lives.

Good advice from a person who has been well coached.



Learning by doing

JEFF GILBERT HEADS SUCCESSFUL COMPUTER SOFTWARE COMPANY

It may have been almost 20 years ago, but Jeff Gilbert vividly recalls the details of the first business deal for an upstart Indianapolis computer software development company formed in 1988 by four enterprising Rose-Hulman Institute of Technology graduates.

Six months of scrounging through industry directories, newspapers and telephone books had failed to result in one business client. The founding partners were living off their dwindling life's savings; the company's weekly payroll was the amount of cash needed to feed each worker's family; and the computer system was a patchwork system of wires connected through holes in the wall between adjacent apartment rooms.

Then, the military's Fort Benjamin Harrison financial process center in Indianapolis needed a computer system to assist in accounting services.

"We went from developing sophisticated electronic warfare and satellite communications systems to doing accounting and payroll software, but it paid the bills. It's funny how your pride gets pushed aside when you have mouths to feed," concedes Gilbert, chuckling at the memory.

"I knew that starting a business was going to be a challenge, but I was very naïve about what to expect. We had no idea. Fortunately SEP has always had great people and I have been surrounded by them. They make my job easy."

Joining Gilbert in the venture were Anthony Montgomery, Tim Shoemaker and Mike Fouch, all Rose-Hulman 1986 computer science graduates. Fouch is no longer with the company.

Since that first project, Software Engineering Professionals, Inc. (SEP) has concentrated on its core principles: Solving software-related problems that matter, seeking people who care and building relationships that work. It is a company of engineers run by engineers that decided to concentrate on being good and doing what is right first, believing that success would follow.

And, success has come along the way. Today, SEP boasts annual sales of \$6 million, has 60 devoted employees and a stable of clients in the medical, healthcare, automotive and military industries. The company recently moved into spacious new offices in Carmel, IN.

"We're moving up the food chain," Gilbert states. "We're becoming more diverse and moving into data-critical and regulated markets. We used to be exclusively known for our engineering and technical expertise. Now we're doing business application development and getting into data-critical applications. There are a lot of exciting, high-impact problems to be solved in these markets. We're having fun."

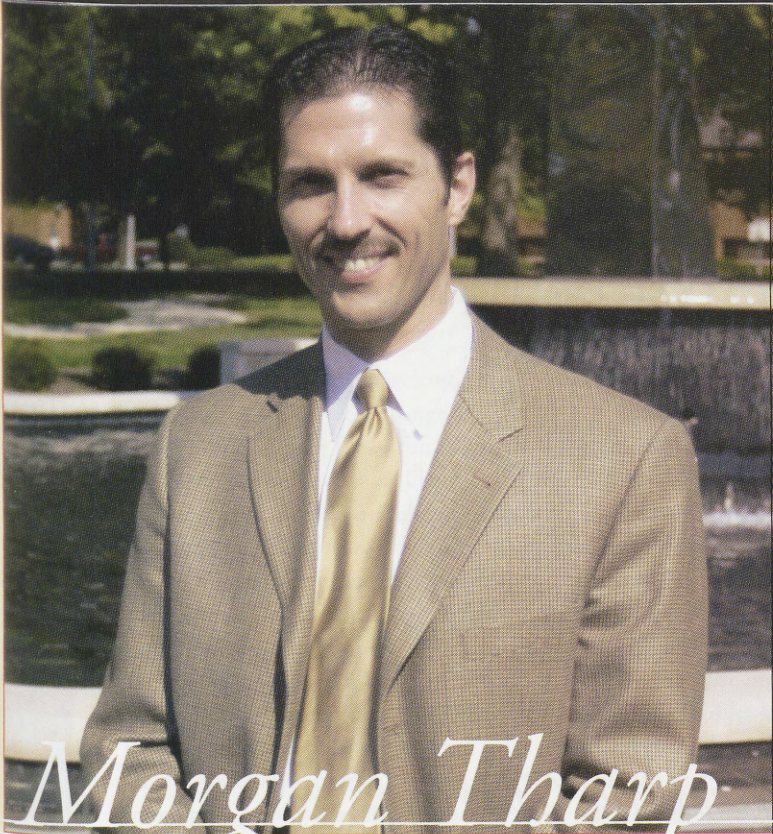
In recent years, SEP has launched several business and technology ventures. Shoemaker served as president of Vigilance Medical Technologies, which develops connectivity technology that brings patient-centric information from medical devices to the clinician. Other entrepreneurial enterprises have been Theron, Inc., a joint venture between SEP and a group of former Roche Diagnostics managers that focuses primarily in the life sciences sector; and EnerGenuity, a year-old venture that provides consulting and technical services to energy companies.

"We're good at what we do," said Gilbert. "We sell our next project on the good job we've done on the last project. We work very hard at developing and keeping relationships with our clients. Overall, we can never get satisfied. If we do, we've stopped learning."

Taking that advice to heart, Gilbert started taking classes two years ago in Rose-Hulman's engineering management graduate degree program. He is also a member of the Department of Applied Biology and Biomedical Engineering's Board of Advisors, has sponsored the Annual Fund's Senior Give Back Challenge, recruits heavily on campus for seniors to join SEP's stable of RHIT alumni (39 and growing), and provides internships

"Everything I've learned, I've learned by doing. If we would have planned more, we wouldn't have done it. We haven't been afraid to take risks," stated the Farmersburg, Ind., native. "I really like my job. Every day is different. The issues cover every part of the company."

Gilbert and his wife, Deanna, have four children and have operated a home for unwed mothers in the Indianapolis area.



Using Technology to Save Lives

MORGAN THARP HELPS CREATE CANCER TREATMENT CENTER

Dr. Morgan Tharp has relied on the cutting edge technology of medicine and the economic principals of business to create an innovative cancer diagnosis and treatment center in the state of Indiana.

In 1997, Tharp joined three oncology physicians to create Central Indiana Radiation Oncology, now known as the Central Indiana Cancer Center (CICC). Their efforts created a \$7 million, state-of-the-art cancer treatment center in Indianapolis. Today, the organization includes more than 150 employees at four sites around Indiana's capitol city.

Tharp and his colleagues have established a center with two underlying principles. First and foremost, CICC strives to offer the best health care system and plans available in every situation. Second, CICC must remain at the cutting edge of technology to stay competitive in the current medical environment.

"Medicine can be a balancing act between providing care and running a business. The best part of job is just being a physician. The highlight of my working life is to see a cancer patient cured, then watch a grown adult cry with joy when given a clean bill of health," said Tharp, a native of Columbus, Ind.

The business aspect of running a cancer center is a necessary part of the medical field. CICC utilizes newly developed technologies to remain competitive. In turn, patients see the benefits from new procedures or methods of recovery that were previously unavailable. Tharp has helped oversee a number of innovations at CICC to remain at the top of the technological curve.

"We've used a new prostate cancer treatment that is only available in approximately 20 centers in the nation to complete over 450 procedures. In addition, we've developed high dose rate brachytherapy programs, added intensity modulation radiation therapy, and improved immuno-targeted radiotherapy for lymphoma. Previously, we became the first breast cancer mammogram site treatment center in the state of Indiana," noted Tharp.

The road to radiation oncology was a successful plan of undergraduate and medical education for Tharp. He spent one year at Florida Bible College to gain background in a central part of his life, then transferred to

Rose-Hulman as a sophomore with the goal of becoming a biomedical engineer.

One key Rose-Hulman faculty member helped Tharp slightly alter his vision for the future.

"(President Emeritus) Dr. Hulbert's biomedical engineering class was the main reason I knew medical school was for me. He taught a course that combined engineering with health care, and convinced me that I could help more people through medicine than biomedical engineering. I'm glad he talked me out of a master's degree and toward medical school," said Tharp.

While at Rose-Hulman, Tharp served as a resident assistant during his senior year. The life lessons learned as a resident assistant still help him today.

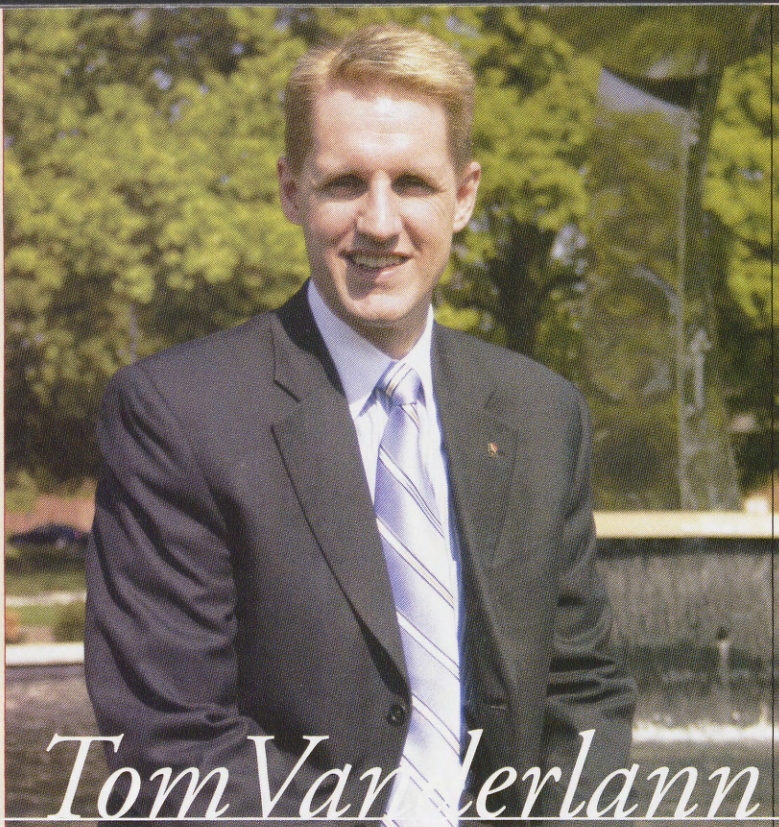
"I was a shy person, but Pete and Donna Gustafson forced me to open up and become a leader. I developed friendships that lasted through tough times, and made for a nice transition into my career. The biggest part of my career is to communicate and build trust with patients, and being a resident assistant was my first test in that area."

After earning his degree in electrical engineering in 1985, Tharp graduated from the Indiana University medical school program in 1989.

Outside of the working world, Tharp cites religion as the central part of his life. His future goals include donating even more time to the Church of Christ in Indianapolis, where he currently serves as a deacon. His remaining time is spent with his wife Jenny and daughters Lauren, Jessica and Rachel.

When the work becomes overwhelming, Tharp thinks back to the many memorable moments in a career filled with helping others. His very first patient comes immediately to mind.

"The first patient that I ever saw had a serious case of prostate cancer and could barely walk. He was ecstatic after the treatment. He could get out of the chair and walk, hugged the entire medical team, and was the happiest patient I have seen in my life. Helping improve a patient's health is still the most rewarding aspect of my career."



Keeping Current

TOM VANDERLANN DIRECTS GLOBAL SALES
FOR REMY INTERNATIONAL

In Tom VanderLaan's world of global high-tech sales, the 55-year-old electric typewriter sitting on his desk might seem out of place, but Tom would tell you otherwise. The machine serves as a reminder of how important it is to stay abreast of new technologies and practices in business.

"The only possible use for that machine now is as a boat anchor," VanderLaan said providing an example of how technologies can become out of date. "I don't want to be the typewriter repair guy 20 years from now." VanderLaan speaks with some authority about the changing nature of the typewriter business, through the years his father made a living servicing typewriters.

Keeping current and informed has been a staple of VanderLaan's career as director of sales and marketing for Remy International. He directs the company's global sales activities, focusing on Ford, General Motors and its affiliates (Opel, Fiat, Saab, Daewoo, Isuzu, Subaru and Suzuki) for starters, alternators and hybrid motors.

In addition to the USA, he works in markets in Japan, India, China, Korea and Europe. "Globalization is my life at this point," he said. "We have to deliver at a local level while negotiating at a global scale." VanderLaan attacks the global market from his base in Detroit working with a team of sales managers around the world. The global headquarters of Remy is based in Anderson, Ind.

During the three years VanderLaan has been with Remy, his team has managed the \$225 million base business and achieved \$80 million of new starter, alternator and hybrid motor business. This included the first starter program in China, the first alternator program in South America and the first passenger vehicle hybrid motor award.

That global aspect provides the biggest challenge for VanderLaan who describes it as "mindboggling." He cited cultural and time zone issues affecting deadline dates and the need for local representatives to know the language. Travel also is a regular part of his life as evidenced by the 1 million miles racked up on Northwest Airlines.

VanderLaan attributes success in the business to "managing the customer

relationships in an effective way." The biggest rewards come, he said, "when you get that phone call from purchasing that says those contracts you work on have been awarded. I get to convey that to the company, and it is a true reward for creating that sense of team across the company."

General Motors did not let Remy's success go unnoticed as it named the Anderson, Ind.-based company "Supplier of the Year" for 2004.

Customer service experience started early for VanderLaan who made service calls with his typewriter-repairing father in Cleveland when he was 15 years of age. The work ethic established during his teen years came to Rose-Hulman where he earned a degree in electrical engineering and mathematics.

Upon graduation from Rose-Hulman, VanderLaan began his career with Packard Electric Division of General Motors (currently Delphi Packard Electric Systems). In 1990, he moved to Flint, Mich., to take a position as a resident engineer at the customer, Flint Automotive Division. He then became the first Delphi Packard engineering manager to serve on the staff of the customer.

In 1998, he joined Visteon to manage advanced projects development for systems integration and to determine supply strategy. That led to his proposal to establish a joint venture with Sumitomo Electric Industries, forming AutoNeural Systems, where he became general manager in 1999. After two years in the position, he joined the Ford Customer Business Unit, initially being responsible for the profit and loss for \$50 million of electrical/electronic products on the Ford Mustang.

From there, he joined Remy, which had put forth an aggressive mandate for growth. To match that growth mandate, VanderLaan continues to look ahead, citing the potential in the hybrid vehicle market and developing opportunities in China.

While he equates looking to the future as a combination of planning and "reading the tea leaves," VanderLaan need look no further than his desk for an outdated technological reminder of the importance of staying abreast of advances in his field. His goal is to keep alternators and starters from becoming desk ornaments for future generations.

A MESSAGE FROM THE ALUMNI ASSOCIATION PRESIDENT

Dealing with change as alumni

Change - some people welcome and seek it out. Others, well, change may not be at the top of their list of fun things to do. But, whether or not we like it, change comes. For Rose-Hulman alumni, change has come in many ways over the years. Beginning with graduation, you change from the student life to the work life and ever increasing responsibilities. Families come along for many of us and our lives change forever. For too many of us that graduated and went to work for large corporations, change often has come in mergers, buyouts, layoffs and new careers paths. Whether we enjoy it or not, change comes, we deal with it and make the best of our lives.

Just as change comes to all of us, change comes to Rose-Hulman. As you know by now, President Midgley has decided to leave the Institute. A new search has begun for his replacement and a good cross-section of those that make up the Rose family will assist with the new search. We tend to remember Rose as it was when we were students. If you have not been back to campus for several years, you may not recognize the campus. Change is apparent in the buildings on campus and in the make-up of the student body. Change also is evident in what for many of us was the history of the Institute - the educators. Today, more than one-half of those who teach the next generation of engineers have been at Rose less than 5 years. With new buildings and new people, Rose must work at maintaining its culture while accepting that not every old way may be the best. Students no longer wear beanies or use slide rules but the culture is intact. Now, the alumni must be prepared to help the next new president who will be selected to lead Rose. If you have any concerns or questions concerning the process for selecting the next president, please send them to Brian Dyer in the alumni office and he will be sure that they are passed

on to the appropriate people.

I can report on one way that alumni have helped with the changes in the costs of a Rose-Hulman education. As of June, 2005, more than \$1.8 million has been raised through our Class Scholarship Program. I must also report though that the classes of 1957, 1962, 1963, 1967, 1968, 1982, 1983, 1988, 1992, and 1993 have yet to raise even \$100 for their Class Scholarship. I have no doubt that the members of these classes support Rose-Hulman in a variety of ways including financial support. These classes though, and the rest of us, now have an excellent opportunity to take advantage of the new Lilly matching grant program through which Lilly will donate up to \$4.5 million to match gifts made by alumni and others. Take advantage of this match. It would be a shame to leave money on the table that could have been used in the Class Scholarship Program. If you would like to assist in raising funds from your class, please contact Bill Foraker in the development office at 812-877-8219.

While the search for our next president continues, planning for the future also cannot stop. Dr. Midgley initiated Rose-Hulman 2015 - A Conversation About Our Future to begin the planning process for the changes that must inevitably come in the future. That process must continue if we are to provide the best possible education to students ten years from now. Whether you are concerned with what the chemical engineering department does in the future, the cost of tuition, the condition of older dorms on campus, or the potential employers for future alumni, your input is important. You can still provide your thoughts and concerns by either sending an email to conversation@rose-hulman.edu or by writing to Rose-Hulman 2015 at Campus Box 14.

Jeff Burgan '77
Alumni Association President

ROSE-HULMAN ALUMNI ASSOCIATION ADVISORY BOARD

The Alumni Advisory Board meets three times a year and consists of the following members. The next meeting of the Board will be at Homecoming, immediately after the Saturday awards program and brunch in the Hulman Union. All alumni are invited to attend.

President: Jeff Burgan '77

Past President: Doug Stearley '79

Vice President: Denis Radecki '72

Secretary: Tom Curry '67

Alumni Clubs: Nathan VanSell '98

Alumni Giving: Dick Neal '77

Career Services: Jeff Papa '93

Continuing Education: Ed Wheeler '82 and Jason Zielke '00

Homecoming: Greg Holler '79 and Cassie Mateo '03

Honors & Awards: John Brabender '81

Student Alumni Association: Bill Olah '74

Student Recruitment: Sam Reed '81

Young Alumni: Leo Morand '02

Alumni Representatives to the Board: Pat Cahill '67/Roger Ward '71

FALL, FRIENDS, FOOTBALL & FUN



HOMECOMING 2005

SEPTEMBER 30-OCTOBER 1

ROSE-HULMAN
INSTITUTE OF TECHNOLOGY

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

1968

Jerry Ingle (M.E.) has been named plant manager of Carlisle SynTec Inc. thermo-plastic roofing manufacturing facility. In Senatobia, Miss. He oversees daily operations of the plant, which employs approximately 100 people.

1971

Rich Williams (M.E.) has joined Raytheon Technical Services Co. as a field engineer and was in Baghdad to help with rebuilding at the airport.

1972

Kevin O'Sullivan (Aero) has started his own firm, K&J Engineering, Inc. He has partnered with Jenkins & Brandt to open an office in Tampa, Fla.

1973

Charles G. Manson (M.E.) has been living in Southern Maryland for several years and he currently works as an integrated program team leader for the supersonic sea skimming aerial target for the Naval Air Systems Command.

Robert B. Morland

(Chem.) has accepted the position of vice president and chief science officer for Microdiffusion, Inc.

Microdiffusion is a technology-based company relocating to Tacoma, Wash., where Robert will head up scientific efforts in mixing technology that can remove diffusion limitations in gas-liquid interactions.

Phil Wehl (M.E.) has been promoted to vice president, Kennametal Value Business System and Lean Enterprise, reporting to Kennametal's chairman of the board and CEO.

1974

Ric Powers (C.E.) recently was named "Supervisor of the Year" by the U.S. Army Corps of Engineers' Savannah District. He is the Corps' area engineer at Robins Air Force Base, where he supervises 23 employees and is responsible for more than \$150 million in construction projects. He also has management oversight of resident engineer offices at Moody Air Force Base and Fort McPherson. He was nominated for the award by members of his staff.

1977

Bill Bayles (M.E.) has retired from the U.S. Army at the rank of colonel and he has joined Kirkham-Michael Consulting Engineers. He heads the firm's Colorado Springs office, focusing on structural design, land development, aviation and municipal engineering practices. He was named the Corps of Engineers' "Military Engineering of the Year" last year.

Michael Barbalas (Chem.) has been elected vice chairman of the American Chamber of Commerce in Shanghai. It is the largest American Chamber of Commerce in China, with more than 2,400 members.

**Golf Event Raises \$33,000 for Scholarships**

Winners of the annual Indianapolis area golf outing was the alumni team of Dick Neal, Jim Neal, Travis Holler and Greg Holler. The event, the largest Rose-Hulman golf event of the summer, raised \$33,000 for the college's scholarship fund. This was the first year sponsorships for the event were sought to raise funds for scholarships. The outing was sold out as 128 golfers participated in the Brickyard Crossing golf course at the famed Indianapolis Motor Speedway. Alumni and members of the Rose-Hulman Indianapolis and Wabash Valley Boards of Associates played key roles in securing sponsorships for the event.

Peter VandeMotte (E.E.) is chair of the Institute of Electrical/Electronic Engineers (IEEE), Industry Application Society, Chicago Section.

1980

Jim Huston (Ch.E.) left Intel Capital last year with plans of retiring, but he joined a Bay Area venture capital firm – Blueprint Ventures – as a venture partner. He focuses on early state IT investments in the Northwest as well as corporate spin-out opportunities on a national basis for Blueprint. In other news, he is senior lecturer on Commercialization and Innovation in the Portland State University MBA program. Also, he is director of

the Portland State Center for Technology, Entrepreneurship and Law, and he serves on the Commercialization Board of the Oregon Nanoscience and Microtechnologies Institute.

1981**Richard R. Roll**

(C.E./E.V.E.) has been appointed to the position of director of technical and regulatory services for the Niagara Falls Water Board in the Niagara Falls, N.Y., area. Responsibilities include lab and analytical services, process control assistance, capital project planning and implementation, engineering services, regulatory compliance services, and customer compliance assistance.

1983

Curt Larson (Ch.E.) has accepted a sales manager position with Lamor.fi, an oil-spill recovery equipment manufacturer in Porvoo, Finland. His sales territory includes Eastern Europe and the southern half of Africa.

Kenny McCleary (Ch.E.) ran in the Boston Marathon on April 18.

1984

Mark G. Podgorski (M.E.) has been named director of facility construction at Goshen General Hospital.

Charles Snyder (E.E.) has taken a promotion with Humana Inc. in Louisville, Ky. He is an IT audit consultant within the Internal Auditing Consulting Group.

1985

Jim Peck (C.E.) updates Echoes that four years ago he started Civil Designs, LLP, which now employs 18 people and recently received the Indiana University (Johnson Center) Growth 100 Award given to the fastest growing companies in Indiana. The firm is based in Indianapolis.

1986

Brad Kiess (M.E.) has made a career change to become an investment representative for Edward Jones in Fort Wayne, Ind.

1987

Brian Evans (E.E./C.S.) updates Echoes that he married Mouna Sfeir in 2003. Brian also has been promoted to full professor at the University of Texas at

Austin. He has published 140 conference and journal papers.

John Hanger (E.E.) has joined an early-stage startup, ContactAtOnce! as the CEO. The company is the first provider of an instant messaging (IM) network for consumer-to-business direct response.

John Lueken (C.E.) has accepted the position of U.S. Director of Construction for McDonald's USA. He and his family live in Naperville, Ill.

1988

Don Boughton (E.E.) updates Echoes that he married Rita Satvati in December of 2001. They announce the birth of their first child, Matthew Emmanuel, born Feb. 24.

Adrian Lawhorn (Math.) has reached a significant milestone, working his 2,000th game as a professional sports statistician.

Daniel Thralls (E.E.) has been promoted to team leader of plant maintenance at Eli Lilly and Co. Tippecanoe Laboratories in Indiana.

1989

Ken Pierce (E.E.) and his wife, Casey, welcomed their fourth daughter, Ryan Kathleen.

1990

Steve Glueckert (Chem.) Married Shelly Blunt on Oct. 30. They live in Mount

Vernon, Ind., with her two children, Allyson and Adam. Steve works for the University of Southern Indiana.

Greg Heimann (M.E.) and his wife, Kristen, announce the addition of new family member Eliahna, born in 2004. She joins older brother Theo.

Rodney Retzner (M.E.) updates Echoes that his fourth son, Matthew Louis, was born almost a year ago. He was welcomed by three brothers, Justin, Benjamin and Dalton. Rodney was selected by the Indianapolis Business Journal as one of "40 under 40" as one of the most influential individuals in the Indianapolis business community under the age of 40.

1991

Joel Harris (E.E.) purchased FAZETRON-STTV, headquartered in downtown Indianapolis. The company is Indiana's largest stage lighting service center.

Chris Kabrick (M.E.) has taken a position at Cook Inc. in Bloomington, Ind., as a senior engineer in medical device manufacturing. He and his wife, Janie, reside in Bloomington with their two daughters Katie and Hannah.

Robert L. Williams (M.E.) has accepted a position as senior loss control specialist with Risk Logic Inc. He also has accepted a part-time flight paramedic position with Air-Evac Lifeteam Corp. at Evansville, Ind.

1992

Tom Baker (Chem.) and his wife announce the addition of Ashley Jo to the Baker family. She joins brothers Zack, Justin, Adam and Jacob. Tom has taken a new position within Eli Lilly as department head of product finishing.

Andrew E. Causey (M.E.) has left active duty Air Force and entered the Michigan Air National Guard. He is stationed at Selfridge Air National Guard Base in Mt. Clemens, Mich., as the deputy base civil engineer. He was promoted to major last year.

Shannon Clark (M.E.) and wife Victoria report the birth of daughter Ashley Elaine last year. Shannon was promoted to process engineering manager with Corning Inc., Environmental Technology (Diesel), last year. He currently serves with the U.S. Army Reserves as part of the Coalition Military Assistance Training Team as a senior adviser to an Iraqi armed forces infantry brigade in Kirkush, Iraq.

Tom Finkbinder (M.E.) married Greta Brattset last fall.

Kevin Gilbert (M.E.) received his Georgia professional engineer's license last year. He has started the Ph.D. program in material science & engineering at the Air Force Institute of Technology at Wright-Patterson AFB, Ohio. Last year, he was recognized as the Warner-Robins Logistics Center Mid-Career Military Engineer of the Year, 2003.

1993

John Biddle (Ch.E.) married Melissa McDaniel last fall. He is the general manager of Polymer Science, Inc., a medical device and pharmaceutical manufacturer in Monticello, Ind.

Jeff Haggerty (M.E.) and his family (wife Valerie and children Kate, Lily and Eddie) have moved to Monterrey, Mexico, where he is starting a new plant for production of valve springs for Associated Spring.

Donald W. Stanton (M.E./Math.) has been inducted into the Seymour (Ind.) High School Wall of Fame. He was cited for his career achievements, and it was duly noted he was a Rose-Hulman graduate.

Eric P. Steinbach (M.E.) and his wife, Stacy, welcomed twins Emma Rose and Ethan Daniel, born Jan. 21.

1994

Matt Leach (M.E.) has been promoted to plant manager of Superior Essex, Johnson County. He and his family have relocated to Greenwood, Ind.

Don Potter (C.P.E.) has joined the Thompson Thrift Construction firm in Terre Haute as project engineer.

Chris Werling (C.P.E.) and his wife, Kristi, became parents last fall with the birth of Easton James.

Michael E. Wever (C.P.E.) has joined Brinks Hofer Gilson & Lione, one of the nation's largest intellectual property law firms.

1995

Corey Schwensen (M.E.) has a new position as the senior automation engineer with Merck Pharmaceuticals, Rosetta Gene Expression Laboratory in Seattle, Wash. He and his wife have two daughters, Katrina and Amelia.

1996

Levi Barclay (Ch.E.) married Megan Lan last fall.

Keith Barron (E.E.) and his wife welcomed their second child, Grace Melayna, born last fall.

Erik Bogensberger (E.E.) exchanged wedding vows with wife Anne last year. They live in Phoenix, Ariz., where he works for Honeywell International. Erik also completed his MBA from the University of Iowa in 2003.

Brian P. Cahill (M.E.) and his wife Alina, announce the birth of daughter Abigail Marie Suarez, born last year.

Ashvin Lad (Ch.E., and M.S.B.E., '98) has moved to Chicago to start a new job as a strategic marketing manager for Discover.

1997

Robert Flaherty (Ch.E.) reports the addition of Brian Robert to the Flaherty family last year. On the job front, Robert has taken a new position as product development engineer with Ludlow Coated Products in Louisiana.

Keith Scroggins (C.S.) married April Dawn Wolf last fall.

HOMECOMING 2005 HAS BEEN SET FOR SEPTEMBER 30 – OCTOBER 1

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

1998

Ben Brown (Chem.) and his wife, Jeannette, announce the birth of daughter Lauren Elizabeth, who was born last year.

DeWayne Martin (C.S.) and his wife Jessica **Demlein Martin (E.E., '99)** became parents last year when Michael Ashton Martin was born.

Dan Neiss (Ch.E.) and his wife, Tiffany, became parents March 16 when Olivia Reneewas born. They live in Cincinnati where Dan is in medical school at the University of Cincinnati.

David Troyer (M.E.) and his wife, Kimberly announce the addition of Chloe Hai-Wei to their family. She was adopted last fall and joins brothers Riley and Casey.

Nate Van Sell (Ch.E.) is the program coordinator for the Randall L. Tobias Center for Leadership Excellence located on the campus of IUPUI in the Kelley School of Business.

Greg Williby (A.O./Math) and his wife, Beth, announce the birth of second son Joshua Burch.

1999

Angela Anderson (Ch.E.) and **Christopher Anderson (M.E.)** report the birth of a second child.

Jeremy Conner (Ch.E.) married Jaime Yost last fall. Also, he successfully finished and defended his Ph.D. thesis at UC Santa Barbara. The thesis was titled "Theoretical and Practical Issues in System Identification for Process Control Applications." He also started his career at Amgen in Thousand Oaks, Calif., as a control system engineer. Proving he is a master of time management, Jeremy accomplished all three of those events during the same week.

Dave Warmuth (M.E.) became a father when Meghan Diane was born last fall.

2000

Nathan Chastain (M.E.) and his wife, Katrina, announce the birth of their first daughter, Taylon Elizabeth, born last fall.

Matt Clausen (E.E.) won a Clarence Mackay Trophy from the U.S. Air Force. He is an Air Force captain stationed at McChord Air Force Base in Washington. He earned the award for critical leadership and initiative as a lieutenant during the C-17A Operation Northern Delay in Iraq.

Deborah Kroll (M.E.) began working at Faurecia Exhaust Systems in Toledo, Ohio, as a product application engineer.

Jonathan Laverne (Math.) has been named an associate of the Casualty Actuarial Society.

Joe Marietta (M.E.) received his master's in mechanical engineering from Western Michigan University last December, and he was promoted to project engineer for Stryker Instruments in March.

Anthony Primozich (M.E.) received a master's of science in aerospace engineering from the University of Dayton in Dayton, Ohio, last December.

Philip R. Reksel (Chem. and Ch.E.) married Teresa Kraus last December. He is the plant engineer for the pilot plant at Eli Lilly – Tippecanoe Labs

Tom Shaw (M.E.) and his wife, Lisa, had their first child, Ava Shaw, born last November. The family has moved to the Dallas, Texas, area.

Jeff Siefert (M.E.) married Adriane Giltner last October. Jeff is a mechanical engineer at RQAQ, an architectural engineering firm in Indianapolis

David Sing (C.S./Math.) exchanged wedding vows with Katie Peterson last September.

Jacob Stoltzfus (Ch.E.) reports the birth of fourth child, Seth Thomas, born Feb. 11, 2005.

Kara Walker (M.E.) married Derek Sims on Jan. 1,

2005.

Chad (C.S.) and Rachael Polen, (E.E.) Wiseman became parents when Adalyn Rae was born March 22, 2005.

2001

Jay Askren (C.S.) married Tierza Rose Draper March 17, 2005. Jay is graduating from Indiana University with a master's degree in computational linguistics.

Aaron Eppert (C.S.) has accepted a job with MacAulay-Brown as a staff engineer in the R&D section of the company's San Antonio, Texas facility.

Jen Dilling (M.E. and Christoph Franck (M.S.B.E.) were married last fall.

Jason Kahlhamer (Ch.E.) and his fiancée, Jessika Anderson, had a daughter, Brynae Henrietta Kahlhamer, born Dec. 9.

Justin McKinley (C.S.) and his wife, Rhiannon, report a new baby in the family, Sophia Joyce McKinley, born last summer.

Ryan Miller (CPE) married **Maggie Boozer (M.E., 1999)** last summer.

Michelle Perez (E.E.) wed Thaddeus Marcelli last November. They reside in downtown Chicago.

Benjamin (C.S.) and Brooklyn (Decker, CPE) had their second daughter Alexandra Bennett, who was born last October and joins

sister Annabelle Renae.

Jonathan Webster (Math./CPE) received his master's of science in mathematics from the University of Illinois this November.

2002

Deres Kifle Eshete complet-

ed a master's in electrical engineering from the University of Notre Dame last year, and currently is employed by Delphi Corp. as a navigation system design engineer.

Andrew Gordon (C.E.)

HEVNER HEADS NATIONAL ASSOCIATION OF ONLINE INVESTORS

Lee Hevner has received national attention through the Gannett News Service for his work as president of the National Association of Online Investors

The 1974 computer science graduate founded the association, which has 1,500 members and sells investing courses through the mail and online. The association also has developed a list of 25 investing Web sites recommended as useful tools for investors.

Hevner started the association in 1997 when he was disillusioned by the existing resources to guide people in investments. A resident of Washington, D.C., he was a computer company vice president when he retired to focus on investing.

"In that era, it didn't matter what you bought, it made money," Hevner was quoted as saying by the Gannett service "People got a very false sense of security and power. I was a millionaire on paper, but as time went on I lost a lot of it back because I didn't know when to sell."

Hevner said he came to realize that discipline, education and solid planning were keys to investing success.



Bottle Cap Art

Alumnus Chris Bratten '03 has created a one-of-a-kind coffee table. Bratten created the Rose-Hulman logo using AutoCAD to design the table top insert using 418 bottle caps.



New Event for Grads

The first senior soiree hosted by the Office of Alumni Affairs attracted nearly 800 guests the night before commencement.

married Melinda Dant on Jan. 8 in Indianapolis. They live in Indianapolis where Andrew works for M.D. Wessler & Associates as a design engineer.

Don Harrington (M.E.) has completed his master of science in electrical engineering at Stanford University. He is returning to Boeing's Laser and Electro-Optical Systems group in West Hills, Calif.

Jeremy Roehm (M.E.) married Leslie G. Stevens in July of 2003. They had their first child, a baby girl, Kadence Piper, born on Oct. 5.

2003

Jeremy Kashman (C.E.) and his wife, Megan, announce the birth of daughter Tori Elizabeth, born on Dec. 4.

Thomas Lautenschlager (E.E.) has a new job as a sales engineer for a small high-voltage power testing company called Power

Systems Testing in Hayward, Calif.

Tim Louvar (M.E.) and Abbie Fingerle were united in marriage last year.

Nickolas R. Privette (M.E.) has been promoted from associate engineer to performance engineer in the performance department at Indiana-Kentucky Electric Co.'s Clifty Creek Plant.

Daniel Goebel (M.E.) and Holly Paddock were married last September.

2004

Kevin Householder (Ch.E.) and Nicole Darlage were married last June.

Adam Popplewell (C.E.) exchanged wedding vows with Breanne Everett last July.

Brandon Thompson (Chem.) and **Jamie Parker (Chem.)** were married last year.

A TEACHER OF PROMISE

Erin Gawron, a 1999 chemistry and mathematics graduate, was named the State Science Teacher of Promise for 2005 by The Georgia Science Teachers Association. She teaches AP chemistry and advanced first-year chemistry at Heritage High School in Conyers, Ga.



Erin Gawron

Erin is a 1999 graduate of Rose-Hulman Institute of Technology in Terre Haute, IN. There she received her bachelor's degree in Chemistry and Mathematics. She then went on to earn her masters of science in science education from Purdue University in 2002. Erin has been working at Heritage High School since the fall of 2002 where she teaches AP chemistry and advanced first-year chemistry.

The Teacher of Promise award recognizes teachers in the early years of their career who show exceptional promise. Teachers with one, two, or three years of teaching experience are eligible for this award. Applicants are judged on the basis of promise, philosophy, and accomplishments to date. Teacher of Promise awards are made only at the state level. For each of the three levels – elementary, middle, and high school – only one teacher statewide is selected as the Georgia Science Teacher of Promise at that level.

The Georgia Science Teachers Association is a professional organization dedicated to improving science teaching at all levels, pre-school through university. The mission of the GSTA is to provide leadership and service for science education. The current membership of over 2,000 includes science teachers, science supervisors, administrators, scientists, and representatives of business and industry.



Senior Picnic

Once again the Alumni Association sponsored the annual Senior Picnic at commencement rehearsal to welcome Rose-Hulman's newest graduates to the alumni ranks.



Fun at Victory Field

This group was among the 380 alumni who enjoyed the July 4 picnic and Indianapolis Indians game at Victory Field. The Rose-Hulman contingent had excellent seats to also watch an impressive fireworks display over the Indianapolis skyline following the baseball game. This year's event attracted the largest alumni crowd ever to attend this annual outing.

Rose-Hulman in the Milliken Spotlight



The Office of Alumni Affairs in August sponsored a reception in Spartanburg, South Carolina for alumni and Rose-Hulman student interns working at Milliken & Company. Campus representa-

tives hosting alumni and students were Brian Dyer, alumni affairs director; Kevin Hewerdine, director of career services and employer relations; and Hossein Hariri, professor and head of the Department of Chemical Engineering. The three also attended a program at Milliken during which Rose-Hulman students and others discussed their summer internships with the company. Milliken CEO Roger Milliken was among the company representatives attending the program.

First Rosie Dinner a Success



The Student Alumni Association (SAA) has begun a new tradition to give alumni and current Rose-Hulman students the opportunity to become better acquainted. The SAA is encouraging alumni to host a ROSIE dinner (Reaching Out to Students in Engineering) for current students. Nine students along with Carey Treager-Huber, associate director of alumni affairs and SAA adviser; and John Rozmaryn '97, attended the first ROSIE dinner in Indianapolis which was hosted by Jeff Papa '93.



VanDerSnick Becomes NASCAR Vice President for Marketing

Roger VanDerSnick, a 1985 mechanical engineering graduate of Rose-Hulman, has been promoted to vice president, marketing for NASCAR. VanDerSnick, who joined NASCAR in 2000 from Procter & Gamble as Director of Brand and Consumer Marketing, has developed and executed NASCAR's nationwide marketing initiatives to further grow NASCAR's fan and sponsorship base.

He will continue to focus on collaborative marketing with NASCAR's three national series sponsors - Nextel, Anheuser-Busch and Craftsman. His team will also support sales and marketing initiatives across all NASCAR offices, including NASCAR Digital Entertainment in Los Angeles, NASCAR Licensing in Charlotte and corporate marketing in New York.

"Roger VanDerSnick represents the 'best in class' talent in our organization," said NASCAR Chairman and CEO Brian France. VanDerSnick will report to NASCAR Chief Operating Officer George Pyne. VanDerSnick joined the NASCAR in 2000 to create and lead the Brand and Consumer Marketing Department.

Prior to NASCAR, VanDerSnick spent 15 years with Procter & Gamble, the last seven of which included leading the marketing and branding efforts of several packaged brands. His last position at P&G was brand manager of the company's second largest business, Bounty Paper Towels. largest alumni crowd ever to attend this annual outing.

OBITUARIES

1930

Carl Ehrenhardt (E.E.) died March 15. See page 39.

1932

Carl C. Robinson (Ch.E.) died Jan. 16 at the age of 95. He was a self-employed chemical engineer. His career included a paint development company which Sherwin-Williams purchased from him in 1955.

1938

Lawrence Giacometto (E.E.) died last October. He is survived by his wife, Maxine. He was a professor emeritus in the field of electrical engineering at Michigan State University.

William D. Wolf (M.E., Ch.E.) died last December at the age of 88. He had been retired from Monsanto Plastics, where he worked 30 years and invented the process, machinery and product for the first plastic wallpaper that was placed in "The House of the Future" in Disneyland. He also developed the first plastic Coke bottle, and at the height of his career was averaging about 16 patents a year. Survivors include a daughter, Jennifer A. Wolf-Mears.

1942

Charles S. Meurer (C.E.) died Dec. 25. He was 84. Survivors include his wife, Helen and sons Lonnie and James. He had almost 50 years of civil engineering experience, providing services to clients in both the public and private sectors. He was secretary/treasurer of Meurer Engineering.

1943

William C. Soudriette (Ch.E.) died March 23, 2005 at the age of 83. Survivors include his son Richard Soudriette and a daughter Helen A. LaBuda. Following service in the U.S. Navy during World War II, he went to work for Cities Service Company in 1947. He held positions as plant manager and general manager of corporate planning and a member of the company's board of directors. He was active many years as a member of the American Petroleum Institute. Starting in 1977, he held a number of senior-level management positions in Argentina, Singapore, Brazil and Venezuela. He 1981, he was hired as senior vice president of Macmillan Ring Free Oil Company in New York. He retired in 1986, but stayed active serving as a math tutor to high school and college students.

1944

Robert G. Gillum (M.E.) died last fall. He was retired from General Electric, where he worked for 40 years. Survivors include his wife, Nancy.

Arlis "Jack" Heif (M.E.) died March 3, 2005. He began his career working on rocket and jet propulsion systems for several firms, and retired after 30 years at Lockheed in 1991. Survivors include his wife, Marge.

1949

J. William Kepler II (C.E.) died last December. He was employed for many years by Sanford Co. as a civil engi-

neer/general contractor. He was chairman of the board of the Indiana Laborer Training Fund and Training Institute, and he was a co-founder of Associated Builders Union. Survivors include a son, John W. Kepler III, and a daughter, Morgan Kepler.

Robert C. Somers (C.E.)

died last October in Louisville. He was retired from Louisville Gas & Electric as senior vice president of operations. Survivors include his wife, Sue; a daughter, Jacqueline Shadle; and two sons, Robert and Russell.

John M. Weibel, Sr. (C.E.),

79, died Feb. 23. Survivors include two sons, John and Marcus, and two daughters, Leigh W. Everette and Ann W. Jarvie.

1950

William Alsman (M.E.) died last October. Survivors include his wife, Margaret. A resident of Evansville, Ind., he was a retired director of engineering of St. Joseph Hospital.

1961

Charles Franklin Piper (C.E.) died March 6 in Salem, Ark. He was a civilian engineer for the U.S. Air Force. Survivors include his wife, Nancy, a son Keith, and two daughters, Deborah Tesch and Carol DeSimone.

1965

Kenneth H. Wickwire (Math.) died last December. His career included working 23 years at Mitre Corp. Prior

to that, he worked at Lincoln Laboratory-MIT.

1966

J. Richard Delbauve (E.E.) died Jan. 19. He was a senior information consultant at Lilly Research Laboratories, and a senior member of the Institute of Electrical and Electronics Engineers.

1967

Roger A. Meurer (C.E.) died last year. He was a founder and president of Meurer Engineering.

1973

Thomas Paul Land, 53, died last November. He had a career in chemical sales and marketing. Survivors include his wife, Nikki and sons, Mark, T.J. and Nicolas.

1978

Gary A. Beil (E.E.), Newburgh, Ind., died last December as a result of an automobile accident. He spent his entire 26-year career at ALCOA Warrick in Newburgh. Survivors include his wife, Karen, and daughters Ashley and Lindsey.

William E. Newkirk (E.E.)

died last December. A resident of Melbourne, Fla., he worked as a tech writer with Symetrics.

1986

Bruce Pesch (Ch.E.) died last August.

OBITUARIES

TRUSTEE/FACULTY/STAFF

Carl E. Ehrenhardt

Rose-Hulman trustee and alumnus Carl E. Ehrenhardt died at the age of 96 in Terre Haute on March 15. He received a bachelor of science degree in electrical engineering in 1930 from Rose Polytechnic Institute. Ehrenhardt served in many volunteer leadership roles to assist Rose-Hulman. He was a member of the Rose-Hulman Board of Trustees for 44 years, serving as vice chairman of the board from 1968 to 1975. Ehrenhardt was director of the Annual Fund from 1967 to 1968, organized and served as the first chairman of the Rose-Hulman Board of Associates, and was a class agent, reunion chairman, volunteer leader for capital fund drives, and vice president of the Wabash Valley Rose Tech Alumni Club.

In 1979, Ehrenhardt received the Rose-Hulman Alumni Association's Honor Alumnus Award for outstanding volunteer service to the college. Three years later, Rose-Hulman presented him with an honorary doctor of engineering degree.

He retired in 1977 after an 18-year career with General Electric Corp., and 28 years with Winslow Scale of Terre Haute, where he served as president of the company.

Granvil Charles Kyker

Charles Kyker, a professor of physics for 21 years at Rose-Hulman, passed away March 9 at the age of 66. Kyker taught a variety of classes from electricity and magnetism to relativity and nuclear physics. He retired from Rose-Hulman in 1997. In addition to being a respected educator, Kyker was well-known in his role as the spell master for the annual Terre Haute Tribune-Star/Wabash Valley Spelling Bee and for his musical talents as a member of the Banks of the Wabash Chorus. He received his bachelor's degree from Brown University and the Ph.D. from Duke University.

Mildred Smith

Mildred Smith, who was a secretary at Rose-Hulman for 30 years, died at the age of 100 in Terre Haute on Feb. 11. At the time of her retirement in 1984, she was the secretary for the electrical engineering and computer science department. During part of her Rose-Hulman career, she was the only department secretary at the college.

GILMAN PROMOTED TO BRIGADIER GENERAL

Rose-Hulman alumnus James Gilman ('74) has been promoted from colonel to brigadier general in the United States Army.

Gilman is also the new commander of the Brooke AMC and the Great Plains Regional Medical Command in San Antonio, Texas. For the past year, he served as the commander of the Walter Reed Health Care System (WRHCS).

During the change of command in June at WRHCS, Gilman was praised by Major General Kenneth Farmer, commander of the North Atlantic Regional Medical Command. In a story on the WRHCS Web site, Farmer said Gilman has led "this command absolutely superbly. Farmer said Gilman improved patient safety and the business side of the operations with an emphasis on data quality and accountability.

Gilman received a bachelor of science degree in biological engineering from Rose-Hulman. In 1994, Rose-Hulman presented him with a Distinguished Young Alumnus Award. He earned his medical degree from the Indiana University School of Medicine. He is a graduate of the U.S. Army Command and General Staff College, Fort Leavenworth, Kan., and the U.S. Army War College, Carlisle Barracks, Pa. He previously served as Director, Health Policy and Services Directorate, Office of the Surgeon General.



Gilman at work at Walter Reed Hospital

Looking Back

A CONVERSATION ABOUT OUR FUTURE - 1870s VERSION

by John Robson, Librarian and Archivist

During the past seven months, the Rose-Hulman community has been in the early stages of a dialogue titled "Rose-Hulman 2015: A Conversation about Our Future." This is not the first time the college has researched and debated questions dealing with its future. A journey back to the founding of the school reveals that the members of the original Board of Managers were deeply committed to answering similar questions.

Our source for the early thinking of the Board is found in the notebook of Samuel Early, secretary to the Board of Trustees, containing his edited version of the notes he made in 1879-1880 while interviewing Charles Thompson, principal of the Free Institute of Worcester, Massachusetts, and America's foremost authority on technical education. His notes plus the records of the Board of Managers and the board correspondence show the depth of the Board's struggle to answer the questions.

So what was envisioned?

The Articles of Association as adopted September 10, 1874 for the Terre Haute School of Industrial Science laid down the outline. It stated that it would be an institution "...for the intellectual and practical education of young men especially in the principles of the mechanical arts as applied to the various trades and avocations in life." It would, in sharp contrast with nearly all other private colleges, also "...be free from all sectarianism....instruction shall be provided ...based on the practical mathematics and application of the physical sciences, to the various arts, manufactures, agriculture, horticulture, and all branches of active business...." The students will be prepared by "...training them for the activities of life, and furnishing such useful and practical knowledge of some art, trade, or occupation with general business habits, as will enable them thereafter to earn a competent living." The key words here are "mechanical arts", "training", and "practical".

The curriculum was to include, but not be limited to: mathematics, physics, industrial mechanics, chemistry, natural history, civil engineering, mechanical engineering, and mining engineering. Also mentioned were architecture, geology as applied to mining, astronomy, botany, agriculture, physical geography, horticulture, English language and literature with emphasis on report writing, bookkeeping, and Latin.

Founder Chauncey Rose and the associates he gathered to form the Board shared a common concern – that there was a lack of skilled workers of the management/supervisory class to staff

the growing industrial concerns of Terre Haute and Middle West. If the region was to prosper, a trained workforce with experienced managers was essential.

Rose and the Board members had very little knowledge of how to put together a coherent plan for a practical education that was based on the best of scientific theory. They turned to a leading example of a purely applied science school closely tied to private industry -- the Free Institute of Worcester, Massachusetts. So it was to that school and its head, Charles Thompson, that Rose and the Board turned for curricular advice. He understood the melding of theory and application and had studied the various curricula models here and in Europe.

In March of 1883 the school opened with a polytechnic curriculum consisting of three majors: mechanical engineering, civil engineering, and what was probably an applied form of chemistry. Except for 3 civil majors and 2 in chemistry, the remaining 40 students opted for mechanical engineering. The other departments of the faculty were mathematics, physics, drawing (an engineering essential), and language (German, French, and English).

Students were expected to provide 54 hours of academic work – lecture, recitation, and practice – each week. A look at the junior year is characteristic of the polytechnic model. It is composed of 6 hours of mechanical drawing, 4 hours of mathematics and theoretical mechanics, 3 of language (split between French and German), 5 of physics, 10 of lab or shop (wood or mechanical), and 24 hours of private study. The first catalogue describes the shop portion as a "...manufacturing establishment, so that the students can see good work done as well as do it themselves." And so it has remained. The overwhelming number of early graduates took their place in the railroads, foundries, and other heavy manufacturing establishments. Many stayed here as hoped but in five years time RPI graduates could be found in California, Massachusetts and even Germany.

As noted in 1909 by William C. Ball, board member from 1883 until 1921, "One of the gratifying proofs of the Institute's training is to be found in the fact that the graduates are in demand and at work all over the country, yes, the world, and in even wider lines that their education at Rose Polytechnic seemed to fit them."

May our answers to the question posed above be as sound as those provided at our founding. ■

FALL, FRIENDS, FOOTBALL & FUN



HOMECOMING 2005

SEPTEMBER 30-OCTOBER 1

ROSE-HULMAN
INSTITUTE OF TECHNOLOGY

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

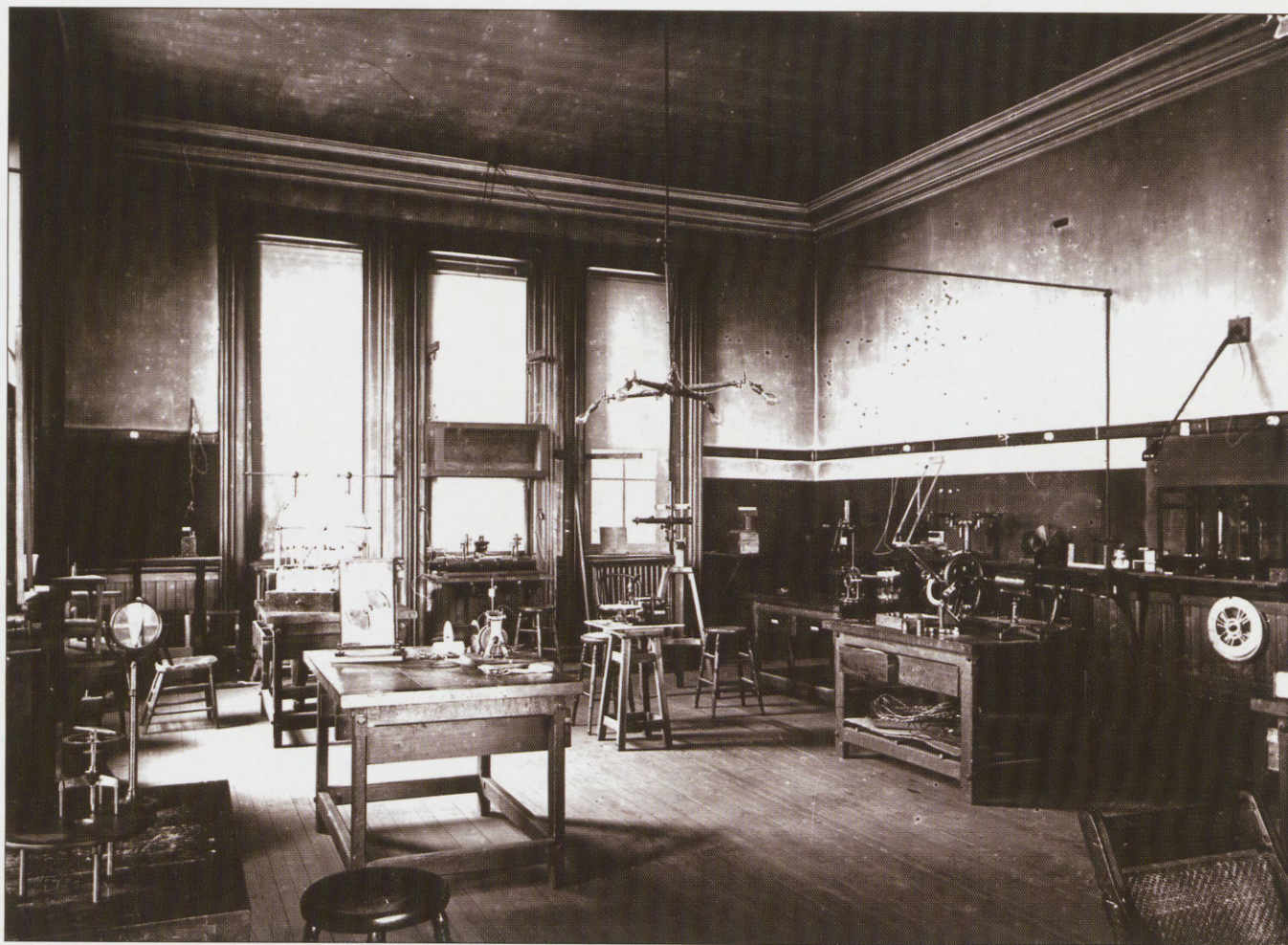
MATCH IT UP LILLY ENDOWMENT SETS UP MATCHING PROGRAM THAT COULD MEAN \$4.5 MILLION TO ROSE-HULMAN



Previous success by Rose-Hulman Institute of Technology to achieve initiatives set forth by the Lilly Endowment Inc. has made the Institute eligible for a \$4.5 million grant to match funds it raises from June 1, 2005 to December 31, 2006. Rose-Hulman is eligible to receive an Endowment match of \$1.50 for each \$1 raised, meaning gifts to the Annual Fund will have more than double the impact.

The grant is part of the second phase of the Endowment's successful Initiative to Strengthen Philanthropy for Indiana Higher Education Institutions.

To make a gift to support this initiative, contact the Rose-Hulman Office of Development at **800-248-7448** or give online at <http://www.rose-hulman.edu/give>



PARTING SHOT

The Echoes staff was rifling its historical files this summer when we came across this photo of a physics lab at Rose-Hulman's original location at 13th and Locust streets in north central Terre Haute. This photo dates from the late 1890s or early 1900s. It provides a strong reminder of the college's tradition of hands-on education.

Echoes

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