

Spring 2007

## Volume 2006-2007 - Issue 2 - Spring, 2006-2007

Echoes Staff

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ROSE-HULMAN INSTITUTE OF TECHNOLOGY

# Echoes

Spring 2006-2007

Vol. 2006-2007, No. 2

A close-up photograph of a man with short brown hair, smiling warmly at the camera. He is wearing a dark blue sweater. To his left is a complex, metallic mechanical device, possibly a robotic arm or a precision instrument, with various bolts, wires, and a cylindrical component. The background is a plain, light-colored wall.

## *Relationships*

*Outstanding Teacher-of-the-Year  
Award Winner Richard Stamper  
Values Educational Relationships*

SEE PAGE 3 FOR YOUR INVITATION TO  
PRESIDENT GERALD JAKUBOWSKI'S INAUGURATION





## *heard in the halls of Moench*

“ I challenge you as well as myself to see that such a powerful legacy lives on — burgeoning into a dream realized, no longer deferred — always a dream, never a nightmare. ”

— *Katherine Y. Utley speaking at a Martin Luther King, Jr., breakfast celebration on campus. She is chair of the foreign language department at Terre Haute North Vigo High School and a 2002 recipient of a Rose-Hulman honorary doctor of humane letters.*



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### ON THE COVER

Photographer Chris Minnick captures a portrait of last year's winner of the Dean's Outstanding Teacher Award, professor Richard Stamper. He is shown here with an engine being used by Rose-Hulman's Efficient Vehicles Team. He serves as faculty adviser to the team, which has been getting about 1,200 miles per gallon with the engine in this photo.



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## CEREMONY TO MARK INAUGURATION OF PRESIDENT JAKUBOWSKI

April 27 will be an historic day at Rose-Hulman Institute of Technology. For the first time in nearly 31 years, Rose-Hulman will conduct an installation ceremony to inaugurate a new president.

The installation ceremony for Dr. Gerald Jakubowski will begin at 3:30 p.m. in the Sports and Recreation Center. Jakubowski began his duties as the 13<sup>th</sup> president of Rose-Hulman on July 1. He came to Rose-Hulman after serving as vice president of Arizona State University and provost of the university's polytechnic campus in Mesa.

Rose-Hulman invites all its friends to attend the installation ceremony and reception that will follow. The invitation on the following page provides information about how to submit your reservation via a special web site.

During the installation ceremony, Jakubowski will be formally bestowed with the powers and responsibilities of the Rose-Hulman presidency.

The installation ceremony will be the highlight of several special events that will include a symposium featuring nationally known education and technology leaders, a concert by members of the Rose-Hulman community, inauguration dinners for employees and higher education delegates, an entertainment show and special reception for students, and exhibits featuring the creative talents of students and photographs illustrating Rose-Hulman's history.

A 16-member Inauguration Planning Committee has been meeting since October to plan the inauguration events. The committee includes alumni, faculty, staff, student, trustee and Terre Haute community representatives.

The inauguration theme is "Continuing Our Legacy of Excellence."

"The inauguration events will officially welcome President Jakubowski and enable the Rose-Hulman community to celebrate its past and present successes, and give serious thought to the college's future," explained planning committee co-chairs Art Western, vice president for academic affairs and dean of the faculty, and David Piker, vice president for public relations.

The events will also represent the beginning of a new era at Rose-Hulman, involve key constituents in a special moment in the college's history, bring national attention to Rose-Hulman, and showcase the institute's leadership position in higher education.

The annual concert featuring the musical talents of the Rose-Hulman community will begin inauguration events on April 24 at 7:30 p.m. in the Hatfield Hall theatre.

Current and future trends in technology, engineering education and the engineering and science professions will be discussed April 26 during a symposium featuring nationally known speakers as well as a panel of Rose-Hulman alumni.

Featured speakers include Steven Johnson, best-selling author and technologist described by *Newsweek* as being one of the 50 people who matter most on the Internet. Johnson is a columnist for *Discover* magazine and a contributing editor to *Wired*. He is acclaimed for predicting and explaining the real-world impact of cutting-edge developments in science, technology and media.

Also featured will be noted engineering educator George Peterson, executive director of ABET, the accrediting agency for engineering education programs. He has served as the program director at the National Science Foundation for undergraduate engineering, mathematics and science education, and section head/program director at the National Science Foundation for teacher and faculty development at the undergraduate level. He served as chair of the Department of Electrical Engineering at the United States Naval Academy. Peterson has received an honorary degree from North Carolina A & T University, was honored as the Black Engineer of the Year, and received the distinguished alumnus award from the University of Illinois.

Following the symposium on April 26 will be an inauguration dinner for employees and their guest. A reception begins at 7 p.m. in the Hulman Union. President Jakubowski and his wife, Lynn, will be honored guests.

The next day, the installation ceremony will begin with a procession of faculty, trustees and delegates from other colleges and universities from Hadley Hall to the Sports and Recreation Center. The ceremony will include welcome remarks from speakers representing faculty and staff, alumni, trustees, students and the Terre Haute community. After he is officially installed as president, Dr. Jakubowski will deliver his inaugural address. Performances by Rose-Hulman student music groups will be featured during the program.

A reception in Hulbert Arena will immediately follow the installation ceremony.

Higher education delegates, many of whom will be the presidents of other colleges and universities, will be guests of President Jakubowski at a dinner following the reception.

Students are invited to special events on April 28 in the Sports and Recreation Center. An inauguration reception begins at 6:30 p.m. followed by a performance by comedian Don McMillan in Hulbert Arena. McMillan's show, titled "Technically Funny," focuses on his career as an engineer after graduating from Stanford and Lehigh universities. McMillan has appeared on "The Tonight Show," "The Larry King Show," and been featured at more than 75 events sponsored by Fortune 500 technology companies ranging from IBM to Texas Instruments.

For more information about President Jakubowski and the inauguration events, go to [www.rose-hulman.edu](http://www.rose-hulman.edu).





2007  
PRESIDENTIAL  
INAUGURATION

ROSE-HULMAN INSTITUTE OF TECHNOLOGY

*Continuing our legacy of excellence*

*You are Cordially Invited  
to Attend the Inauguration of*

Gerald S. Jakubowski

as the 13th President of

Rose-Hulman Institute of Technology

Friday, April 27, 2007 at 3:30 p.m.

Sports and Recreation Center

on the Rose-Hulman Campus

5500 Wabash Avenue

Terre Haute, Indiana

*Reception to Follow Ceremony in Sports & Recreation Center*

RSVP at Web site [www.rose-hulman.edu/inauguration2007/invite.htm](http://www.rose-hulman.edu/inauguration2007/invite.htm)

or at phone number 812-877-8442

*Special Pre-Inauguration Event*

You also are invited to attend a symposium on April 26, 2007 that will

feature discussion about the future of the engineering profession

and undergraduate engineering, mathematics and science education.

More information is available at Web site [www.rose-hulman.edu/inauguration](http://www.rose-hulman.edu/inauguration)

and on page two of this issue of *Echoes*.





## PRISM WEB PORTAL RECEIVES NATIONAL HONOR FOR EDUCATIONAL INNOVATION

A Web-based portal developed at Rose-Hulman Institute of Technology to provide digital resources for the teaching of science, technology and mathematics in Indiana middle schools has been named a national leader for its innovative use of Web-based educational technology.

The Portal Resource for Indiana Science and Mathematics (PRISM) was selected as one of 15 *T.H.E. Journal* 2006 Innovators. The national education magazine for K-12 educators selected PRISM from over 200 national nominees.

The 2006 Innovators were cited in the December issue of *T.H.E. Journal* as difference makers that have used the power of educational technology to transform teaching and learning.

PRISM is a free Web site that provides a digital library of more than 2,300 resources indexed to the Indiana Academic Standards and cross referenced by learning concept for use by teachers in grades six through eight. Unlike other digital libraries, PRISM specializes in highly interactive mind-ware, such as simulations, visualizations, modeling packages, cognitive skills games, and software that increases student task engagement and motivates learning.

"Our staff works closely with teachers to meet their needs by providing exciting, new interactive, peer-reviewed instructional resources," stated Patricia Carlson, project director and a professor in the Department of Humanities and Social Sciences at Rose-Hulman.

"PRISM also provides a portal for teachers to interact and work collabora-

tively through e-learning communities with online courses and file sharing," Carlson said.

PRISM was opened to the public in the fall of 2003 through a grant from the Lilly Endowment of Indianapolis.

According to Carlson, the Web portal helps alleviate the challenge teachers face trying to sort through a rapidly increasing number of Web-delivered resources to find and utilize materials that meet specific educational needs.

PRISM provides the use of the Moodle Content Management System that enables teachers to use an electronic grade book, post interactive assignments, accept student assignments electronically, create student journals and Web pages, and allows students to critique the work of their classmates.

PRISM is also available for parents and to students being homeschooled.

"PRISM has become the premier Web site used by Indiana teachers in grades six through eight who seek online teaching materials for science, technology, engineering, and mathematics subjects," Carlson stated. "By using well-known regression techniques and data analysis, we can prove that increased use of PRISM by teachers, holding everything else constant, leads to larger increases or smaller decreases in their eighth-grade students' scores on the



PRISM staff, from left, Steven Wood, Patricia Carlson, and Matthew Davidson

Indiana Statewide Testing for Education Progress (ISTEP) exam."

Each day, PRISM is being accessed by approximately 580 different users.

In February, PRISM and Rose-Hulman were named as one of the 10 lead institutions in Indiana for the I-STEM Resource Network. The statewide initiative will build a comprehensive center and coordinate K-12 science, technology, engineering, and mathematics outreach programs in the state.

Carlson explained that the goal of the program is to create a talent base that allows a larger proportion of state high-school graduates to transition to successful STEM-related careers in the workplace or in higher education. The idea for the network was initiated by BioCrossroads and the Indianapolis-based Lumina Foundation for Education. BioCrossroads serves as a catalyst to continue the growth of the life sciences industry in Indiana.

PRISM can be found at [www.rose-prism.org](http://www.rose-prism.org).

## \$50,000 GRANT EXPANDS ENTREPRENEURSHIP EMPHASIS

Rose-Hulman Institute of Technology has received a \$50,000 grant from the Kern Entrepreneurship and Engineering Network to expand preparation of undergraduate engineering, science and mathematics students for careers as entrepreneurs and innovators.

The grant will develop new course modules for a wide range of courses from

engineering to humanities, expand co-curricular opportunities, enhance workshops and seminars, offer more student club activities, and generate other efforts to help students become innovators.

"We have the potential to make entrepreneurship a differentiating element of a Rose-Hulman education," said Anice Anderson, associate professor of engineer-

ing management. She is the principal investigator for the grant.

"With this grant, resources are in place to make Rose-Hulman one of the best colleges for innovators to pursue their educations in engineering, science and mathematics."



## ROSE-HULMAN WEB SITE RECEIVES NEW DESIGN

In January, the Rose-Hulman Web site took on a new look. The redesign was developed after much study and consultation with various campus constituencies including current students, prospective students, the president's office, the president's executive cabinet, academic department heads, alumni, the alumni office, the public relations office, and the admissions office.

New features on the site include navigation by constituency — prospective students, current students, alumni, parents, and business connections. These constituent links complemented the existing links that focus on various campus areas such as academics, administration, support services, athletics, student life and giving to Rose-Hulman.

Also new to the site is a section called "Success Stories" that will feature vignettes about alumni, students, faculty and staff. "We believe all of our people are success stories, and this feature allows us to call attention to the people of Rose-Hulman," said Bryan Taylor, director of publications and webmaster.

Overall, the redesign has brought more information to the "top of the site" and increased ways to retrieve information from the site, Taylor said. This was done without "cluttering the site," he noted.

The work was done by the Office of Public Relations with input from various campus constituents. The lead design was done by Hyung-Jung Chang, Web developer and publications assistant in the office.



**ROSE-HULMAN**  
INSTITUTE OF TECHNOLOGY  
Terre Haute, Indiana

One of the nation's top undergraduate engineering, science, and mathematics colleges

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**Rose-Hulman News** .....more

- Difference Maker: Rose-Hulman's Eric Clift Featured on All-USA College Academic Team
- Bryce '02 and Chester Clark '05 Making A Difference In Africa
- National Survey Shows Rose-Hulman a Leader at Challenging, Involving and Supporting Students

U.S. News ranks Rose-Hulman #1 for 8th consecutive year as best college or university that offers the bachelor's or masters' as the top degree in engineering.

**Rose-Hulman Events** .....more

- Spring Quarter Begins - March 5
- On-Campus Info Session - Mar. 9
- NCAA Division III Men's and Women's Indoor Track and Field Championships - March 9-10

[About Rose-Hulman](#) | [National Recognition](#) | [Rose-Hulman Ventures](#) | [Local Community](#) | [Contact Us](#) | [President's Office](#)

## R-H on Rockwell Collins' "Trusted Partnership List"

Contributions by Rose-Hulman alumni haven't gone unnoticed at Rockwell Collins, with the global technology company recently adding the college to its "Trusted Partnership List" for future recruitment and academic support. Rockwell Collins joins Texas Instruments, Eli Lilly & Company and Boeing in expanding relationships with Rose-Hulman through these special partnerships, which benefit the company and the college.

"The companies see a great deal of value in working with Rose-Hulman and through these 'trusted partnerships' and are taking steps to maximize that value," explains Richard Boyce, Rose-Hulman's director of corporate and foundation relations.

Program benefits include strengthening recruiting relationships, providing scholarships and equipment for departments, supporting student projects and expanding summer work opportunities for faculty. Based in Cedar Rapids, Iowa, Rockwell Collins has

become one of the largest employers of Rose-Hulman graduates during the past 10 years, averaging between 10 to 14 new employees in each of the past four years. The company has had an army of recruiters — including several alumni — attending Rose-Hulman's career fairs this school year.

"We know and can appreciate the caliber of Rose-Hulman students and want to bring more alumni into the company," said Nathan Subbert (Comp. Eng., '98), senior electrical engineer for Rockwell Collins. "The students that we have brought in have impressed our leaders and made contributions to the company. That's why we keep coming back for more."

Other Rose-Hulman advocates at Rockwell Collins include Richard Eisenhart, vice president of government systems engineering; Elise Wilder, senior university relations specialist; and Richard Biro (Mech. Eng., '78), principal engineering projects manager.



## ROSE-HULMAN HISTORIAN CO-FOUNDER OF NEW WEB HISTORY CENTER

BY DAVID PIKER

Imagine that the records of Gutenberg's historic printing press and the early books he printed were disappearing from sheer neglect. This is what is happening to many of the discoveries and historical records of the World Wide Web, according to Rose-Hulman historian William Pickett and technology journalist Marc Weber, co-founders of the new Web History Center. They emphasized that the Web's disappearing legacy holds valuable untapped innovations, as well as the records of one of the great social and cultural transformations of our time.

The Web History Center has offices at Rose-Hulman Institute of Technology and at the Computer History Museum in Mountain View, Calif., as a result of a \$100,000 gift from California e-commerce pioneer CommerceNet and earlier support from Rose-Hulman alumni Dennis Paustenbach (1974, chemical engineering) and Christian Taylor (1991, electrical engineering). Founding members of the center include the Stanford University Libraries, the Internet Archive and the Charles Babbage Institute.

The idea for a Web history archive had been in existence for some time but the current initiative arose from a conversation Pickett had with Web pioneer Robert Cailliau at a Rose-Hulman conference commemorating the tenth anniversary of the Web in 2004. The conversation led Pickett to contact Weber, co-founder of the Web History Project which had assembled the largest archive of source materials now in existence. Weber began working on Web history as a topic in 1995, gathering oral histories from over 80 key early sources and co-chairing the first Web history conference track in 1997. Weber joined forces with Pickett, and they launched the Web History Center earlier this year.

Pickett said the Center is collecting materials from Web pioneers, Web companies, and others in order to save information about the Web's origins and developments for review by students, historians and future innovators.

The software to create the World Wide Web is available on a computer at Rose-Hulman, and was a feature of the college's Web conference two years ago.

The center's strategy is to collect at-risk oral histories, software, images and documents on varying topics such as the history of e-commerce or the Web's impact on various communities, from nations and ethnic groups to hobbyists, to be preserved as part of a wiki-like multimedia library. It will draw on the collections of all Web History Center members and make the contents accessi-

ble to all, from children doing book reports to documentary filmmakers, according to Pickett, who is also serving as the center's historian.



William Pickett

Computer History Museum Executive Director and CEO John Toole noted, "The cycle of creation and loss is faster for Web history than for most everything we've ever seen, and historians are exploring what to save and how to interpret it. The Museum is dedicated to collaborating with others in a focused way, and the Web History Center is a forum to do so with those who have been engaged in these issues for many years."

CommerceNet founder Marty Tenenbaum says, "If we at the heart of Silicon Valley and the commercial Web don't step in to preserve what's been invented up to now, who will?"

Many people are surprised to find that the Web is old enough to have a history, much less one with roots that go back 70 years. This past holds a rich backlog of forgotten innovations such as micropayments, intelligent links, and combined browser/editors—many with lessons for today.

"Science and engineering move forward by drawing on the

work done before, preserved in published papers and physical objects," says *Science* magazine editor-in-chief

## WEB HISTORY CENTER



and former Stanford President Donald Kennedy. "But the Web changes so fast and so casually that many basic materials are never even saved," Kennedy stated.

Until now, no one has made a broad effort to preserve the core records of this modern revolution, which many agree could rival the rise of the printing press in its eventual impact. Much has already been lost, including copies of trailblazing programs and historic sites. While the Internet Archive, in San Francisco, has saved important Web pages since 1995, the most basic historical records—from correspondence between pioneers, to photos, to historic machines—are still being thrown out every day. This is what the Web History Center hopes to change, Pickett stated.

The Web History Center brings together key people who have helped define and encourage the emerging field of Web history during the past 12 years. Many are Web pioneers such as Robert Cailliau and Jean-François Groff, who helped Sir Tim Berners-Lee create the Web itself. Others are leaders in the history of technology field like Henry Lowood of Stanford Libraries.

Further information about the Web History Center project can be found at <http://webhistory.org/> or by contacting Rose-Hulman history professor William Pickett at 812-244-4021.



## NATIONAL SURVEY SHOWS ROSE-HULMAN A LEADER AT CHALLENGING, INVOLVING AND SUPPORTING STUDENTS

The results of the 2006 National Survey of Student Engagement (NSSE) shows that Rose-Hulman Institute of Technology is a leader in challenging its students academically, providing active and collaborative learning, and creating a supportive campus environment.

NSSE is an annual national survey designed to measure the extent to which students and institutions are engaging in effective

teaching and learning activities. The data gathered from the survey is useful in many areas including assessment, benchmarking, student retention, accreditation and strategic

planning. Rose-Hulman was among 557 colleges and universities participating in the 2006 survey.

Fifty-nine percent of Rose-Hulman freshmen and seniors asked to participate in the study completed the online survey, according to Shannon Sexton, director of assessment at Rose-Hulman.

Sexton said the study has been used to compare the responses of Rose-Hulman students to their counterparts nationally as well as students at eight private engineering colleges that are in the Association of Independent Technological Universities (AITU), of which Rose-Hulman is also a member.

The survey required students to rate several areas including the level of academic challenge, active and collaborative learning,

student-faculty interaction, enriching educational experiences and supportive campus environment.

Rose-Hulman was rated higher in each of the five areas by its students than ratings from students in the national and AITU groups.

The level of academic challenge category was created using nine items ranging from the extent that the campus environment emphasizes time studying and doing other

academic work, to coursework emphasizing analysis of basic elements of an idea to working harder than the student anticipated to meet a professor's standards or expectations.

The areas of

active and collaborating learning, student faculty interaction, and enriching educational experiences asked for student responses about numerous items including how often students worked with other students on projects during class, made a class presentation, discussed assignments or grades with their professor, worked with a faculty member on a project outside of class, participated in co-curricular activities, completed an internship, and used electronic technology to complete an assignment.

The supportive campus environment area asked for student responses ranging from how well the campus helps the student succeed academically to the quality of relationships the student has with faculty, other students, and administrative personnel.

### ROSE-HULMAN STATS

**94 percent** of freshmen and seniors evaluated their educational experience at Rose-Hulman as excellent or good.

**80 percent** of freshmen and **70 percent** of seniors reported the quality of their relationships with other students was friendly, supportive and that they had a sense of belonging.



National Survey of Student Engagement

## BY THE NUMBERS

# 12,310

Number of living Rose-Hulman alumni

# 4,800 to 5,000

eggs are used per week to prepare meals served by ARAMARK to students

# 21,137

Pints of blood have been donated by students, faculty and staff members to the Indiana Blood Center since 1977



# 375 to 400

16-inch pizzas are served each week to students and guests by ARAMARK

# 208

Companies that have attended career fair so far this school year

# 618,041

People have used the Sports and Recreation Center since it opened in 2002

# 2,187

Events will be hosted in the Sports and Recreation Center this school year – an all-time record



## ROSE-HULMAN CELEBRATES "DIVERSITY MATTERS" DURING MARTIN LUTHER KING WEEK

Rose-Hulman celebrated Martin Luther King's birthday with expanded activities this year using the theme "Diversity Matters."

Students were invited to participate in an art and poetry competition that allowed them to express their interpretation of the week's theme. Poetry winners were Ely Spears, a junior mathematics major, and Simon Leavitt, a junior mechanical engineering major. Kenneth Hurst, a junior mechanical engineering major, won the art competition.

Other activities for the week included a film view and discussion of "Eyes on the Prize," a film focusing on the civil rights movement in the 1950s and 1960s. Also, nationally known race activist Molly Secours presented a talk titled "Whispering Black."

Katherine Utley delivered a stirring speech at the Martin Luther King Jr. Breakfast. The title of her presentation was "A Dream Deferred." She is chair of the foreign language department at Terre Haute North Vigo High School and a 2002 recipient of a Doctor of Humane Letters from Rose-Hulman.

The week closed with a student leadership lunch sponsored by President Gerald Jakubowski. It focused on the "Golden Rule" and its presence in various world religions. Mark Minster, assistant professor of English, presented an overview of religion and the Golden Rule. Other speakers

provided views of the rule from specific religions: Maki Hirotsu, assistant professor of Japanese, Buddhism and Shintoism;

Hossein Hariri, department head and professor of chemical engineering, Islam and Xoroastrianism;

Josh Holden, assistant professor mathematics, Judaism; and Bryan Taylor, director of publications and webmaster, Christianity.

The week was coordinated by the Rose-Hulman Diversity Council. Members of the council include: John Aidoo, assistant professor of civil engineering; Dick Boyce, director of corporate and foundation relations; Caroline Carvill head of the Department of Humanities and Social Sciences and professor of American Literature; Hyung-Jung Chang, web developer and publications specialist; Karen DeGrange, director of international student services and special programs; Phillip Flanders, student; Jared Goulding, assistant director of admissions; Donna Gustafson, council chair and associate dean for student services; Elaine Lee, program liaison; Kim Miller, director of human resources; Tim Prickel, registrar; Dee Reed, assistant director of public relations; Don Richards, professor of mechanical engineering; John Robson, direc-

tor of the library and institute librarian; Eva Rojas, student; Bryan Ruiz, student; Jeffery Sadeli, student; Susan Smith, director of the Learning Center and assistant professor of English; Shania Steward, student; and Carey Treager-Huber, director of student activities.

Diversity Matters

Martin Luther King Jr. Celebration

at ROSE-HULMAN



Katherine Utley delivers an animated speech at the MLK breakfast.

**The Rose-Hulman Board of Trustees has formed a task force to study diversity at Rose-Hulman and to set diversity goals for the college. Members of the task force are:**

**Bill Fenoglio**, Task Force Chair, Vice Chair of the Board of Trustees, and Rose-Hulman Alumnus Class of 1961  
**John Adioo**, Assistant Professor Civil Engineering

**Emily Albert**, President of the Student Government Association  
**Carlotta Berry**, Assistant Professor of Electrical and Computer Engineering  
**Caroline Carvill**, Head of the Department of Humanities and Social Sciences and Professor of American Literature

**Steve Gillman**, Plant Manager of Humanlog Operations, Eli Lilly and Company, and Rose-Hulman Alumnus Class of 1979

**Jim Goecker**, Dean of Admissions and Financial Aid

**Donna Gustafson**, Associate Dean for Student Services

**Elizabeth Klimes**, Vice President, Six Sigma, Eli Lilly and Company, and Member of the Board of Trustees

**Warren Mickens**, Deputy Vice President Network Design & Build Alcatel USA, Member of the Board of Trustees, and Rose-Hulman Alumnus Class of 1977

**Dee Reed**, Assistant Director of Public Relations

**John Robson**, Director of the Library and Institute Librarian

**Katherine Utley**, chair of the foreign language department at Terre Haute North Vigo High School and a 2002 recipient of a Rose-Hulman honorary doctor of humane letters.



## WHAT MAKES ROSE-HULMAN UNIQUE?

During my first nine months at Rose-Hulman, I made it a point to meet all the faculty and staff and to involve myself with the students as much as possible. My primary purpose in doing so was to learn the Rose-Hulman culture and traditions. Boy, am I glad I did!

I always knew that Rose-Hulman was an excellent institution.

However, now that I've been here for nine months, I can honestly say that R-H is much better than I ever imagined or anticipated. Furthermore, I learned that there are certain characteristics that make the college stand out above other institutions.

What characteristics make Rose-Hulman unique? I believe there are six of them.

First, it's the exceptional quality of the students who come to Rose-Hulman. I've discovered that not only are our students technically bright, but they also come to us with a broad array of interests and are highly motivated.

Second, it's the quality of the faculty and staff who work at the Institute. The faculty members are truly dedicated to teaching and they spend a

tremendous amount of time with the students beyond the classroom. I've also discovered that all staff members play a key role in the development of our students. It's fantastic for me to see how all faculty and staff are willing to meet, help, advise, coach, mentor, be a friend, etc., to any student at any time.

Third, it's the curriculum that we offer. Our academic programs are traditional in nature, but also current. Faculty members—through their own personal experiences—bring to the classroom the latest techniques being used in industry and are constantly revising the curricula. Accordingly, students are able to “hit the ground running” immediately following graduation.

Fourth, it's our hands-on, project-based approach to learning. It's one thing to learn the material between the covers of a book, but it's another to be able to apply it. The faculty members really challenge the students along these lines, which results, once again, with students who are well prepared for early career success immediately following graduation.

Fifth, it's our co-curricular activities. Our classes end at 5:10 PM

offering students time to complete homework assignments, work on projects or participate in over seventy different clubs and organizations. I am amazed at how many students take advantage of the opportunity to get involved in our co-curricular activities from participating in athletics to performing with the drama club. Through

these activities students develop character and learn leadership, management and personal skills that prepare them for their future professional careers. Other institutions call these things “extra-curricular” activities, because they do not necessarily provide the time for students to get involved – it's “catch as catch can!” Furthermore, at larger institutions, there are so many students that not all of them will be able to “make the cut.” At Rose-Hulman, we are small enough that virtually everyone gets a chance to participate if they have an interest. We believe that these activities are a supplement to the curriculum in developing

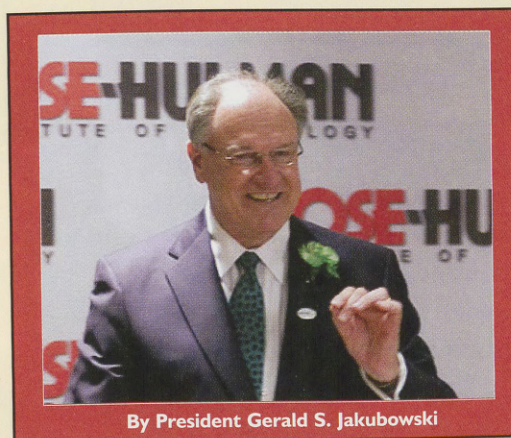
the whole person; therefore, we refer to those activities as “co-curricular.”

Sixth, it's the spirit of the campus community. Rose-Hulman truly is a community of faculty, staff and students. We're like a family where we care about one another and look out for each other. No one person is any more important than anyone else.

When I have mentioned these six characteristics to others, sometimes I hear them say that surely other universities have excellent students, dedicated faculty and extracurricular activities. That may be true, but I believe that Rose-Hulman is the best institution that combines these elements to create an outstanding educational environment.

Currently, we're going through a strategic planning process that will chart our course for the next five to ten years. As we do so, it's very important that we hold firm to these six characteristics. It's important for us to continue recruiting the best and brightest students; to recruit faculty who are dedicated to undergraduate education and teaching; to keep our curricula current and competitive; to continue our hands-on, project-based approach to learning; to ensure student involvement in co-curricular activities; and to preserve the spirit of community that exists.

I am honored to be associated with this great organization, and I pledge to do my utmost to maintain the culture and traditions that have made Rose-Hulman what it is today.



By President Gerald S. Jakubowski

“I always knew that Rose-Hulman was an excellent institution. However, now that I've been here for nine months, I can honestly say that R-H is much better than I ever imagined or anticipated.”



# Bailey Challenge

By Professor Emeritus Herb Bailey

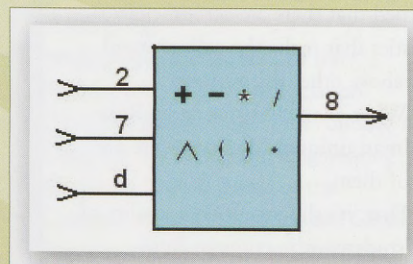
For the past 40 years Rose has sponsored a high school mathematics contest with 1200 to 1500 participants each year. The test sites are in St. Louis, Cincinnati and at Rose. I try to find some problems that all can solve and some that none can solve. The triple bonus (a) for this issue of the Echoes turned out to be one of the most difficult of the 2006 contest. Problem 1 below was recently posed on National Public Radio.

## Problem 1

The digits 2, 7 and 1 can be combined to give 8 by adding the 2 and the 7 and subtracting the 1. If  $d$  is any of the ten digits (0 through 9), then you must combine 2, 7 and  $d$  to give 8 with two restrictions:

- 2, 7 and  $d$  are to be used once and only once for each combination.
- You may add, subtract, multiply, divide, raise to a power, enclose in parentheses, and use the decimal point (any of these more than once if needed).

Partial credit is awarded for solving eight or nine of the ten parts.



## Triple Bonus

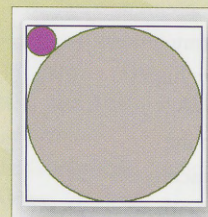
A circle of radius one is inscribed in a square. A small circle is tangent to two sides of the square and to the larger circle as shown.

- Find the exact radius of the smaller circle using geometry and algebra.
- Find the radius of the smaller circle using geometry and trigonometry.

If you remember trig identities, then you can get the exact solution found in part a.

- How could the small circle be constructed using only compass and straightedge (Euclid and high school geometry)?

Full bonus credit for solving any one of the three parts. Triple bonus for all three.



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

**PLEASE** include your class year if you are an alum.

Solvers of the Spring problems are listed.

ALUMNI: J. Hurt, 1948; B. Rinker, 1951; C. Cooper, 1956; M. Clark, 1956; H. Brown, 1957; L. Hartley, 1961; J. Tindall, 1961; J. Snyder, 1962; R. Brown, 1963; W. Dodge, 1968; J. Hightower, 1970; W. Pelz, 1971; D. Montgomery, 1974; M. Kircher, 1974; J. Turner, 1975; J. Schroeder, 1976; A. Bailey, 1977; M. Clouser, 1979; J. Koechling, 1980; J. Farrell, 1981; S. Nolan, 1981; M. Taylor, 1982; G. Fondaw, 1983; D. Price, 1986; D. Johnson, 1987; M. Lancaster, 1987; M. Nigrovic, 1987; P. Marken, 1989; Eric E. Forster, 1990; G. Heimann, 1990; B. Burger, 1991; D. Hector, 1992; F. Thomas, 1994; M. Ley, 1997; C. Tracy, 1997; M. Pilcher, 1998; D. Ruzicka, 1998; J. Mathison, 1999; K. Chaney, 2001; B. Richardson, 2002; B. Waite, 2004; P. Fine, 2006; K. McCarthy, 2006; T. Perme, 2006;

FRIENDS: J. Durlacher, L. Gaintner, T. McKean, J. Marks, R. Coddington, J. Ley, J. Lewis, J. Segal, C. Linden, D.&L. McLean, J. Bickel, A. Cutaia, H. Rosene, C. Linden, D. Chen, I. Ochs, S. Mancroni

## Solution for previous issue

Most of you found the "approved" solutions of 15 days and 14 hikers to the problems in the previous Echoes. Some were more restrictive, only allowing restocking at days end and not permitting fractional amounts. They found less days for the three hikers and needed more hikers for the second problem.

Some were more generous and did better with an assortment of "outside the backpack" solutions. These included hikers departing base at different times, returning hikers restocking at base camp and heading out again to help the stragglers, leaving caches along the way while hoping to avoid feeding stray camels, and finally not feeding one of the last two hikers while the other hauls her to the oasis for a proper burial.



## STUDENT-ATHLETES EARN FIVE STRAIGHT PLAYER OF THE MONTH HONORS

Rose-Hulman's success in the Heartland Collegiate Athletic Conference can also be measured by a league record five consecutive months with a Fightin' Engineer named the Conference Player of the Month.

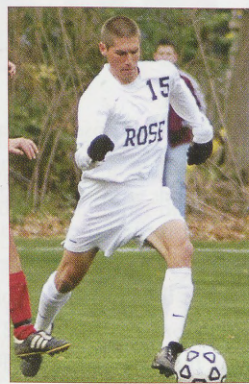
To earn the award, Rose-Hulman athletes must be selected as the top male or female athlete in any sport at any institution during the month by league sports information directors. Each college is permitted one nominee for the entire athletic department per month, and the nine nominees are placed on one ballot for voting.

Rose-Hulman winners this academic year include women's tennis player Sam



Brian Bibb

Danesis (September), men's soccer forward David McIlwaine (October), men's basketball forward Brian Bibb (November), women's basketball forward Rebekah



David McIlwaine

Forsyth (December) and women's basketball guard Suzy Carlson (January).

Danesis helped the women's team finish second in the league after earning Conference Player of the Year honors. McIlwaine led the men's soccer team in scoring with 13 goals as part of a 15-4-1 team that placed second in the league. Bibb averaged 16.8 points and a league-high 12.5 rebounds per game, including a 19-board performance at Anderson. Forsyth scored 21.5 points per game for a team that finished a perfect 6-0 in December. Carlson averaged over 16 points per game in January to pace an 8-1 month.

# Heartland

COLLEGIATE ATHLETIC CONFERENCE

## Rose-Hulman Leads HCAC Commissioner's Cup

Rose-Hulman's athletic department has enjoyed a successful transition to the Heartland Collegiate Athletic Conference, as the Engineers led the league's Commissioner's Cup battle through February.

The Engineers had scored 48.5 points in the overall standings, with Manchester in second place (47.5) and Anderson third (46.5). The point structure is based on Rose-Hulman's finish in the conference standings in each sport.

Rose-Hulman also holds a three-point lead in the men's all-sports standings with 20 points. The men's soccer team led the current effort with an eight-point effort after a second-place finish.

The Engineers rank third in women's athletics at 28.5 points, just four from the lead. Rose-Hulman's cross country and soccer team each scored eight points in the women's standings after second-place efforts.



Jon Prevo

## Engineers Lead HCAC With 38 Academic All-Conference Honors

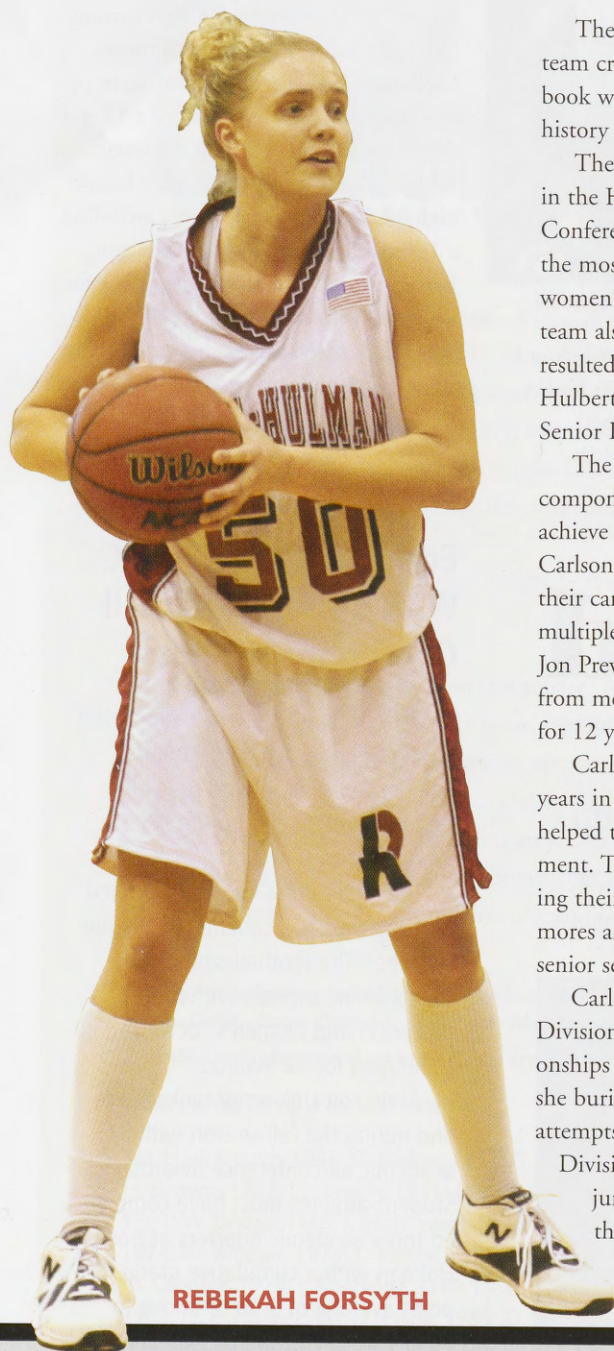
Rose-Hulman student-athletes led the Heartland Collegiate Athletic Conference with 38 academic all-league honorees during the fall sports season.

The men's cross country team led the way with 10 academic all-league honorees. The football squad contributed nine awards, with men's soccer (7) and women's soccer (5) combining for 12 awards.

Anderson University ranked second during the fall season with 31 academic all-conference awards. Student-athletes must have completed three academic quarters at Rose-Hulman with a cumulative grade point average of 3.50 or above to qualify for the academic all-conference squad.



# WOMEN'S BASKETBALL TEAM SETS RECORD WITH 2



REBEKAH FORSYTH

The Rose-Hulman women's basketball team created new chapters in its record book with the first 20-win season in the history of the program this winter.

The Fightin' Engineers placed second in the Heartland Collegiate Athletic Conference with a 21-5 mark to record the most wins by a Rose-Hulman men's or women's basketball team in 30 years. The team also gained a new fan base that resulted in the largest basketball crowd in Hulbert Arena history for the team's Senior Day home game.

The historic season featured three key components that worked together to achieve a new level of success. Seniors Suzy Carlson and Rebekah Forsyth complete their careers as school record holders in multiple categories. First-year head coach Jon Prevo completed a successful transition from men's assistant coach at Rose-Hulman for 12 years to the women's bench.

Carlson and Forsyth started for four years in the Engineer backcourt and helped the program show overall improvement. The Engineers won 11 games during their freshman year and 13 as sophomores and juniors before the breakthrough senior season.

Carlson earned a pair of NCAA Division III statistical national championships for shooting accuracy. In 2004-05, she buried 55.8% of her three-point attempts for the best percentage in

Division III in more than a decade. As a junior, Carlson hit 95.3% of her free throw attempts and again surpassed

the 90% mark this season.

In addition, Carlson ranks third in school history in points scored and became the first Rose-Hulman women's basketball player to record 300 assists in a career. Despite the accomplishments for four years, Carlson noted that the winning senior year will be her best college basketball memory. "It's easier to become motivated to practice and play when you're having success. Our team chemistry has always been good, but we're having so much more fun this year. We're hanging out on and off the court, and that's made playing together much easier."

The road to Rose-Hulman from State College, Pa., was unique for Carlson. Her father, Alfred, is a professor in the Rose-Hulman chemical engineering department. This enabled her to learn the atmosphere of the college before stepping foot on campus.

"I looked at other schools but nothing stood out. My dad encouraged me to apply here. I got in and started evaluating all the options and decided that Rose-Hulman was the best fit for me."

Forsyth and the entire women's basketball program are thankful that Carlson chose Rose-Hulman. "It's amazing to play with Suzy. I love to set a screen for her, because I know something good will happen. Most of the time, I set the screen and turn my back to the basket to get in proper rebounding position, but sometimes it's wasted effort because I know she's going to make every shot."

Forsyth's road to Rose-Hulman was also unique. Her sister Christina ranks fourth

# 1,500

POINTS IN HER CAREER

# 4

FIRST-TEAM  
ALL-CONFERENCE AWARDS

# 55.8

PERCENTAGE OF HER 3-POINT  
ATTEMPTS IN 2004-05

RANK  
F



BY KEVIN LANKE

# 20-WIN SEASON

in women's basketball school history with 1,223 points and 614 rebounds. Although Christina enjoyed the Rose-Hulman experience, Rebekah was determined that she wanted to attend another college.

The deeply religious Forsyth said that even though she tried to avoid the signs, a voice from above told her to attend Rose-Hulman.

"I had no intentions to come to Rose, and sometimes I made fun of Christina for wanting to be an engineer. The more I prayed about it, the more I felt a strong pull to Rose-Hulman. It ended up the opposite of what I expected, but it's been a wonderful experience."

Forsyth became the first player in women's basketball school history to score 1,500 points and grab 1,000 rebounds in her career. The accolades included four first-team all-conference awards, all-region honors, preseason All-American awards, and the respect of her opponents and teammates like Carlson.

"I've never played with anyone like Rebekah. If I'm tired, I get the ball to her and know that she will find a way to score. She always makes plays and is so fun to have on the floor. I don't know what we would do without her."

The duo both gave credit to previous head coach Tony Hill for getting the program headed in the championship direction. They also agree that Prevo's influence was a key factor in the team's success.

"Coach Prevo stresses mental toughness

and finding a way to finish games. We never panic, we know what to do in clutch situations, and we pulled out a number of close wins this year," said Carlson.

"I really like how hard Coach Prevo works for us. He scouts relentlessly and reworks our offense to make us better. It's great to know we have someone working that hard for us," said Forsyth.

College athletes cannot achieve the success of Carlson and Forsyth without solid fundamentals and strong teaching of the

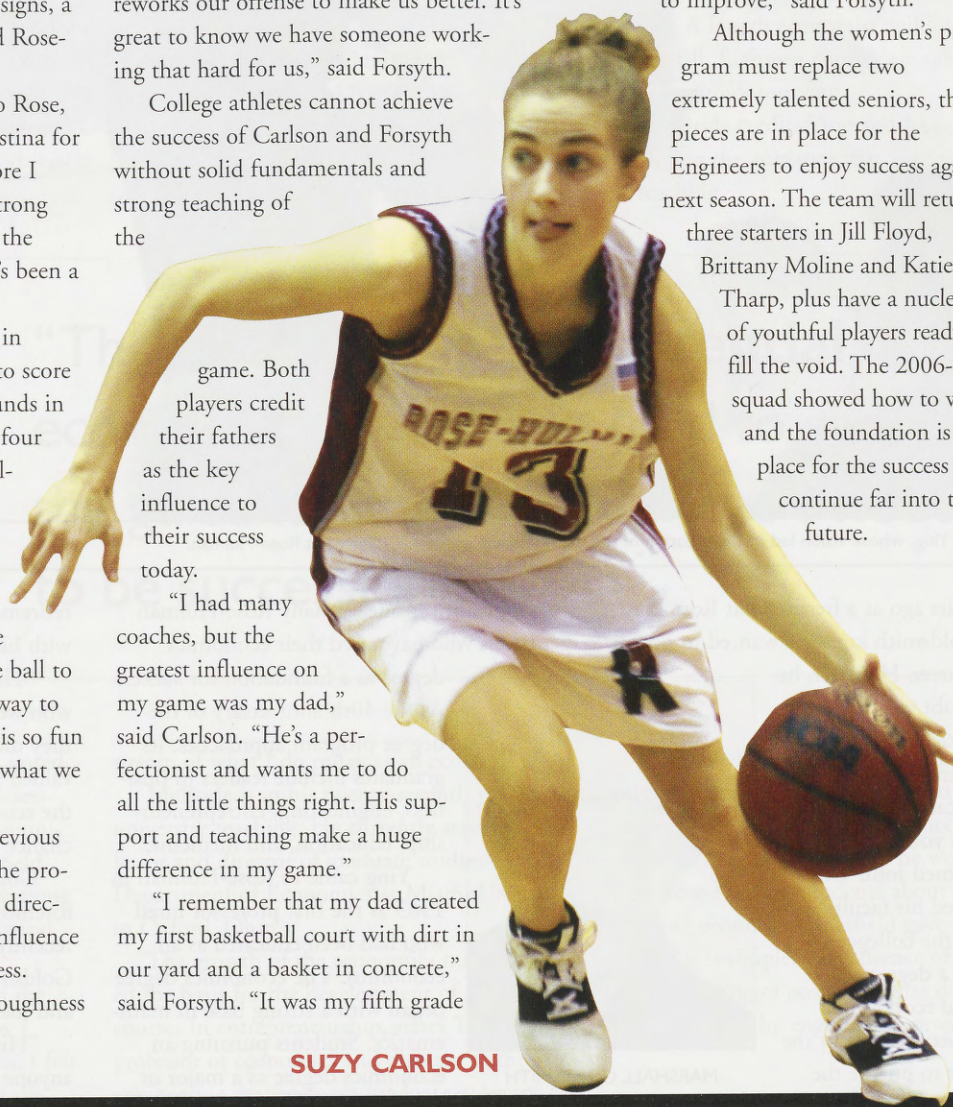
game. Both players credit their fathers as the key influence to their success today.

"I had many coaches, but the greatest influence on my game was my dad," said Carlson. "He's a perfectionist and wants me to do all the little things right. His support and teaching make a huge difference in my game."

"I remember that my dad created my first basketball court with dirt in our yard and a basket in concrete," said Forsyth. "It was my fifth grade

year, and he tried to teach me to shoot with my right and left hands. I wasn't strong enough to score left handed, but I tried every day to get better. When I finally made that first shot, it was awesome. We always practiced together in my effort to improve," said Forsyth.

Although the women's program must replace two extremely talented seniors, the pieces are in place for the Engineers to enjoy success again next season. The team will return three starters in Jill Floyd, Brittany Moline and Katie Tharp, plus have a nucleus of youthful players ready to fill the void. The 2006-07 squad showed how to win, and the foundation is in place for the success to continue far into the future.



SUZY CARLSON

3

RANK IN SCHOOL HISTORY  
FOR POINTS SCORED

55.8

PERCENTAGE OF HER 3-POINT  
ATTEMPTS IN 2004-05

300

NUMBER OF RECORDED ASSISTS  
IN HER CAREER – SETTING  
ANOTHER SCHOOL RECORD



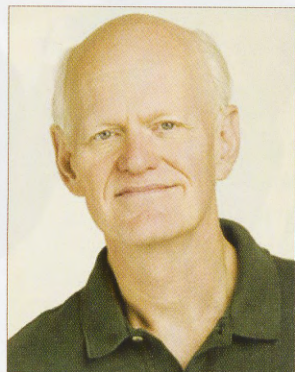
# Economics Degree Turns 40

By David Piker



Professor John Ying, whose vision led to the creation of the mathematical economics degree at Rose-Hulman.

Forty years ago as a freshman at Rose Poly, Marshall Goldsmith knew he wanted to pursue a business career. However, he began to doubt whether engineering or science was the right study area to prepare him for his career goal. At the same time, a young Rose Poly professor named John Ying had convinced his faculty colleagues that the college should offer a degree in mathematical economics. Goldsmith became one of the first students to pursue the new degree. He graduated in 1970, earned an MBA and Ph.D., and credits Ying with being an important influence on his highly successful career. Goldsmith has earned acclaim as one of America's 50 great thinkers and leaders in the management field.



MARSHALL GOLDSMITH

Goldsmith is one of many Rose-Hulman graduates who have used their economics degree as a foundation for success. As the 40th anniversary of the degree program approaches, its graduates include leaders in business, engineering, entrepreneurship, education, and medicine.

Ying came to Rose-Hulman in 1963 as the first professor hired who had been educated as an economist. The economics degree began with a strong base in mathematics. Students pursuing an economics degree as a major or second major were required to take half of their courses in mathematics.

"Creating the degree program was important because it gave students an alternative to engineering and science," recalls Ying, who was awarded professor emeritus status upon his

retirement in 1995. He lives in Seattle, Wash. with his wife Margaret.

"There were other students, like Marshall, who were exceptionally bright, but decided they didn't want to be an engineer and yet they valued a Rose education," Ying said. "Creating the economics degree gave those students a chance to stay and earn a Rose degree."

Goldsmith, known as one of the world's foremost authorities on executive leadership, recently visited with his former professor, who Goldsmith describes as a great teacher, coach and mentor.

"His help means more to me than almost anyone that I've ever met," says Goldsmith, who resides in San Diego, Calif. "He always went out of his way to listen to my concerns and I will always be grateful."

Ying is one of the teachers and mentors that Goldsmith acknowledges in the front of his most recent best seller "What Got You Here



Won't Get You There." It is the twenty-third book on leadership that Goldsmith has authored. The book is a New York Times best seller and Wall Street Journal No. 1 business best seller.

Goldsmith has been cited by Business Week as one of the most influential practitioners in the history of leadership development. He serves as co-founder of Marshall Goldsmith Partners, a network of top-level executive coaches.

The economics program remains in the Department of Humanities and Social Sciences where it began under Ying's leadership. Department Head Caroline Carvill says the program gives students the opportunity to use their math and analytical skills in a discipline different from engineering and science.

"Students can use their technical education to design and innovate, but they will need economic perspectives and skills

"I learned accounting, supply and demand relationships, balance sheets, pricing strategies, and financial modeling," said Hatfield, a member of the Rose-Hulman Board of Trustees. "I use something I learned in those classes almost every day."

Hatfield credits Ying with being a strong influence on his decision to pursue his career path. "He encouraged me to leverage and extend what I had learned by pursuing my MBA in finance. What he taught me greatly enhanced the skills that I have used throughout my career," stated Hatfield.

For Mark McBride ('75) it was in economics classes where he saw the real power of using mathematical modeling. When asked what skills he learned at Rose-Hulman that are still valuable to him today, McBride answered, "It was the ability to formulate, derive and test the implications of a mathematical model of an issue or question. Those skills are the main-

topic, but it is critical for the roles that our students play," commented Mason.

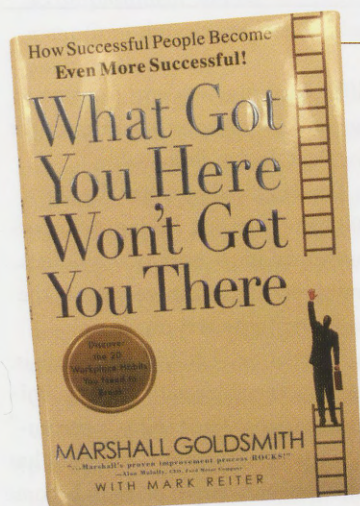
Mason has witnessed the increased student interest in economics since his hiring in 1972 when he joined Ying as the second economist on the faculty.

"Enrollments have increased. More courses makes it easier for students to schedule classes to earn a second major or a minor in economics," Mason said.

The increase in student interest is related to the quality of teaching, says Carvill. "Our program has excellent faculty," she stated.

In addition to Mason, the economics faculty includes professors Dale Bremmer and Kevin Christ. A fourth economist will join the faculty in the fall. Eighteen courses are offered through the economics program.

McBride credits Ying and Mason with providing the guidance that led to his career in teaching.



**"They believed in my potential as an economist and worked hard to give me the guidance and experiences I needed to be successful."**

to succeed in their own businesses," she stated.

Mike Hatfield agrees with Carvill's assessment. A veteran of three successful communications systems start-up businesses, Hatfield earned a mathematical economics degree along with a bachelor of science degree in electrical engineering in 1984.

Reflecting on the reasons he pursued the economics degree, Hatfield says, "I knew I wanted to someday run my own business. I felt that it would help me better understand the basics of business and the economics of the firm. It seemed I needed something more than just my electrical engineering degree," explained Hatfield, who is president and CEO of Cyan Optics Inc., in Petaluma, Calif.

stream of what I do today as an economist."

McBride is in his twenty-seventh year of university teaching. He currently serves as professor and director of graduate studies in the Department of Economics at Miami University in Oxford, Ohio.

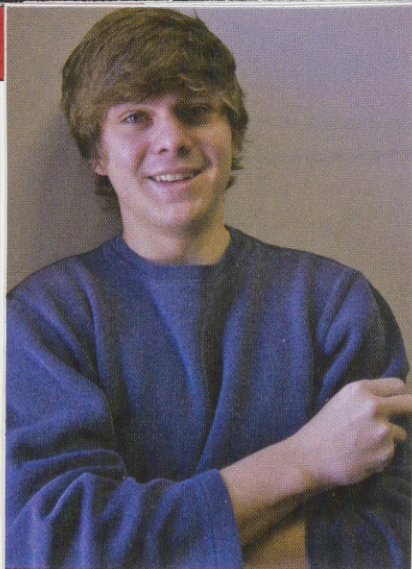
The growth of the economics major provided the basis for the development of the college's courses in entrepreneurship, states Tom Mason, professor of economics and director of the engineering management graduate program. Mason also served for several years as head of the humanities and social sciences department.

"Few economics departments in higher education teach this (entrepreneurship) important component of our economy as a course

"They believed in my potential as an economist and worked hard to give me the guidance and experiences I needed to be successful."

When asked what advice he would give current Rose-Hulman students about the value of learning economics, Hatfield gave a specific reply, "It is simple. The absence of a basic understanding of economics has doomed many otherwise worthy engineering projects."





# ENGINEER. VISIONARY. ENTREPRENEUR.

ALL-USA COLLEGE ACADEMIC TEAM SELECTION ERIC CLIFFT

BY DALE LONG

"It is seldom that a college student comes along who has the potential to significantly impact the world in which we live.

Eric Clifft is one of those students."

Lee Waite, head of Rose-Hulman's Department of Applied Biology and Biomedical Engineering and Engineers Without Borders chapter adviser.

Combining all of these skills, Rose-Hulman Institute of Technology senior Eric Clifft was named to the 2007 All-USA College Academic Team, featured in *USA Today*. He was one of 60 students named to the first- second- or third-team lists from more than 600 undergraduate students at U.S. colleges and universities.

This marks the fourth time that Rose-Hulman has had a student recognized on this prestigious academic team, joining alumni Dylan Schikel (Mech. Eng., '93), Rachel Lukens (Elect. Eng., '03) and Chad Zarse (Applied Biology/Biochemistry, '05). Other colleges with students honored this year included Harvard, Yale, Princeton, Duke, Georgetown, Georgia Institute of Technology and the service academies.

Clifft, a mechanical engineering major, helped form an Engineers Without Borders student chapter at Rose-Hulman after reading an article in *Mechanical Engineering* magazine that described the lack of infrastructure hindering economic development in Africa. He immediately recognized how useful the Rose-Hulman community of engineering faculty, alumni and students could be in alleviating some instances of debilitating African poverty. He distributed an e-mail message throughout campus seeking students to form an EWB chapter. Ten students answered that original message. Two years later, the chapter is thriving, raising approximately \$45,000 from alumni and business donors to construct a poultry house capable of raising 2,000 day-old chickens every eight weeks to sell to farmers throughout southeastern Ghana.

Last summer, Clifft joined nine students in going to Obodan, a rural village of 2,000 people, to construct the building in 10 days for the Obodan Sustainable Development Center. The brooder house has already raised more than 1,000 baby chickens, having an important economic and nutritional impact on local residents. The project benefits nonprofit organizations such as the Ghana Poultry Network, the Tropical Agriculture Institute and Sankofa Foundation. The brooder house is establishing collaborative partnerships with farmers, universities and research institutions. The facility is becoming a model for other villages throughout Ghana and has caused the residents of Obodan to begin plans to become a United Nations Millennium Village.

This school year, Clifft and other EWB members have developed a strategic plan to carry out community development projects to complement the management of the brooder house. These projects include the supply of portable water to Obodan and surrounding villages and the addition of donated computers to a local school. EWB also plans to complete smaller domestic projects in the Terre Haute area.

"Eric Clifft is a dynamic and inspirational leader who thinks of others first . . . He is enthusiastic about learning and about making a difference," stated Lee Waite, head of Rose-Hulman's Department of Applied Biology and Biomedical Engineering and EWB chapter adviser. He has visited Obodan to witness the impact the brooder house is having on citizens. "It is seldom that a college student comes along who has the potential to significant-



ly impact the world in which we live. Eric Clift is one of those students."

Anthony Akunzule, executive director of the Ghana Poultry Network, added, "Eric proved to be a natural leader, playing a significant role in keeping the (EWB) students focused on completing the project. He physically helped in the building's construction (planning and cutting timber to approximate sizes; leveling the house's foundation; drilling timber for bolts) and assisted in the purchase of building materials."

Those testimonials make Clift smile with pride when considering the personal accomplishment and blush in embarrassment from the recognition that he's now receiving.

"Frankly, I get far too much credit for a great idea that was accepted by others. I had a major role in laying the foundation for the (EWB) chapter and brought the (Ghana project) idea to the chapter. Then, 10 people and several faculty members (including Professor Jerry Fine) were willing to give it a shot," he admits. "After starting the process I left for one year to study in Germany. I returned and fund-raising was well under way and the groundwork was in place for the project. I just stepped back and admired all of the work by several talented people. I was extremely proud to be at Rose-Hulman at this special time."

Besides studying at Fachhochschule Ulm (Ulm, Germany), Clift also participated in a cultural experience in Japan, led by Professor Scott Clark — exciting international adventures for a student who hadn't traveled outside of his hometown of Paragould, Ark., before attending college.

"I looked at college as the perfect time to acquire new perspectives and to satiate my innate curiosity about different cultures," he states. "I realize that my inclination to accept opportunities and desire to help others have been the hallmarks of the last three years of my life. These two characteristics have taken me around the globe on multiple occasions

and enabled me to rapidly improve the lives of numerous people."

Later, Clift adds, "I went all over the world trying to figure out what I wanted to do. I think I have a good grasp on where I'm at and where I want to go from here. It's been a great experience. I have learned a tremendous amount, much more than I thought I could before coming to Rose-Hulman."

Those educational experiences have included working on an entrepreneurial senior design project, the Rose Chiller. Clift had an idea to fabricate a machine that rapidly cools canned beverages. The venture has been sponsored by Rose-Hulman Ventures, and Clift has joined three other students in making modifications to the original design, along with examining potential markets for the product.

"Eric is driven by the application of what he has learned, not just the search for knowledge," states Donald Richards, professor of mechanical engineering, who has consulted on the Rose Chiller project. "Eric has exhibited leadership skills that have kept the team focused and moving toward their goal . . . He never meets a stranger, and he greets all with a sparkle in his eye and a good sense of humor. All of this makes him an easy fit with any group of people, earns him the confidence of others, and helps him make the connections with others that lead to success."

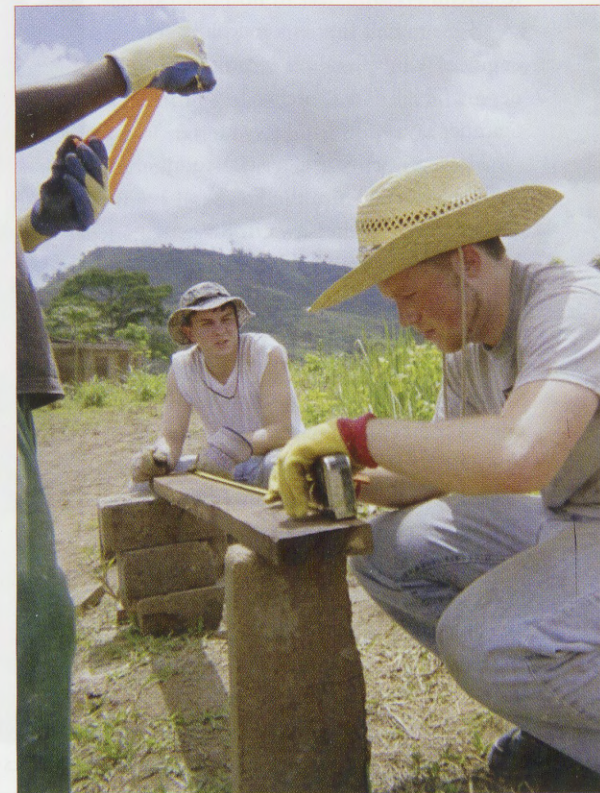
Clift also maintains a 3.87 grade point average, received the Garland Duncan Scholarship from the American Society of Mechanical Engineers, earned Rose-Hulman's Student Leader of the Quarter and Greek Member of the Year Award (Sigma Nu Fraternity), served as a representative to the Student Government Association, and is a member of the Blue Key, Tau Beta Pi, Pi Tau Sigma and Alpha Lambda Delta honor societies.

In the future, Clift wants to continue his studies at the graduate level in Stanford

University's unique Department of Management Science and Engineering, which provides education and research opportunities associated with the development of knowledge, tools and methods required to make decisions, and to shape policies, to configure organizational structures, to design engineering systems, and to solve problems associated with the information-intensive technology based economy.

"I still want to stick with my interests in engineering and technology, but I also have started to recognize my interest in business," admits Clift. "That may lead me to becoming an entrepreneur, a venture capitalist or an international businessman. I want to make a difference by doing things I have a passion for."

The residents of Obodan are now benefiting from that passion.



Clift assists with brooder house construction.



# Valuing Educational Relationships

## Richard Stamper Wants Students to Put Everything into Perspective

*Designing a better widget isn't the key issue for tomorrow's engineers. Rather, creating socially-conscious engineers that appreciate the consequences of their actions has become the emphasis of Richard Stamper's popular mechanical engineering teachings at Rose-Hulman Institute of Technology.* By Dale Long

That's why Stamper has developed a special case study course that examines engineering failures; has conducted research to design an adaptive halo device; has brought new projects to the college's summer Operation Catapult program; and has helped advise the college's efficient fuel mileage team.

And, yes, he does teach classes in kinematics, engineering statics and graphical communications, along with selected topics in design and thesis research.

"I see myself first as a mechanical engineer who specializes in product design. Then, I'm a teacher," Stamper says.

However, it's Stamper's classroom skills that earned him the Dean's Outstanding Teacher Award, Rose-Hulman's ultimate teaching award, last year. He also has received Rose-Hulman's Board of Trustees Scholar Award (2004), the Ferdinand Beer and E. Russell Johnston Outstanding New Mechanics Educator Award (2001) from the American Society for Engineering Education, and been recognized as Teacher of the Year by Rose-Hulman's Triangle fraternity and The Rose Thorn student newspaper.

"Teaching is a lot of fun," the associate professor of mechanical engineering admitted during an interview in his Moench Hall office. "Being around smart, creative people (students and faculty) is enjoyable. You get to take ideas and look at them from different angles."

Stamper is teaching a relatively new special topics course this spring that's examining engineering failures. Along with investigating the design defects that contributed to failures, Stamper is showing students the intricate network of relationships (government regulations, business,

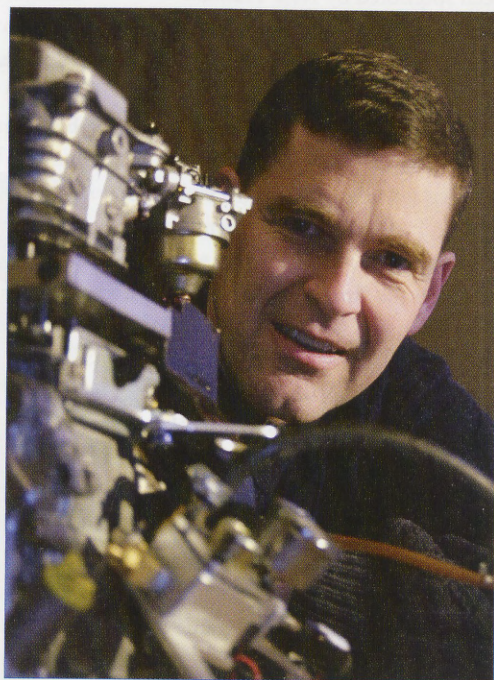
manufacturing, maintenance and legal) that may form the context behind the failure. Field trips allow students to meet engineers, lawyers and product designers that have dealt with past failures. Readings from such books as *The Logic of Failure*, *Inviting Disasters: Lessons from the Edge of Technology* and *Minding the Machines: Preventing Technological Disasters* provide psychological, economic and sociological viewpoints. The course was first taught last spring.

"We're adding context to the students' academic experience," Stamper says. "The engineering failures course brings perspective to the students' undergraduate experience and helps them realize that they are getting into a business where they can do tremendous good and can also cause tremendous harm."

Phillip Deaton, a senior mechanical engineering major, appreciates the course's lessons, stating, "This helped open my eyes to other sides that can contribute to product failures . . . I would say it (engineering failures) is as important as any other class I have taken at Rose-Hulman. I have talked to alumni and I have not found one person that has not been interested and wished there had been a class exactly like it when they were at Rose-Hulman." He added that Dow Chemical officials were interested in how course topics could help the manufacturing process when he begins work as

a reliability engineer this summer.

Stamper appreciates the challenges of product development. He served as a design team leader and design engineer for General Electric Company (1988-94) and was an area manager for Bounty paper towels with Procter and Gamble (1985-86). He also gained international experience by spending a year working for General Electric in Yokohama, Japan, in 1992. Now, he serves as president of Stamper Medical Technologies, striving to develop a revolutionary adaptive halo orthosis for persons that suffer from cervical spinal injuries. The halo design



Professor Richard Stamper



eliminates pin loosening, one of the most common problems with current halos. Stamper's three patents list student co-inventors and many of his scholarly papers include students as co-authors.

Stamper's innovations in Rose-Hulman's mechanical engineering curriculum have also included a required junior-level course that examines design elements of manufacturing processes and an independent study course which has an international design project with Japan's Kanazawa Institute of Technology. The manufacturing design course was recommended from an industry advisory board, which wants Rose-Hulman graduates to have more practical knowledge of manufacturing processes. The international design project concluded with Stamper joining sophomore Daniel Soledad in making a technical presentation at KIT in February about an energy-efficient street lamp system.

As faculty adviser for Rose-Hulman's Efficient Vehicles team, Stamper is providing advice as students strive to achieve 1,400 mpg or more through modifications to a single cylinder 3.5 horsepower Briggs & Stratton engine in a Society of Automotive Engineers national competition. He also serves as a faculty mentor for the college's summer Operation Catapult program, encouraging high-school students toward careers in engineering and science. Stamper has brought new project to Operation Catapult in heat treatment of steels, creating a south facing chariot and designing a unique solar chimney.

"There is no better place to teach engineering than Rose-Hulman," Stamper proudly states. "The real treat of teaching here is that we're always looking to do what's best for the students and creating better engineers. The faculty is allowed to be innovative. That makes this such an exciting place."

That fact has been true for Stamper since he entered Rose-Hulman in 1981 to begin his studies in mechanical engineering. Rose-Hulman

was the only college that he applied to attend. ("Here was a place that gets me," he recalls.) He soon became active in residence life, serving as a Sophomore Adviser (SA) for the Speed residence hall and a Resident Assistant (RA) for two years in the Baur-Sames-Bogart and

Scharpenberg residence halls. Graduating in 1985, Stamper went on to earn a master's degree from Purdue University (1988) and a doctorate from the University of Maryland (1997).

"I received more from being an RA and SA than I appreciated at the time," Stamper admits. "First of all, it allowed me to become friends with an amazingly talented group of individuals. It also made me think about things like how to provide and solicit feedback, organize groups, establish common expectations and resolve conflicts."

Stamper went on to say, "Rose-Hulman values relationships. I like the student-faculty relationships that this place enables. That's part of the institute's magic. I don't teach a better version of statics here, but I do provide a heightened level of engagement with the student that I hope adds value to the educational experience."

And, similar to his Resident Assistant experience, it's the relationships with his mechanical engineering faculty colleagues that Stamper has valued since his return to the Rose-Hulman faculty in 1998 after teaching for one year at Auburn University. He admired emeriti faculty Don Dekker, Bill Ovens and Mallory North — stealing nuggets of educational and engineering wisdom along the way — and now appreciates the camaraderie with his current mechanical engineering colleagues.

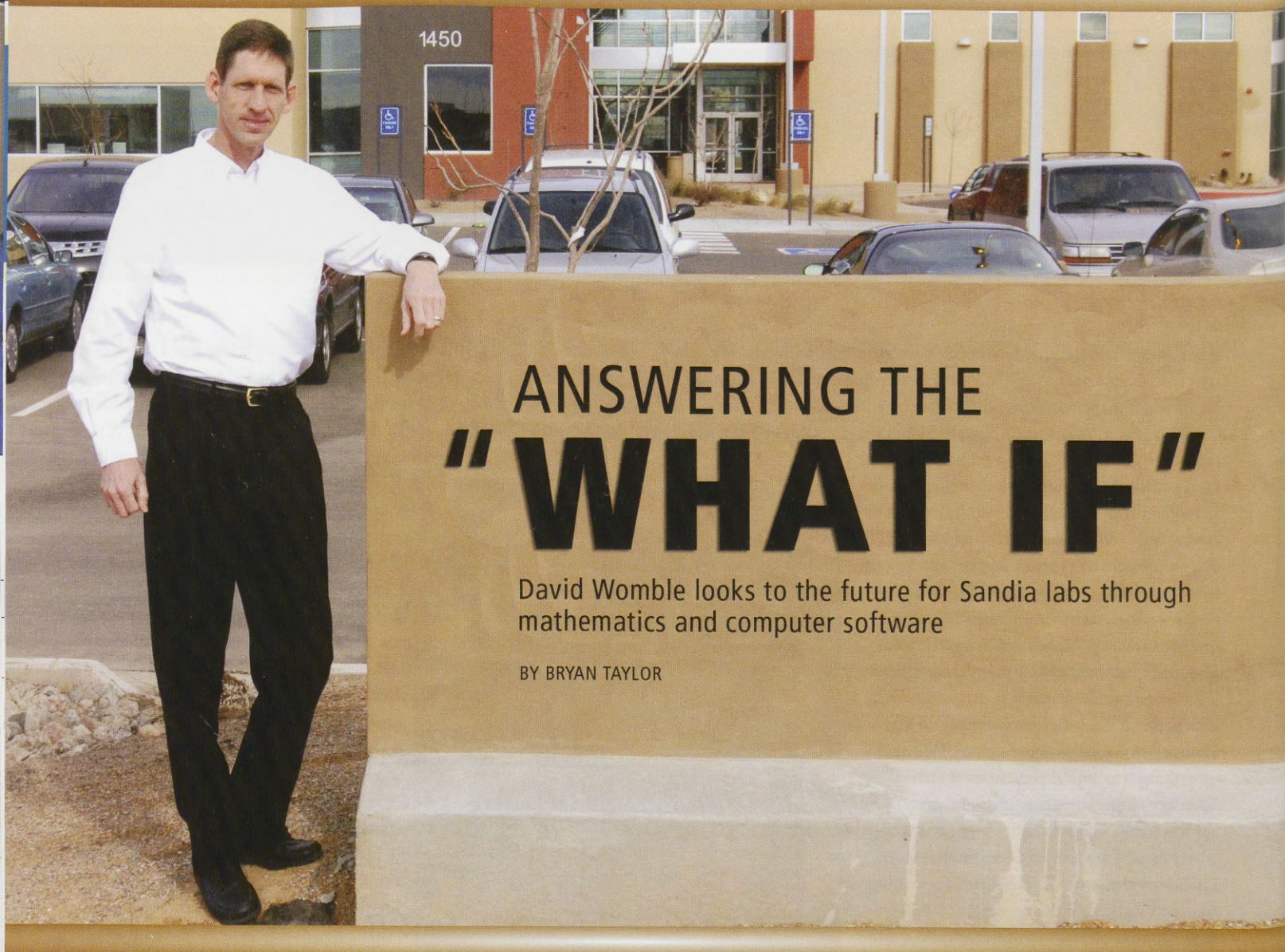
"The thing that I didn't appreciate as a student was the team structure of the mechanical engineering department," he says.

"One of the most pleasant points about coming back has been to witness the closeness of the faculty. It's a group of smart people that care about their students. For whatever reason, this little group clicks."

And, being mechanical engineers, they're hitting on all cylinders.







# ANSWERING THE "WHAT IF"

David Womble looks to the future for Sandia labs through mathematics and computer software

BY BRYAN TAYLOR

*David Womble is no fortune teller, but he does spend much of his time looking to the future. Instead of a crystal ball, the 1982 mathematics/computer science graduate uses algorithms in computer software to peek ahead 15 to 20 years.*

As senior manager for computer science and mathematics at Sandia National Laboratories, Womble and his group write software used to simulate systems and answer "what if" questions for a variety of governmental departments and private business and industry.

"My biggest challenge is strategic leadership," Womble explained. "Our group must identify the challenges facing our country in the future and what we're going to do about them. We help different organizations determine when and where to make investments of time, talent and knowledge to help shape our future."

Included among the areas Womble's group deals with are:

- Safety, security and reliability of the American nuclear deterrent;
- Homeland security;
- Energy and water infrastructure;

- Geophysics
- Information processing and data mining.

All of these areas can impact national security directly. Sandia is a U.S. Department of Energy lab run by Lockheed Martin in Albuquerque, N.M.

At first glance, one might think Womble's work is of the "if I tell you I'll have to kill you" nature, but much of his group's work is unclassified research and deals with the fundamental capabilities necessary for modeling and simulation. In fact, Womble's group annually publishes over 200 peer-reviewed papers in scientific and technical journals.

Many of the codes and libraries generated at Sandia are widely used by industry, academia and other laboratories. Some of the codes developed through Womble's group that are available to the general public



include DAKOTA (optimization and uncertainty quantification), Zoltan (load balancing), and Trilinos (linear and nonlinear solvers).

At the core of the work in Womble's area are algorithms and computer codes used to solve real-world problems. "Delivery and impact are very high on our list of priorities," Womble explained. "We do research on a wide range of problems, but we don't stop there. We need to deliver on a project. We just don't sit in our office and make problems. They are real-world situations that require real-world deliverables. Many of the problems are open-ended, and may take months or years to solve," Womble said.

Providing those deliverables requires a combination of brainpower and one of the most powerful computers in the world, a Cray machine called Red Storm with over 26,000 processor cores.

Fifty-five Ph.D.-level researchers conduct the work in Womble's group. "When we recruit, we make it absolutely clear Sandia has a national security mission and they need to understand and work on that mission," Womble said. "Managing a group of researchers who have such initiative and the desire to do things right is a true pleasure."

"In my position, I get to help determine the problems to be solved and then help determine the strategy to attack them," Womble said. "Then I find people and resources to solve those problems."

"I expect everybody in my group to be a leader in something. Leadership includes doing world-class research as judged by your peers and delivering results with impact."

The road to Sandia management started in 1982 when Womble graduated from Rose-Hulman. He then went to Georgia Tech where he earned a master's in mathematics in 1984 and a Ph.D. in mathematics in 1986. He also obtained a master's in electrical engineering from Georgia Tech in 1986.

After graduate school, Womble went to Sandia in January of 1987. "I originally intended to stay for five years, but soon realized that if I wanted to do research that was applied, this was the place for me. I liked the research environment and the fact that our research has a real impact that makes a difference in the world."

In addition to helping solve various problems along the way, Womble founded the Computer Science Research Institute at Sandia. The CSRI brings together researchers from universities, industries and national laboratories to conduct leading-edge research in computer science, computational science and mathematics.

"One of the big aspects of our job is interacting and collaborating with external communities," said Womble, who still serves as director of the CSRI.

Womble has received individual and group recognition for his work at Sandia. He was honored with two different R&D 100 Awards for separate software packages on parallel computing and seismic imaging for the oil and gas industry.

Being a mathematician, Womble naturally is in tune to the importance of balanced equations and strives for equilibrium between Sandia and his personal life. He has two children, 12 and 14, who keep him busy with their activities, which include soccer, running and the arts. Womble has become a soccer referee who oversees adult, youth and high school matches.

Whether it's on the soccer field or in the Sandia National Laboratories, Womble strives to stay competitive with an eye to the future.

## THE WOMBLE FILE

### JOB

Senior manager for computer science and mathematics at Sandia National Laboratories

### ROSE-HULMAN DEGREE

1982, computer science and mathematics

### ADVANCED DEGREES

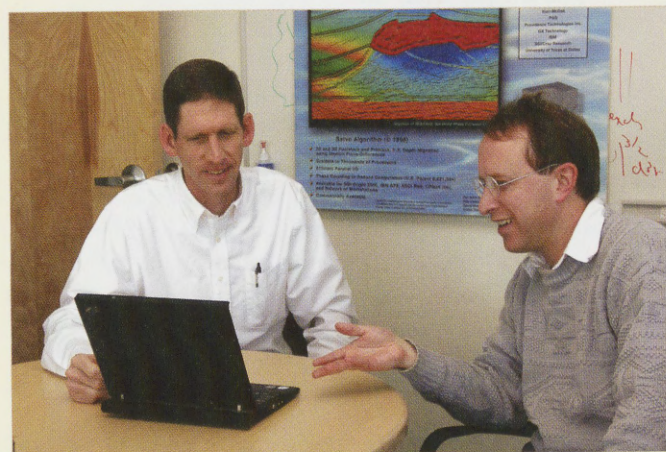
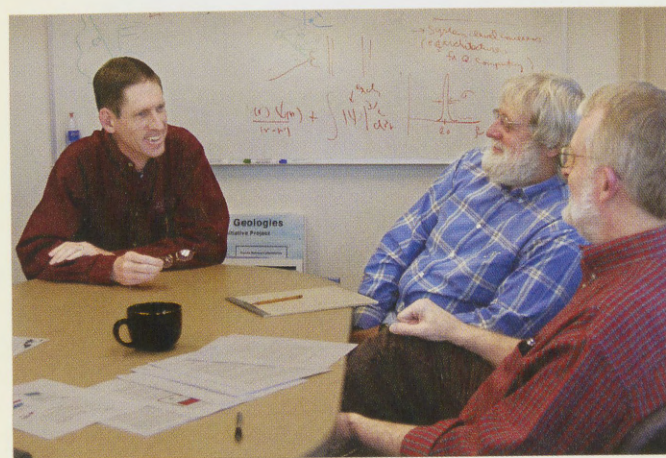
Master's and Ph.D. in mathematics, and a master's in electrical engineering

### HOBBIES

Soccer referee, woodworking, photography, cycling, running, children's activities

### BIGGEST REWARD OF CAREER

Conducting research that has a real impact on the United States



Womble, at left in both photographs, works with Sandia colleagues.



# Bruce Glaser

Director of engineering at Boeing Wichita

BY MOLLY MCMILLIN, The Wichita Eagle

*As director of engineering at Boeing Wichita, Bruce Glaser's job is a big one. Glaser oversees the site's engineering functions and the 1,300 engineers who work on diverse aircraft projects such as Air Force One and E-4B transport aircraft, B-52 bombers and KC-135 and KC-767 air refueling tankers. The Wichita facility upgrades and modernizes existing aircraft. In the case of the KC-135 refueler, that means keeping 50-year-old planes flying. "Those challenges are as great or greater than a new program sometimes," Glaser said.*

Wichita also is working on new projects, such as the 767 tanker. Boeing is bidding on a contract to supply refueling tankers to the U.S. Air Force. The Wichita site plans to deliver Japan's first 767 tanker later this month. It recently began work on a second tanker for Japan.

Other Boeing sites also turn to Wichita for engineering help. A team of 75 engineers, for example, is helping with Boeing's 747-8, a new family of intercontinental aircraft.

That team likely will grow, Glaser said. Glaser joined Boeing Wichita in 2004 from St. Louis where he was director of engineering for Boeing's F-15 program.

Glaser has come a long way from his high school days when he thought an engineer was someone who conducted trains. A self-proclaimed math nut, Glaser credits his high school calculus teacher and guidance counselors for helping him discover that engineering meant creating things and that mathematical formulas can be used for more than crunching numbers.

Glaser graduated with degrees in math and electrical engineering from Rose-Hulman Institute of Technology (1980) in Indiana. He earned a master's degree in engineering from Washington University in St. Louis and a master's in international business from St. Louis University.

While his job is a demanding one, Glaser tries hard to balance work and family. He admits that sometimes he's more successful than others. But "being home is very important," he said. Glaser enjoys spending time with his wife, Kathy, and their three children. He also is excited about a new role he will soon assume — that of a grandfather. And he enjoys snow skiing and biking.

**With such diverse projects, what is your biggest day-to-day challenge?**  
"By far it's meeting all the demands of all the programs here.... It's just every day juggling the people needed to support all the programs."

**You said that when a plane is nearing completion, you must put extra people on the project. Any examples?**

"Last December, we delivered the Saudi head of state aircraft. We had to put a lot of resources on that in the last three months of that contract. We're trying to deliver Japan No. 1 (the first 767 refueling tanker to go to Japan) this month. Over the last several months we put a lot of extra resources on that program."

**What other challenges do you encounter?**

"Because we do (the) first of a model and we don't have large production runs, it seems like everything we do is always a discovery because it's never been done before. (By comparison) if you're doing aircraft No. 50 of a particular type... your processes, your data, your drawings, your support of the shop floor is a well-tuned machine."

**Rep. Todd Tiahrt's office has said that if Boeing is the successful bidder for the U.S. Air Force tanker program, it would mean 300 to 500 jobs for Boeing Wichita. Will the work sustain jobs or will there be new ones?**

"There won't be a lot of new ones based on what I know today, but there's a lot of variables in that."

**What else may be ahead for projects and engineering staffing in Wichita?**

"We also have other new contracts in the works that, depending on





Bruce Glaser flies high at Boeing.

the timing, could drive us to a significant hiring boom in engineering. We look out at 12 months in our crystal ball... (but) we don't always have visibility into what contracts are going to come in that 12-month period."

**You declined to say specifically what work might come to Wichita, but can you say in general terms?**

"There's a variety of special air mission (aircraft) that could come."

**You mentioned a special mission aircraft in which the design drawings no longer represent all the modifications made to it by Boeing and others. How do you work with that?**

"We have some new tools that allow us to go in when the airplane arrives. You pull the panels off and take high-resolution photos of

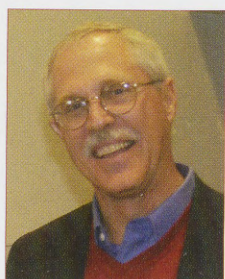
the inside of the airplane, and through some special software, convert that into a three-dimensional... drawing."

**How would you describe your management style?**

"I delegate. I try to set the overall direction, but I expect the people who work for me and the program chief engineers to be the ones who are really taking action to implement those strategic directions.... I tend not to micromanage.... It's important to set the direction and have metrics to measure it so you know it's going the right way."

Editor's note: The preceding article was printed in the *Wichita Eagle* and is reprinted here with permission.





## TAKING A LOOK AT THE ROSE-HULMAN ALUMNI BOARD

# Q&A with PRESIDENT TOM CURRY

Of the Rose-Hulman Alumni Board

**Q:** What are the key objectives of the alumni board?

**A:** The alumni board strives to reinvolve, refocus and reconnect people to Rose. In today's fast-moving society, people are disjointed and have no long-term connections in their lives. One connection that will always be there is their relationship to Rose-Hulman. While the board does provide a "feel-good" relationship, we don't wallow in nostalgia. We're moving forward on many fronts and I'm excited about some of the directions we're heading. The alumni association can always be exciting when it's backing a place like Rose-Hulman.

**Q:** What is the makeup of the board?

**A:** We have 20 members. The board leadership is elected by the total alumni body. A person is elected as secretary and then rotates through the positions of vice president, president and past president. This provides continuity to the group while allowing new ideas to breathe into the association. I'm impressed by the depth and breadth of the board. Many times in such a volunteer organization, the board is dominated by a bunch of old guys like me. That's not the case with us. We have a cross section of representation of the total alumni population.

**Q:** How does the board operate?

**A:** The board operates by a committee structure covering the following areas: alumni clubs, alumni giving, career services, continuing education, homecoming, honors and awards, student alumni association, student recruitment, young alumni and alumni representatives to the Rose-Hulman Board of Trustees. We meet five times a year, including the annual association meeting during homecoming.

**Q:** Does geography limit participation rates?

**A:** Not really. With today's technology, we can have meetings via the Internet or via conference calls and take input from across the country. If anyone is interested in serving, we can use them and they will be able to participate.

**Q:** Explain the role of the representatives to the Board of Trustees.

**A:** Those two people are the alumni voice on the Board of Trustees. There are several alumni on that board, but the two alumni reps are elected specifically to represent all alumni. They hear what is on the minds and hearts of alumni and take that information to the full Board of Trustees. Alumni form one of the biggest, if not the biggest, Rose-Hulman constituencies. Representation on the Board of Trustees is vital to maintaining the tradition of excellence the college has enjoyed for more than 130 years.

**Q:** Isn't the alumni board just a fundraising front for the college?

**A:** No. While giving to the college is part of the alumni experience, it is not the sole mission of the association. Contrary to the belief of some skeptics, the annual fund and the alumni association are not joined at the hip. While we do have a fundraising committee and have an active class scholarship program, we provide many other opportunities for alumni.

**Q:** Could you expand on what the board can do for alumni?

**A:** As previously stated, our key mission is to keep alumni connected to their alma mater, and we do that through a variety of club events around the country, career assistance, an online directory, continuing education opportunities, special alumni trips, the *Echoes* alumni magazine and, of course, Homecoming. We are always open to other ways we can serve our alumni and we want to hear from them.

**Q:** How do I join the alumni association?

**A:** The answer is quite simple — once you graduate, you are a member. If you received your degree from Rose-Hulman, you are a member of the association and allowed to participate in all of our activities. We don't charge membership dues, and you have access to all alumni amenities.

For more information about how you can become involved in the Alumni Board, contact Tom Curry via e-mail at [tcurry@baltimoreaircoil.com](mailto:tcurry@baltimoreaircoil.com)  
Or Alumni Director Brian Dyer at [brian.dyer@rose-hulman.edu](mailto:brian.dyer@rose-hulman.edu)  
Phone: 800-248-7448



**1965****Tobey King (Ch.E.)**

has retired after spending the last four years with a unique division of Dow in Houston. He and his wife, Barbara, will continue to live most of the year in Santa Fe, N.M.

**1969**

**James A. Coles (E.E.)** has been named chair of the American Law Firm Association International Intellectual Property and Technology Practice Group Committee. He is a partner with the Indianapolis-based law firm of Bose McKinney & Evans LLP.

**1970**

**Charles M. Boesenberg (M.E.)** has been appointed as board director for Tideway Systems, an independent leader in information service configuration management solutions.

**1973**

**Michael L. Logan (Ch.E.)** has accepted the position of process and technology manager at AFG Industries in Abingdon, Va.

**1974**

**James Taylor (BIO)** now works for Boeing in Oklahoma City where he is the C/KC-135 aircraft safety engineer.

**Larry Lynch (M.E.)** has been named technical steward at Caterpillar's Decatur, Ill., facility.

**1976**

**Jeffrey D. Mueller (C.E.)** has been appointed as manager of business development for Foundation Coal Holdings. He will focus on implementation of overall business development initiatives. Foundation Coal Holdings is a coal producer with 14 mines and corporate offices in Linthicum Heights, Md.

**1989**

**Todd Cartwright (M.E.)** has been promoted to sales director for CBI Constructors. He is responsible for the company's sales activities in Australia and New Zealand. He and his family live in Perth, located in Western Australia.

**Chuck Marr (M.E.)** has been promoted to lieutenant colonel in the U.S. Army and recently was deployed to Afghanistan in

Support of Operation Enduring Freedom as the CJTF-76 Science, Technology and Acquisition Corps Advisor.


**Paul Palmer Jr. II (M.E.)** was featured last fall in the *Indianapolis Star* "Doer's Profile" section. The article focused on his work as director of "alternative cards" for American Greetings in Cleveland. He is a native of Indianapolis.

**1990**

**Rich Schwaiger (M.E.)** updated *Echoes* that he joined the Indiana Army National Guard in 2003 after receiving his MBA from Indiana University. He has been promoted to the rank of major and serves with the 10th Mountain Division as the base operations commander of Forward Operation Base Jalalabad Airfield in Afghanistan. He is scheduled to return to his civilian job as senior product

**ALUMNI WEB SITE RETOOLED**

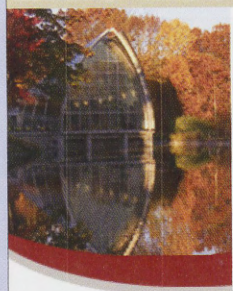
The Rose-Hulman Alumni Web site has been retooled to serve you better. All of the usual features remain, but they are set up for easier access. You can update your online directory listing, keep up with the latest alumni news, check out upcoming alumni events, investigate volunteer opportunities, and much more. Visit the site at [www.rose-hulman.edu/alumni-affairs](http://www.rose-hulman.edu/alumni-affairs).



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**Upcoming Events**

Dates	Place	Description
Feb 23, 2007	San Antonio, TX	Reception for Jerry and Lynn Jakubowski
Feb 24, 2007	Houston, TX	Reception for Jerry and Lynn Jakubowski
Feb 25, 2007	Dallas, TX	Reception for Jerry and Lynn Jakubowski
Mar 2, 2007	Indianapolis, IN	Alumni Board Meeting
Mar 2, 2007	Tucson, AZ	Alumni Luncheon
Mar 3, 2007	Phoenix, AZ	Reception for Jerry and Lynn Jakubowski

- Ireland Trip Planned for 2007
- Online Alumni Directory



integrity engineer at International Truck and Engine Corp in Fort Wayne, Ind.

### 1991

#### **Chad Elmore (Chem.)**

announces the birth of daughter Rhoswen Barbara. She joins two brothers, Finn and Luke, and sister Teaghan.

**Scott Goedde (Ch.E.)** and his wife, Lori, announce the birth of son Michael who joins older brother Nicholas.

**Doug Tougaw (E.E.)** received the 2006-07 Distinguished Teaching Award presented annually by the Valparaiso University Alumni Association. He is a professor of engineering at the college where he leads research on the design of nanocomputers. The award is given to a faculty member who exhibits excellence as a teacher and effectiveness as an academic counselor and is a positive influence on students through extracurricular service.

**Arthur J. Usher IV (Phy.)** has been named partner with Krieg DeVault law firm in Indianapolis.

## CLASS NOTE MAJOR KEY

The following key outlines abbreviations used in the Class Notes section of Echoes.

**A.B.** – Applied Biology  
**A.O.** – Applied Optics  
**B.E.** – Biomedical Engineering  
**BIO** – Biological Engineering  
**C.E.** – Civil Engineering  
**Ch.E.** – Chemical Engineering  
**Chem.** – Chemistry

**C.P.E.** – Computer Engineering  
**C.S.** – Computer Science  
**Econ.** – Economics  
**E.E.** – Electrical Engineering  
**E.P.** – Engineering Physics  
**Math.** – Mathematics  
**M.E.** – Mechanical Engineering  
**Phy.** – Physics  
**S.E.** – Software Engineering

#### **Steven A. Vinson (Ch.E.)**

updates us that since we last heard from him, he and his wife, Constance, became parents with the birth of daughter Elizabeth in 2005. The family has returned to Indiana from Chicago. Steven moved his business – Vinson Corp., a management consulting firm serving the life science industry – to Indianapolis. Also, he has earned the Project Management Professional certification from the Project Management Institute.

**Rob Williams (M.E.)** married Dackie Lynn Campbell in July of 2006. They and their family reside in Terre Haute.

### 1993

**Rob Coop (C.E.)** has been elected to the National Board of Directors for Alpha Phi Omega as the Region VI director. APO is a national service fraternity with 372 chapters across the country, including the chapter at Rose-Hulman.

**Tracy Grunden (C.E.)** and his wife, Karin, announce the birth of son, Grant William, born Oct. 4. He joins brother Lucas at the family home in Paris, Ill.

### 1996

**Joel Brazle (M.E.)** has married Mischy DuMont. They reside in Park City, Utah. Joel has

taken a position as the lead software development manager for Backcountry.com, an online retailer catering to outdoor enthusiasts.

**David E. Orr (M.E.)** has completed his Ph.D. in bioengineering at Clemson University. He now is CEO of KIYATEC, LLC, a biotechnology startup company he founded in 2005.

**Rob Waller (M.E.)** has moved to the newly created position of manager-improve plant at DSM Engineering Plastics in Evansville, Ind. He has overall responsibility for maintenance and process engineering.

## SCHACHT '72 ELECTED AS ALUMNI REPRESENTATIVE TO BOARD OF TRUSTEES



Robert Schacht, a 1972 civil engineering graduate, has been elected to serve as one of two alumni representatives to the Rose-Hulman Board of Trustees.

Schacht was chosen following a nationwide vote by alumni. He replaces Pat Cahill of Terre Haute, whose term as the alumni representative has expired. Continuing to serve as a trustee elected by alumni is Roger Ward, vice president of HNTB, Indianapolis.

Schacht was president of the Rose-Hulman Alumni Association in 2001-02 after serving as vice president and committee chairman of the association. He has been a class agent for 34 years. In 1989, Rose-Hulman presented him with the Honor Alumnui Award for his service to the college and the alumni association.

Schacht is an executive advisor to several senior officers at Commonwealth Edison, an Exelon Company. He previously served as chief operating officer of Northern Indiana Public Service Company. He resides in Valparaiso, Ind.



## CRANE VISIT

Rose-Hulman alumni employed at Crane Naval Surface Warfare Center hosted President Gerald Jakubowski during an all-day visit Jan. 30. Jakubowski learned about the technical contributions of Rose-Hulman alumni employed at Crane. His tour of the southern Indiana naval facility was coordinated by Rose-Hulman alumnus Greg Reece ('89), director of joint special missions.



Rose-Hulman President Gerald Jakubowski speaks to 50 alumni employed at Crane during a luncheon at the naval facility.



Adam Parsley ('99) explains the features of the expedition ground mobile test platform to Rose-Hulman President Gerald Jakubowski.

### 1997

**Robby Kissling (M.E.)** and his wife, Melissa, welcomed daughter Molly Abigail, born Sept. 22. The family resides in Warsaw, Ind., where Robby works for Zimmer.

**Mark Lancaster (A.O.)** and his wife, Kimberly, announce the birth of daughter Hilary Rose, born Jan. 6.

### 1998

**Ben Brown (Chem.)** and his wife, Jeannette, announce the birth of son, Ryan, born Sept. 5. He joins big sister Lauren.

**Rocco Dominick (Ch.E.)** and his wife, Jennifer welcomed second child, Jacob Rocco, born last July. Their first child, Vincent Robert, was born in 2005.

**Chad Mills (C.E.)** and his wife, Joellen, welcomed their second daughter, Abby Elizabeth, born last year.

### 1999

**Rahul Laxman Iyer (M.E.)** has recently changed jobs. He now is a quality engineer for Kinugawa Rubber Industrial LTD. He resides in Winchester, Tenn.

## SEEKING HONOR ALUMNI NOMINATIONS

The Rose-Hulman Alumni Association seek nominations for its annual Honor Alumni Awards to be presented during Homecoming. Recipients of the Honor Alumni Award are selected based on their:

- (a) loyal, unselfish and meritorious service in furthering the interests of Rose-Hulman;
- (b) contributing to the national interest of our country; and
- (c) professional achievement.

Rose-Hulman honors four alumni with this honor each year. Recipients are recognized during Homecoming. To nominate someone for this award, contact Brian Dyer, alumni director, at telephone 812-877-8359 or via e-mail at [brian.dyer@rose-hulman.edu](mailto:brian.dyer@rose-hulman.edu).

### Leyland Keyt (M.E.)

has been accepted as a senior regulatory associate position at Abbott Vascular (formally Guidant) in Santa Clara, Calif. She resides in San Francisco.

### 2000

**Travis Hammond (Ch.E.)** announces the birth of first child, Grace Marie, on Nov. 29.

**Brian Huff (Ch.E.)** married Rosemary Hung, and they reside in Fishers, Ind.

**Stacey Miles (Ch.E.)** married Scott Stieglitz last June in White Chapel on campus. She works at a custom software company near Chicago.

**Hanna R. Snodgrass Kiger (Ch.E.)** is president and owner of Integrated Engineering Solutions, an enterprise committed to providing assistance in all phases of construction design.

### 2001

**Shawn Denlinger (E.E.)** and his wife, Colleen, are parents of Isaac Dennis, born Dec. 4.

**Jason Kahlhamer (Ch.E.)** has been promoted to principal

chemical engineer at Ecolab, Inc., in Eagan, Minn.

### 2002

**Rachael A. Bergstrom Crabb (Ch.E.)** completed a Ph.D. in biomedical engineering at the University of Minnesota. She resides in the Twin Cities with husband, Kenneth, a 2002 computer science graduate.

**Bryce Clark (M.E.)** has become a registered nurse who now works at New York-Presbyterian Hospital/Weill Cornell Medical Center in New York City. He works on a medical unit with a specialty in infectious diseases. He graduated with a nursing degree from Johns Hopkins University School of Nursing last July where he served as a fellow.

**Kevin Gibbs (C.S./C.P.E.)** and **Jennifer Funk (M.E.)** were married in 2004 and they became parents in May of 2006 when daughter Carissa Jane was born.

**Daniel Helms (C.P.E.)** married Gredel Metz Osborn last July.



**Molly McKeown (M.E.)** was named a 2006 second-team all pro in the Women's Professional Football League. She competed with the Indiana Speed on defense and offense. She has retired from the league following the fall season, but she continues in her career as an engineer for Allison Transmission.

### 2003

**Marisa Cummings (Ch.E.)** and **Andrew Feyen (Ch.E.)** exchanged wedding vows Oct. 28 and they reside in Everett, Wash.

### 2005

**Nicolle M. Burris (Ch.E.)** married Michael R. Tripp July 1.



[www.rose-hulman.edu/homecoming/](http://www.rose-hulman.edu/homecoming/)

## Upcoming Alumni Events

### April 14, 2007

Indianapolis, IN  
Young Alumni Council Meeting

### May 19, 2007

Boston, MA  
Reception for  
Jerry and Lynn Jakubowski

### May 20, 2007

Indianapolis, IN  
Bump Day

### May 25, 2007

Terre Haute, IN  
Alumni Board Meeting

### May 25, 2007

Terre Haute, IN  
Senior Soiree

### May 26, 2007

Terre Haute, IN  
Commencement

### June 27, 2007

Hawaii  
Alumni Trip - Cruising  
Hawaii's Paradise

### July 4, 2007

Indianapolis, IN  
Indianapolis Indians Game/  
Fireworks Display

### July 28, 2007

Cincinnati, OH  
Young Alumni Council Meeting

### Aug 10-11, 2007

Location TBA  
Alumni Board Meeting

### Sep 28, 2007

Terre Haute, IN  
Young Alumni Council Meeting

### Sep 28-30, 2007

Terre Haute, IN  
Homecoming

### Oct 6, 2007

Ireland  
Alumni Trip - Introduction  
to Ireland

## NEW MEMBERS OF THE CHAUNCEY ROSE SOCIETY

Founder Chauncey Rose conceived an engineering college based on a practical and personal educational philosophy. The Chauncey Rose Society recognizes those persons who have shared his foresight, dedication and generosity. Chieftains of Rose are individual supporters whose cumulative giving to Rose-Hulman has reached \$500,000. They are recognized by a dark blazer accented with the Rose-Hulman seal and the Rose family hunting tartan. Persons reaching a personal cumulative gift total of \$250,000 or more are designated Chauncey Rose Society Fellows. People with total personal contributions of \$50,000 to \$249,999 join as Chauncey Rose Society members. Upon reaching this giving level, members are presented a handsome jacket made from bright and lively Rose tartan.

New members of these groups include:

### CHIEFTAINS OF ROSE

A. Janet Raines  
L. Donald and Judy Simpson  
Jerry Badger  
Russell and Margaret Cox

### CHAUNCEY ROSE SOCIETY MEMBERS

Charles and Nancy Boesenberg  
Bruce and Karen Cahill  
Robert and Margaret Davis  
Joseph B. Durra  
Marshall and Ginny Garino  
Michael and Vicki Lynn Hines  
Gretchen and Donald Jennermann  
Elaine Lee  
Chris and Susan Mack  
Dennis J. Paustenbach  
David and Hazel Robinson  
William M. Welch  
L. Birt Kellam  
Barton D. Hartsock  
Nelson Havill  
George Stearley



## OBITUARIES

## 1943

**Gene A. Coltrin (C.E.)** died last year. He was a retired supervisor/product engineer for Phillips Electronics North America Corp.

## Richard Holthaus (Ch.E.)

died last May. He was a retired director of safety for BOC Group.

## 1944

**Paul Kaplan (Ch.E.)** died in June of 2006. He was a retired divisional sales and marketing manager for H.B. Fuller Co.

## 1946

**Harmon L. Shaw (M.E.)** died Jan. 16.

## 1947

**Lowell L. Smith (M.E.)** died Dec. 12 at the age of 83 in Woodway, Texas. He was a retired vice president of Command Aire (Trane). Survivors include his wife, Carol; sons Barry and Brian; and daughter Nancy P. Oertli.

## 1972

**William Kain (Chem.)** died Nov. 22 of kidney cancer at the age of 56. Much of his career was spent as a research chemist for Emery Industries, where he acquired several patents in the field of fatty acid chemicals. He ended his career with Cognis Corp. in Cincinnati where he was known as the "computer guru." Survivors include his life partner, Allen Hamilton, and his mother Hope J. Kain Fjord.

## 1975

**Kenneth G. Lupo (E.E.)** died Oct. 8 at the age of 53 in Kingwood, Texas. Survivors include a sister, JoAnn Albright.

## 1981

**Kim Kixmiller (E.E.)** died last May at the age of 49. He was an electrical engineer for Technology Services Corp in Bloomington, Ind. Survivors include his wife, Kim, two sons, Kyle and Kameron, and two daughters, Kassandra and Kelsey.

## Trustee

Longtime Board of Trustee member **Harmon L. Shaw**, a 1946 mechanical engineering alumnus, died Jan. 16 at the age of 83. He had been a board member since 1990. He was preceded in death by his wife, Marianne, to whom he had been married for 62 years.

Shaw was the retired founder, chairman and CEO of Hi-Port Industries, Inc. During his professional career, Shaw worked on quick disconnect spacesuit connectors for NASA, controllable pitch propellers for the U.S. Navy, and a device to lift a six-million-pound radar station in Greenland. He was listed as the inventor or co-inventor on 32 patents.

Professionally, he held leadership roles in the American Society of Tool and Manufacturing Engineers, American Society for Metals, Society of American Military

Engineers, Fluid Control Institute, American Society of Naval Engineers and the National Society of Professional Engineers. He was listed in Who's Who in Commerce and Industry.

In addition to his work on the Board of Trustees, Shaw was an active alumnus who served as a class agent for more than three decades. He received an honorary doctor of engineering degree

from Rose-Hulman in 1988, and he also was a member of the Commission of the Future Steering Committee.

During its winter meeting, the Board of Trustees passed a memorial resolution honoring Shaw for his "leadership, dedication and fellowship...during his time as a student, alumnus, advisor and trustee of his beloved institute."

## Accreditation Commission Invites Comments About Rose-Hulman

Rose-Hulman Institute of Technology is seeking comments from the public about the college in preparation for its periodic evaluation by its regional accrediting agency. As part of Rose-Hulman's participation in the Academic Quality Improvement Program, the college will undergo an on-site, comprehensive evaluation visit May 2-4, 2007. The evaluation visit will be conducted by a team representing the Higher Learning Commission of the North Central Association of Colleges and Schools. Rose-Hulman has been accredited by the Commission since 1916. The college was admitted to the Academic Quality Improvement Program in 2000.

The public is invited to submit comments regarding the college to:

Public Comment on Rose-Hulman Institute of Technology  
The Higher Education Learning Commission  
30 North LaSalle Street, Suite 2400  
Chicago, IL 60602

Comments regarding the college can also be submitted via the following web address:

<http://www.ncahlc.org/wrapped/thirdparty.php>

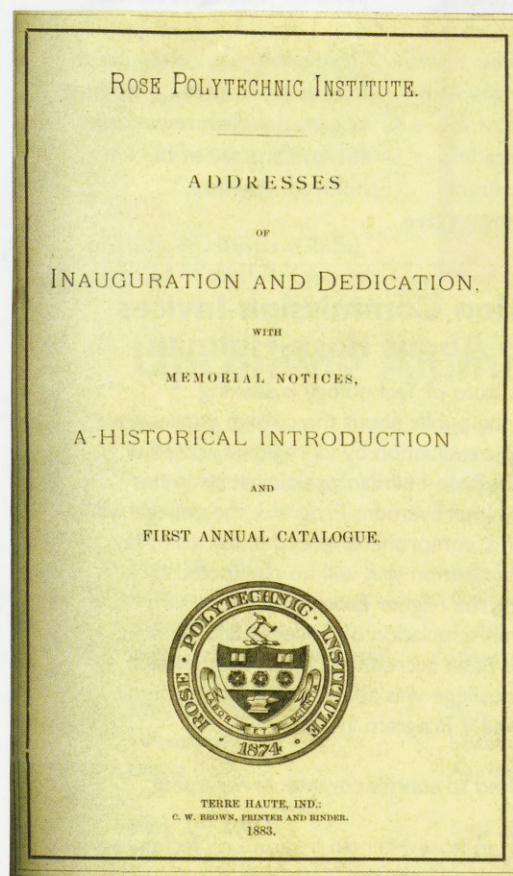
Comments must address substantive matters related to the quality of the institution or its academic programs. Comments must be signed and cannot be treated as confidential.

The Higher Learning Commission is one of six accrediting agencies in the United States that provide institutional accreditation on a regional basis. Rose-Hulman has been engaged in a process of self study, addressing the Commission's requirement and criteria for accreditation.



# ROSE-HULMAN'S FIRST *Presidential Inauguration*

BY JOHN ROBSON, LIBRARIAN AND ARCHIVIST



The program for the Institute's first inauguration was combined with the school's initial class catalog.

Plans to celebrate the inauguration of Dr. Gerald Jakubowski as the thirteenth president of the Institute have been in the making almost since his arrival in July. The occasion will be a multi-day affair and include such activities as the design and striking of a first-ever presidential medallion; a robed faculty and dignitary procession with all due pomp, circumstance and bagpipes; a series of receptions and dinners for campus members and invited guests; a speaker series featuring our most accomplished and entrepreneurial "young" alumni; and special comedic entertainments and program souvenirs. All this will hallmark a special and rare event – a new president taking the helm. When it is all over, the whole campus and much of the extended Rose family will have been involved and probably leave our president in need of a bit of R&R.

Rose has not always been able to host such varied and splendid activities to mark a new presidency. Sometimes the coffers were a bit thin to finance much of a gala such as when Dr. Woodworth came in 1921 while the American economy was in the midst of one of its most severe recessions, only surpassed when Dr. Prentice arrived in 1930 while Rose and the U.S. were coping with the Great Depression.

The first inaugural, however, was a true celebration, reflecting the joy of the board and Terre Haute community. Perhaps the level of joy was heightened because of the protracted, multi-year search for our first president, Dr. Charles O. Thompson. His hiring and actual arrival at the Institute happened with little or no fanfare. Perhaps this was because the school had yet to begin. The minutes of the Board for February 20, 1882 simply state "...Resolved that Professor Charles O. Thompson of Worcester, Mass. be elected to the Presidency

of the Faculty of Rose Polytechnic Institute, to enter upon the discharge of the duties of the office at his earliest convenience...." By the March board meeting President Thompson was present and making motions to hire the teaching staff. Since classes would not start for another year, there was no suitable occasion to celebrate President Thompson's arrival.

Thus our first presidential inauguration was also the inauguration of the school's first academic year. Plans were set in motion to invite all of Terre Haute to a special day of prayers, speeches, and refreshments. The Board minutes are spare on plans. The minutes of February 20<sup>th</sup>, 1883 merely state "The programme [sic] for Inauguration Day was then considered and Messrs. Cruft, Mack, and Cox were appointed a special committee of arrangements, with full powers to act." The date was fixed for Wednesday, March 7, 1883, the day before classes commenced. The headline of the *Terre Haute Tribune*, in typical Victorian prose, announced "The Rose Polytechnic Starts on Its Voyage, Amidst Auspicious Surroundings."

As indicative of the importance of the event, the courts and the public schools were dismissed, including Indiana Normal (now Indiana State University). A huge crowd gathered well before 10 a.m. in the chapel, the central room occupying the third floor between the two towers flanking the entrance to the so-named Academic Building. (At that time, the Institute was located at 13<sup>th</sup> and Locust streets in the city of Terre Haute.) All gallery and floor seating was taken by 10:30 a.m., with standees filling the aisles. Those who could not be accommodated inspected the hallways and extensive mineral collection. The stage for the speakers and president was arrayed in flowers and plants and our large portrait of our founder Chauncey Rose was displayed to the left with



floral garland. The Ringgold orchestra, Terre Haute's finest, occupied the left gallery.

Though exercises were to start at 10:30 a.m., board chairman Josephus Collett did not gavel the beginning of the program until 11 a.m. The reporter noted that some ladies, unable to find a seat in the chapel, were given seats on the stage. The stage seems to have been quite crowded with speakers, local politicians, and a large number of Terre Haute educators, including a teacher who first taught in Terre Haute in 1826. President Thompson and the faculty of six sat to the right.

After the orchestra performed and the Congregational minister, Rev. Pitman Croft, provided an invocation (President Thompson was the son and grandson of Congregational ministers), Collett announced that Gov. Porter and Sen. Voorhees, the announced speakers, were unable to attend and that Terre Haute's own Col. Richard Thompson, former secretary of the Navy under President Rutherford B. Hayes, would deliver the opening address. His talk lasted 45 minutes. More music followed and then the second speaker, Gen. John Eaton, long-serving U.S. Commission of Education, spoke for 30 minutes. It now being well into lunch hour, a half hour recess was declared, probably to the gratitude of many gathered in the stuffy, and probably hot, chapel. The honored guests were treated to an appetizer lunch – presumably implying a light lunch. Before adjourning, Mr. Mack of the board said that the exercises after break would consist of delivering the keys of the school to President Thompson, the president's address, and several short speeches by the presidents of Indiana and Purdue universities and

the ex-superintendent of education. Others brought their lunches and ate while seated, fearing to relinquish their chairs. The daring climbed the two towers to take advantage of the excellent view of Terre Haute.

Josephus Collett, in handing the keys to the Institute to Thomson said of him "...The matter was long and carefully considered, and every effort made to secure of the fullest information as to the fitness of the persons suggested for the position. Their [members of the board] unanimous choice has fallen upon you, and they deem themselves fortunate in having secured your services, believing that the institute will be safe in your hands, and its prosperity and usefulness assured."

President Thompson, having accepted the keys and thanking the board for their trust, entered upon a lengthy address, delving into the minutiae of Rose's unique technical educa-

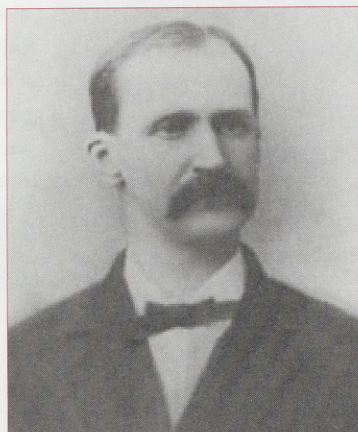
tion. Though the hour was late, we are told that people paid close attention to his remarks, establishing the framework for Mr. Rose's college. He also looked into the future, and hoped that he would live to see the day when a polytechnic school would be established for girls to fit them for the practical duties of life. With a benediction by Rev. Croft, the day's exercises concluded and the guests departed. Time: 6 p.m. – a seven-hour program with a 30-minute lunch break. What patient folks our ancestors were.

The minutes of March 10<sup>th</sup> ordered Early, board secretary, to thank all the speakers of the day and ask for copies for publication. Thanks were then offered to the Committee on Arrangements and especially Gen. Croft for the very tasteful and effective equipment of the chapel, with a special thanks to Mrs. Sarah Heminway (Mr.

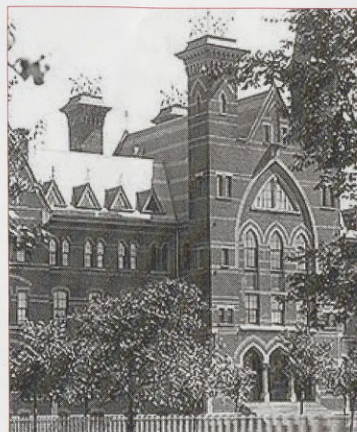
Rose's cousin) and Mrs. Firmin Nippert (wife of longtime board member) for the "beautiful contributions of flowers and plants with which the chapel stage was decorated, and which added largely to the interest of the day." Two hundred copies of a special commemorative pamphlet were ordered and 500 copies of President Thompson's address. Lastly, Early was to pay any bills submitted by the Committee on Arrangements, but those items are hopelessly buried in the account ledger.

One is struck by the optimism of the day. The *Tribune* reporter wrote that "The inauguration exercises of the Rose Polytechnic institute, an institution liberally endowed by an honored citizen of Terre Haute and destined to become famous throughout the land as one of its leading educational schools, took place yesterday with the proper ceremonies and exercises."

## Rose-Hulman Leadership History



*Charles O. Thompson*



*First Location*

### Past Presidents

- Charles O. Thompson 1883-1885
- Thomas Mendenhall 1886-1891
- Henry T. Eddy 1891-1894
- Carl Leo Mees 1895-1919
- Phillip Woodworth 1921-1923
- Frank Wagner 1924-1928
- Donald Prentice 1931-1948
- Ford L. Wilkinson 1949-1958
- Ralph Morgen 1959-1961
- John A. Logan 1962-1976
- Samuel F. Hulbert 1976-2004
- John J. Midgley 2004-2005
- Gerald S. Jakubowski 2006-



## SALUTING ROSE-HULMAN'S TALENTED STUDENT BODY



By Robert Bright, Chairman of the  
Rose-Hulman Institute  
of Technology Board of Trustees

As an alumnus and Board of Trustees member I'm always quick to point out how our alumni are our best calling cards to tell the Rose-Hulman story. We can't forget, however, that their stories start as some of the best college students in the country. Throughout the history of the Institute, our students have exemplified that story on many fronts – academics, athletics and community service.

For example, during the past four years Rose-Hulman has had a student named to the prestigious All-USA College Academic Team, featured in *USA Today*. This year's team selection is Eric Clift, a mechanical engineering major who helped form an Engineers Without Borders student chapter after reading an article in *Mechanical Engineering* magazine that described the lack of infrastructure hindering economic development in Africa. He was cited for his leadership in that endeavor and for his academic achievements.

In addition to individual achievement, our students represent the college well with various academic team competitions such as the Challenge X team and student professional organizations such as the American Society of Civil Engineers, where they have been named the nation's number-one chapter.

Student academic achievement carries itself into the athletic arena with a total of

67 student/athletes being named Academic All-Americans. For 22 consecutive years, at least one Engineer student-athlete has been named an Academic All-American.

Community service is another area where our students excel. I marvel at how they give of themselves to a variety of service causes such as the area Bikes-For-Tykes program, mission food drives, fundraising for breast cancer research and local tutoring programs, to name a few. They even focus their academic project work on service-oriented tasks such as engineering assisted-mobility devices for disabled people.

Rose-Hulman nurtures such student achievement in a caring campus environment that begins those first days during freshman orientation when a group of individuals come together on a campus in Terre Haute, Indiana, to begin/continue their journey to pursue their dreams and become a member of a very special group – “The Rose-Hulman Family.”

Campus faculty and staff instantly lay a foundation of team building and fun that

### Campus faculty and staff instantly lay a foundation of team building and fun that creates trust and understanding...

creates trust and understanding of the value of team effort where the total result is much greater than the individual effort. It is soon apparent that everyone on campus, no matter what his/her official title, is part of the team to optimize the ability of every student to reach that dream.

This certainly includes fellow students who help and support in every way as a natural part of the campus lifestyle and build lifelong friendships. Students are certainly the most valuable asset in that Rose Family and the focus of all other constituents in that family!

Student membership in the family does not end upon graduation. It is a lifelong

relationship that never ends. I'm living proof of that special bond with Rose-Hulman as I'm scheduled to receive a 50-year commemorative diploma with my fellow members of the Class of 1957 this spring during commencement. I hope the members of the Class of 2007 will maintain that bond so they can receive similar recognition a half century from now.

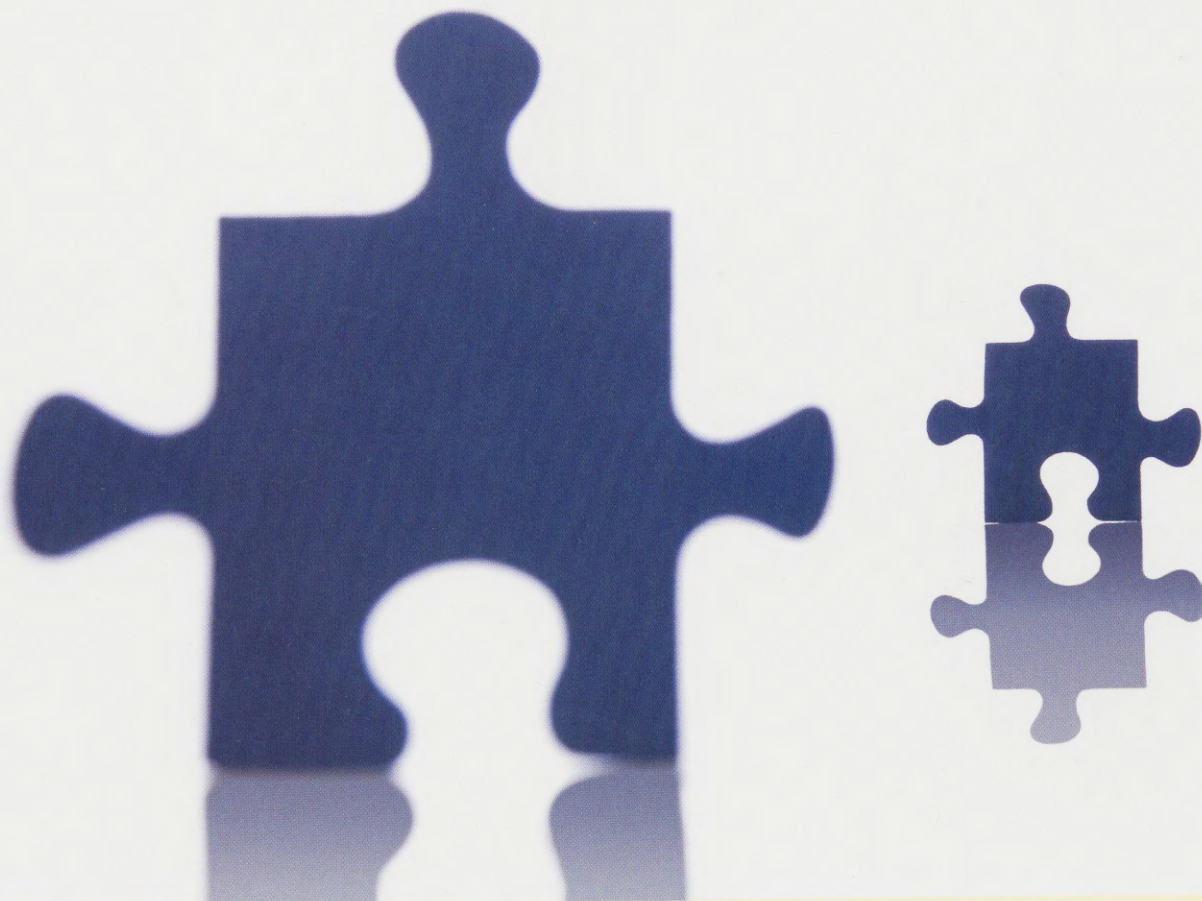
As the rate of societal change continues to escalate, the basic skills developed by Rose-Hulman students continue to be more and more important—especially problem solving and a realization that a hard work ethic rather than running away or avoidance are very rewarding and usually very effective. The rate and methods of learning keep up with the rate of change, and Rose students continue to demonstrate an ability to keep pace and develop personal and leadership skills through opportunities provided by the many clubs and activities during their stay at Rose.

The Board of Trustees and President Jakubowski have committed to broadening our campus diversity on all fronts, including ethnicity, race and geography. In the past 10 years, our geographic focus has shifted away from Indiana. In 1996, the incoming freshman class was 57 percent from Indiana. Today, the percentage of Indiana students stands at

40 percent with students coming from 44 states and five foreign countries. As we become more diverse in our student body, Rose-Hulman will have a more diverse impact on the world. Their involvement in helping solve the problems of the world will demonstrate the Rose-Hulman story to more people.

I am sure the pride of all Rose-Hulman constituents will increase as these talented young people realize their dreams. They are the living proof today and tomorrow that Rose-Hulman continues as the best in undergraduate engineering, science and mathematics education.





## No matter the size, every part contributes to the whole

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**ROSE-HULMAN STUDENTS COUNT ON ALUMNI SUPPORT** to make their education the outstanding opportunity it is—just as you did when you were a student here. And every donation, no matter the size, makes a huge difference as we educate the best and brightest. Because the percentage of alumni donors factors into some national rankings, your gift also helps give you the bragging rights of having attended one of the top-ranked schools in the nation!

**WON'T YOU HELP US REACH THE NEXT PLATEAU IN ALUMNI PARTICIPATION?** Please consider making a donation of any size before June 30. Choose the method that works best for you:

- **By mail.** Send a check made payable to Rose-Hulman Institute of Technology to 5500 Wabash Ave., Terre Haute, IN 47803.
- **By phone.** Call (800) 248-7448 with your credit card information handy.
- **Online.** Point your browser to [rose-hulman.edu/development/onlinegiving.htm](http://rose-hulman.edu/development/onlinegiving.htm) and securely enter your credit card information there.

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THANK YOU FOR PLAYING YOUR IMPORTANT PART IN BUILDING AN EVEN STRONGER ROSE-HULMAN.

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## PARTING SHOT

Members of Rose-Hulman's residence hall housekeeping and custodial staff gather to sign a "Good Luck, Colts!" greeting card for members of the Indianapolis Colts prior to the team's victory in Super Bowl XLI. The staff helps serve team members during the Colts' summer training camp, which has taken place on campus for the past eight years.

# Echoes

ROSE-HULMAN INSTITUTE OF TECHNOLOGY

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Terre Haute, IN 47803

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