

Spring 2001

## Volume 2000-2001 - Issue 2 - Spring, 2001

Echoes Staff

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ROSE-HULMAN INSTITUTE OF TECHNOLOGY

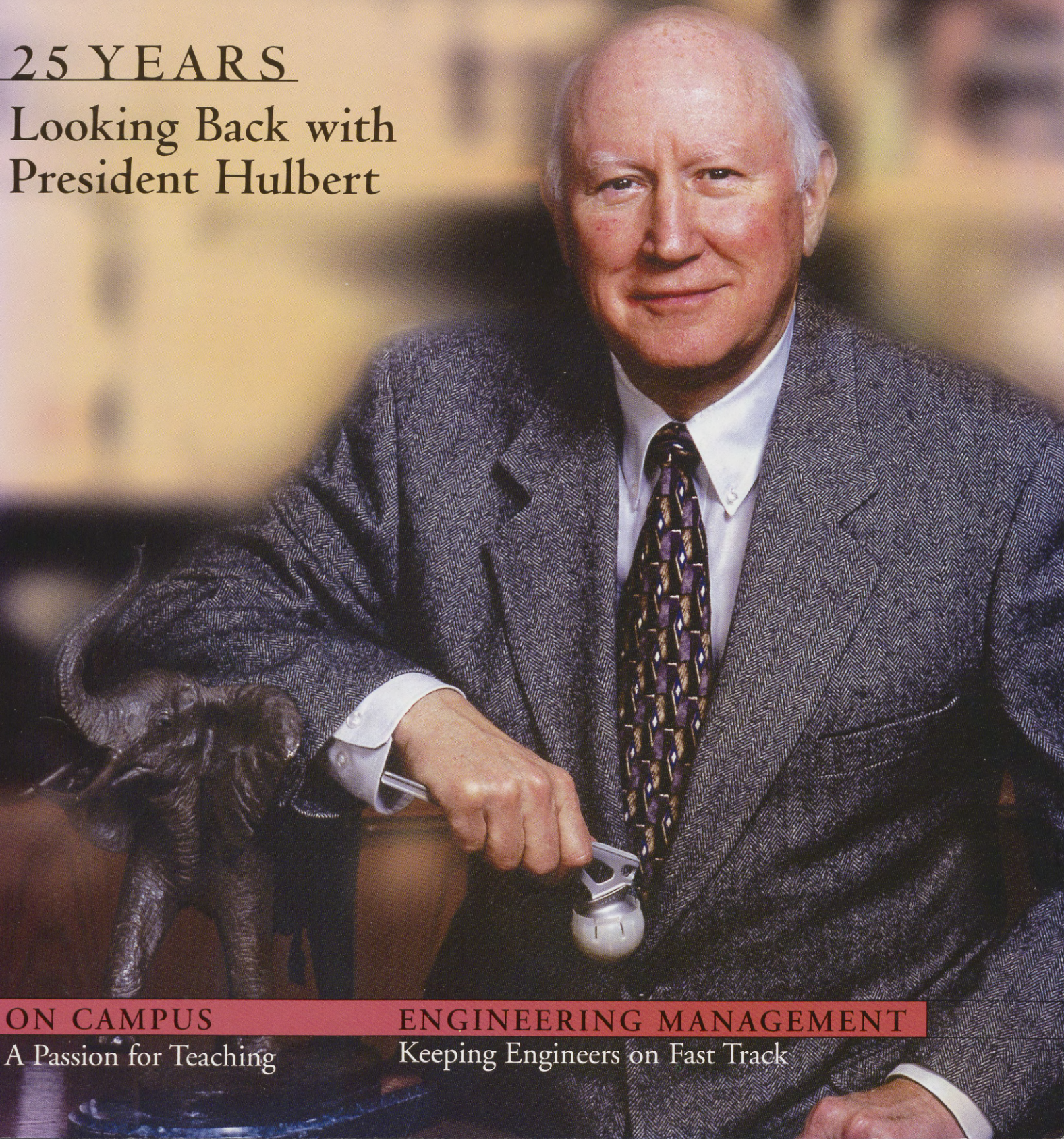
# Echoes

Spring 2001

Vol. 2000-2001, No. 2

## 25 YEARS

Looking Back with  
President Hulbert



ON CAMPUS

A Passion for Teaching

ENGINEERING MANAGEMENT

Keeping Engineers on Fast Track





## *heard in the halls of Moench*

“

I believe the only reason for our existence is our students.

I believe every decision at Rose-Hulman ought to  
be based on the answer to the question:

‘Is this in the best long-term interest of our students?’ ”

”

— *President Samuel F. Hulbert*

(at opening of school address for this academic year)



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## features

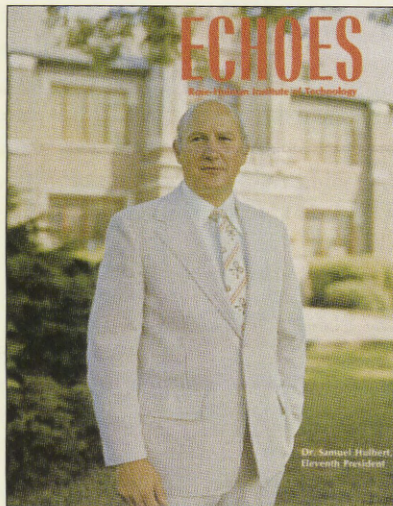
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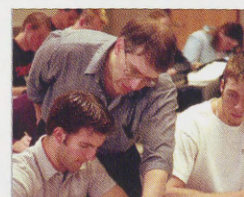
Twenty-five years have passed since *Echoes* was presented in magazine format. The cover article in that last magazine (shown at left) was none other than incoming President Samuel F. Hulbert. As *Echoes* abandons its tabloid format and returns to a magazine with this issue, the editorial team found poetic timing in the cover article for this issue. President Hulbert returns to the cover as he serves his 25th year and *Echoes* looks back at that quarter century of service.



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 PAGE 16-17 – Thom Kondas  
 PAGE 18 – Thom Kondas  
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 PAGE 20-21 – Joe Benton and students  
 PAGE 23 – Harold Lee Miller



# Great Days

A LETTER FROM THE PRESIDENT

## THE GRAYING OF THE PROFESSORATE

When I look in the mirror I see ample evidence of a phenomenon that is sweeping academe in America — “the graying of the professorate.” (Yes, I could also make a case for the “balding of the professorate” but that will wait for a future column.)

A huge transition is changing the face of Rose-Hulman, but not its mission or core values. Many faculty members who began serving this college in the last quarter of the 20th century are retiring. During each of the past three years, we have lost more than 200 years of teaching experience to retirement. Faculty with experience ranging from 25 to 30 years are moving on. Many of the departing faculty take with them what I call “legend” status. Their names will be recalled at class reunions for years to come. They have committed their lives to Rose-Hulman and served it well.

The length of service is a testament to the Rose-Hulman community. We have a culture where many people drop in for what was planned to be a couple years and they end up spending a career here. They find an environment that encourages them as educators and they get to work with great students. Rose-Hulman is not utopia or Camelot, but it shares the same zip code. It's a hard place to leave.

But inevitably the time to move on will come and it means change for the college. This is never more obvious to me than during spring retirement dinners, which provide bittersweet moments. We celebrate the careers of the faculty who are leaving, but we also sense a loss. For we are seeing our friends move on, and they take with them experience and years of institutional memory.

Although we will miss our departing colleagues, they are being replaced with new faculty who bring the same dedication and commitment to teaching that has been the hallmark of the Rose-Hulman experience for more than 125 years. Everyone who comes here subscribes to our mission and vision to optimize the student experience. I am confident we will not drop a pace as the baton is passed to a new generation of faculty.

With change comes the opportunity for new ideas and perspectives. Our new faculty bring a fresh outlook that can build on the foundation of those who have gone before. This change is a chance to make a good thing better. Our new faculty and staff come from the world's finest graduate schools, and they bring industrial experiences that enrich the classroom experience for our students. I marvel at their zeal for teaching and at their expertise.

The infusion of new ideas must take place for a college to grow and improve. Rose-Hulman has never been afraid to debate ways to make its educational experience better. Debate is healthy as long as it does not distract us from our core values that focus on educating tomorrow's engineers, scientists and mathematicians. New faculty form one of the avenues by which we can stimulate the discussion of new ideas.

The graying of the professorate has hit us, but it has not hurt us. This transition is a time to salute and say thanks to the retiring faculty who have dedicated their lives to Rose-Hulman. It also is a time to salute and say thanks to those new faculty who have joined the Rose-Hulman family and embraced our mission. ■



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

Although we will miss our departing colleagues, they are being replaced with new faculty who bring the same **dedication and commitment to teaching** that has been the **hallmark of the Rose-Hulman experience for more than 125 years.**



# CAMPUS News Notes

## MORE THAN BRICKS AND MORTAR: HATFIELD HALL WILL ENHANCE CAMPUS LIFE

By the fall of 2002, Rose-Hulman's popular drama and music student groups will be performing in a modern, acoustically efficient, 600-seat theater, instead of the 76-year-old Moench Hall Auditorium. Those same groups will move out of inadequate practice rooms into new, larger rehearsal spaces.

This improvement to campus life will be available in October, 2002 when construction is completed on the new Hatfield Hall.

This project is the latest in an eight-year period of unprecedented campus facility improvements totaling over \$70 million.

The installation of underground utilities and services is under way on the site for the new Hatfield Hall, a 49,340-square-foot facility that will house a new theater, rehearsal rooms, alumni center and offices for development and external affairs staffs. The new building is being constructed just south of Moench Hall.

"The building is a composition that balances flat planes and curved surfaces, brick and glass, traditional and contemporary design," states William Bradford, principal, VOA architects, a Chicago-based firm designing Hatfield Hall and the White Chapel. "There is fluidity to the exterior that distinguishes it from the more rectilinear buildings of the campus core."

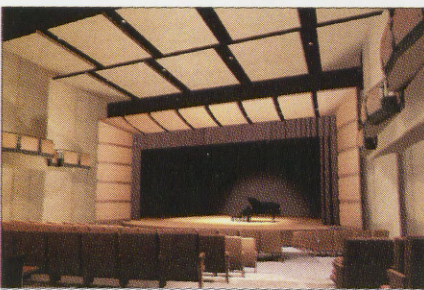
The new facility is made possible by a \$14 million gift from 1984 alumnus Mike Hatfield. He is founder, chief executive officer and president of Calix Networks in Petaluma, Calif. In addition to funding construction costs, the gift creates an endowment to provide funds for maintenance of the building.



Artist's rendering of the entrance to Hatfield Hall.

Hatfield graduated with honors, receiving a bachelor of science degree in electrical engineering and mathematical economics.

The building is being named Larry and Pat Hatfield Hall in honor of the donor's parents. At the center of Hatfield Hall will be a traditional proscenium style 600-seat auditorium, providing 425 seats on the main floor and 175 seats in the balcony. It is designed to serve a variety of events such as vocal and orchestral music concerts, lectures, and dramatic or musical productions. The theater can be used with or without amplified enhancement.



The 600-seat auditorium will serve a variety of events.

"Wrapping around the auditorium box are the public lobby, theater support spaces, rehearsal rooms for student drama and music organizations, and offices for development and external affairs," explained Wayne Spary, vice president for facilities operations. "A dramatic glass enclosed two-story lobby defines the public face of the building."

The alumni hall is a circular space on the main level of the building that will be used for alumni meetings and as a showcase to illustrate the success of Rose-Hulman graduates. It will feature a two-story vaulted ceiling capped with a skylight. Construction should be completed in about 18 months. ■

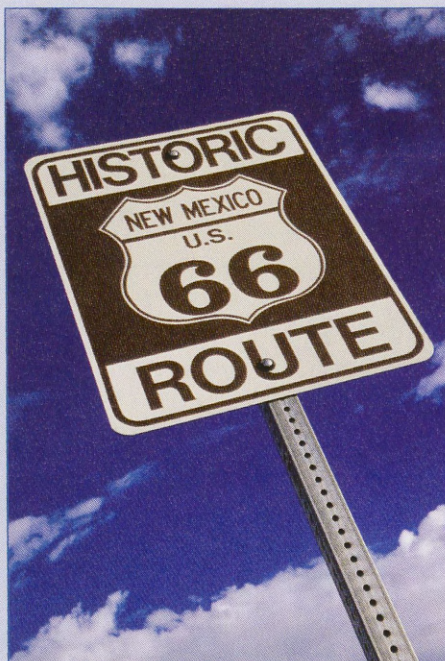


## GET YOUR SOLAR KICKS ON ROUTE 66

Rose-Hulman's Solar Phantom team will follow the sun across the country again this year when it participates in the American Solar Challenge, July 15-25. This year's race will traverse historic Route 66 from Chicago, Ill., to Claremont, Calif.

The team is entering a totally new car for this year's competition. Some specifications follow: 18 feet long; six feet wide; weighs 550 pounds; top speed of 72 miles per hour; carbon fiber and Nomex composite chassis; 1000 watts peak power output; and 12.1 horsepower hub-mounted, rear-wheel drive motor.

Early prospects look good for the new car. In May, it successfully defended its title in the Formula Sun Grand Prix race.



## SOLAR PHANTOM ROUTE

## July 8-13:

**American Solar Challenge  
Pre-Race Activities,**  
– Kalamazoo, Mich.

## July 15-25:

**American Solar Challenge,**  
– Chicago to Claremont,  
Calif.

## Stage One (435 miles),

## July 15-16

- Museum of Science and Industry, Chicago
- Springfield, Ill.
- St. Louis, Mo.
- Rolla, Mo.

## Stage Two (1,750 miles),

## July 17-24

- Neosho, Mo.
- Tulsa, Okla.
- Edmond, Okla.

– Sayre, Okla.

– Amarillo, Texas

– Tucumcari, N.M.

– Albuquerque, N.M.

– Gallup, N.M.

– Flagstaff, Ariz.

– Kingman, Ariz.

– Barstow, Calif.

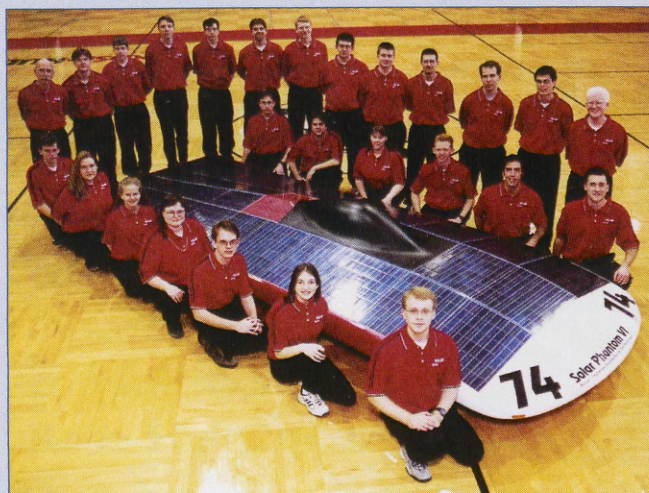
## Stage Three (120 miles),

## July 25

– Victorville, Calif.

– Claremont, Calif.

(Finish: Metrolink Parking Lot)



2001 Solar Phantom VI team

## SOLAR PHANTOM COMPETITORS

American Solar Challenge  
Registered Teams

California Polytechnic State-  
San Luis Obispo

Florida State/Florida A&M

Iowa State University

Kansas State University

Los Altos High School (Calif.)

McGill University (Canada)

Messiah College (Pa.)

Michigan State University

Michigan Technological Univ.

Mankato/Winona State (Minn.)

Massachusetts Institute of Technology

North Dakota State Univ.

Northwestern University

The Ohio State University

Principia College

Queens University (Canada)

Rose-Hulman Institute of Technology

South Dakota School of Mines

Stanford University

Texas A&M University

University of Alberta (Canada)

University of Arizona

University of California

University of Kentucky

University of Michigan

University of Minnesota

University of Missouri-Columbia

University of Missouri-Rolla

University of North Dakota

University of Oklahoma

University of Pennsylvania

University of Puerto Rico-Mayaguez

University of Texas

University of Toronto (Canada)

University of Virginia

University of Waterloo (Canada)

Western Michigan University

Yale University



## NEW FACULTY

## NEW FACULTY JOINING THE ROSE-HULMAN COMMUNITY FOR THE 2000-01 ACADEMIC YEAR INCLUDE:

**Mark Ardis**

Professor of computer science and software engineering;  
Ph.D., University of Maryland;  
Areas of specialization: software engineering, domain engineering and formal methods;

**Terrence Casey**

Assistant professor of political science;  
Ph.D., George Washington University;  
Areas of specialization: comparative politics, political economy and international politics;

**Zachariah Chambers**

Assistant professor of mechanical engineering;  
Ph.D., University of Tennessee, Knoxville (Rose-Hulman bachelor's, 1994);  
Areas of specialization: finite element analysis;

**Paul Hamilton**

Visiting assistant professor of economics;  
Ph.D., Indiana University;  
Areas of specialization: international trade and finance, applied econometrics, finance and macroeconomics;

**Daniel Jelski**

Professor of chemistry and head of the Department of Chemistry;  
Ph.D., Northern Illinois University;  
Areas of specialization: cluster structure and properties, silicon clusters, and Buckminsterfullerene;

**Thomas Jerse**

Visiting associate professor of electrical and computer engineering;  
Ph.D., University of Kentucky;  
Areas of specialization: RF/Microwave design, electromagnetic compatibility and computer music;

**Richard Layton**

Assistant professor of mechanical engineering;  
Ph.D., University of Washington, Seattle;  
Areas of specialization: dynamic systems, instrumentation and design;

**David Macauley**

Assistant professor of philosophy;  
Ph.D., State University of New York at Stony Brook;  
Areas of specialization: philosophy of technology, environmental ethics, history of philosophy and Eastern thought;

**Victor Rivas**

Assistant professor of Spanish and Latin American Literature and Culture;  
Ph.D., University of California, Berkeley;  
Areas of specialization: include U.S.-Latino cultural studies, postmodern and postcolonial theories, and second language acquisition; and

**William Weiner**

Assistant professor of applied biology and biomedical engineering;  
Ph.D., Syracuse University;  
Areas of specialization: neuroscience and biomedical engineering.

## PLAYING IT BY THE NUMBERS

3,029 applications for the freshman class entering in the fall of 2001

49 Academic All-Americans at Rose-Hulman since 1978

788 solar cells on Solar Phantom VI

10,012 living alumni

1,054 pints of blood contributed by Rose-Hulman students, faculty and staff this academic year, a record

5,230 individual financial gifts made to Rose-Hulman last year

1874, the year Rose Polytechnic Institute was founded by Chauncey Rose

1970, the year the Board of Managers voted to change the college's name to Rose-Hulman Institute of Technology.

## IT MAY BE A MAGAZINE, BUT IT'S STILL ECHOES

We hope you have noticed and enjoy the new look for *Echoes*. This is our first publication in magazine format in 25 years. Prior to this issue, *Echoes* was printed as a tabloid newspaper. The last redesign of the publication took place more than 10 years ago. Given the changes in communication during that period, the time for change had come.

Readership surveys showed that *Echoes* readers were pleased with the writing style and the mix of articles. This magazine was designed to enhance that editorial focus through improved graphics and photography. We want a publication befitting our growing reputation as a leader in engineering, science and mathematics education.

The magazine is the result of several months of planning by members of the external affairs staff and WilliamsRandall Marketing, an advertising/communications firm based in Terre Haute.

If you have any ideas for future articles, contact Editor Bryan Taylor via e-mail at [bryan.taylor@rose-hulman.edu](mailto:bryan.taylor@rose-hulman.edu) or at Rose-Hulman, 5500 Wabash Avenue CM14, Terre Haute, Indiana 47803. ■



## MOVING ON



Front row, from left: Carl Abegg, Lou Harmening and Betty Moore;  
Back row, Bill Ovens, Don Dekker, Frank Acker, Pete Parshall and Phyllis Phegley.  
Not pictured: David "Scotty" Roy and Jerry Caskey.

More than 250 years of experience will be retiring from the Rose-Hulman campus this spring as 10 longtime faculty and staff wrap up their careers.

"Each of these persons has been a major contributor to the success of Rose-Hulman, and they will be missed," said President Samuel F. Hulbert. "They leave some big shoes to fill, but Rose-Hulman's reputation will enable us to replace them with people of equal caliber. This number of retirees is an example of the graying of the professorate that has hit several colleges throughout the country." (For a deeper look at this phenomena, see the president's column on page 2.)

**Carl Abegg, 17 years**  
Professor of chemical engineering

**Frank Acker, 16 years**  
Professor of electrical and computer engineering

**Jerry Caskey, 28 years**  
Professor of chemical engineering

**Don Dekker, 36 years**  
Professor of mechanical engineering

**Lou Harmening, 31 years**  
Registrar and associate professor of American literature

**Betty Moore, 25 years**  
Secretary for the Department of Humanities and Social Sciences

**Peter Parshall, 34 years**  
Professor of film and literature

**Phyllis Phegley, 23 years**  
Secretary to the registrar

**William Ovens, 20 years**  
Professor of mechanical engineering

**David "Scotty" Roy, 31 years**  
Supervisor of facilities

## TWO NEW DEPARTMENT HEADS SELECTED

Two new department heads have been selected at Rose-Hulman. Fred Berry is the new head of the Department of Electrical and Computer Engineering, and Robert Houghtalen will take over as head of civil engineering effective July 1.

Berry has been a member of the Rose-Hulman electrical and computer engineering faculty since 1995. He teaches undergraduate classes in controls, circuits and parallel processing. He has also served as a consultant to NASA at the Johnson Space Center in Houston, Texas.

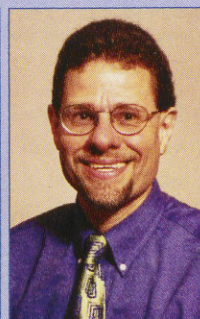
Prior to joining the Rose-Hulman faculty, Berry served for 13 years on the electrical engineering faculty at Louisiana Tech University. He received the Tau Beta Pi Teaching Excellence Award during his tenure at Louisiana Tech. Berry earned the bachelor's, master's and doc-



Fred Berry

torate degrees in electrical engineering from Louisiana Tech.

Berry is chairing a department that has 17 faculty and 395 students seeking a B.S. degree in electrical or computer engineering. He replaces Barry Farbrother who has become dean of the T.J. Smull College of Engineering at Ohio Northern University.



Robert Houghtalen

Houghtalen, a member of the faculty since 1988, will replace longtime chair Jim McKinney, who will remain on the faculty as the first Roland Hutchins Distinguished Professor of Civil Engineering.

Recipient of the Board of Trustees' Outstanding Scholar Award in 1998, Houghtalen has expertise in hydrologic and hydraulic engineering, storm water and wastewater management, and wetlands preservation. He recently was selected to participate in the Fulbright Scholars Program's Urban Planning Studies Seminar in Germany this summer.

Houghtalen provides continuing education seminars on hydrologic and hydraulic modeling throughout America. The seminars are sponsored by the American Society of Civil Engineers. ■



## ROSE-HULMAN Ventures' INNOVATION FELLOWS WIDEN EXPERTISE BASE

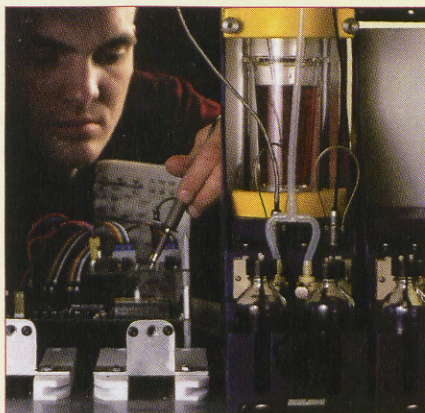
An important competitive advantage for Rose-Hulman Ventures is the wide range of technical and scientific expertise the Ventures staff provides to create economic growth. As a supplement to the Ventures' permanent staff, several Innovation Fellows are also available to meet specific client requests.

"The Innovation Fellows program provides us with flexibility to meet client needs without the long-term commitment of traditional appointments," explains Jim Eifert, Rose-Hulman Ventures President.

Innovation Fellows will be called upon as needed to assist in areas ranging from optics and imaging to software engineering, analytical chemistry or electromagnetic capability.

"The pool of talent we can select from is large," Eifert noted. "While most of the first group of Innovation Fellows are faculty, we also recruit experienced professionals in the corporate and entrepreneurial community," he said.

Non-faculty appointments to the program include two of the original founders of SAGIAN, Inc., Scott Atkin and Tim Bruemmer, now of Beckman Coulter's SAGIAN Operations. Atkin and Bruemmer have helped lead the growth of SAGIAN within Beckman Coulter



Brian Dougherty, a Ventures project manager, inspects a recent project to develop a scientific instrument for the life sciences and chemical industries.

to be a \$100 million contributor to Beckman's Bioresearch Division. Another member of the Innovation Fellows group is Hal Greenberger, president of Precision Acoustics.

Among the Innovation Fellows is Robert Bunch, who has been the technical manager on an optical display system project for the Guide Corporation. "I also provide advice to other project teams on issues related to optics, illumination and imaging," says Bunch, professor of applied optics and physics at Rose-Hulman.

The Innovation Fellows program provides benefits to students as well as clients. Undergraduates working with chemistry professor and Innovation Fellow Dan Morris learned new analytical techniques and received practical experience in process design.

Bunch notes that working on a fee-based project adds "an edge to a student's experience that you can't get through project courses."

Computer science and software engineering professor Mark Ardis has

worked with six Rose-Hulman students on two Ventures projects. One of the projects resulted in the creation of a prototype for an e-commerce company. Ardis says students have learned about user interface design and implementation during their work at Ventures.

Helping companies decide whether new products can meet electromagnetic compatibility requirements is the focus of services provided by electrical and computer engineering professor Jianjian Song and several students.

"Wireless communication and computing technologies fall into the category of RF devices," Eifert noted. "Meeting these guidelines is critical to successful product development," he said.

Eifert says the Innovation Fellows will be expanded to provide even broader access to resources to attract resident, affiliate and New Product Development Lab clients to Rose-Hulman. ■

### VENTURES RECRUITS TWO NEW AFFILIATE CLIENTS

The two most recent affiliate clients to seek product-development assistance from Rose-Hulman Ventures are Indiana companies involved in the health care and plastics industries. Suros Surgical Systems in Franklin, and Indianapolis-based Distortion Graphics have sought help to develop a new surgical system and enhance image distortion software.

The Ventures staff is working with Suros to develop a minimally invasive tumor biopsy and removal system for use by surgeons. The initial market focus for the device is in the diagnosis and treatment of breast cancers.

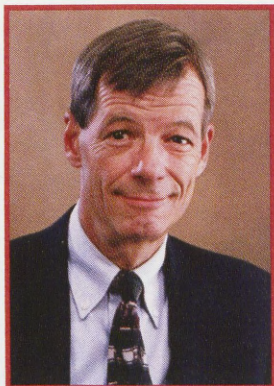
Distortion Graphics has developed technology which assists in transferring pre-printed, two-dimensional images to three-dimensional images through distortion methods. The technology is being developed for the thermoformed plastic industry. ■



Senator Richard Lugar recently visited Ventures and said he is optimistic about the positive impact of Rose-Hulman Ventures on Indiana's economy. Lugar learns about technology developed by Nolk Communications, an early Ventures incubator client. Pictured with Lugar, left, are Jim Eifert, Ventures president, and Dustin Sapp, Nolk co-founder.



## "WRONG WAY" COX CITES MERITS OF ROSE-HULMAN ATHLETICS



By Guille Cox, Chairman of Rose-Hulman Institute of Technology Board of Trustees

We know Rose-Hulman is Number One in undergraduate engineering. In a very real sense, we also are Number One in athletics. I am not talking about winning national championships, producing professional athletes or receiving big buck revenues from bowl games. We are Number One in athletics because of the athletic opportunities we offer all our students. From intramurals to varsity athletics, we engage the maximum percentage of participation possible. We do so keeping in perspective that our number-one priority is providing the finest engineering/science/mathematics education possible. Athletic participation, varsity or intramural, is a part of that complete education. A mind is truly healthier in a healthy body. Stress from the pressures of study can be relieved through physical exertion, and athletics teaches teamwork. Everyone who participates has a shot at "15 minutes of fame."

Rose-Hulman offers 21 varsity sports, ranging from football to rifle. More than 300 students participate in varsity sports, including 35 percent of our entering freshmen. Competition is stiff, the schedules are tough, and the experiences are rewarding. Through it all, our coaching staff never loses sight of our number-one goal — scholastic excellence. Rose-Hulman has

graduated 29 academic All Americans in the last 11 years. Several years ago Paul Harvey's national radio program gave us accolades for excellence because of a baseball game. We were playing a ranked state university and had the lead when several of our starters had to leave in the fifth inning to take a test. Our priorities were in the proper location — the classroom, not the ball diamond.

Athletic participation is not limited to the varsity ranks. More than 80 percent of our students take part in 12 intramural sports. A hearty hurrah for Athletic Director

who are not quite as good as Larry Bird and don't make the team is large. The sense of failure can be debilitating. At Rose-Hulman, you can be assured of being able to continue your love of your sport while achieving a degree from the best undergraduate engineering college in the nation."

I will close with my own 15 minutes of collegiate athletic fame. When the varsity basketball coach at MIT learned I was from Indiana and had played varsity basketball for a high school team that had been ranked sixth in the state, I was immediately drafted. (I didn't tell the coach

**"Unless you are sure you are a Larry Bird,  
don't go to a big state school with the  
objective of being a division one national  
star and having a pro career.  
Dreams are nice, but  
solid choices need to be made."**

Greg Ruark and all of our fine coaches running these programs.

Let me share with you what I tell superior high school athletes who also have excellent brain power. "Unless you are sure you are a Larry Bird, don't go to a big state school with the objective of being a division one national star and having a pro career. Dreams are nice, but solid choices need to be made. Rose-Hulman is about education for life and placement in a high-paying job. At a division one school, you 'might' make the team, and you 'might' play some if you are good enough. But the percentage of high school varsity athletes

about all of the calluses on my rear end from warming the bench during my high school career.) The coach quickly learned I could shoot like a Hoosier, but only if left unguarded. In the first game, I was put in at the beginning of the second half to try to pop in what would now be called a quick three-pointer to throw the defense off balance. In my excitement, I forgot that teams change ends at the half. I received the tipoff, dribbled the wrong way and (since obviously left unguarded) swished a beautiful 22-footer for the opposition. My playing time was limited thereafter — but hey, I received my 15 minutes of fame. ■



## THE PERFECT STAT — 4.0: BALANCING BOOKS AND BASKETBALL

The scorebook doesn't tell the complete story about basketball players Chris Unton and Rashad Gold. Of course they worry about points per game and rebounds, but their resumes include a stat that sets them apart — a 4.0 grade-point average.

Unton, a junior forward, and Gold, a sophomore guard, successfully balance athletics and academics at Rose-Hulman despite the time demands required to ensure a successful basketball season. Unton started every game at power forward while Gold provided a spark off the bench with defensive, solid play at point guard.

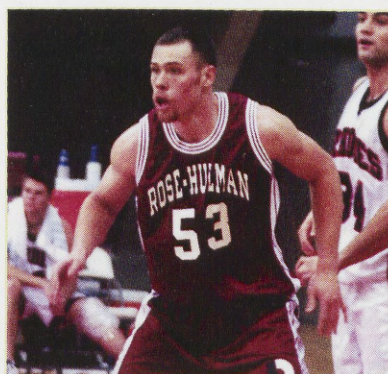


### MUTCHNER CUP

The contributions of John T. Mutchner to Rose-Hulman and Earlham College are recognized through the recently instituted Mutchner Cup. It is a special cup Rose-Hulman and Earlham men's basketball teams will vie for each year. Mutchner enjoyed a standout career as a student/athlete at Earlham before serving 25 years as athletic director, basketball coach and baseball coach at Rose-Hulman. The cup currently resides at Earlham as the result of a Quaker victory in the first game for the cup.

After Rose-Hulman struggled to a 2-6 record to open the season, Unton and the Engineers finished with a 17-8 record and a share of the SCAC title.

Unton, a computer science major, blossomed in his first season as a starter in the Rose-Hulman frontcourt. The 6-5 junior improved his scoring average from 4.8 to 8.4 points per game while more than doubling his 2000-01 rebounding total, averaging a team-high 6.5 caroms per game.



Chris Unton

His improvement occurred without changing his unblemished 4.0 grade-point-average. The daily routine of books and basketball may have provided challenges for three seasons, but Unton and his teammates look at the obstacle in terms of a basketball opponent.

"A day for the average Rose-Hulman student is a challenge, but with the added time commitments for basketball, I have had to be even more focused. The evidence that the two can be balanced is there, however. Our team grade-point-average is higher in-season than out of season. That's a testament to our team character," said Unton.

Gold overcame an additional challenge to contribute on the floor this season. Late in his freshman campaign, the chemical engineering major tore his anterior cruciate ligament in a Southern Collegiate Athletic Conference game. The time required to rehabilitate the injury did not hinder his focus on school and basketball, however.

"I've worked really hard to come back

after the surgery. God has really helped me. I'm not back at full strength yet, but I'm working every day. I hope to be at full strength next season," said Gold.

Gold faces the same daily demands as Unton both in the classroom and on the court, but has the additional duties of rehabilitation for his knee. "The biggest thing that I give up to meet the demands of my schedule is sleep. I have work to do all the time. I try to fit in as well as I can, succeed to the best of my ability, and leave the rest up to God," said Gold.

In addition to his other daily activities, Gold is the Finance Chair for the National Society of Black Engineers, a member of the American Institute of Chemical Engineers, and a member of Rose-Hulman's Intervarsity Christian Fellowship.



Rashad Gold

Head Coach Jim Shaw, the second-winningest coach in school history behind John Mutchner, recognizes that Gold and Unton are unique student-athletes, even for the strong tradition of dual success carried on at Rose-Hulman.

"I see firsthand how demanding college basketball is on student-athletes academically at Rose-Hulman. Chris and Rashad are both perfect examples of how it can be done, how it should be done, and in their case, how it is done," said Shaw. ■



## ROSE-HULMAN WINTER SPORTS WRAPS

MEN'S BASKETBALL SHARES  
CONFERENCE CHAMPIONSHIP

After a 2-6 start to the season, the Rose-Hulman men's basketball team won 15 of its last 17 games to earn a co-Southern Collegiate Athletic Conference championship this winter.

Head coach Jim Shaw and the Engineers earned their second conference championship in three seasons and finished with a 17-8 overall record. The season highlight occurred at Trinity University in San Antonio, Texas, when the Engineers rallied from a nine-point deficit to earn an 84-82 triple overtime win.

Juniors Clint Ferguson and Ryan Harris led Rose-Hulman in scoring with averages of 13.6 and 13.1 points per game. Senior T.J. Holmes pitched in 11.6 points per game and team-highs with 72 assists and 63 steals.

WRESTLERS ENJOY BEST SEASON  
SINCE 1995

The Rose-Hulman wrestling team earned its best placement since 1995 at the NCAA Division III Wrestling Regional, placing sixth as a team.

Junior Andy Miesse and senior Joe Boyle placed second in the 157-pound and heavyweight divisions, respectively, while junior Aaron Rausch finished third in the 197-pound weight class.

SWIMMERS PLACE 4TH, 8TH  
AT SCAC CHAMPIONSHIPS

The Rose-Hulman men's swimming team finished fourth, while the women placed eighth in the final standings at the 2001 SCAC championships at Trinity University.

Freshman David Breiding set school records in the 200-yard backstroke, 200-yard individual medley and 400-individual medley to lead Rose-Hulman's efforts. Sophomore Elizabeth Farquhar led the women with a sixth place in the 100-yard backstroke and an eighth in the 200-backstroke.

WOMEN'S  
BASKETBALL  
REWRITES  
RECORD BOOK

First-year head coach Jody Prete helped lift the Rose-Hulman women's basketball team to new heights, as the Engineers won a school-record five games on the hardwood this season.

Rose-Hulman opened the season with back-to-back wins for the first time in program history (Maryville and Stephens), then earned back-to-back conference victories for the first time ever (Millsaps and Oglethorpe).

Junior Christina Forsyth led the Engineers with a scoring average of 15.3 points per game. Sophomore Carissa Hasselbring paced Rose-Hulman in rebounding (7.3 per game) and blocked shots (49).



Christina Forsyth led Engineer scoring

RIFLE TEAM RANKED NO. 18  
NATIONALLY, THIRD IN DIVISION III

The Rose-Hulman rifle team completed the 2000-01 season ranked 18th nationally among Division I, II and III NCAA programs.

The Engineers scored a total of 5,975 out of a possible 6,400 points in an NCAA Qualifying match at Ohio State University last month to earn the ranking and establish a new school record.

Rose-Hulman also ranked third among NCAA Division III institutions in the poll, trailing only the U.S. Coast Guard Academy (14th) and Norwich University (15th).

The Engineers broke 10 of their 16 school records during the 2000-01 season.

## FALL FOOTBALL SCHEDULE

**Sat., Sept. 1**  
at Earlham College • Richmond, Ind.  
7 p.m.

**Sat., Sept. 8**  
University of the South • Phil Brown Field  
(Hall of Fame)  
1:30 p.m.

**Sat., Sept. 15**  
University of Chicago • Phil Brown Field  
(Homecoming)  
2 p.m.

**Sat., Sept. 22**  
at Kalamazoo College • Kalamazoo, Mich.  
12:30 p.m. CST

**Sat., Sept. 29**  
Trinity University • Phil Brown Field  
(Community Day)  
1:30 p.m.

**Sat., Oct. 6**  
at Rhodes College • Memphis, Tenn.  
1:30 p.m.

**Sat., Oct. 13**  
at Millsaps College • Jackson, Miss.  
6 p.m.

**Sat., Oct. 20**  
Case Western Reserve U. • Phil Brown Field  
(Rose-Hulman Day)  
1:30 p.m.

**Sat., Nov. 3**  
DePauw University • Phil Brown Field  
(Dad's Day)  
1:30 p.m.

**Sat., Nov. 10**  
at Centre College • Danville, Ky.  
1:30 p.m.

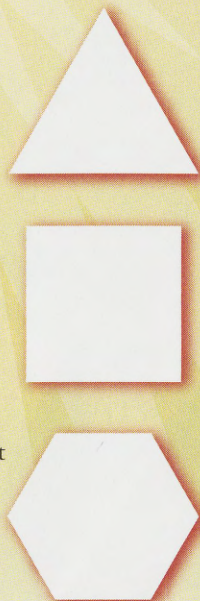


# Bailey Challenge

By Professor Emeritus Herb Bailey

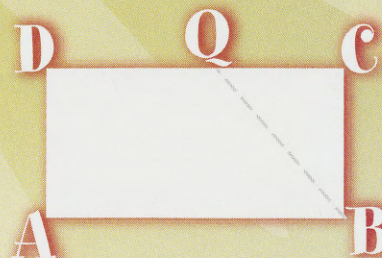
## Problem 1.

"There being three figures which *themselves can fill up a space round a point*, viz. the triangle, the square and the hexagon, the bees have wisely selected for their structure that which contains most angles, suspecting indeed that it could *hold more honey than either of the other two*." Your problem is to explain the first italicized phrase and to explain and prove the second. As a starter, show that you could not tile a bathroom floor with small tiles that are regular pentagons.



## Problem 2.

A 3' by 5' rectangular piece of cardboard ABCD is to have one corner clipped off by cutting along BQ as shown. Find where the point Q should be located so that when the rectangle is hung by a string attached at Q, the side AB will be horizontal. The true engineer will want to test their solution in the 'lab'. Hint: As you learned in Calculus and again in Statics, the distance from the base of a thin triangle to its center of gravity is equal to one third of the altitude to that base.



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.

### Solvers from our last problem

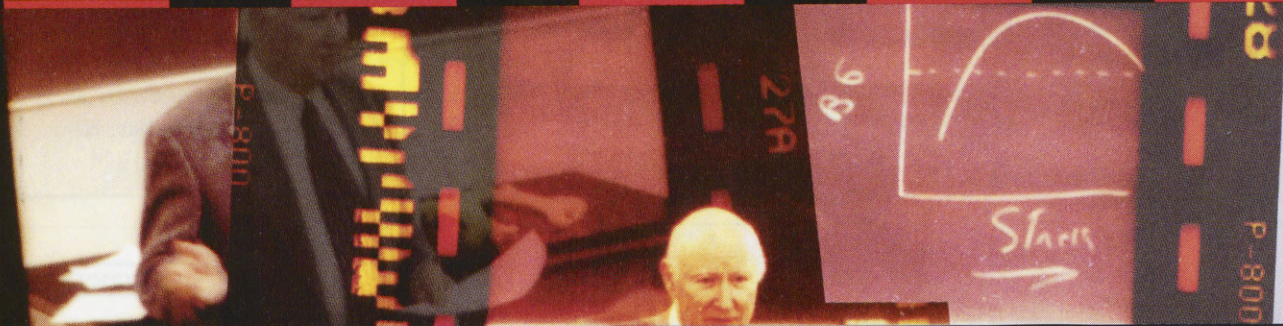
**Alumni:** B. Barrick, 1941; R. Mott, 1943; W. Soudriette, 1943; T. Blickwedel, 1946; J. Hurt, 1948; A. Schairbaum, 1949; C. Cook, 1949; A. Junker, 1950; J. Lambermont, 1951; C. Hirschfield, 1954; J. Chinn, 1956; C. Cooper, 1956; A. Sutton, 1956; H. Brown, 1957; R. Reeves, 1959; D. Bailey, 1959; R. Archer, 1961; J. Tindall, 1961; J. Snyder, 1962; D. Todd, 1962; N. Hannum, 1962; E. Blahut, 1963; J. Sauser, 1964; R. Kevorkian, 1966; R. Bloch, 1968; R. Lowe, 1969; M. Ring, 1970; J. Born, 1970; A. Mahler, 1971; J. Havener, 1973; P. Chilson, 1974; M. Avery, 1976; J. Schroeder, 1976; J. Matthews, 1977; D. Zona, 1977; S. Warner, 1978; M. Clouser, 1979; J. Slupesky, 1979; S. Felix, 1982; B. Stratton, 1983; G. D'Orazio, 1985; C. Hastings, 1986; M. Nigrovic, 1987; M. Lancaster, 1987; J. Jachim, 1989; C. Abdnour, 1989; E. Forster, 1990; B. Steele, 1990; D. Devore, 1991; B. Cox, 1991; B. Burger, 1991; R. Aronen, 1991; E. Steele, 1994; J. Waldby, 1994; J. Skeel, 1996; E. Hayes, 1997; R. Smeltzer, 1998; C. Hartmann, 1998; M. Pilcher, 1998; R. Loftus, 1998; J. Horen, 1999; A. Primozych, 2000; G. Lara, 2000; J. Briggs, 2001; C. Lehman, 2005; and E. Tollefson, 2005.

**Friends:** P. Hines, W. Talbot, C. Brown, D. Templeton, R. Templeton, M. Cart, N. Flatter, L. Gaintner, C. Linden, and W. Orr.

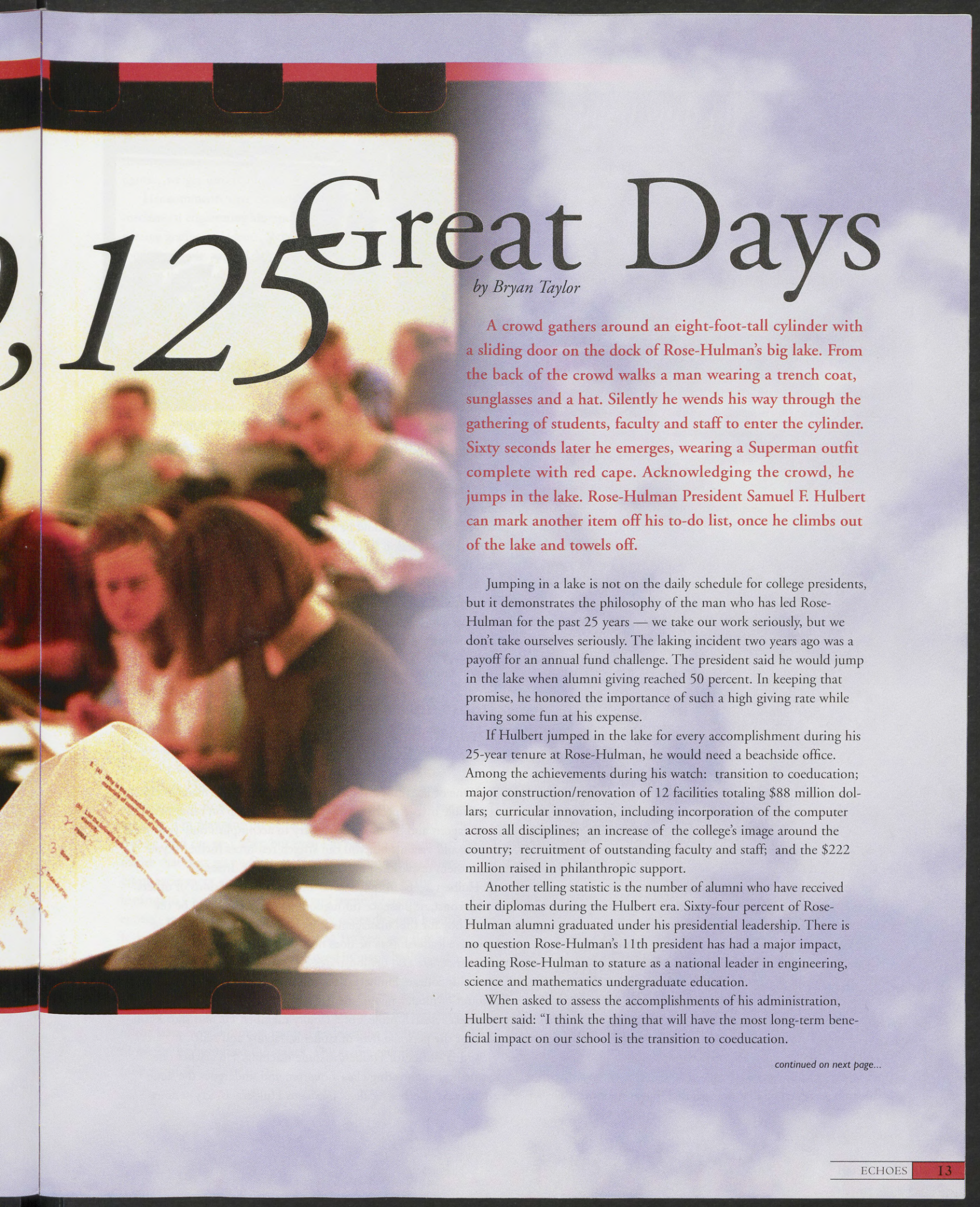
The solvers of the Winter problems are at the left. Bob Burger used a recursive method and an up-to-date programming language called Scheme. He found that there are 53,995,291 ways to make change for a \$20. You may be interested in some of these if you decide to take up clerking in your senior years. The answer for changing \$1 is 292 (293 if you include dollar for dollar).

A less up-to-date method for solving the area problem was submitted by our senior solver, Bill Barrick '41. He used a polar planer planimeter (Am. Steam Gauge Co.) and traced the perimeter to find the area. The instrument is so old that my spell check does not include it. You might figure out how to design such an instrument. The answer to the area problem using methods of Euclid (300 B.C.) is  $2\pi + \sqrt{3}$ .









# 125 Great Days

by Bryan Taylor

A crowd gathers around an eight-foot-tall cylinder with a sliding door on the dock of Rose-Hulman's big lake. From the back of the crowd walks a man wearing a trench coat, sunglasses and a hat. Silently he wends his way through the gathering of students, faculty and staff to enter the cylinder. Sixty seconds later he emerges, wearing a Superman outfit complete with red cape. Acknowledging the crowd, he jumps in the lake. Rose-Hulman President Samuel F. Hulbert can mark another item off his to-do list, once he climbs out of the lake and towels off.

Jumping in a lake is not on the daily schedule for college presidents, but it demonstrates the philosophy of the man who has led Rose-Hulman for the past 25 years — we take our work seriously, but we don't take ourselves seriously. The laking incident two years ago was a payoff for an annual fund challenge. The president said he would jump in the lake when alumni giving reached 50 percent. In keeping that promise, he honored the importance of such a high giving rate while having some fun at his expense.

If Hulbert jumped in the lake for every accomplishment during his 25-year tenure at Rose-Hulman, he would need a beachside office. Among the achievements during his watch: transition to coeducation; major construction/renovation of 12 facilities totaling \$88 million dollars; curricular innovation, including incorporation of the computer across all disciplines; an increase of the college's image around the country; recruitment of outstanding faculty and staff; and the \$222 million raised in philanthropic support.

Another telling statistic is the number of alumni who have received their diplomas during the Hulbert era. Sixty-four percent of Rose-Hulman alumni graduated under his presidential leadership. There is no question Rose-Hulman's 11th president has had a major impact, leading Rose-Hulman to stature as a national leader in engineering, science and mathematics undergraduate education.

When asked to assess the accomplishments of his administration, Hulbert said: "I think the thing that will have the most long-term beneficial impact on our school is the transition to coeducation.

*continued on next page...*



For me there was always the issue of ethics and the issue of finances associated with coeducation, but the biggest issue was always the educational impact. I feel strongly that it's real important for engineers, scientists and mathematicians to be in an environment of gender diversity during the critical period of their educational development."

In his inaugural address in 1976, Hulbert emphasized the need for Rose-Hulman to change its all-male status to coeducation. One of his first acts was to appoint a 12-person panel to study the issue. "I thought it (coeducation) was going to be a relatively simple task because I thought it was one of the things that would move the institution along," Hulbert said. "Obviously, I was very naïve." Coeducation was an issue that would not be resolved until 1991 when the Board of Managers (now called trustees) voted to make that transition.

The struggle over coeducation led to Hulbert staying at Rose-Hulman longer than he originally anticipated. "I initially thought I would be here a minimum of five years and a maximum of 10. From a selfish point of view, I'm glad the 10 was interrupted. I've had a wonderful life here.

"I became so involved in the debate over coeducation that when the 10-year period ended, we were right in the middle of it. Maybe my ego was too big, but my sensitivity was that my leaving would delay coeducation even longer. Being competitive and stubborn led to the years adding up."

While the coeducation issue was taking place on one front, other changes were under way. They started with the gift for Olin Hall in 1983 that provided new classrooms and labs for



Hulbert continues to teach biomedical engineering classes and is noted as a serious, enthusiastic teacher.

Improvement in facilities led to the ability to enhance the curriculum. Various innovations took place during the Hulbert era, including the incorporation of the computer throughout the curriculum and an increased emphasis on project-based education. "We showed our facilities could be as good as anybody's, and if that's the case, there's no reason you should not have a curriculum that's the best. From there we asked, 'Why not shoot for being the best.'"

As he reviews his 25 years, Hulbert is quick to point out Rose-Hulman successes would not be possible without the people who make up the Rose-Hulman community. "Almost everyone at Rose-Hulman understands our mission, subscribes to it, and dedicates themselves to accomplishing it."

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*"I think the thing that will have the most long-term beneficial impact on our school is the transition to coeducation."*

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civil and chemical engineering. "The Olin Foundation grant had a major impact on us because for the first time, we were able to show what Rose-Hulman could become," the president said. "Talk is one thing, but being able to show it is another."

The Olin Hall gift set in motion a series of facilities construction and renovation that continues to this day. Among the facilities improvements: renovation of Moench Hall and the Hulman Memorial Union, and construction of Hadley Hall, Olin Advanced Learning Center, the New Residence Hall, Cook Stadium, the Sports and Recreation Center, Myers Center for Technological Research With Industry, Oakley Observatory and White Chapel. Work started this spring for Hatfield Hall, an alumni center and theater.

"When I arrived, our facilities were somewhat lacking," Hulbert remembered. "They weren't terrible, but they weren't anywhere near the quality of our people. In those days, if a sidewalk was fixed or a lab was painted, it was noteworthy."

"One of the things I believe is having a decision made as closely as possible by the people involved. I like to jump on other people's bandwagons and dreams. You can try to accomplish only your own dreams and visions, but you can stretch resources further if you direct them toward helping others realize their dreams."

Hulbert keeps in touch with the dreams and visions of others by his constant presence throughout campus. He could be the poster boy for the "management by walking around" school of executive leadership as he does not stay cloistered in his Hadley Hall office. He also demonstrates a Rolodex-like knowledge of facts about his college. Hulbert can cite admissions statistics, the latest amount of money raised, the batting average of a softball player or the latest research project of a faculty member. He also shows concern for the personal lives of students, faculty and staff.

Other duties for Hulbert include teaching. He teaches one biomedical engineering class a quarter, and undergoes the same evaluations as other faculty. "President Hulbert is very serious



about what he's teaching, but he brings it down to our level," explained Kylee Smidler, a junior mechanical engineering major. "He's enthusiastic and it's contagious to students...we get into it a lot more."

Her comments were echoed by Matt Keuster, a 1996 mechanical engineering alumnus and current biomedical engineering graduate student: "Students leave Dr. Hulbert's classroom having an appreciation for his knowledge and contributions to the field of bioengineering. He is very personable with students and throws a lot of humor into his lectures."

When asked to assess Hulbert's impact, Board of Trustees Chairman Guille Cox replied: "Because of the increasing complexities in running a top-notch college, no one man can any longer be expected to have all of the qualities of the perfect president. Effective stewardship requires a college's top leadership to include a rousing public speaker, a persistent fund-raiser, a respected scholar, a motivator of people, a patient manager of faculty and staff, a role model to students, a budget balancer, and a visionary strategist. At Rose, we have been led for 25 years by men who have these skills. They are: Sam Hulbert, Sam Hulbert, Sam Hulbert..."

One person with a historian's perspective on the Hulbert years actually wrote the book on the era. Professor William Pickett, author of *To be the Best: Rose-Hulman Institute of Technology 1974-1999*, speaks of a man of vision. He wrote: "Sam Hulbert's success stemmed from his innate, almost childlike, humility. A man of intellect, self confidence, physical stamina, almost photographic memory, and a very healthy desire to come out on top, he seemed, nevertheless to be without ...ego. His guiding principle was to surround himself with people who were better than he believed he was. Rather than guarding information as a source of control, Hulbert made it...available to everyone and by doing so brought them into a process that moved the Institute gradually but inexorably forward."

As Sam Hulbert moves forward through his silver anniversary at Rose-Hulman he contemplates the future noting that "I'm planning on being back next year, the Lord willing, and the year after, but even I'm realistic enough to realize that can't go on forever. There's no diminishing interest or excitement about what I do, but in fairness to the institution I have to be physically and mentally strong enough to continue. The answer really depends upon health. It depends upon whether the Board of Trustees gets sick and tired of me; so it depends upon Rose-Hulman's health and upon my own health."

Hulbert already is looking ahead as he has posted another alumni giving challenge. Instead of facing the icy waters of the lake, he will bungee jump if he loses the challenge. However, he has raised the stakes. The giving rate has to hit 60 percent. ■

## Days filled with Joy

Sam Hulbert knows he could not have achieved 25 years at Rose-Hulman without the support of his wife, Joy, and their family.

"Our whole life has revolved around Rose-Hulman, and it's been a very positive experience," Mrs. Hulbert noted in a recent interview. "The people at Rose-Hulman have been very nice as have the people in Terre Haute. It's exciting to see the school doing so well."

From dinners to ball games to select committee work, Mrs. Hulbert maintains a constant presence on campus. "I take no part in the academics, but I do get involved making friends with board members and alumni," she explained.

During her tenure at Rose-Hulman, Mrs. Hulbert has served the Vision to be the Best Humanities Task Force, the Diversity Committee, the Hatfield Hall planning committee and on a campus art advisory group. She is president of the house corporation for the Tri Delta sorority, and she and her husband are major benefactors to the college.

Constantly on the go is one description of Mrs. Hulbert's lifestyle. "It was hectic at first because my children were younger," she recalled. "I would run to campus and then back home to feed the kids and take them places, and then run back to campus. There was a lot of back and forth."

Entertaining at home also has been part of the college life for Mrs. Hulbert: "We did so much entertaining that (daughter) Samantha became a gourmet chef at the age of 12. The Hulbert children — Greg, Samantha and Jeff — helped host guests



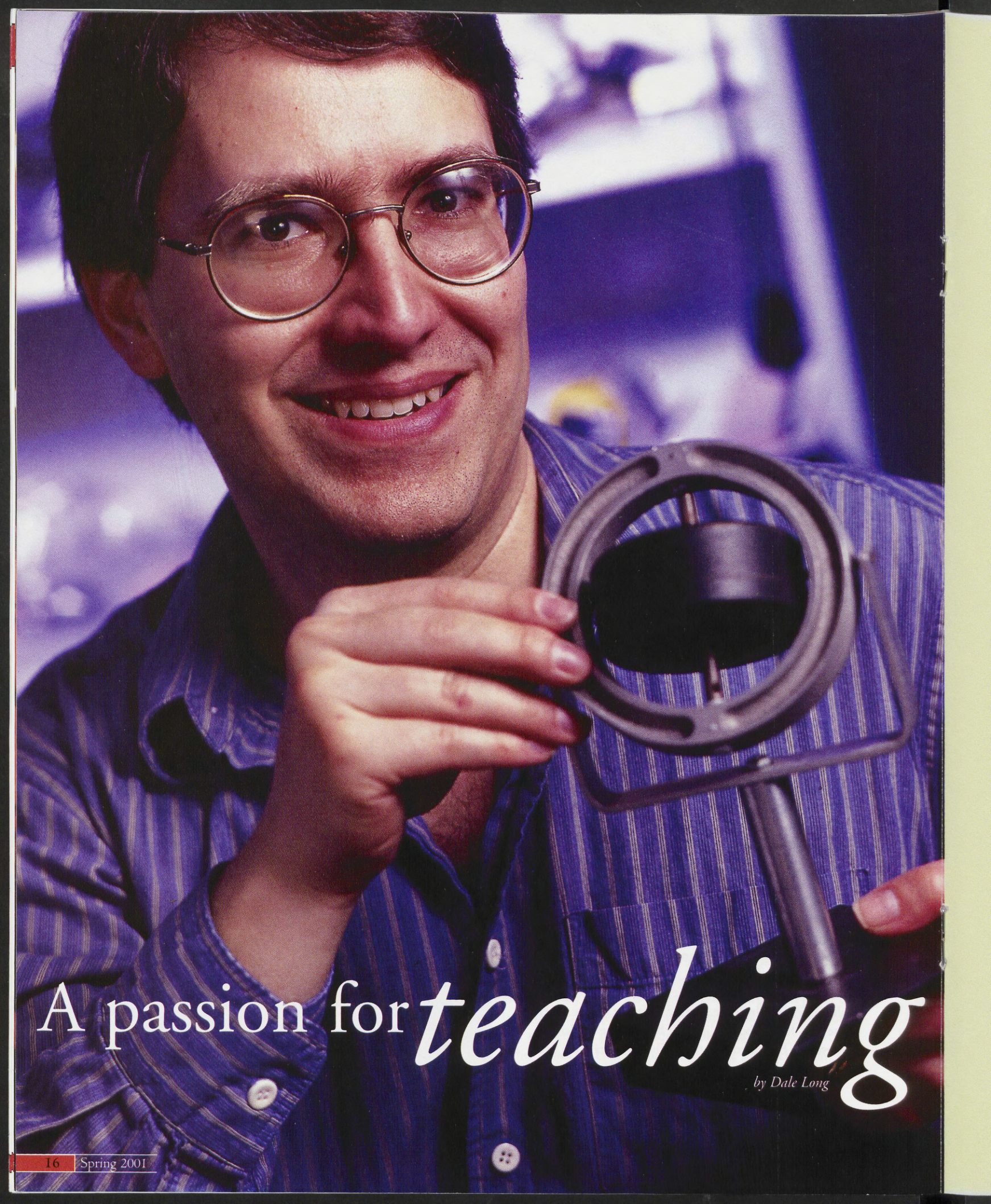
Joy and Sam Hulbert

and went to many sports events with mom and dad, but "they developed their own lives and interests." (Greg is a 1983 chemical engineering alumnus, and Jeff received a mechanical engineering degree in 1991. Samantha is a DePauw graduate.)

While Rose-Hulman has been a focal point in the Hulbert household, "I have my own life, too, and that's great," Mrs. Hulbert said. She is an avid tennis player, and she is involved in volunteer work throughout the community. She is a trustee for the Terre Haute YWCA, and played an active role in a building drive for the group. She also is involved with Trees, Inc., has been on the Terre Haute Symphony board, and is a member of Chapter BN PEO.

In addition to her community service, Mrs. Hulbert invests much time as a grandmother. She and the president have 10 grandchildren (six boys and four girls). "I get to be with them a lot and I enjoy that time," she said. "Last year, I spent 100 days throughout the year with them. Being rather statistical, Sam keeps track of those types of things." ■





# A passion for *teaching*

by Dale Long



**It doesn't take long to identify Phillip Cornwell's passion for teaching, and that his Rose-Hulman Institute of Technology students are passionate about whatever Cornwell is teaching.**

Take the first minute of a winter Mechanical Systems class, when he calls on a student — by name — to provide the first step in locating the coefficient of restitution between two colliding blocks.

"Wonderful!" responds Cornwell, encouraged by the answer.

Next, he calls upon another student — once again by name — to provide the next step in solving the challenging problem.

The student ponders his response.

"OK, what variables are you looking for?" Cornwell suggests.

Suddenly, the student finds the courage to offer an answer.

"Excellent!" the professor exclaims, offering an encouraging smile.

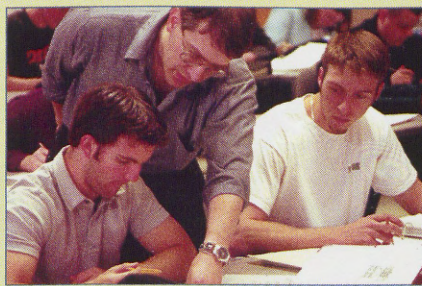
By the end of the 50-minute session, Cornwell had received feedback from most of the 33 students; had the class complete a two-problem quiz; handed back answers from a past quiz; and assigned homework for the next meeting.

It's this personal approach, high expectations and expertise of the subject that's earned

Cornwell high marks during his 12 years on the Rose-Hulman faculty. He received the Dean's Outstanding Teacher Award last year after being named the Triangle Fraternity's Teacher of the Year (1994), earning the Society of Automotive Engineers' Ralph R. Teetor Educational Award (1992), and American Society of Mechanical Engineers' Aerospace Division Award (1990).

"My role is motivational, helping put structure on the material by designing the classroom environment," the mechanical engineering professor says in describing his educational philosophy. "I'm enhancing the educational environment through in-class and out-of-class experiences. Everything I do strives to get students to master the basic concepts."

That's why Cornwell provides lectures by "The Uncertainty Analysis Man" to showcase mechanical measurements and stages the Dynamics Olympics, featuring



races by Sammy the Solid Cylinder, Harry the Hoop and Samantha the Solid Sphere, along with her sister, Sally.

The winners are, of course, Cornwell's students, who can better identify the relationships between the mass moments of inertia between objects. (Officially, the Olympics end in a tie between Samantha and Sally. "After all, they're sisters," Cornwell concedes.)

"Dynamics doesn't live up to its name. It's a difficult subject area," the 37-year-old faculty member says. "I found that lectures didn't engage the students as much as I'd

end up with a C in the class, you learn more than you could imagine. He wants you to succeed."

Cornwell doesn't make any concessions about his high expectations — of himself and his students.

"I give hard tests and, yes, I'm tough, but hopefully I'm also fair," he says. "I challenge students to be their best."

That was what Cornwell expected from his college professors during a distinguished academic career that saw him graduate at the top of his class at Texas Tech University (perfect 4.0 GPA), and earning a master's degree and doctorate from Princeton University. His graduate course work emphasized dynamics, structural dynamics, numerical methods, applied mathematics and controls.

That expertise has expanded in recent years to include research in structural health monitoring as a visiting faculty member in the engineering/science appli-

cation division at the Los Alamos National Laboratory in his hometown of Los Alamos, N.M. Last

**"My role is motivational, helping put structure on the material by designing the classroom environment"**

like . . . The ultimate goal is whether the students are learning."

Students appreciate Cornwell's personable approach, even though he's renowned as one of Rose-Hulman's toughest professors.

"His energy is refreshing," concedes sophomore electrical engineering student Mark Vyvoda. "He has this teaching attitude that makes it very easy to grasp the concepts he wants to convey . . . He is the best teacher I have ever had. I only wish I was a mechanical engineer."

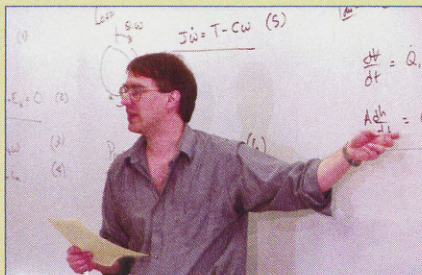
Joshua Jusko, a junior mechanical engineering major, added, "Even if you

summer, Cornwell was co-leader of research activities for 13 visiting engineering students, including four from Rose-Hulman. The results were presented at the International Modal Analysis Conference.

"The breadth of things we can give Phillip and the quality of the work he achieves is truly outstanding. He could become an excellent researcher - if he desired," admits Chuck Farrar, materials behavior team leader at Los Alamos. "He's a born teacher. It's his gift."

Mechanical Engineering Department Chair David Purdy considers Cornwell a good example of Rose-Hulman's role in undergraduate engineering education.

"He pours energy into everything he does: A classroom lecture, being faculty representative to the Board of Trustees and reviewing faculty candidates' resumes. Students, if they look closely, will see a role model for their futures." ■





# Engineering Management Degree Keeps Engineers on Fast Track

by David Piker



Matthew Meek with a medical device used in treating patients with neck injuries.

**Rose-Hulman alumni and other engineers are getting a boost**

to their hopes for career advancement through a graduate program that combines classes about the latest technical developments with business courses like accounting, finance and marketing.



Enrollment in the engineering management (EM) master's program has grown faster than anticipated. The program's popularity illustrates it is meeting a need of professionals who must update their skills to meet rapidly changing job demands.

"The engineering management degree enabled me to change careers and move into the information systems group at work," said Michael Warner, P.E., who earned his degree last year. "I would not have been able to make this career change without it." Warner is voice and data network manager for Applied Extrusion Technologies in Terre Haute. AET is a global leader in the development, manufacture and sales of oriented polypropylene film.

"I gained valuable insights into gauging a company's strategic plan, its future potential and the application of new technologies," says Warner, who graduated from the United States Naval Academy with a mechanical engineering degree.

Students must complete 51 credit hours to earn the engineering management degree. The technical and business courses are divided evenly and equal 40 credit hours. Eight credits are earned over two academic quarters when students must complete an integrated, capstone project. The final three credits are earned by participating in three, full-day seminars.

The program was first offered in 1995. Buck Brown, who was dean of graduate studies and professor of electrical and computer

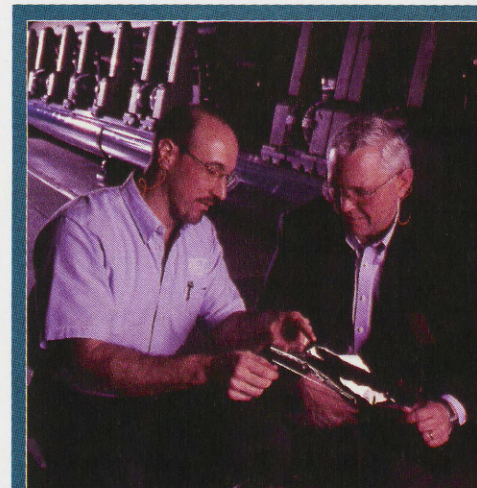
Matthew Meek, who is nearing completion of his EM degree, says a major benefit has been instruction in topics relevant to the new product process.

"I've learned about processes that are not covered in an undergraduate engineering education, but that are essential to the success or failure of a technical product," he says. Meek graduated from Rose-Hulman in 1994 with a mechanical engineering degree. He's a technical specialist with responsibility for base engine design and development at Cummins in Columbus, Ind.

The integrated, capstone project requires students to understand how management decisions are influenced by technology and how other issues impact technology, according to Mason.

Meek teams up with Rose-Hulman Mechanical Engineering Professor Rick Stamper to improve a halo-shaped medical device for use in treating patients with neck injuries. "This is a significant project that we hope to have patented," Meek remarked.

Warner's project dealt with the development of a programmable logic controller system monitor. The device could assist companies in faster troubleshooting and better operations of their industrial machinery.



Student Michael Warner explains the film process at his place of employment, AET, to Tom Mason, director of the engineering management program.

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**"The program's popularity illustrates it is meeting a need of professionals who must update their skills to meet rapidly changing job demands."**

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engineering, and Jim Eifert, who was dean of the faculty, established the program. Brown retired in 1999 and Eifert is now president of Rose-Hulman Ventures.

"Rose-Hulman responded to requests from engineers who needed to improve their business expertise and update their technical knowledge," says Tom Mason, director of the engineering management program, professor of economics and vice president for entrepreneurship and business planning at Rose-Hulman Ventures. Mason has taught in the program since it was established.

It is the only graduate program of its kind offered by an Indiana college or university. Eighty-five students are enrolled in classes offered in Bloomington, Indianapolis, at the Naval Surface Warfare Center in Crane, Ind., and on the Rose-Hulman campus. Ninety percent of the students are part time. Most are between 25-35 years of age. Typically, students complete degree requirements in three years.

Mason wants to include more full-time students in the program. "We're offering five internships at Rose-Hulman Ventures to provide work experience and funds to students interested in pursuing the EM degree full time," he stated.

"Hours of equipment downtime could be saved if the data in the programmable logic controllers could be used to produce relevant information to facilities operators and maintenance personnel," he explained.

Another beneficiary of the engineering management program has been Rose-Hulman's undergraduates, said Mason. "The EM program has increased the number of courses undergraduate students can take as electives. Students and faculty get to interact with practicing professionals who are dealing with issues discussed in the classroom or dealt with in the laboratory."

Among new courses available or planned are financial economics, project management, and management systems.

Mason does not expect any decline in the need or interest in the engineering management graduate program. "Enrollment growth is constrained only by our capacity to serve students by providing a high quality education," he said. ■



# S K Y - H I

by Dale Long

## Astronomy Club Members Discover New Asteroids

Rose-Hulman's newest educational laboratory is opening new frontiers — or, more precisely, universes — for students.

New telescopes and imaging cameras in the Oakley Observatory have allowed Astronomy Club members Chris Wolfe, Emanuel Bettelheim and Susan Hare to discover three asteroids in the mid-night skies. The August discoveries have been verified by the Minor Planet Center of the Smithsonian Astrophysical Observatory in Cambridge, Mass.

In fact, club members submitted 851 astronomical observations during the 2000-2001 academic year — ranking 37th among America's 285 observatories.

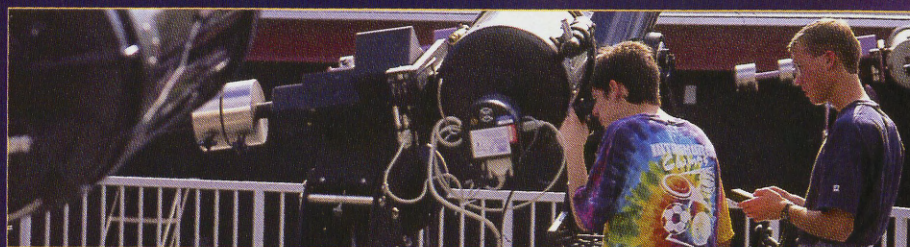
Most of the asteroids observed are 100 to 200 million miles away from Earth.

"It's incredible to realize that you've discovered

something before anyone else. What are the odds of that happening with all of the astronomers — professional and amateur — in the world?" wonders Wolfe (Elect. Eng., '92), who is continuing graduate studies in image processing and is considering earning a doctorate in astronomy. "Finding three new asteroids (approximately two miles in diameter) in a week is rare," Hare added.

Astronomy Club President Amy Reed estimates 10 students regularly attend weekly observation sessions and host special events, like March's Messier Marathon. Members located 109 of 110 astronomical objects identified by astronomer Charles Messier at the end of the 18th century.

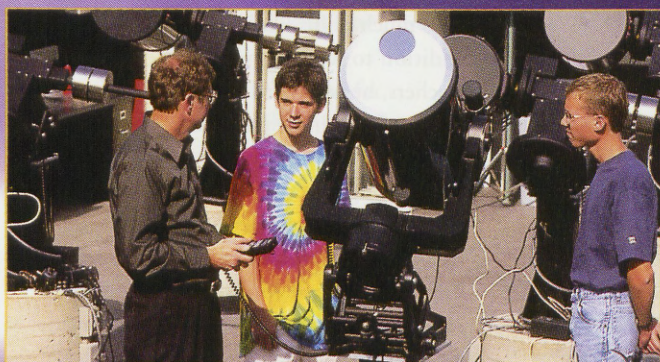
"It's the only physics laboratory I've been around that I routinely hear students exclaiming 'Wow' and 'That's Cool,'" stated Oakley Observatory Director Richard Ditteon (Physics, '75), who teaches an astrophysics course



"It's incredible to realize that you've discovered something before anyone else."



# G H L A B



Oakley Observatory Director Richard Ditteon

**“IT’S THE ONLY PHYSICS  
LABORATORY I’VE BEEN  
AROUND THAT I ROUTINELY  
HEAR STUDENTS EXCLAIMING  
‘WOW’ AND ‘THAT’S COOL.’”**

each fall. “The interest was always there among our students, we just needed the facilities to let them explore those interests.”

The observatory, located on the east side of campus, has two 14-inch and two 11-inch aperture Celestron telescopes able to capture images with CCD cameras. Two 12-inch Meade telescopes, an 8-inch Maksutov telescope (which has been mounted on campus since 1961) and a 6-inch Clark telescope (built in 1886) are also available for making observations. The observatory was made possible through the generosity of the Terre Haute-based Oakley Foundation.

Specially designed computer software allows astronomy enthusiasts to use Rose-Hulman’s telescopes to retrieve information about our solar system through the Internet. (Persons must contact Ditteon to obtain a password, user name and schedule telescope time.)

“The equipment is fantastic, the best you’re going to find at a small college,” cited Wolfe, who will join Ditteon and Bettelheim in attending the Minor Planet Conference this Spring.

Reed added, “Astronomy is a hobby for all students. The large number of telescopes allows club members to explore each of their interests. Some can examine asteroids, others can look at planets, and others can observe stars and nebulae.” ■



## SURAT INTASANG

## SHUTTLLING SHRIMP INTO SPACE, ALL IN THE NAME OF SCIENCE EDUCATION

Surat Intasang's work reflects an ongoing Rose-Hulman goal of stimulating interest in science and mathematics among pre-college students. The 1998 mathematics graduate has added a global perspective to that mission, and some might even say he has taken it to a level that is out of this world.

Intasang works as a project analyst for the National Science and Technology Development Agency in Thailand. He serves as that country's coordinator for the STARS (Space Technology and Research Students) program.

STARS is an international program where students participate in experiments flown to space on the Space Shuttle or to the International Space Station. Through STARS, students in New York will send ants to space, students in China will launch silkworms, and students in Australia will speed spiders to space.

In Thailand, the experiment that has been selected for study is a small self-contained aquatic ecosystem. The system is housed in a biosphere and contains:



Students prepare biosphere ecosystems for experimentation



Intasang explains STARS project to class in Thailand

shrimp named *Halocaridina rubra*, amphipods, water flea, Ostracods (seed shrimp), Cyclops copepod, Ramshorn snail, green algae, two types of bacteria, and water. Students in the Thai program will develop certain hypotheses concerning the biosphere and what will happen to it in space.

A test biosphere was sent to space by the Russian Soyuz rocket earlier this year. "For three months, cosmonauts will monitor the ecosystem's shrimp and other aquatic plants and animals to see how organisms adapt to the microgravity environment of space," Intasang explained. "Video and photographic images of the experiments are available to students via the Internet. Students will compare the on-orbit observations with ecosystems experiments in their classrooms."

While Thai students have not had an original experiment go up in space yet, Intasang says that is a long-term goal. "Our students are eager to send Thai animals to space," he noted. Thailand is planning the second year of its STARS involvement at this time.

Serving as country coordinator is no small task. Intasang oversees 2,000 students from 50 schools in this project. He

has visited over half of the schools, and does much of his work via the Internet. In addition to working with students and teachers, he writes for a monthly magazine and works with the Junior Science Talent Project.

Intasang said the Internet is an important tool in this project. "Many large schools have Internet connections, but most teachers and students do not see the Internet as a useful tool in their teaching and learning," Intasang said. "STARS lets them learn how to study using the Internet. They see different ideas coming from their peers who live in different parts of the country."

One teacher in the program was quoted in a newspaper in Thailand that the project helps create a stimulus, both for the student and the teacher.

Intasang said his biggest challenge is helping teachers improve their performance, while helping them keep up with technology and use it to the fullest advantage in the teaching process.

In the end it all comes down to student success for Intasang: "My reward is the happiness that comes when I see students enjoy doing science." ■



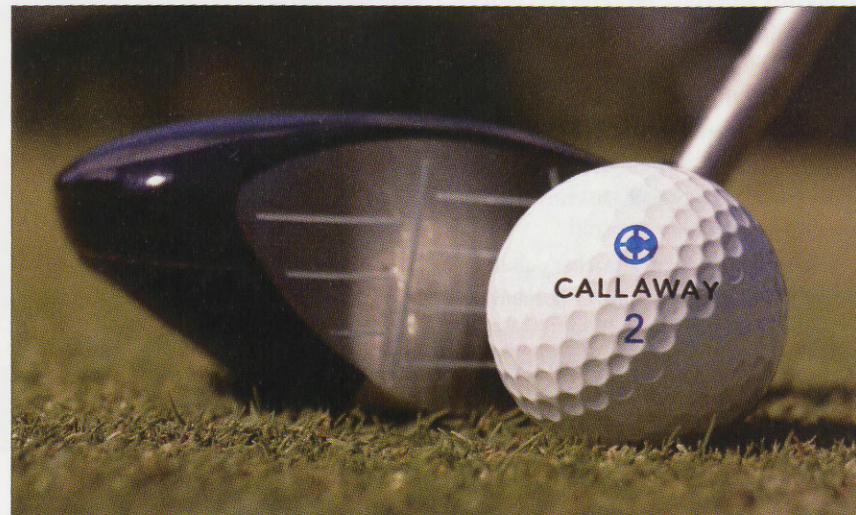
**EYE ON THE BALL:** by Kevin Lanke**DAVE OAKLEY HELPING CALLAWAY MAKE MARK IN INDUSTRY**

Excuse Dave Oakley if you find him taking too much satisfaction watching people get teed off. It's his job. Eight months ago, the 1983 chemical engineering alumnus followed his heart and left the field of consulting to help Callaway Golf penetrate an established market in the golf ball industry.

"I was on vacation from consulting work and played a round of golf with the Callaway ball. I knew this was a solid product, and I thought it had the potential to make an impact in the golf ball market," Oakley recalled.

Oakley previously worked for five years in the field of consulting, with Callaway as one of his clients. As one of the world leaders in golf club manufacturing, Callaway has made a significant mark on professional tours around the world.

The company decided to branch out beyond clubs, forming a new golf ball division 12 months ago. Callaway began searching for a Director of Quality and



issues. He also studies the technical issues involved in getting new products to the market.

Oakley helps run quality testing on Callaway balls that leave the plant for either the public or professional tour players. Although the golf ball section of Callaway has been in existence for just one year, the product has made an impact on the market.

and Seve Ballesteros have toured the newly formed golf ball testing facility. Entertainers Celine Dion and Kenny G have also taken plant tours.

"This is the first time that I have worked with a product that celebrities and the general public both use. That presents challenges, but it also is a lot of fun," said Oakley.

Callaway overcomes a unique challenge when marketing products to professional players. The company has not paid millions of dollars to professional golfers to use their products. Instead, Callaway relies on the quality of its products for its endorsement among the best players in the world.

A major focus of Oakley's work has been the establishment of quality controls. With its reputation entrenched in the golf club field, Callaway hopes to continue making strides in its ball division. Dave Oakley will lead that effort and should have no problem if he follows a primary rule of golf: keep your eye on the ball. ■

**"This is the first time that I have worked with a product that celebrities and the general public both use.**

**That presents challenges, but it also is a lot of fun."**

Engineering for the department. Oakley decided that the timing was right for a move back into the engineering field.

"Coming to work every day has been a lot of fun. We are making a product that people use and want to buy. I want to buy the product, too," said Oakley.

Oakley works with a staff of 25 in Carlsbad, Calif., in the areas of capital planning, quality improvement and quality assurance. An important aspect of his work is to find answers to yield and capacity

"The Titleist Pro V1 ball has received a lot of attention for its performance on the professional tour. We have launched a product with similar performance, but the distance has been consistently better with the Callaway ball," said Oakley.

Working with a product used by professional players and the general public has allowed Oakley to interact with the rich and famous. In his eight months at Callaway, golf legends Arnold Palmer, Gary Player, Johnny Miller, John Mahaffey

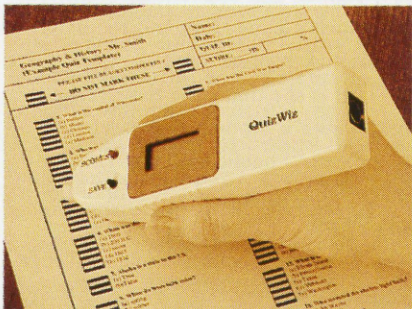


## MAKING THE GRADE

An invention that started “just for fun” could become an aid to teachers.

Paul Kiedrowski, a 1982 electrical engineering alumnus, recently received the grand prize award for inventing “The QuizWiz.” The honor was featured in the December 2000 issue of *Circuit Cellar*, a magazine dedicated to computer applications. The contest was sponsored by Philips Semiconductor and brought in entries from around the world.

The QuizWiz makes a teacher’s ability to score multiple-choice quizzes fast and easy. It reduces scoring time, and is capable of scoring tests printed on standard paper without preprinted forms. To use the device, teachers place the QuizWiz on the paper and slide it along check boxes used for multiple-choice selection. The device scans the selections and compares the results to the correct answer previously scanned from a correctly completed quiz.



Kiedrowski's prototype

Currently, many schools use a commercially available system that is expensive and is centralized. Therefore, it is used only for critical testing, and it takes longer to get the answers. QuizWiz would make such scoring more accessible to teachers who could use the device in their classrooms.

“I entered for fun but ended up inventing something rather serious,” Kiedrowski said. “My wife, Shellie, a high school teacher, worked with me to create a really useful device to help other teachers.”

Kiedrowski wants to take the QuizWiz to the next level. “I am in the process of applying for a patent on the concept, and I am hoping to put it into production sometime soon, with even better features than my prototype.” ■

## EXECUTIVES JAM TO PROMOTE TEXAS INSTRUMENTS



Jeff McCreary, left, lets it rip for the Bandpass video “Sign Me Up”

A blues riff rings from a red guitar as the sunglass-clad lead vocalist steps to the microphone and belts out the lyrics to “Sign Me Up.” Jeff McCreary is on the job as senior vice president and manager of worldwide sales and marketing for Texas Instruments.

McCreary, a 1979 electrical engineering alumnus, has led the production of a music video to promote Texas Instruments. Along the way, he formed a blues/rock group called Bandpass that stars in the video. Members of the group have unique credentials in the music world. Oh, sure, the band includes a drummer, guitar players and a keyboard specialist. But its promo sheet also includes titles such as vice president and manager of strategic marketing, vice president and manager of worldwide analog sales, engineering director for wireless infrastructure, and director of wireless design and applications. Bandpass is made up completely of TI executives who actually play instruments and sing.

“The music video originally was created as a motivational piece for our Americas Sales and marketing organization,” McCreary explained.

The video tells the story of a down-on-his-luck technical sales representative who is losing business to TI at every turn. In a depressed state, he heads to a nightclub where a band (Bandpass) is jamming. They sing the strengths of TI using terms such as “better tools,” “higher speed,” and “awesome investment.” One of the standout lyrics is found in “analog attachments shook me to the bone.”

For a star power draw, the video features cameo appearances by TI President and CEO Tom Hill as a bartender who consoles the

depressed salesman; Chief Operating Officer Rich Templeton as a nightclub patron; and inventor of the integrated circuit and Nobel Prize winner Jack Kilby playing cards.

## “Analog attachments shook me to the bone.”

The video has been used for many internal and external TI functions and has, in fact, been shown on the Rose-Hulman campus during career fair.

“The video has proven an effective attention-getter,” McCreary said. “These days you have to be confident, aggressive and creative in gaining the consideration of the very best students like those at Rose. Hence, this kind of attention-getter can be a great start. It shows a more hip side of TI. The best students want more than a great assignment, a great boss and great bucks. This is just a reflection of TI having a bit more to offer.”

Bandpass has been written about in numerous newspapers, including the *Wall Street Journal*. The group has been seen on MSNBC and TXN Cable Network. “We are having too much fun to quit, but we are not confused about our real jobs,” McCreary pointed out. “We live and die to win business for TI in the ultra-competitive world of semiconductors. Bandpass is great, but we will leave our real mark in the world of electronics, not music.” ■



**1958**

**Richard K. Irely (M.E.)** was named interim dean of engineering for Florida International effective Jan. 1. He has been chair of mechanical engineering at the college for the past four years. FIU is located in Miami-Dade County.

**1959**

**Donald W. Lucas (C.E.)** was honored upon his retirement last December by the Indiana Highway Construction Industry. He spent most of his career with the Indiana Department of Transportation, working his way up the ranks to serve as deputy commissioner and chief highway engineer.

**1962**

**Ned P. Hannum (M.E.)** retired last year after 38 years with NASA. He was the chief of the Turbo-machinery and Propulsion Systems Division, which was responsible for all propulsion research at the Glenn Research Center in Cleveland, Ohio. He recalls of entering the field: "John Glenn had just orbited the earth and NASA seemed the place to be." He continues to live in the Cleveland area.

**1967**

**Eddie Onouye (C.E.)** has a company in Hawaii called Hawaiian Organics. He and his partners have developed a natural product called Body Mint. The product is described as a deodorant. The company sells 5,000 to 7,000 bottles per month in Hawaii, and a launch is planned for New York this year.

**Douglas Wray (Math., and '71 M.S. Bio. Eng.)**

retired after 31 years as a bioengineer in submarine and diving physiology and performance at the Naval Submarine Medical Research Laboratory on the Submarine Base in Groton, Conn. During the last five years, he served as the principal investigator and project manager for research in extending the survival time of crew trapped in a disabled submarine.

**1968**

**Thomas H. Morris (M.E.)** retired in January from Ford Motor Co. after 32 years. His most recent position was powertrain engineering manager for the Taurus/Sable car line. He and his wife, Sally, plan to remain in the Detroit area.

**Bill Schwenker (Ch.E.)**

has taken a job with Master Builders Technologies as the operations manager at the company's facility in Santo Andre, Sao Paulo, Brazil. MBT is the world's largest producer of construction chemicals. He still lives in the greater Sao Paulo area, and he and his wife, Wanda, run an English School.

**1969**

**James A. Coles (E.E.)** has been selected as one of the "Best Lawyers in America 2001-2002." He was selected for the honor by his peers. He resides in Zionsville, Ind., and practices law in Indianapolis.

**Michael P. Haley (Chem. and M.S. Chem '71)**

has started his own company, Pacific Telecom Services, which provides telecom voice services to people in Japan who wish to make international calls from Japan. The company is based in Los Angeles.

**1975**

**Dennis Bowsher (Chem.)** has been listed in *Who's Who in Medicine and Healthcare*, Marquis, 2nd Edition, 2000.

**Roy Primus (Math., M.S.M.E. '77)**

has been elected a fellow of the Society of Automotive Engineers. The honor came for his work in simulating engines and developing tools to analyze and evaluate engine systems. He works at Cummins Engine in the area of analysis and testing of turbocharged engine performance, combustion and emissions.

**1976**

**Rusty Koenigkramer (Chem.)** has a new job with the Illinois Tool Works - Minigrip/ ZipPak Corp., in Orangeburg, N.Y. He is the plant operations manager. After getting his Ph.D. at the University of Cincinnati, Rusty worked for DuPont, Hoechst Celanese and Bayer-Agfa.

**1977**

**Eric M. Robeson (M.E.)** has been named director of generation projects and services for Vectren Generation Services. He will evaluate and oversee potential power generation opportunities for Vectren and its customers. He is former plant manager of Southern Indiana Gas & Electric Co.'s Culley Generating Station. That company is a subsidiary of Vectren.

**1978**

**Vince Anderson (M.E.)** will become the director of technology for Whirlpool in Evansville, Ind. He has held several jobs in the company, most recently, director of the Refrigeration Product Development Center.

**Dale R. Kuehl (Ch.E.)**

reports the birth of his first son, Evan Richard, on Jan. 10.

## MAJOR ABBREVIATION KEY

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



**1979**

**James W. Craig (C.E. and M.E.)** recently acquired a company, Alpha Leak Detection Services. The company, located in Kemah, Texas, specializes in leak detection and related services for the pipeline and petrochemical industries. He serves as president. The company's primary geographic focus is the Gulf Coast.

**Greg Holler (M.E.)** has been promoted to purchasing commodity manager for electrical active components for Delphi. He joined the company in 1979, and has held positions in quality, operations and tooling.

**Bill Miller (E.E.)** has been promoted to chief technology engineer of control systems engineering at Kellogg Brown and Root. He leads a 250-member team of engineers and designers in the execution of petrochemical and process industry projects.

**1980**

**Jonathan T. Perry (M.E.)** has been promoted to drilling superintendent for BP Trinidad and Tobago.

**1981**

**Kevin A. Giles (Ch.E.)** now works full time with his internet marketing company, bottom-line-solutions.com. He lives in Plano, Texas, with his wife Renee and sons.

**Kenneth E. Tague (Ch.E.)** has been promoted to plant manager of Borden Chemicals and Plastics' Illiopolis, Ill., plant.

**Chris Thomas (C.S.)** is now the news and presentation editor at The Olympian newspaper in Olympia, Wash.

**1983**

**David W. Hess (E.E.)** reports the birth of his first child, Joel Robert Hess, born last year.

**David Jennings (Ch.E.)** has been promoted to senior associate with BSA Design.

**1984**

**Richard Massey (E.E.)** has joined Celox Networks in St. Louis where they create the latest in carrier class IP services switch for broadband access. He and his wife, Diane, reside in Warson Woods, Mo., and have two sons.

**1985**

**Tom Freeman (M.E.)** and his wife, Jerri, announce their third child, Thomas Watson, born Jan. 13. He enjoys a life of luxury with two doting older sisters.

**1986**

**Duane Reinholt (Ch.E.)** married Hee Sook Noh in February of 2000. They had their first child, Andrew Robert, in November. On the job front, Duane has been promoted to director of plant engineering with International Steel Services, Pittsburgh, Pa.

**Tariq Rashdi (C.E. and '90 M.S.C.E.)** was promoted in January to general manager for Canam Steel Corp in Washington, Mo. Canam specializes in fabrication of steel joists and metal construction components, semitrailers and forestry equipment.

**1987**

**Dave Hess (E.E.)** has left his engineering position at Marquip and is sailing around the world in a 37-foot catamaran. Keep up with his adventures via the web at [www.ladybugadventures.com](http://www.ladybugadventures.com).



### Riegler Advises NATO on Engineering Practices

From his desk in south central Indiana, Nyle Riegler ('67, EE) has an international perspective when dealing with the effectiveness and standardization of electrical modules, power systems and engineering practices. Riegler is the chair of a sub-group on material and engineering practices standardization for the North Atlantic Treaty Organization (NATO) in Brussels, Belgium. Riegler was elected to the post by a vote of the 19 NATO member nations. NATO's role is to safeguard the freedom and security of its members.

"The sub-group's aim is to increase operational effectiveness of the alliance and to improve the economic use of defense resources," said Riegler.

"More NATO nations are focusing on the use of commercial items to save money in the development of combat systems," said Riegler. "Because I've been heavily involved with the United States Navy's efforts in that same area, the principal member from the U.S. Office of Undersecretary of Defense approached me about becoming involved with NATO's activities," he explained.

Riegler is director of the Microwaves Systems Directorate at the Naval Surface Warfare Center in Crane, Ind. He's responsible for over 800 scientists, engineers, technicians and support personnel. The directorate staff works on technical devices related to night vision, surface and airborne electronic warfare.

Experience counts when trying to improve international engineering practices. "Many of the jobs I've held during the last 30 years at Crane have dealt with the same products and technical issues that the NATO sub-group is working on," Riegler noted. ■



**Darrel L. Huff (Chem.)**

and his wife Andrea announce the birth of a third child, Isaac, last year. He joins siblings Mallory and Elijah. The family resides in Avon, Ind.

**Thomas Maicher (E.E.)**

reports the birth of son, Paul, born last year.

**1988****John Puckett (Ch.E.)**

updates us with the birth of Hannah Grace, born last fall.

**John Wohn (Math./C.S.)**

and his wife, Adrienne, and son Jared announce the family grew with the addition of second son, Caleb Charles. John has taken a position as consulting manager with Nortel in Austin, Texas.

**1989****Martin Baechler (Chem.)**

has been selected for a hand surgery fellowship at Walter Reed Army Medical Center, Washington, D.C.

**Stacey Bowling**

**(E.E./Math.)** has left Cummins to accept a job with Space Hardware Optimization Technology of Greenville, Ind., as electrical engineering department manager. Also, he recently became a senior member of IEEE. He and his family reside in Columbus, Ind., following a three-year UK assignment.

**Mike Lindsey (M.E.)**

updates us with news of the birth of Jacob Paul born last November. He joins older sisters Elizabeth, Megan and Madeline. Mike joined J&T Systems as an account executive at the company's northern Indiana office.

**John Quinlan (E.E.)**

and his wife, Dolores, report the birth of son Benjamin Joseph, born last fall. He joins sister Sarah Rose. The family resides in Ireland.

**Bob Shew (C.S.)**

has been promoted to district manager, Florida long term care sales with Eli Lilly and Co. He and his family reside in Tampa, Fla.

**1990****Kevin Fesler (M.E.)**

and his wife, Carrie, had their first child, Hannah Grace, born last year. Kevin has a new job in the Air Force as an F-15E test pilot at Nellis AFB in Las Vegas, Nev.

**Fred Queary (Ch.E.)**

reports the birth of third daughter Charis Ruth, born last December. She joins sisters Josie and Jenna. Fred has been promoted to senior production specialist for the Dow Chemical Co.

**Rodney S. Retzner (M.E.)**

updates us that since we last heard from him, he married Denise R. Brichler in October of 1999, and they had a son, Benjamin Myles, born in November, 2000.

**1991****Joe Matthews (E.E.)**

has assumed supervisory responsibility for the electrical passive component buyers for Delphi. He joined the company in 1989, and he has held positions in operations and engineering before joining purchasing in January of 1999.

**Steve Wilhelmy (Ch.E.)**

has switched jobs and been promoted. He is the director of manufacturing and quality at QRS Diagnostic, a start-up medical company in Minneapolis, Minn.

**1992****Dustin DuBois (Ch.E.)**

has joined the Barnes & Thornburg law offices in Indianapolis as an associate. He practices in the area of intellectual property.

**Kent Flint (C.S.)**

reports the birth of a new baby boy, Keaton Isaac, born last October. Kent has taken a job as a senior verification engineer with Mezzia, an internet company. The family lives in Carmel, Ind.

**Robert Ladson (C.E.)**

has been named "Outstanding Engineer of the Year" by the Indiana Association of County Commissioners. He resides in Bremen, Ind.

**Christopher Reed (Ch.E.)**

reports the birth of a new son, Noah Reed, born last fall. Christopher is a project manager for Eli Lilly in Indianapolis.

**Timothy W. Spurling**

**(C.E.)** and his wife, Amy, had their first child, Caleb Albert, born last October.



Jess Lucas, President Samuel F. Hulbert, Tom Rude and Vice President for Student Affairs Pete Gustafson

**With Honor**

Tom Rude, a 1992 computer science graduate, received the first Jess Lucas Alumni Leadership Award from the Office of Student Affairs earlier this academic year. The award honors retired Dean of Students Jess Lucas who served the Institute for 30 years. Rude is a captain in the U.S. Army and was serving in Bosnia this spring. ■



**1993**

**Brian Alexander (M.E.)** and his wife, Brigid, announce their second child, Jane Christina, born in December. She joins brother Jacob.

**Todd DeVore (M.E.)**

and his wife, Angie, announce the birth of daughter, Mia Lynn, born last November. Todd has been promoted to manager of refrigeration scroll engineering at Copeland Corp.

**1994**

**James Codling (E.E.)** is the vice president of engineering with Conetecs Inc.

**Hal Higley (M.E.)** and his wife, Lori, welcomed daughter Hanna Katherine, last November.

**M. Shane Steffen (M.E.)**

received his MBA from the University of South Carolina last December. He also has accepted a promotion and has relocated to Shanghai, China, as the mechanical marketing manager for the startup of a new manufacturing facility for Rockwell Automation Power Systems.

**Robert Waldron (M.E.)**

and his wife, Victoria, had a baby girl, Olivia Kaitlyn, last year. She joins older sisters Alyssa and Ashley. The family resides in Mt. Pleasant, S.C., where Robert is employed with Nucor Steel.

**1996**

**David Bedel (M.E.)** and his wife welcomed their third son, Adam Michael, born last fall. David is a design engineer at GE Aircraft Engines.

**On the Air: Robert Wilkins**

When people in the know need to know, it pays to ask a Rose-Hulman graduate. Robert Wilkins, a 1986 chemical engineering alumnus, recently was interviewed on CNN's Burden of Proof with CNN legal analyst Greta Van Susteren.

Wilkins, a Washington, D.C., attorney, shared his legal expertise for national viewers during a discussion of recent school shootings in San Diego, Calif. He discussed the legal aspects of that case.

Being on national television is nothing new for Wilkins. He has been on ABC's 20/20, ABC's Nightline, Court TV and several other programs. He has become a national expert source on the topic of racial profiling. ■

**KEEPING IN TOUCH WITH ROSE-HULMAN**

My alumni record should include this important news:

Name \_\_\_\_\_  
 Class Year \_\_\_\_\_ Degree \_\_\_\_\_  
 Address \_\_\_\_\_  
 City \_\_\_\_\_  
 State \_\_\_\_\_ Zip Plus Four \_\_\_\_\_  
 Telephone: Home \_\_\_\_\_ Work \_\_\_\_\_  
 Fax \_\_\_\_\_  
 E-mail: Home \_\_\_\_\_  
 Work \_\_\_\_\_

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

News for Echoes \_\_\_\_\_  
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 \_\_\_\_\_

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





### Alumnus Gets His Chance to Buy a Vowel

Have you ever wondered how contestants get chosen for TV game shows like Wheel of Fortune? So did Craig Pohlman ('00, CS), so he decided to find out. The result was a nine-month adventure that challenged his persistence, problem-solving skills and ability to make quick decisions.

Pohlman reached his goal. He was one of three contestants on the April 11 show which was broadcast in 207 markets representing 99.7 percent of the United States population.

During his appearance, Pohlman had a brief opportunity to plug his alma mater when answering one of host Pat Sajak's questions. Pohlman, a resident of Tempe, Arizona, told of his senior computer science project team which designed a web-based process to order a soft drink from a machine dispenser.

Pohlman's quest to appear on the show began nine months before the segment was broadcast. He had to survive two interviews and tryouts, and was tested on puzzle-solving skills. The April 11 show was taped at Sony Picture Studios in Culver City, Calif., two months before it was broadcast.

His answer of Hudson Bay to one of the puzzles helped him win \$2,250.

Among his comments about the national TV appearance, Pohlman says, "The time on the show moves faster than you can imagine. The fast pace of the show made it difficult to think as fast as you can just watching the show at home," said Pohlman, who is a software engineer for Lockheed Martin. ■

### William Dart (Math.)

married Emily Hufnagel last October.

### Alan Eskuri (M.E.)

wed Sheree Jerikovsky last December. He has accepted a new job with Boston Scientific SciMed as a research and development engineer.

### Matt Meiser (E.E.)

married Pamela Teller last March in Monroe, Mich.

### Trent Newton (M.E.)

married Angela Widup earlier this year.

### 1997

#### Ryan Kinn (C.S.)

now works with Ball Aerospace and Technologies Corp. in Boulder, Colo. He resides in Longmont, Colo.

### Gregory Roberts (Ch.E.)

married Michele Renee Mann last August.

### 1998

#### Surat Intasang (Math.)

is working in Bangkok, Thailand, as a project analyst being a country coordinator for the S\*T\*A\*R\*S (Space Technology and Research Students) program. Students study a

small, self-contained aquatic ecosystem then track it live as it orbits in space. (See article on page 22.)

### Nathan Jenniges (E.E.)

has a new position in global technical marketing and promotion to technical marketing manager with Motorola's Personal Communications Sector.

### 1999

#### Mark Bessler (M.E.)

married Kimberly White on Feb. 24. Her father, John White, grandfather, John White, and brother Clint White, all attended or are attending Rose-Hulman. Mark also has started a new position as a facilities engineer with Paragon Engineering in Houston, Texas.

### Chad Buckles (M.E.)

exchanged wedding vows with Courtney Rush last summer.

### Cord Ehrhart (M.E.)

and Corrie Milligan were married last fall.

### Kurt Fledderman (E.E.)

wed Christina M. White on Feb. 24.

## PARTICIPATION: A WORTHY INVESTMENT

Rose-Hulman is closing in on its alumni giving goal of 50 percent for the 2000-01 year. As of late spring, our alumni participation rate stood at 39 percent. Reaching our goal would put us among the tops in the nation when it comes to alumni financial support.

While total dollars are important, the partici-

pation rate is equally important. When your alma mater asks for support from corporations and foundations, one of the first things they want to know is our alumni participation rate. They feel more comfortable investing in the college when they see those who know it best feel it also is a worthy investment.

June 30 is the deadline for hitting the 50 percent mark. For more information, contact Karen O'Rourke, director of annual giving, at 1-800-248-7448, ext. 8159. Or you can make a gift online at <http://www.rose-hulman.edu/give>.



**Marcie Kam (M.E.)**

married Adam Morrison (M.E., '00) last year. They reside in Indianapolis where they both work as engineers for Rolls-Royce.

**Bill Morphew (Ch.E.)**

has been transferred to Santa Cruz, Bolivia, and promoted to sub-gerente de operaciones at an ADM joint venture.

**Hanna Pekinpaugh (M.E.)**

has a new job as project engineer at Willamette Industries in Hawesville, Ky. She resides in Tell City, Ind.

**2000****Bryan W. Egli (C.E.)**

married Amy Lynn Johnson on Dec. 9. He is employed by Hannum, Wagle & Cline Engineering as a project manager in the company's Terre Haute office.

**Michael Troy Howard (M.E.)**

wed Lyndie Beth Shirar last November.

**Adam Morrison (M.E.)**

married Marcie Kam (M.E., '99) last May. Adam recently received the Rolls-Royce company's top accolade for training achievement. He received the North American Trainee of the Year 2000 Award. They reside

in Indianapolis, where they both work for Rolls-Royce.

**Joe Patterson (M.E.)**

married Mandy Halbig last summer.

**Craig Pohlman (C.S.)**

is working as software engineer associate at Lockheed

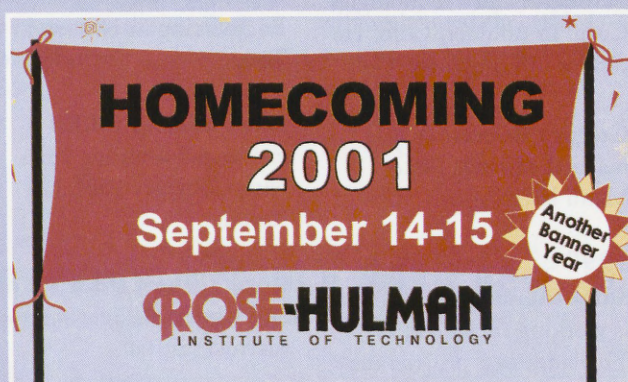
Martin Management and Data Systems Reconnaissance Systems in Goodyear, Ariz., on defense radar systems.

**Airen R. Schuetter (M.E.)**

married Jasen W. Springer last fall.

**WE WANT TO HEAR FROM YOU**

Send your class note information via e-mail to Bryan Taylor at [bryan.taylor@rose-hulman.edu](mailto:bryan.taylor@rose-hulman.edu). For those of you who enjoy the U.S. Postal Service, send it to Bryan at Rose-Hulman Institute of Technology, 5500 Wabash Avenue, CM 14, Terre Haute, IN 47803. Class notes are the lifeblood of Echoes; so let us hear about job promotions, weddings, birth announcements, and other exciting happenings in your life.



Tentative activities include:

**Golf outing, Alumni Awards Breakfast, Departmental open houses, Rosie's Kid Zone, Football game, Pep rally, Queen Coronation, Bonfire, Fireworks and the Fifty-Plus Club**

Reunion dinners for the classes of 1943, 1951, 1956, 1961, 1966, 1971, 1976, 1981, 1986, and 1991 along with cluster reunions for the classes of 1946-49 and 1992-2001.

For more information, contact Alumni Director Brian Dyer at 800-248-7448, ext. 8359 or via e-mail at [brian.dyer@rose-hulman.edu](mailto:brian.dyer@rose-hulman.edu)





## OBITUARIES

**1933**

**Robert L. Barr (E.E.)** died Dec. 26. He was retired president of Trend Plastics, Inc.

**1934**

**Henry Fick (E.E.)** died April 29. He was plant purchasing agent with Commercial Solvents Corp for 34 years. Survivors include three children, Carol Jean Steele, R. Allan Fick, and Donna Kay Dodson.

**1936**

**John W. Mann (M.E.)** died Dec. 4 in Mesa, Ariz. He was a retired technical manager for Mobil Oil Corp.

**1943**

**Joseph J. O'Connell (Ch.E.)** died Feb. 12. He was a resident of Albuquerque, N.M.

**1946**

**Donald J. Kersten (E.E./M.E.)** died Dec. 29. He was a resident of Phoenix, Ariz.

**1949**

**Kenneth Sheetz (E.E.)** died March 6 at the age of 85. Survivors include his wife, Theda, and a daughter, Sherry Bevan. His career included stops at NIPSCO and Amoco.

**1950**

**Jack Marshall (E.E.)** died Oct. 25. A resident of Hauppauge, N.Y., he was retired president of Marcan.

**1951**

**Donald West (C.E.)** died March 15. He was retired from BP Amoco and lived in Independence, Mo., at the time of his death.

**1952**

**Philip E. Bracht (C.E.)** died Jan. 11. He retired in 1990 from Margaux, Inc. He is survived by his wife, Delores, and three sons, Steve, Bill and Gary. He and Delores celebrated their 50th anniversary last August.

**Paul T. Malone (M.E.)**

died Oct. 19. He was retired from the Timken Co. Survivors include his wife, Phyllis, two sons, Jim and Craig, and daughter Janice Allem.

**1958**

**James W. Stott (E.E.)** died last November. A resident of Evansville, Ind., he was president and owner of Wilkinson Systems.

**1963**

**Max E. Goodwin (Phy.)** died Jan. 27 at the age of 59. He was a trial lawyer practicing law in Terre Haute. Survivors include his wife, Dorothy, son William Patrick ('95, C.E.), and two daughters, Jennifer Forbes and Marjorie Goodwin. He was noted throughout Indiana for his work as an attorney. In 1998, he received the Hoosier Environmental Council's Lifetime Achievement Award for his dedication to that group's work. In 1994, he was named Trial Lawyer of the year by the Indiana Trial Lawyers Association.

**1974**

**W. Scott Rice (E.E.)** died Jan. 28, according to word received in the alumni office. He was manager of research and development for Northrop Grumman Corp., and lived in Palatine, Ill.

**1975**

**Glenn M. Garrett (Ch.E.)** died March 24. He is survived by his wife, Kathy. He was director of sales and technical service for Engelhard Corp. He lived in Houston, Texas, at the time of his death.

**1978**

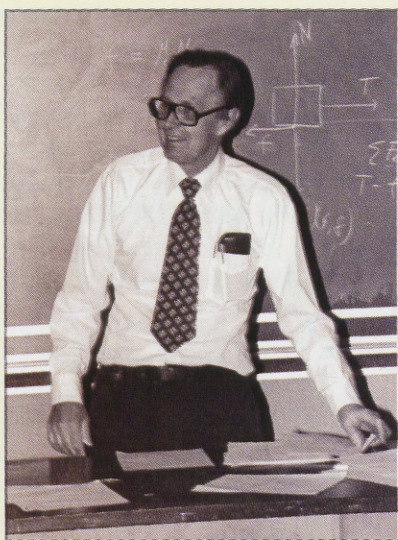
**Steven M. Martin (M.E.)** died Nov. 4 at the age of 44. He was a resident of Elkhart, Ind., and a project engineer for CTS Corp.

**1981**

**Robert Hogan (M.E.)** of Chesterfield, Mo., died Jan. 30 at the age of 42. Survivors include his wife, Nancy, and a son, Andrew. He was employed with Earthgrains Foods, Inc., St. Louis.

**1997**

**Jeffery T. Epperson (M.E.)** died Feb. 9. He was a graduate student at Purdue University. Survivors include his parents Stanley and Milinda Epperson, Marietta, Ga.



## FACULTY:

**Bill Meeks**

Professor Wilkison "Bill" Meeks died April 5 at the age of 86. He was professor emeritus at Rose-Hulman, where he taught for more than 27 years. During his tenure at Rose-Hulman, he also served as head of the physics department. Meeks was a member of the American Physical Society, a 50-year member of Sigma Xi Honorary Science Fraternity, and specialist and writer in the field of acoustics. His undergraduate work was done at Maryville (Tenn.) College, and he earned his master's and doctorate in physics from Northwestern University. Survivors include his wife, Esther and two daughters, Katherine Allison Meeks, New York City, and Loretta Margaret Meeks, Phoenix, Ariz.



# Looking Back

## COL. RICHARD THOMPSON — THE 'FORREST GUMP' OF ROSE POLY

by John Robson, Librarian and Archivist

Seven years have passed since the film release of *Forrest Gump*, but most of us who saw the movie still can recall with a great deal of fondness Tom Hanks' Oscar-winning portrayal of the title character. *Forrest Gump* found himself a part of a series of key historical events that led to personal meetings with the great and near great, including Presidents Kennedy, Johnson, and Nixon. Rose-Hulman has its own *Forrest Gump* in the person of Richard Wigginton Thompson.

Col. Thompson — as friends, neighbors, and Rose Poly students always knew him — had an unusually long life of public service and was a man to be reckoned with in state and national affairs for 65 years. He ranked as a spellbinding orator, among the very best in the nation. With pride, the citizens of Terre Haute and Indiana pointed to Col. Thompson, the friend of the common man and counsel to the mighty. For Rose and her students, he was the long-serving lawyer for Chauncey Rose's railroad interests and a 17-year veteran of the Board of Managers, serving as president from 1893 until his death in 1900 while in his 91st year.

Thompson's remarkable story began almost at birth. Born in Culpepper, Va., in 1809, he grew up in a family where politics and public service were taken seriously. His father, though not a Democrat, was a close friend of Andy Jackson. His stepmother was the granddaughter of George Washington's younger brother Charles. Both grandfathers fought in the Revolution. With such a pedigree, it is little wonder that Thompson would find himself face-to-face with an amazing group of American politicians and statesmen.

With all humility, Thompson laid honest claim to having met and heard (and for most was a source of counsel to) every U.S. President who served from 1801 until 1900. It began with a chance meeting with former President Jefferson in 1825, while Thompson was visiting Charlottesville, some 50 miles southwest of Culpepper. He also saw and heard former presidents Madison and Monroe, who lived in the vicinity and would travel frequently through Culpepper, staying the night.

Thompson's father introduced young Richard to President Jackson at his first inaugural in 1829. His father teasingly comment-

ed to Jackson that his son supported Henry Clay, Jackson's Whig opponent in the election. Expecting a lecture, Thompson was instead favored with advice that stood him well the rest of his long life. Jackson told him: "My son, I have no advice to give you in reference to your politics except this — think always for yourself, and let your conscience be your invariable guide."

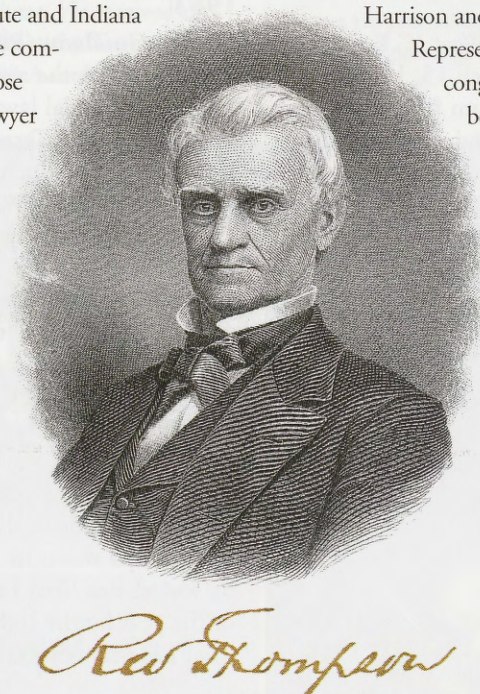
Young Richard headed west when the family's fortune ebbed, landing in Bedford, Ind., at the age of 22, to seek his destiny and fortune. Before long, reading the law at night on his own, he was admitted to the bar. At 25 he was elected to the first of two terms in the State Assembly. By 1840 he was stumping for William Henry Harrison and was elected himself to the U.S. House of

Representatives, becoming a life-long friend of fellow congressman Abraham Lincoln. While there he became acquainted with John Quincy Adams, Millard Fillmore, Franklin Pierce, and James Buchanan. During his congressional days, Thompson established Terre Haute as his permanent residence.

Washington held no charm for Thompson, who would serve another term in 1846. But he established a sound reputation that led to job offers that were never sought. President Taylor asked him to be ambassador to Austria, President Fillmore wanted him to be the general solicitor of the Land Office, and Lincoln offered him a court of claim judgeship. The biggest surprise came in 1877 when President Hayes asked him "out of the blue" to join his cabinet as Secretary of the Navy. He filled that post, despite

advancing age, until December 1880, when he accepted the chairmanship of the American Committee of the Panama Canal Company, at triple his salary as a cabinet secretary.

With the exception of the travel required for his duties with the Panama Canal Company, Thompson spent the rest of his life in Terre Haute, filling the role of "The Grand Old Man of Indiana" as his obituaries called him. As president of the Board of Managers he looked forward each year to delivering the graduation address and passing out the diplomas. At his death, the Board closed the school so that all students could attend his funeral. ■





## ASSOCIATION NEWS

We've had a busy spring! The following is a list of cities where alumni have met this spring and the alumni that assisted in coordinating those meetings.

**Indianapolis, IN, Pacer's Game,** Bill Daugherty

**Tempe, AZ, Luncheon,** Ron Ireland

**Fort Wayne, IN, Hockey game/dinner,** Joe Witulski

**Southern IN, Dinner (John Hostettler spoke),** Keith Spindler

**Philadelphia, PA, Luncheon,** Barron Gemmer

**Washington, D.C., Brunch,** Chuck Sigman

**Cincinnati Tour of G.E.,** Andy Stultz

**Lafayette, IN, Museum Tour and Dinner,** Kenny McCleary

**Houston, TX, Breakfast,** J.Q. Delap

**San Francisco, CA, Lunch,** Ozgur Ozkaya

**Evansville, IN, Lunch,** Joe Schmits

We have also had some meetings in Indianapolis by department for Civil Engineering and Chemical Engineering alumni. Alumni had the opportunity to meet faculty from these departments and learn about the recent ABET accreditation, meet students, and learn more about the news from the faculty.

## FUTURE ALUMNI EVENTS

Contact Brian Dyer for more information on all the events listed below.  
Phone: 812-877-8359  
Email: brian.dyer@rose-hulman.edu

### Chicago Area Alumni

**Sunday June 10th**

Annual Golf Outing  
Orchard Lake Golf Course  
Aurora, IL

### Detroit Area Alumni

**Saturday June 23rd**

"Behind the Scenes"  
Tour of Detroit  
Metro Airport Renovation

### Indianapolis Area

**Wednesday, July 4th**

Indianapolis Indians Baseball  
Game and Fireworks Show  
Indianapolis, IN

### Central Indiana Golf Outing

**Friday, June 15th**

Trophy Club Golf Course  
Lebanon, IN

### Annual Alumni Office

**Summer Trip**

**June 20th-July 3rd**

Prague, Budapest, & Points Between  
Including a 7-night cruise on the Blue Danube

### Football Alumni Get-together

**July 27th-28th**

On Campus

### Detroit Area Alumni

**Saturday August 18**

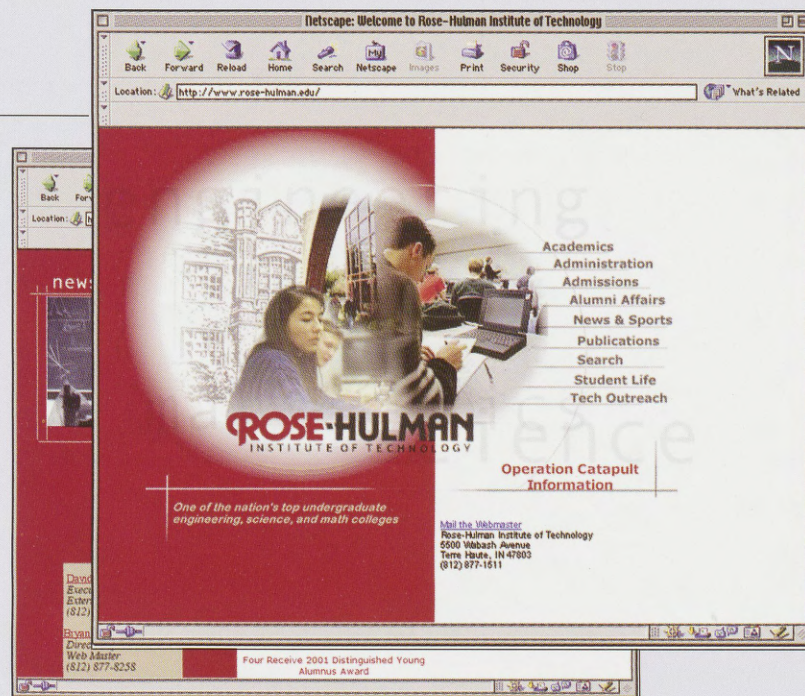
Annual Golf Outing  
Heather Highlands Golf Course  
Holly, MI

## VISIT US ON THE WEB

Your online alumni home

You're only a click away from all the happenings at Rose-Hulman. Keep up with the latest campus news by visiting the Rose-Hulman web site at <http://www.rose-hulman.edu>.

Visit the news page for up-to-date reports about Rose-Hulman or check the latest scores on the sports page. The Alumni Association maintains a page with Homecoming information and other alumni events. Coming soon will be the online alumni directory and a virtual tour of campus. Check out your site and let us know what you like and what other items you want included.







## PARTING SHOT

Construction continues on White Chapel at the west end of Rose-Hulman's large lake. This night photo by student photographer Vinay Basavaraja shows interior construction progress this spring. The 5,000-square-foot chapel is scheduled to be dedicated on October 7. The chapel is named in honor of John and Elizabeth White whose generosity made the construction possible.

# Echoes

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