

Winter 2015

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Echoes Staff

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Echoes

ROSE-HULMAN INSTITUTE OF TECHNOLOGY

WINTER 2015

Vol. 2015, No. 1



A LEGACY OF STUDENT SERVICE

Pete and Donna Gustafson Among Campus' Many 'Unsung Heroes'



FALL ACADEMIC ALL-AMERICANS: Earning Academic All-American were (from left) Eric Taylor, Zac Erba, Chris Sander, Mallory McDevitt, Aaron Abbott, and Nick Buchta.

TAKING PRIDE IN OUR AWARD-WINNING STUDENTS



TRIO TOPS 'ENGINEERING UNLEASHED' VIDEO CONTEST

Freshmen Adam Gastineau, Curt Lemke, and Andrew McNany produced an award-winning video for the Kern Entrepreneurial Engineering Network's 2015 Engineering Unleashed video competition—a prize presented by MythBusters television co-host Jamie Hyneman. The video demonstrates how engineering education principles are unleashed at Rose-Hulman, as early as the fall quarter of a student's freshman year, with a mindset of curiosity, connections, and creating value. See the video at www.rose-hulman.edu/KEENaward.

IMAGING SYSTEM DAZZLES INTERNATIONAL COMPETITION

A 3-D imaging system created by seniors Christian Benson, Upamanyu Bose, Caleb Gannon, and Marshall Mullins was a second-place prize winner in an international capstone design competition as part of the 2014 Engineering Education Festa (E2 Festa) in Seoul, South Korea. The team's non-contact measurement system generates 3-D images of an object by using a digital projector to shine fringe patterns onto an object. These deformations and the triangulation angle of the camera created a full surface map of the object. Find out more at www.rose-hulman.edu/3-Dprizewinner.



FALL STUDENT-ATHLETES WINNERS ON, OFF FIELDS

Six fall student-athletes (top photo) earned Capital One Academic All-American honors after achieving a 3.93 accumulative grade point average. Fightin' Engineers made up four of the 25 first-team football players: wide receiver Aaron Abbott (3.85 GPA), offensive linemen Nick Buchta (3.92) and Eric Taylor (3.86), and defensive back Chris Sander (4.0). Tight end Zac Erba (3.97) was a second-team choice. Mallory McDevitt (4.0) was a first-team women's soccer selection. Buchta (at left) became the third Rose-Hulman student-athlete to be a three-time Academic All-American. Find out more at www.rose-hulman.edu/FallAcademicAmericans.

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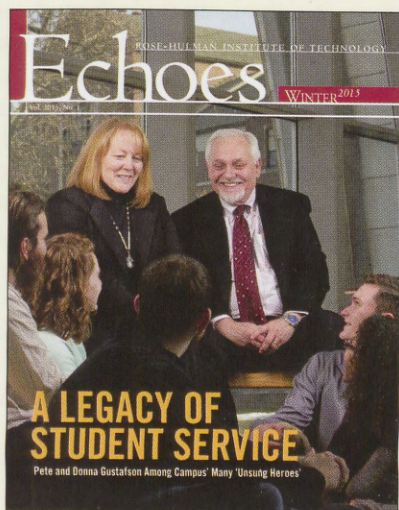
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Alumni Can Connect Through RoseSTEM

Stay connected through <http://rosetem.rose-hulman.edu>—finding old friends and classmates, register for social events and other activities, submit your news and class notes, network with alumni in your career field, and live chat with other alumni.



ON THE COVER

Vice President for Student Affairs/Dean of Students Pete Gustafson and Dean of Student Services Donna Gustafson are featured with several students on the stage of Rose-Hulman's White Chapel, with the Michael Percopo Residence Hall in the background. The Gustafsons are retiring on June 30 with each having 38 years of service to the institute. (See story on pages 4-7.) Pete is the third dean of students in Rose-Hulman history. (Photo by Shawn Spence)



Saluting
Our Unsung
Heroes

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Things Up
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Developing
an 'Attitude
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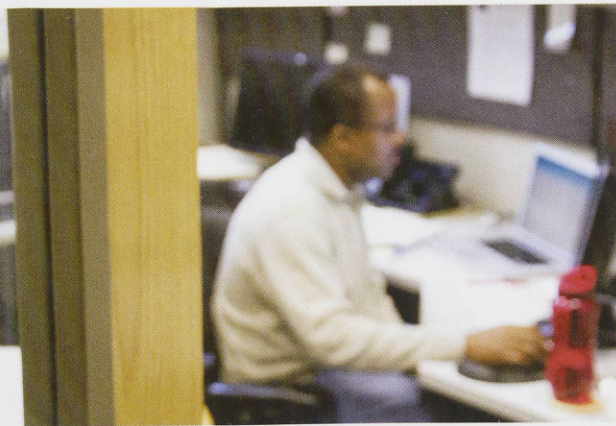
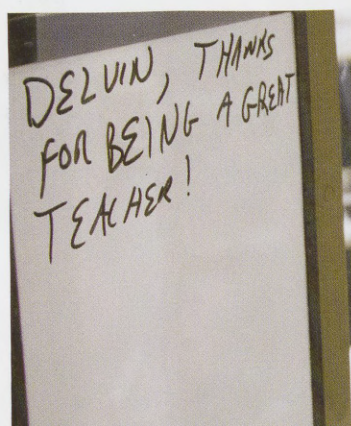
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MESSAGE FROM THE PRESIDENT



SALUTING OUR UNSUNG HEROES

Faculty, Staff Contribute to Special Student-Focused Campus Culture

by Jim Conwell

When Pete and Donna Gustafson joined the Rose-Hulman community in 1977, the student body was all male, just over 1,000 students were enrolled, and iconic buildings such as Olin Hall and Hadley Hall weren't even on the drawing boards.

Now, with each having 38 years of service to Rose-Hulman, the Gustafsons are retiring—Pete as vice president for student affairs and dean of students; Donna as dean of student services. (See a profile story on pages 4-7 about the couple and their campus careers.)

Pete and Donna are great examples of the institute's "unsung heroes," those people who make our campus such a special place and quietly play a vital role in helping our students succeed in our rigorous curriculum.

Our Mission Statement keeps us focused on delivering the world's best engineering education, and that takes many forms. Students not only interface with professors who are leaders in their career fields, but also learn valuable life lessons from interacting with world-class employees in all departments. These lessons are important because, as alumni, our students must collaborate and appreciate the contributions made by co-workers who aren't engineers.

A key element of our educational philosophy is that we provide individual attention and support to our students—from the moment they arrive on campus for new student orientation. This level of support is as wide-ranging as the career services staff members who help students find avenues to begin their careers, the

Everyone is an educator at Rose-Hulman, and we need to make sure our students develop an "attitude of gratitude" that recognizes the people who have given their time, talents, and treasure to make Rose-Hulman such a special place, whether they are faculty, staff, alumni, or friends.



department technicians who train students to use the latest machine shop technology, and the housekeepers who bake cookies for students during final exam week.

Everyone is an educator at Rose-Hulman, and we need to make sure our students develop an “attitude of gratitude” (see pages 20-23) that recognizes the people who have given their time, talents, and treasure to make Rose-Hulman such a special place, whether they are faculty, staff, alumni, or friends.

When I ask alumni what they appreciate about Rose-Hulman, they inevitably mention a faculty or staff member who encouraged them during the course of their undergraduate years. One of my favorite Rose-Hulman experiences is when I see a graduating senior hugging a housekeeper, secretary, or technician following the commencement ceremony.

Rankings by external organizations are based upon the strength of our faculty and how well the institute is managed. But, for us, our success is based on those intangibles that our “unsung heroes” bring to campus. These devoted faculty and staff members are responsible for Rose-Hulman’s unique student-focused culture, and we need to continue supporting them. That’s why we have expanded our commitment to employee professional and personal development.

Rose-Hulman is a dramatically different and more diverse community than it was in July of 1977 when Pete and Donna Gustafson arrived to begin leaving their mark on the institute. As they transition away from the campus they’ve called home, we will ensure that the supportive culture they helped foster continues for the next generation of students. ■



Follow President Conwell
@RoseHulmanPrez

NATIONAL RECOGNITION

Alumni Satisfaction Helps Put Institute On Payback List

Alumni success and job satisfaction were among factors in a Return-on-Education rating used by The Princeton Review to determine Rose-Hulman as a best overall bargain.

The institute was listed in the new book and online resource, *Colleges That Pay You Back*, in the following categories:

- No. 5 for Best Career Placement
- No. 8 for Colleges That Pay You Back, even if a student is not eligible for need-based financial aid
- No. 20 among the Top 50 overall Colleges That Pay You Back

The Princeton Review’s Return-on-Education rating measured academic quality, cost, financial aid, and graduation rates. Eighty percent of Rose-Hulman alumni participating in Payscale.com surveys reported high satisfaction with their jobs, and 82 percent of alumni recommend the college to others.

A profile in the book states Rose-Hulman is “one of the top undergraduate engineering schools in the country,” and seeks to “create a ‘collaborative’ environment that sends its graduates into the real world with the tools needed to secure employment.”

In regard to career placement, the Princeton Review’s 2013-14 campus report included student remarks that Rose-Hulman has “a job placement rate and average starting salary that are amazing,” and “the opportunities for gaining experience in your field of study are endless.” ■

Jim Conwell is president of Rose-Hulman.

WORKING AS A TEAM:
Pete Gustafson has been vice president of student affairs and dean of students while Donna Gustafson has been dean of student activities and director of the Hulman Memorial Student Union.

SELF-STYLED 'STUDENT SERVANTS'

Pete and Donna Gustafson Nurture Rose-Hulman's
Special Family Culture Over 38 Years

They didn't develop it, but Rose-Hulman's student-centered, family-oriented experience has been nurtured through the caring hands of Pete and Donna Gustafson.

The couple, retiring on June 30, has served students, parents, faculty, and staff members for 38 years—Pete as vice president for student affairs and dean of students; Donna as dean of student activities and director of the Hulman Student Union.

In these roles, the Gustafsons have been responsible for every aspect of a student's campus life—residence life, dining services, student union services, athletics, performing arts, and new student orientation, as well as student activities and

organizations, career services, housekeeping services, sports and recreation, public safety, and health and counseling.

"Being around college-aged students has kept us young, and given us days with such joy and plenty of surprises," says Donna. "We're going to miss being a part of a group that's dedicated to putting students first."

That mission has been guided by the Gustafsons. Their tenure has seen a successful transition to a coeducational student body; the addition of three new residence halls, Sports and Recreation Center, and White Chapel; and a doubling in the size of the Hulman Memorial Student Union. These changes have brought

Story by Dale Long/Photos by Shawn Spence

more diversity, enabled more upper-class students to live on campus, and improved the quality of campus life. And, as the student body has grown, so have student services.

The Gustafsons arranged campus housing when Rose-Hulman hosted the Indianapolis Colts' training camp, organized campus events that collected more than 28,000 pints of blood for health-care facilities served by the Indiana Blood Center, and helped hundreds of couples—including many alumni—get married in the White Chapel.

Well-Deserved Recognition

Pete and Donna have received the President's Outstanding Service Award, been awarded honorary alumni status by the alumni association, and earned athletic department awards for outstanding support to student-athletes and coaches.

"Thousands of Rose-Hulman students and graduates have been impacted by the positive and gracious leadership provided by Pete and Donna," says President Jim Conwell. "I will miss Pete's sage advice and quiet voice for the student on the President's cabinet."

Longtime colleague Tom Miller, associate vice president for student affairs and dean of student affairs, adds, "Pete's visionary leadership throughout the years has provided a level of excellence that is recognized by colleges and universities across the country as the 'best of the best' in student life programs."

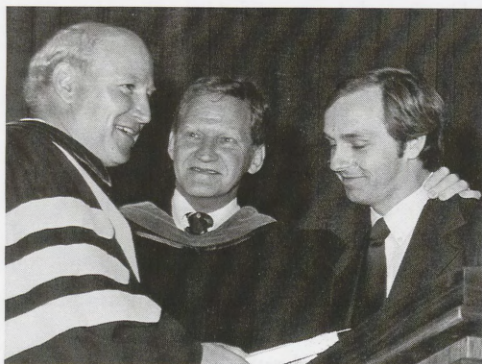


ENHANCING STUDENT EXPERIENCES: Donna Gustafson has injected campus life with new programs, activities, and experiences. "We want the students to have the best experience possible," she says.

Miller continues, "Over the years, Pete and Donna have inspired students and student life staff to believe in themselves. They taught us a sense of the Rose-Hulman community that we all cherish today. This lesson of community and 'Rose-Hulman Family' was not always in what they said, but more importantly, how they served as role models for each and every one of us."

Student Government Association 2014-15 President Kylie McCollum comments, "Pete wholeheartedly embraces the Rose-Hulman community, and goes out of his way to feel the pulse of what's going on in student life on campus. He is always available to answer questions, through office visits or late-night

LOOKING BACK

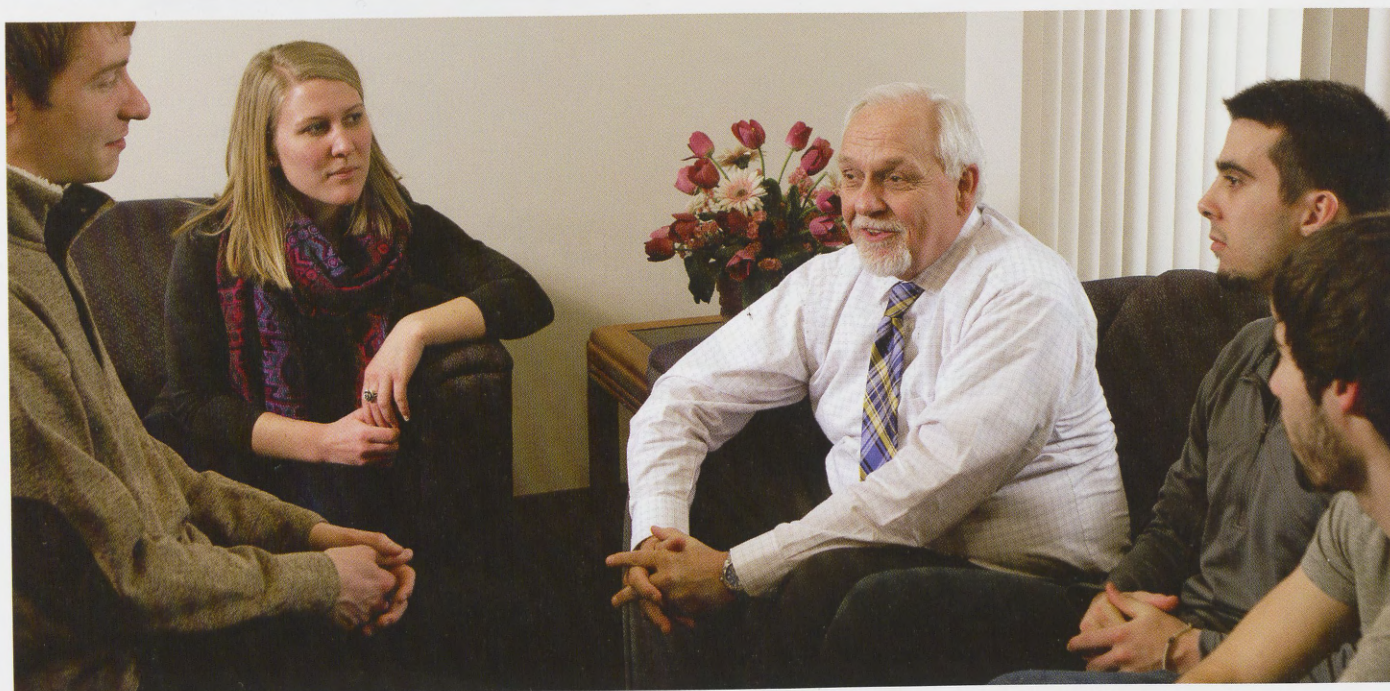


PART OF THE FAMILY: Pete Gustafson is Rose-Hulman's third Dean of Students, succeeding Jess Lucas (left photo, middle); both Pete and Donna Gustafson earned the President's Outstanding Service Award (middle); and the couple's children became campus fixtures when the family lived on campus for two years (right).



“Our purpose is to get students through the personal development process—intellectually, morally, and socially...Playing a role, no matter how small, is the best part of the job.”

—Pete Gustafson
Vice President for Student Affairs/Dean of Students



STUDENT ENGAGEMENT: Pete Gustafson provides mentorship to several student groups, including the Student Government Association (SGA). “Pete wholeheartedly embraces the Rose-Hulman community, and goes out of his way to feel the pulse of what’s going on in student life on campus,” says 2014-15 SGA President Kylie McCollum (pictured above).

e-mail messages, and offers delightful puns and just the right words to put any situation in its proper perspective.”

Impact Felt Across Campus

The Gustafsons’ Rose-Hulman career almost didn’t happen. The couple first applied for a campus residence life position after the couple graduated from Bowling Green State University. After being notified that the position had been filled, they moved to Terre Haute, Indiana, where Pete served two years as a residence hall director at Indiana State University and Donna was a teacher/athletic coach at a private Catholic high school. They joined Rose-Hulman when the institute’s residence life operations expanded under legendary Vice President for Student Affairs and Dean of Students Jess Lucas.

Donna immediately injected campus life with new energy. She brought acclaimed entertainers such as Harry Chapin and Blood, Sweat & Tears to Shook Fieldhouse; planned Recyclable Engineering contests (well before sustainability became popular) and annual Month of a Million Laughs events (relieving winter-time blahs); and organized ski trips, whitewater rafting journeys, and international excursions to Ireland, Greece, and Italy.

“We want the students to have the best experience possible,” she says. “The community atmosphere is established from the first time students arrive on campus. We work hard to get students out and involved. They need to be kept on an even keel and working together so that they can spend their time on academics.”

Pete adds, "Students thrive from the support they gain from each other."

Pete, who succeeded Lucas in 2000, has been only the third dean of students in Rose-Hulman history. Students consistently give Rose-Hulman's residence life operations high marks in campus and national surveys. Students recently told *The Princeton Review* that "life at Rose-Hulman is academically demanding," but "the community here is so supportive and safe that you get through it" and "there's always something to do on campus."

Investment Pays Dividends

This investment in a supportive campus environment has helped create rates of student retention, graduation, and grade-point averages consistently higher than other science and technology institutions.

"Our purpose is to get students through the personal development process—intellectually, morally, and socially," says Pete. "That's an important part of the college experience. Many students come here as introverts, come out of their shells along the way, and leave as young men and women with the leadership skills, professionalism, and personal confidence to make a difference in their lives, careers, and communities. Playing a role, no matter how small, is the best part of the job."

Erik Hayes (BSME, 1997; MSME, 2001), who is taking over Pete's leadership roles (*see story at right*), adds, "I'm following in the footsteps of someone who has always put students and their interests first. That's not going to change... We're indebted to Pete and Donna for being inspirational leaders, always being supportive of our quality staff, and, most importantly, being great friends to everyone in the campus community."

The Gustafsons have led this transformation by setting positive personal examples for the campus community. Pete has led Rose-Hulman's United Way fundraising campaign since 1987, chaired the United Way of the Wabash Valley's education division, served on the board of directors for Community Coordinated Child Care and Riley Little League, and been a coach for Miss Softball America and Riley Little League. Donna has served on the Board of Family Services Association and the Board of United Ministries. Both have supported the Trinity Lutheran Church.

"People at Rose-Hulman work together for a common goal," he says. "It hasn't been an 8 a.m.-to-5 p.m. job. Rose-Hulman has been a big part of our life, and will continue to be as we follow the successes of the alumni."

The couple has two children: Matthew, who is associate director of alumni relations at St. Olaf College in Minnesota, and Jackie, who is a project associate for operations at the Richard G. Lugar Center for Rural Health at Terre Haute's Union Hospital. Pete and Donna plan to enjoy their retirement traveling and visiting their children and their families. ■

Dale Long is executive editor of Echoes and director of media relations.



ERIK HAYES NAMED TO BECOME NEXT VP, DEAN OF STUDENTS

Erik Z. Hayes (BSME, 1997; MSME, 2001) has been appointed vice president for student affairs and dean of students, and Kristen Loyd will become director of student services, both effective on July 1—succeeding Pete and Donna Gustafson in leadership roles within the Office of Student Affairs.

Meanwhile, Kyle Rhodes (SE, 2010) will move into the role as associate director of residence life, living on campus.

Hayes currently serves as associate dean of student affairs, and has helped supervise the institute's resident life operations for the past 15 years.

Recipient of the President's Outstanding Service Award, Hayes also was recognized with the Alumni Association's Distinguished Young Alumni Award and institute's Jess Lucas Alumni Leadership Award. He has been the staff representative to Rose-Hulman's Board of Trustees, currently serves as the Title IX coordinator, helped found the Young Alumni Council, and has been the freshman class advisor since 2000.

"Erik has a long connection to Rose-Hulman and serving our students, and there is no doubt that he will be able to leverage his extensive Rose-Hulman knowledge to build upon the great student affairs culture that Pete has established," says President Jim Conwell.

Loyd has been assistant director of student services for four years, having served as assistant director of alumni affairs. Rhodes is assistant director of residence life, a role he has had since 2012. ■



RON ARTIGUE, DE
Professor of Chemical Engineering

Teaching Has Been Ron Artigue's Avocation and Passion

Ronald Artigue, DE, has practiced what he's taught and taught what he's practiced as a chemical engineering professor who has earned the Dean's Outstanding Teacher Award (1999), the Alumni Association's Honorary Alumni Award (2004), and Athletic Department's Jess Lucas Spirit Award (2003).

However, Artigue's greatest contributions may be the state-of-the-art laboratory equipment and professional experiences brought to Rose-Hulman through educational sabbaticals and relationships with corporations and foundations. This has allowed students to learn real-world industry practices and benefit from new coursework materials that have paved the way to their successful careers.

"I love to teach. It hasn't been a vocation, but my avocation," says Artigue, a faculty member since 1977. "I am proud to make connections with students and help them be successful. I show them that what they're learning is important and has value."

Bruce Black Stays Ahead of Technology Frontier

Teaching at Rose-Hulman has allowed Bruce Black, PhD, to enjoy two key areas in his professional life: keeping up with today's technology and passing along those lessons to his students.

The electrical and computer engineering professor has been named the Wireless Educator of the Year by the Global Wireless Education Consortium. The award recognized Black for demonstrating leadership in the wireless field, and his efforts in preparing students for employment in wireless and wireless-related industries.

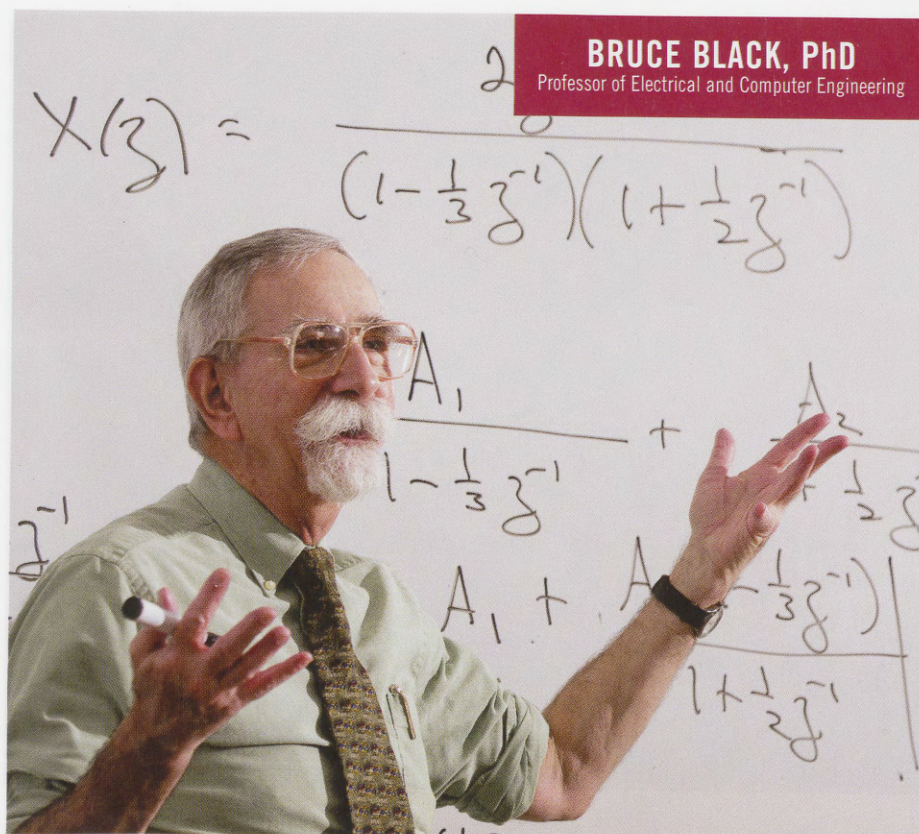
Black teaches a senior-level class on wireless communication systems which introduces students to mobile radio communications with application to cellular telephone systems, wireless networks, and personal communication systems. He also teaches classes on communication networks, electrical systems, and the analysis and design of engineering systems.

Retiring Faculty Have Inspired Students, Met Tech Challenges

Story by Dale Long/Photos by Shawn Spence

The personal computer, cellular communication, and distributed process control system hadn't appeared on the horizon when Ron Artigue, Bruce Black, and Keith Hoover started shaping the careers and lives of thousands of Rose-Hulman alumni. These

distinguished professors are retiring at the end of this school year with 106 combined years of award-winning teaching, student mentorship outside the classroom, and giving students an edge in chemical, electrical, and computer engineering.



BRUCE BLACK, PhD
Professor of Electrical and Computer Engineering

"I enjoy keeping up with the times and teaching students," says Black, who has taught class during every quarter since arriving on campus in 1983. That love of teaching has been extended to his son Michael (EE/CPE, 2001), who is an assistant professor in the Department of Computer Science at American University.

Keith Hoover Continues Herman Moench's Campus Legacy

Keith Hoover (EE, 1971), PhD, has instilled the same love of teaching, tinkering, and giving back that were hallmarks of his mentor, legendary Rose-Hulman educator and administrator Herman Moench. They shared interests in amateur radio, computer programming, and electronics repair.

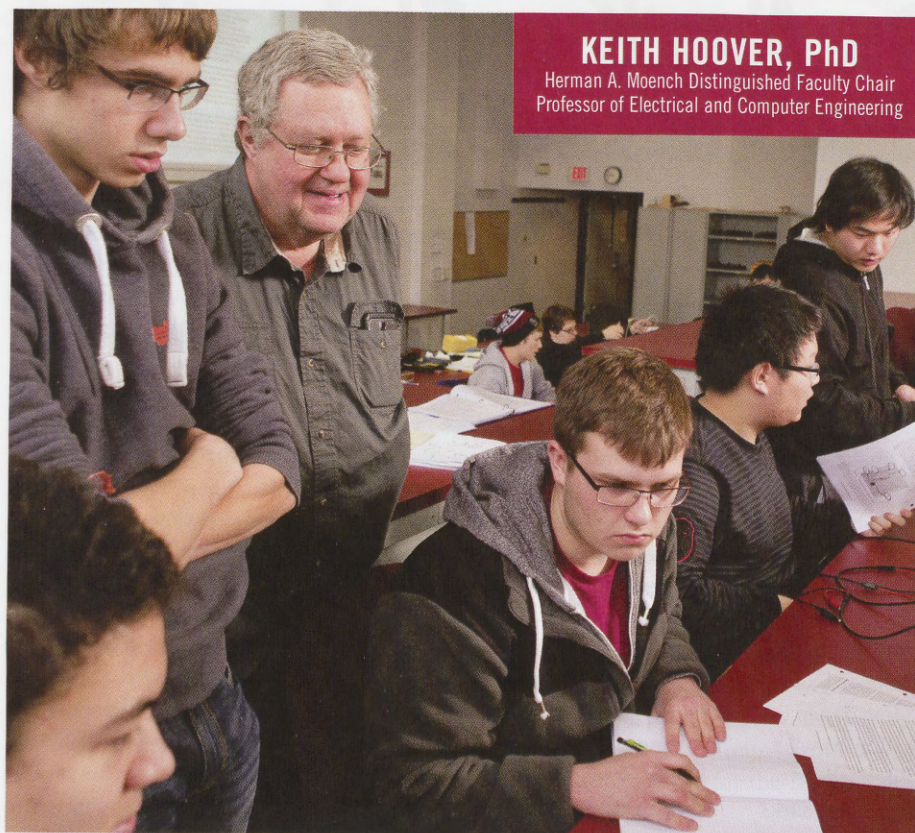
Hoover has proudly served as the Herman A. Moench Distinguished Faculty Chair in the Department of Electrical and Computer Engineering, and received the Dean's Outstanding Teacher Award (1982).

His passion for teaching is demonstrated by such techniques as playing a guitar in class to demonstrate concepts of active filters and amplifier design. He also challenges students to create their own computer systems—at one time through a 68,000 microprocessor chip on a breadboard, to today's advanced ARM processor embedded into a FPGA Xilinx chip.

"I enjoy turning people onto something cool and interesting that highlights the human race," he says.

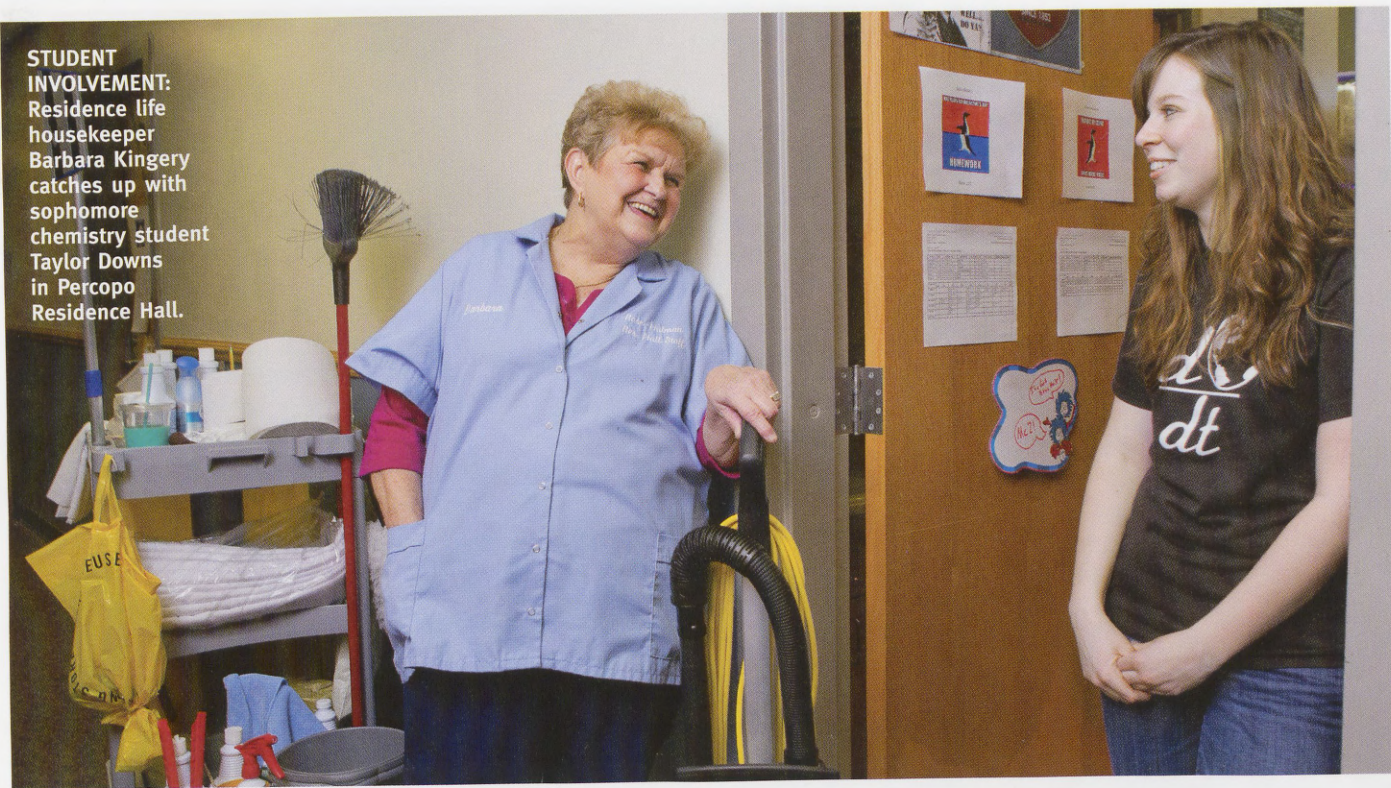
One interesting project had Hoover working with students to redesign the electronic system for the Indianapolis Motor Speedway's iconic 33-place scoreboard pylon. Sleek new digit driver boards eliminated thousands of relays and miles of wiring. The system was used for more than 20 years. ■

Dale Long is executive editor of Echoes and director of media relations.



KEITH HOOVER, PhD
Herman A. Moench Distinguished Faculty Chair
Professor of Electrical and Computer Engineering

STUDENT INVOLVEMENT:
Residence life housekeeper Barbara Kingery catches up with sophomore chemistry student Taylor Downs in Percopo Residence Hall.



Housekeepers Are Key Element of Student Life Successes

Story by Dale Long
Photo by Shawn Spence

A poignant scene symbolizing Rose-Hulman's family atmosphere comes each commencement day when residence life staff members line up in front of Baur-Sames-Bogart residence hall to say their goodbyes to those graduating seniors whom they have proudly served during their college careers.

Not a year goes by when students don't step away from the processional—their ceremonial final walk through campus as undergraduates—to give a housekeeper a hug or shake hands with a maintenance employee.

"It's a sad day," concedes Pat Fields, a housekeeper for more than 30 years who has received the President's Outstanding Service Award. "You hope that you helped make Rose-Hulman feel like home during their time on campus."

Those efforts haven't gone unappreciated. Cards of thanks from students, parents, and alumni fill a bulletin board at housekeeper Sue Garry's workroom in Percopo Residence Hall. Housekeepers are some of the first people alumni wish to reconnect with when returning to campus. Then, there's the annual student survey that gives Rose-Hulman top marks nationally for the friendliness of the residence hall staff.

Housekeepers and maintenance supervisors do more than just change bed sheets, throw away room trash, and repair broken equipment. They're invaluable members of the student life staff, states Pete Gustafson, vice president for student affairs.

"Interacting with students on a daily basis is a key part of our 'We Are Family' residence-life experience," he says.

One student remarks, "I have a feeling that if I left water, flour, and sugar on my dresser, there would be a cake in my room when I got back from class."

Percopo Hall residents enjoyed freshly baked cookies during the most recent holiday season, compliments of housekeeper Barbara Kingery.

Substitute housekeeper Rosemary Reberger says, "The students are pampered here because they deserve it. They work so hard and they're under so much pressure. I want to help, in any small way, to make their time here as relaxing and carefree as possible."

Randy Stakeman, maintenance supervisor, adds, "There are times when you have observed the students at their best, and at their worst. You take great pride in their accomplishments on campus, as students, and in life, as alumni." ■

Dale Long is executive editor of Echoes and director of media relations.



READY TO HELP: Secretaries for academic departments this year are (front row, from left) Susie Denny, Pam Hamilton, Patti Staggs, Sue Dayhuff, Angela Tanner, and Lisa Harwood. In the back row (from left) are Lynn Degler, Lisa Knott, Merry Miller Moon, Sandra McCurry, and Michelle Prather.

Academic Secretaries Serve Multiple Roles on Campus

Story by Dale Long
Photo by Shawn Spence

Academic secretaries may spend most of their time dealing with department heads and faculty members, but the best part of their campus day may be when they get to interact with students.

For instance, there were daily visits pre-med student Roger Wiltfong (CHEM/AB, 2006) made to Department of Chemistry Secretary Patti Staggs to relate the exciting things he was learning in his classes.

"He couldn't wait to tell me everything, and I mean *everything*," says Staggs, smiling proudly while recalling the memory. "He would come in, sit on a stool in the corner, and say, 'Check this out!' It was like I was taking the class with him."

Lessons learned, Wiltfong has realized his dreams, becoming an orthopedic surgeon in Columbus, Ohio—much to Staggs' delight. After all, she's part-secretary, part-department mother throughout chemistry and biochemistry students' college careers.

"Being a mom is part of my job. You feel you're responsible for them while they're here," states Staggs, who is retiring this year after 16 years as a staff member. "They're all my kids, and I'm proud of every one of them, just like they were one of my own."

That sentiment is shared by Sue Dayhuff, the Department of Electrical and Computer Engineering's secretary for 31 years.

"Nearly every day a student comes by and gives me a hug. It's the best part of my day," she says. "You see the students come in as bashful freshmen and leave as confident graduates. Then, you take great pride in their accomplishments as alumni."

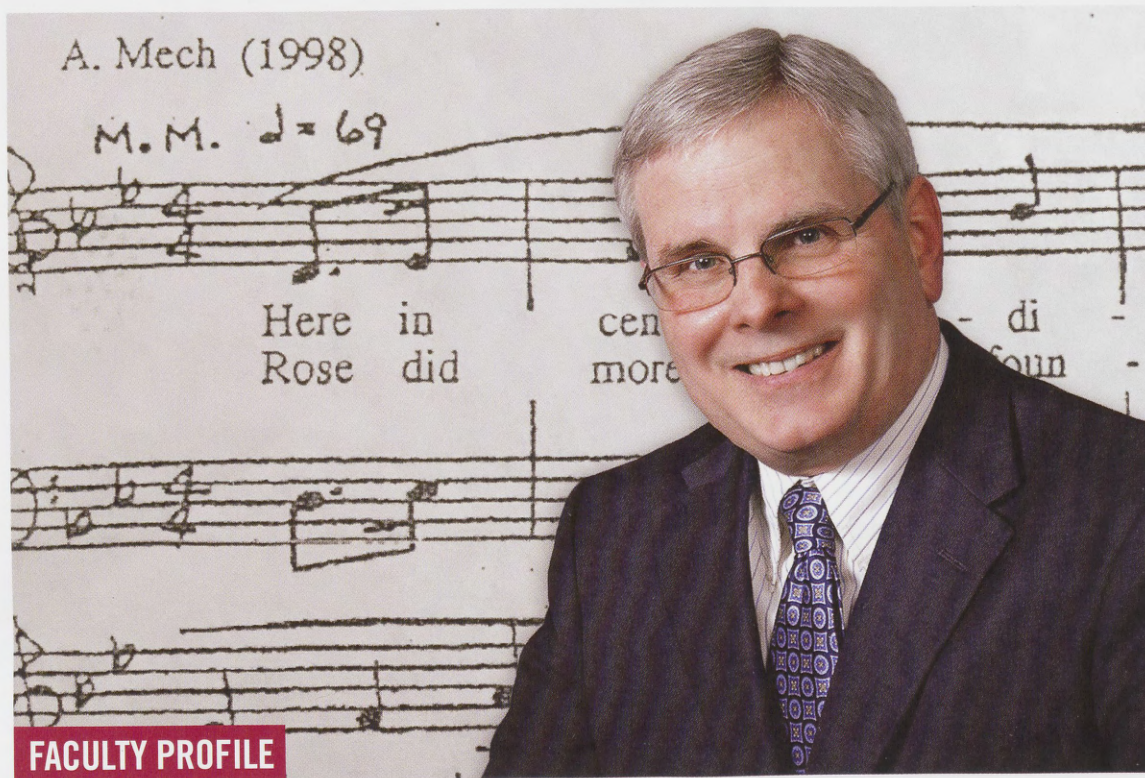
Humanities and Social Sciences Secretary Merry Miller Moon adds, "the students keep you feeling young."

Lynn Degler has met her share of students during 28 years as secretary for the Department of Computer Science and Software Engineering, and 27 years assisting with Rose-Hulman's high school summer STEM exploration program, Operation Catapult.

"The job changes all the time. Every day is different," she says. "Besides my normal activities, I assist career services with setting up information sessions in the department for companies to help students get jobs and internships. So, hopefully, what I do makes a difference."

They are making a difference in other ways, organizing an annual campus charity event that has raised more than \$20,000 for the Riley Children's Foundation. ■

Dale Long is executive editor of Echoes and director of media relations.



"I pick up and lift students because sometimes that's all they need to keep going on this journey...If a simple joke or zany puns made that possible, then I'm gratified."

—Andy Mech, PhD
Mechanical
Engineering

Andy Mech Creates Educational Legacy in Song, Saving Lost Student Souls

By Dale Long

Mechanical engineering professor Andy Mech, PhD, never intended to create a legacy for Rose-Hulman, but that's precisely what he's done in contributing lyrics to the institute's alma mater, and inspiring students to overcome obstacles and create a better world.

Mech altered and added a second verse to an alma mater written by his father, legendary choral music professor Raymond Mech, for a different school. The new *Rose-Hulman, Our Alma Mater*, introduced in 1998, replaced *Sons of Rose*, which had become less appropriate following coeducation.

Those second verse lyrics, ripe with sentiment, are symbolic of the special relationship alumni have with Rose-Hulman.

Rose did more than set foundation for the work that was to come.
The people here became as family; Rose became another home.
Though we live at quite a distance and time has passed since our farewell,
Rose-Hulman you have grown yet dearer . . . our Alma Mater loved so well.

—Rose-Hulman, *Our Alma Mater*

Mech sang those special words after being presented the Alumni Association's Honor Alumni Award at the 2014 homecoming.

"The song, and second verse in particular, is meaningful to me. It gives me a tear in my eye every year when the Rose Chorus sings it at commencement," says Mech. "I believed this place was special enough that it needed a special Alma Mater."

Raymond Mech was a vocal music professor at nearby Indiana State University from 1969 until the mid-1980s. He directed Rose-Hulman's student chorus in the mid-1970s.

The proud son made his campus debut in 1986, and for the next 28 years has become legendary for using puns and humor to encourage students to overcome academic, cultural, and societal obstacles. He is renowned for always being available to students, and on occasion has called students in late evenings and weekends to offer words of support.

"I watched first-hand as my father saved a lot of lost souls as a college professor, and I share that same educational mission here," Mech states. "I pick up and lift students because sometimes that's all they need to keep going on this journey...If a simple joke or zany puns made that possible, then I'm gratified." ■

Dale Long is executive editor of *Echoes* and director of media relations.



ARTS ADVOCATES: Leading campus music programs and performing arts groups are David Chapman, seated at piano, and (back row, from left) Norm Hanson, Michael Compton, Julie Dugger, Randy Carle, Terence Hartnett, and Daniel Tryon, Hatfield Hall manager and director of student performing arts.

Performing Arts Groups Continue Hitting High Notes

Story by Dale Long/Photo by Shawn Spence

It might be surprising that a campus filled with budding scientists, engineers, and mathematicians has long associated with the performing arts.

The institute's first music clubs were started in 1889, and glee clubs, choruses, bands, and orchestras have been around for more than 100 years.

"Music needs engineers; engineers need music," says David Chapman, PhD, assistant professor of music. "The idea that an institute of technology would be dry, heady, and dull is totally wrong. Rose-Hulman proves that creativity and soul thrive alongside the life of the mind."

He asserts, "everyone has a relationship with music, even if they don't play an instrument or read music notation. They have their own playlist, record collection, and favorite band. As a music professor, I love tapping into that existing love and knowledge of music, and I always try to take those relationships to new places."

Director of Theater Programs Terence Hartnett, PhD, agrees. He is in his first year directing such diverse drama club productions as "Cinderella" (fall), "A Flea in Her Ear" (winter), and "Les Miserables" (the upcoming spring musical).

"Creative thinking, intelligence, innovation, work ethic, and time management are all crucial attributes for an engineer and

an actor," he states. "Our students tend to be highly motivated and intelligent people with a strong work ethic. Finding actors here is not a problem."

Rose-Hulman provides students with the opportunity to earn an academic minor in music, and is blessed to have the state-of-the-art Hatfield Hall Theater, opened in 2002. The building hosts student-performed shows, and visiting Performing Arts Series events for the campus and nearby communities.

"Rose-Hulman provides exciting opportunities in music and theater for our talented students, and we invite the Wabash Valley to enjoy these performances throughout each school year," says Hatfield Hall Manager and Director of Student Performing Arts Daniel Tryon, in his first year after being a part-time Rose-Hulman Chorus conductor.

Other staff members assisting performing arts groups include Randy Carle, Hatfield Hall's production manager; Michael Compton, set designer; Chad Roscoe, director of choral programs; Norm Hanson, orchestra and jazz band conductor; Julie Dugger, concert band conductor; and Jessica Becker, costume designer. ■

Dale Long is executive editor of Echoes and director of media relations.

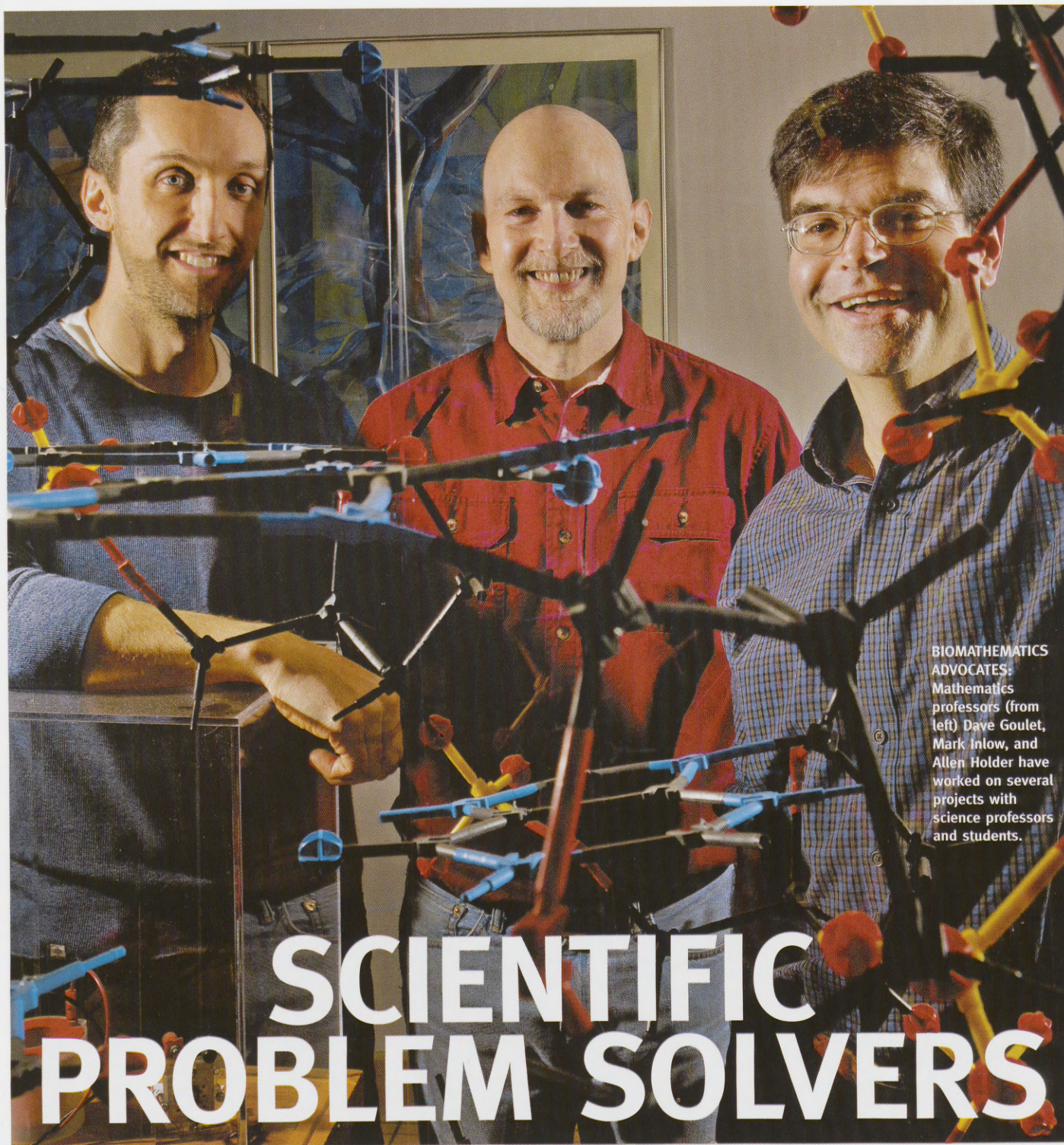


Aerial View Reflects Changing Footprint

CAMPUS AERIAL PHOTO



The campus continues to meet the needs of its academic mission and student residence life areas. This aerial photo, taken late last fall, showcases the institute's changing times within its 200 acres over the last 20 years. New areas of the campus landscape include: (A) Lakeside Residence Hall; (B) Perimeter Road; (C) White Chapel; (D) Apartments Residence Halls; (E) Michael Percopo Residence Hall; (F) Sports and Recreation Center; (G) Olin Advanced Learning Center; (H) William Cook Laboratory for Bioscience Research; (I) Joy Hulbert Tennis Complex; (J) John T. Myers Hall; (K) Flame of Millennium Sculpture and Plaza; (L) Branam Innovation Center; (M) Hatfield Hall; (N) Intramural and Recreation Field; and (O) Oakley Observatory. ■



BIOMATHEMATICS
ADVOCATES:
Mathematics
professors (from
left) Dave Goulet,
Mark Inlow, and
Allen Holder have
worked on several
projects with
science professors
and students.

SCIENTIFIC PROBLEM SOLVERS

Mathematics Helping Scientists Unlock
Mysteries of Chemistry and Biology

Story by Brian Boyce/Photos by Shawn Spence

As technology expands deeper into the nanosphere, any lines separating mathematics from science are becoming harder to observe, even with a microscope. For a growing number of Rose-Hulman professors and students, this represents educational and research opportunities of an exponential nature.

And, they're having fun along the way.

Like many mathematics professors, Allen Holder's undergraduate foray into the sciences was about as deep as most of his science-majoring friends were into problem solving. But given the explosion of research into areas like genomics, he's found a career's worth of work in the new field of computational biology.

"It's been fun," says Holder, PhD. He joined mathematics colleague Yosi Shibberu, PhD, in developing the fastest algorithm for protein analysis, enabling researchers to do in minutes that which had previously taken days. Their model has since been topped by a group of French researchers, but not by much, and perhaps not for long.

There's a growing trend toward a seamless union of mathematics and science, one which could formalize into a

new academic major of biomathematics. This area could make Rose-Hulman a national leader, and provide its graduates with skills in great demand by industry and academia.

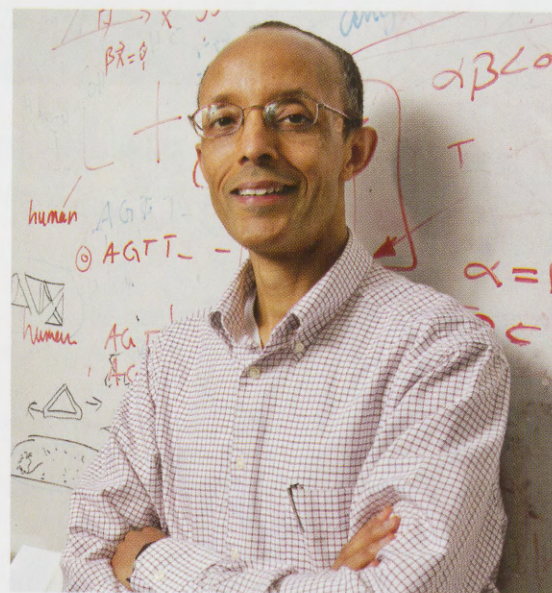
Mark Brandt, PhD, associate professor of chemistry, points out that within the field of biology, the body of knowledge has finally reached a point where mathematics can be effectively applied. Whereas chemistry and, to a greater extent, physics have traditionally lent themselves to daily doses of math, biologists have long faced without the same mathematical rigor.

But that has all changed over the course of the past 20 years. Now, mathematicians around the world are racing to solve biochemical problems, most of which have life-and-death consequences. And, the future for scientists lacking advanced mathematics skills is more likely to be spent in a museum, rather than a laboratory.

The Genetic Dimension

From the beans of Gregor Mendel to the fruit flies of Alfred Sturtevant, the scientific community has been studying genes for centuries. Meanwhile, optical engineering has likewise been long

The future for scientists lacking advanced mathematics skills is more likely to be spent in a museum, rather than a laboratory.



WORKING TOGETHER: Chemistry professors (left photo, from left) Daniel Morris, Mark Brandt, and Ross Weatherman have worked with other department faculty to make a variety of scientific discoveries, while mathematics professor Yosi Shibberu (right) joined with colleague Allen Holder to develop an algorithm to quickly analyze proteins.

at work developing mechanisms to assist researchers in examining items at nanoscopic levels. In the late 20th century, those efforts reached new heights with the Human Genome Project, from which proteomics was born.

Proteomics is the study of protein expression, structure, and function. Whereas genomics is the study of gene expression, and the genome represents the total set of genes within an organism, the study of proteomics involves the proteome, or the complete set of proteins. Any given human might have more than two million proteins within its proteome, each carrying out a different function from catalyzing biochemical reactions to defending the body against diseases. But while the genome is relatively static, remaining much the same from birth, the



"I look at math as a new piece of lab equipment that biologists now have."

—Dave Goulet, PhD
Associate Professor of Mathematics

proteome is remarkably dynamic, ever-changing in response to the environment as it carries out a myriad of orders.

Brandt has joined with Shibberu and students, along with international researchers, to establish proteome maps to identify novel protein families, interactions, and signaling pathways. Meanwhile, Daniel Morris, PhD, associate professor of chemistry, is working with multiple departments in the area of High Performance Liquid Chromatography. This enabling technology, in some cases, involves injecting human serum into a cylinder and shattering the proteome through an electric charge. The method allows the scientific physical analysis to work in conjunction with mathematical modeling.

Brandt explains the partnership between engineers, mathematicians, and scientists is essential in the pursuit of advancements in research.

"In biochemistry right now, it has become very possible to sequence genomes," he says. This has assisted Brandt's research of the human estrogen receptor hormone binding domain, which is a key element of cancer research. He remarked that while working in experimental biochemistry, scientists must work with mathematicians to understand what's happening in the laboratory.

"How do you compare two three-dimensional objects? It's not a trivial problem. Proteins are really complex objects," remarks the chemistry professor. Computers aren't conscious of what they're measuring. So, the humans developing the computer programs have to balance the ability to design algorithms with an understanding of the material in question. Along the way, engineers are designing new tools to aid in this concept.

As with any new frontier, the realm of nanotechnology is one in which researchers are stumbling forward together in hopes of shedding scant light into research being conducted, metaphorically at least, in the dark.

"Biology is rough science when you get to this level. It's hard," Holder says, reiterating the fact that this work involves dynamic change and many unknowns.

Good Old-Fashioned Engineering

Associate Professor of Mathematics Dave Goulet, PhD, didn't take many biology classes during the course of his undergraduate studies at California Institute of Technology. It wasn't until he began work on a doctorate degree in applied mathematics that his interest in science was piqued, and he began hanging around the laboratory, seeking new questions to challenge his mathematics modeling skills.

"I look at math as a new piece of lab equipment that biologists now have," he said. The only honest way for biomathematics to work is for colleagues to hang out together, Goulet explained, with each side sharing the problems and questions for which the others might have answers.

Most of the time spent in these collaborations has the mathematicians and scientists learning the very different languages of their respective fields. Mathematical biology, Goulet asserts, is not a trend, but a future with unlimited opportunities.

Fellow mathematics professor and statistician Mark Inlow, PhD, agrees. His recent sabbatical at the Indiana University Center for Neuroimaging was the latest endeavor in a long career featuring the merging of mathematics and science.

"We live on the boundary between science and math," he says of statistics. While crunching numbers may be quantitative in nature, the qualitative data involved is largely science- and technology-oriented. At IU, Inlow worked alongside computer scientists, physicists, electrical engineers, and psychologists in Alzheimer's research at a genomic level. ■

Brian Boyce is an Indiana-based freelance writer whose articles regularly appear in the Journal of the Academy of Nutrition and Dietetics.



FACULTY PROFILE

RENEE ROGGE DESIGNS PATHWAYS FOR STUDENTS

By Dale Long

Renee Rogge's academic schedule reveals that she's not one to shy away from hard work or giving her students top-notch research and design experiences to explore their interests in biomedical engineering.

This winter Rogge helped teach two sections of a senior biomedical engineering capstone engineering design course, with a weekly three-hour laboratory session, along with leading a freshman-level course in mechanics of materials. She also found time to mentor students on research projects in orthopedics, assistive technologies, and biomechanics.

If that weren't enough, Rogge is co-chair of a biennial national capstone engineering design conference, has co-authored 10 peer-reviewed publications (three with undergraduate co-authors), and had 45 conference presentations and poster sessions (15 with undergraduate co-authors).

That's why Rogge has earned the Board of Trustees' Outstanding Scholar Award, is the Samuel F. Hulbert Faculty Chair in Biomedical Engineering, and has received National Science Foundation grants to expand biomechanical instrumentation on campus for undergraduate research projects.

"I like the challenge of bringing out the best in the students and seeing them expanding their horizons throughout their college years," says Rogge, a faculty member since 2004. "Most of my classes include a laboratory component because I firmly believe that students need as much hands-on experience as possible."

Some of those opportunities feature students working alongside Rogge on a variety of groundbreaking research projects in the institute's Orthopedic Biomechanics Laboratory. She also has mentored senior-year biomedical engineering student teams that have earned national awards for workplace innovation and design.

"Rose-Hulman is the place for design in engineering education, and that's a fantastic reputation to have," says Rogge. "Senior capstone projects allow students to connect with the community and improve peoples' lives. A lot of students come here wanting to make a difference. In senior design, you get to see them start that journey." ■

Dale Long is executive editor of Echoes and director of media relations.

KURZWEIL PRESENTING SCHMIDT LECTURE



One of the world's leading inventors, thinkers, and futurists, Ray Kurzweil will present the Oscar C. Schmidt Lecture on campus March 11. He is a Director of Engineering at Google, was principal inventor of the first commercially marketed large-vocabulary speech recognition technology, has received the National Medal of Technology, and has written the best-selling book *How To Create A Mind* (2012). PBS selected Kurzweil as one of the "sixteen revolutionaries who made America."

FEMALE STUDENTS EXPLORE AUTO CAREERS



For the third consecutive year, a group of Rose-Hulman female students learned about career opportunities in the U.S. automotive industry as special guests at Inforum's North American International Auto Show Breakfast, one of the top global automotive events. Inforum is the best choice to connect on a strategic and personal level with other accomplished women. Rose-Hulman was the only non-Michigan university invited to have students attend the event.

MEN'S CROSS COUNTRY RUNS TO NCAA MEET

The men's cross country team competed in the NCAA Division III national championships for the first time last fall, after placing third in the Great Lakes Regional, earning its first national ranking (No. 28), and winning the Heartland



Collegiate Athletic Conference title. With the team's NCAA roster having just one senior, the prospects are even higher for next season.

FIRMS SUPPORTING OPERATION CATAPULT



HALLIBURTON

Corporations have joined with Rose-Hulman to provide high-school seniors the opportunity to explore their interests in science and engineering areas through the Operation Catapult program. The Alcoa Foundation, Duke Energy, and Halliburton are provided scholarships for this summer's two sessions (June 14-July 1/July 7-24). Learn more about Operation Catapult at www.rose-hulman.edu/catapult.

Fostering an Attitude of Gratitude

LEAVING A LEGACY: The White Chapel was made possible by gifts from John R. White (ME, 1947) and his wife, Elizabeth; other White family members; and several other generous benefactors.

Campus Activities to Educate Students to Follow Alumni in Giving Back

Story by Carolyn Duffy Marsan/Photos by Shawn Spence

Senior biomedical engineering student Alex Vasko is grateful for Rose-Hulman's student-centered education, and those donors among alumni, friends, and others who make it possible.

That's why he is promoting a spirit of philanthropy around campus by leading the effort to create the Class of 2015's memorial scholarship fund for Meleya Kistner, a classmate killed in a car accident weeks before starting the 2014-15 school year.

"Seniors are giving back in a small way to collectively help ease the financial burden for future students," says Vasko, from Columbus, Ohio. "We hope that burden doesn't exist down the road."

Those sentiments will be fostered during a week-long program, from March 9-14, designed to encourage an attitude of gratitude among Rose-Hulman students. This special week honors the lifelong "Forever Rose" relationship between the institute and its alumni.

"It's important that you don't forget where you came from. It's important to reflect back on the pivotal moments in your life and where would you be without the key people who helped you. I think it's critical that Rose-Hulman alumni never forget the role that this institution has played in their success."

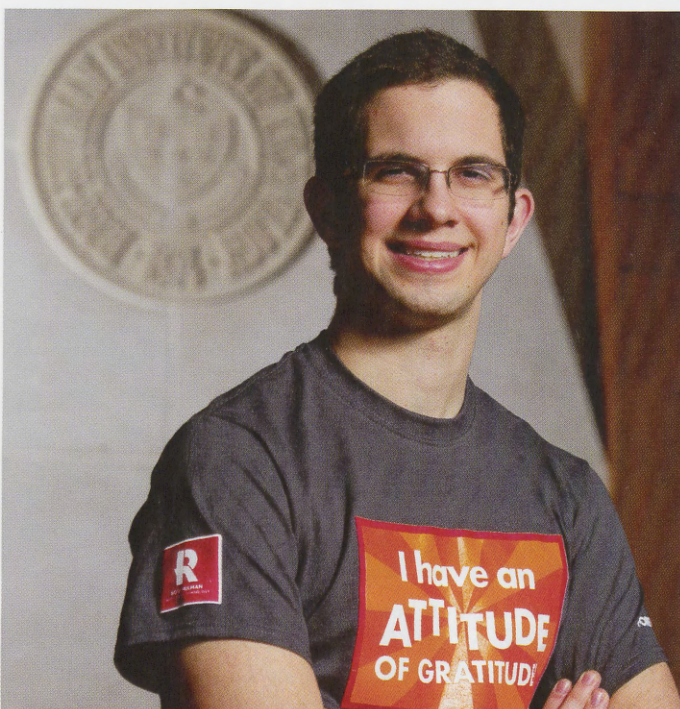
—Cindy Hux Martin, Executor, Hux Family Charitable Trust

Building Philanthropic Spirit

"We want our students to be aware and thankful for everything that has been done for them by their parents and the people who have come before them, our alumni and our donors," explains Jim Bertoli, executive director of alumni affairs. "We're instilling a sense of philanthropy, so students will be inspired to help others in the future."

During Attitude of Gratitude Week buildings, laboratories, classrooms, and equipment will be marked with the names of institute donors who made them possible. Students also will thank donors for their contributions, and highlight their gratitude for making it possible for them to attend Rose-Hulman. (See list of activities on Page 23.)

"There are a lot of people helping our students, by underwriting the cost of attendance or funding buildings and academic initiatives through annual fundraising and long-term planned gifts," Bertoli said. "As a private college that specializes in science, engineering, and mathematics, Rose-Hulman is an expensive school. Scholarships and other financial aid help



WHAT I'M GRATEFUL FOR AT ROSE-HULMAN:

- Student-centered education
- Everybody as educator
- Development of soft skills
- Leadership opportunities
- Motivation of the student body

—Alex Vasko, Class of 2015, Biomedical Engineering



Olin Advanced Learning Center

CAMPUS GROUNDS – 1917

The Human family donated 123 acres for campus to be moved to its current location.

DEMING RESIDENCE HALL – 1926

Funded by Demas Deming

HULMAN MEMORIAL STUDENT UNION – 1966

Funded by Anton and Mary Hulman

ROSE-HULMAN RENAMING – 1971

Recognizing receipt of assets from the Hulman Foundation and other family contributions

OLIN HALL – 1983

Funded by the Olin Foundation

HADLEY HALL – 1983

Named after benefactors George and Mary Hadley for their estate gift

COOK STADIUM – 1996

Recognizing gifts by life sciences pioneer William Alfred Cook

OLIN ADVANCED LEARNING CENTER – 1997

Funded through a second Olin Foundation gift

OAKLEY OBSERVATORY – 2000

Funded by the Oakley Foundation

WHITE CHAPEL – 2001

Funded by John R. and Elizabeth White, family members, and several other generous benefactors

HATFIELD HALL – 2002

Funded by a gift from Michael Hatfield (EE/MA ECON, 1984) and his wife, Deborah, in honor of Michael's parents, Larry and Pat Hatfield

FLAME OF MILLENNIUM SCULPTURE – 2003

Donated by Glen Raque (ME, 1969) and his wife, Barbara

PERCOPPO HALL – 2005

Dedicated in honor of the many generous contributions of Michael Percopo (CHE, 1943) and his wife, Christa

COOK LABORATORY FOR BIOSCIENCE RESEARCH – 2012

A gift from trustee Carl Cook funded the laboratory and equipment on behalf of his father, life sciences pioneer William Alfred Cook ■



WHAT I'M GRATEFUL FOR AT ROSE-HULMAN:

- A supportive community
- My basketball family
- Scholarship funding that enables me to attend Rose-Hulman
- Professors who want me to succeed
- Career opportunities that stem from being a Rose-Hulman graduate

—Lauren Meadows, Graduate Student, Engineering Management
Class of 2014, Biomedical Engineering

make it all possible for thousands of students each year. And, as alumni, our students will have the opportunity to help others in a similar way.”

Rose-Hulman students are so busy with their classes, homework, extra-curricular activities, and job searches that they need to be reminded about the contributions by parents, alumni, and others that make their education possible.

“Our students are able to attend classes, watch a play, or eat lunch in buildings named for people who contributed to Rose-Hulman’s success,” notes President Jim Conwell. “It’s

important for our students to reflect about the fact that others have made a commitment to the college for their benefit.”

Endowment, Alumni Giving Rate Low

Rose-Hulman’s \$196.2 million endowment and 31.8 percent alumni giving rate are significantly lower than other private colleges, according to Rickey McCurry, vice president for institutional advancement. Princeton University, for example, has a \$21 billion endowment, and more than 60 percent of alumni give annually.

“Our alumni giving rate was over 50 percent in the early 2000s,” says McCurry. “Can we get back to that level, and what are some of the things we can do when we get back to that level?”

Philanthropy is a learned behavior, which is why it is important to teach students about giving back to the school during their undergraduate years.

“A lot of our students don’t realize that tuition doesn’t cover the cost of providing a Rose-Hulman education,” adds McCurry. “We’ve never really taken the time to pause and recognize in a highly visible way the 4,000 or more people who invest in this institution annually.”

One grateful student is Abby Williams, a junior biomedical engineering major who is the fourth Rose-Hulman student to receive the Vernon E. Hux Scholarship covering tuition, room and board, and other expenses. The scholarship is given to an outstanding Wabash Valley student attending a Vigo County college.

“I always wanted to go to Rose-Hulman, but financially it wasn’t going to be possible for my family,” Williams said. “The Hux scholarship means the world to me. There is simply no way I would be here without it. Attitude of Gratitude Week is a great way for me and other students to thank the scholarship donors and others who have had an impact on your life.”

Investing in People Making a Difference

Vernon Hux was a Depression-era child and couldn’t afford a formal education beyond high school. The philanthropist founded Tri-Industries, an aerospace parts manufacturer, in Terre Haute in 1961.

“My dad was raised on bootstraps and grit, but he had such a focus on education,” says Cindy Hux Martin, executor of the Hux Family Charitable Trust. “He always invested in people and their potential to make a difference.”

BY THE NUMBERS

\$37
million

Financial Aid Awarded Annually

97%

Students Receiving
Financial Aid Annually

\$196.2
million

Rose-Hulman’s Endowment

31.8%

2013-14 Alumni Giving
Percentage

Martin believes Attitude of Gratitude Week events will help Rose-Hulman students see how they can impact the institute and their local communities.

"It's important that you don't forget where you came from," she says. "It's important to reflect back on the pivotal moments in your life and where would you be without the key people who helped you. I think it's critical that Rose-Hulman alumni never forget the role that this institution has played in their success."



WHAT I'M GRATEFUL FOR AT ROSE-HULMAN:

- My scholarship, because it brought me here
- Excellent facilities
- Housekeepers who know me by name
- Supportive teachers who help me make good decisions
- A judgment-free environment among students

—Abby Williams, Class of 2016, Biomedical Engineering

Williams has taken advantage of her Rose-Hulman experience, becoming a member of the Delta Delta Delta sorority and helping the campus community raise money annually to support the St. Jude Children's Research Hospital.

"I'll be fortunate enough to be able to give back to Rose-Hulman early in my career because I won't have any loans [a benefit of the Hux scholarship]," she remarks.

Rose-Hulman administrators hope that Attitude of Gratitude Week becomes an annual campus event, building a legacy of alumni donating back and being enthusiastic about the world-class education they received.

"Almost 150 years ago, Chauncey Rose put an organization in place that ensures we would be here today. We need to continue that type of philanthropy to allow us to exist 150 years into the future," Conwell says. ■

ATTITUDE OF GRATITUDE!

ATTITUDE OF GRATITUDE WEEK ACTIVITIES

MONDAY, MARCH 9

- Enlarged campus map, placed in the lobby of the Hulman Memorial Student Union, will showcase all buildings and spaces donated by alumni, friends, and foundations
- Commemorative t-shirts will be distributed on campus to all students

TUESDAY, MARCH 10

- Students will sign large Thank You card, and send personalized messages to donors supporting their scholarships

WEDNESDAY, MARCH 11

- A 'Forever Rose' Garden featuring 4,000 miniature flags will cover the lawn near the Flame of Millennium Plaza. Each flag will represent each of the donors who made gifts to Rose-Hulman during the 2013-14 fiscal year.

THURSDAY, MARCH 12

- Campus Trivia Storm event, with Student Alumni Association members spending the day asking students trivia questions related to institute gifts

FRIDAY, MARCH 13

- Social Media Day with students and alumni sharing gratitude lists through the #ForeverRose hashtag

SATURDAY, MARCH 14

- A dinner will feature students speaking about gratitude for their scholarships to Rose-Hulman, and donors talking about why they give to support the institute ■

Carolyn Duffy Marsan is a freelance writer who has been a frequent Echoes contributor.

DISTINGUISHED

Profiles by Dale Long
Photos by Terry Miller

Five alumni have been recognized with the 2014 Distinguished Young Alumni Awards, bestowed upon graduates from the last 10 years with notable career achievements, continued education, community service, and commitment to Rose-Hulman. The recent honorees by the Young Alumni Council and Alumni Association were:



ELIZA BROCK MARCUM, 2008
OWNER, ELIZA BROCK SOFTWARE

Her Nashville, Tennessee-based software consultancy, Eliza Brock Software, founded in 2010, specializes in developing web applications using test-driven development. Eliza also is an instructor at the Nashville Software School, a vocational school for adults who are transitioning into technology careers. Some of her greatest community involvement comes from her roles as co-organizer of the Nashville Women Programmers Meetup and advisory board member for the Nashville Academy of Computer Science. Eliza sponsored a Rose-Hulman junior-year computer science design project group in 2012, and remains in contact with her former professors. ■



RICHARD FRANKO, 2007
CAPTAIN, U.S. ARMY

As a member of the 7th Special Forces Group's airborne regiment, he commands operations in direct action and water infiltration. Richard's association with the Army began as a cadet leader for Rose-Hulman's ROTC Wabash Battalion, and his leadership skills were further enhanced as a member of the residence life staff. Career military achievements include the Engineer Regiment Steel De Fleury Medal, FORSCOM Istchner Award for best engineer company, and graduating from the International Colombian Lancero School. His international experiences started on campus as a member of a senior-year civil engineering design group that designed a sustainable development center for Obodan, Ghana. This featured a post-graduation trip to Africa. ■

FOREVER ROSE

YOUNG ALUMNI



ADAM JARBOE, 2005
SUSTAINABILITY TEAM,
YUM! BRANDS/TACO BELL

A former member of Yum! Brands' global sustainability team, Adam is focusing on transforming kitchen equipment and operations for Taco Bell, a U.S. food service industry leader with plans to grow internationally. Innovations include improving the process of preparing ingredients, and bringing new equipment for heating ingredients and maintaining consistent temperatures for hold-and-cold ingredients. He received the Yum! Stock Award and developed patented tattoo machine technology. Adam's relationship with Rose-Hulman has continued as a leader of the Young Alumni Council, Alumni Advisory Board member, and alumni mentor for the Triangle fraternity. ■



SCOTT SMALL, 2005
ENGINEERING DIRECTOR,
JOINT REPLACEMENT SURGEONS
OF INDIANA FOUNDATION

A career in orthopedics research through a partnership with the JRSI Foundation and Rose-Hulman's Department of Biology and Biomedical Engineering has been rewarding for Small, and benefitted students and faculty. The program has produced an impressive volume of medical literature. Eight recent laboratory alumni from 2012-2014 are now in master's or doctoral programs, three recent alumni are in medical school, and four 2015 seniors plan to attend graduate school. Professionally, Small has presented research at several national and international medical conferences, including Oxford University in 2012. He also has secured over \$400,000 in new research equipment and facilities for Rose-Hulman through grant and gift funding. ■



STEFANI VANDE LUNE, 2006
PATENT LITIGATION ASSOCIATE,
KIRKLAND & ELLIS, LLP

Returning to private practice after being a United States Court of Appeals law clerk, Stefani is now focused on patent trial litigation in district courts across America and for the International Trade Commission. She becomes involved in a case when a patent is challenged. The George Washington University Law School graduate uses her engineering background on cases involving high-tech and bio-tech issues. This former Student Government Association president and residence life member is now a Young Alumni Council member. "One of the things I learned from Rose-Hulman is that life is about people and experiences. Clerking was certainly an opportunity to meet some fantastic people and have a once-in-a-lifetime experience," Stefani says. ■

Bailey Challenge

By Professor Emeritus Herb Bailey, PhD

BY SOLVING PROBLEM 1, you will know my age if we all had six fingers on each hand. The Bonus Problem is similar to one of this summer's problems, involving a goat tethered to a barn. The goat has survived and it is now winter. A longer tether is provided, since she needs more grazing land. This problem is more difficult, but luckily you have more time to solve it in the winter.

PROBLEM 1

I am celebrating my birthday as I write this and I am sure you are all anxious to know my age. It is a prime number that is less than 97 and greater than 83. If we all had been born with six fingers rather five, what would my age have been?



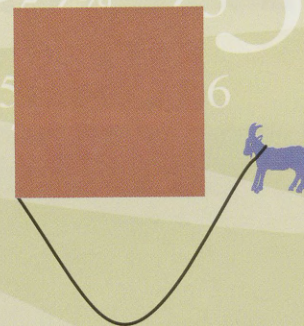
PROBLEM 2

A man has walked two-thirds of the distance across a railroad bridge when he sees a train approaching at 45 miles per hour. If he can just manage to escape by running at uniform speed to either end of the bridge, at what rate of speed must he run to avoid the train?

WINTER BONUS PROBLEM

The goat revisited: A small blue goat is tethered to a large square brown barn with 100 foot sides and all doors closed. The tether is 250 feet long and attaches the goat to one corner of the barn. The barn is located in the center of a large meadow.

How many square feet of meadow are accessible to the goat? You may neglect the length of the goat.



SOLUTION TO FALL BONUS PROBLEM: When I am about to turn right onto Poplar Street, there is a hill D feet to the left that hides oncoming cars. These oncoming cars are traveling 35 miles per hour (mph) and refuse to brake. My 2004 Toyota Camry can accelerate (constant) from 0 to 60 mph in 6.8 seconds. I see no oncoming car, enter Poplar and floorboard it. What is the smallest value of D so that I am sure not to be bumped?

SOLUTION: It will take me $(35/60) \cdot 6.8 = 3.97$ sec. to get up to 35 mph. During this time I will have traveled $\frac{1}{2}at^2$ feet, where $a = (60) \frac{5280}{3600} / (6.8) = 12.94$ feet/second squared. (5280/3600 converts mph to fps). Thus I will have traveled $(1/2)(12.94)(3.97)^2 = 101.8$ feet, until I reach a speed of 35 mph, and I am then assured of not being bumped. Thus the oncoming car must travel less than $D + 101.8$ feet for me to be safe. Hence $(35)(5280/3600)(3.967) < D + 101.8$ or $D > 101.8$ feet.

Send your solutions to Herb.Bailey@rose-hulman.edu or to Herb Bailey, Department of Mathematics, Rose-Hulman Institute of Technology, 5500 Wabash Ave., Terre Haute, IN 47803. Alumni should include their class year.

Congratulations to the following solvers of the fall problems:

ALUMNI: C. Hirschfield, 1954; B. Hall, 1955; H. Brown, 1957; D. Bailey, 1959; J. Dhooze, 1960; J. Tindall, 1961; J. Ray, 1961; S. James, 1965; K. Metz, 1969; S. Jordan, 1970; D. Jordan, 1971; T. Nelson, 1972; R. Kominarek, 1973; D. Wheaton, 1974; M. Bailey, 1976; P. VandeMotte, 1977; R. Priem, 1979; R. Joyner, 1980; S. Nolan, 1981; R. Roll, 1981; K. Shafer, 1983; J. Marum, 1983; J. Vierow, 1986; D. Johnson, 1987; M. Lancaster, 1987; J. Hoffman, 1987; N. Cutaia, 1988; E. Cegielski, 1990; R. Hochstetler, 1991; P. Kimmerle, 1991; B. Burger, 1991; J. Atkins, 1994; M. Ley, 1997; M. Pilcher, 1998; B. Wilson, 2001; J. Somann, 2004; B. Hirsch, 2004; J. Conway, 2008; D. Schluneker, 2008; M. Schoumacher, 2010; D. Schoumacher, 2010; and D. Straub, 2010.

FRIENDS: S. Lam, J. Ley, D. Purvis, and H. Rosene.

ALUMNI PHOTO ALBUM

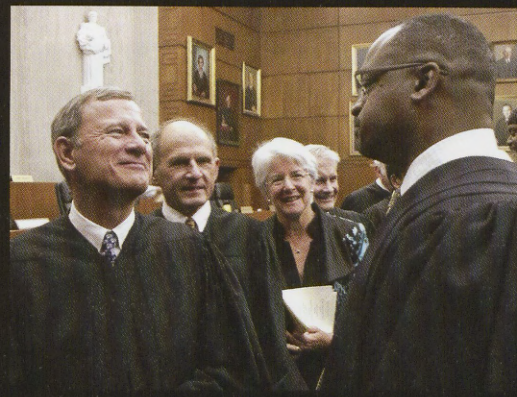


LEADING EBOLA RESPONSE: David Lakey, MD, (CHEM, 1986), Texas Department of State Health Services Commissioner, answers questions with Texas Gov. Rick Perry about the state's response to last fall's Ebola virus.

LUCAS AWARD WINNER: Erik Hayes (ME, 1997; MSME, 2001) shared the Office of Student Affairs' 2014 Jess Lucas Alumni Leadership Award with his family.



INDY'S BRIGHTEST: Dedric Day (CHE, 2003), left, was joined by Rose-Hulman's James Bertoli, executive director of alumni affairs, and Alan Morrison, special gifts officer, for being a finalist in Indianapolis' 2014 Best and Brightest program.



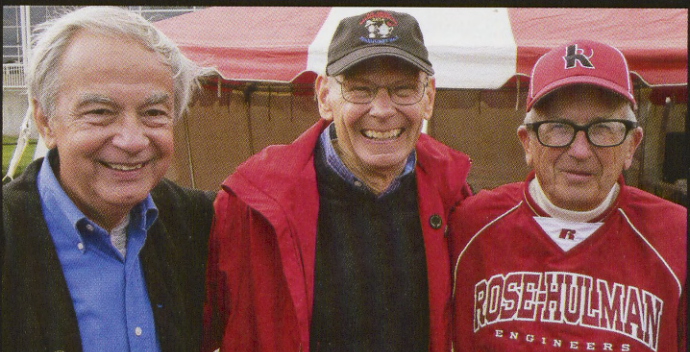
WELCOMING NEW JUDGE: U.S. Supreme Court Chief Justice John Roberts (left) greets Robert Wilkins (CHE, 1986) at his investiture ceremony as judge of the U.S. Court of Appeals for the District of Columbia Circuit.



COMMUNITY LEADER: Thomas T. Dinkel (ME, 1972), left, received the Chapman S. Root Award from Hospice of the Wabash Valley Board President Greg Gibson (CE, 1984).



PASSING ALONG ADVICE: Marcus Maurer (CE, 2006) and Troy Swan (CE, 2001) were among alumni contributing to the Department of Civil Engineering's Winter Advisory Board meeting.



LEAD RUNNERS: Larry Sachs (MA, 1966), John Lynn (CHE, 1966), and Dennis Lind (MA, 1966) returned for the 50-year anniversary of the inaugural cross country team.



Young Alumni Duo Finds Success with Firebase Software

Story by Dale Long/Photo by Vikrum Nijjar

The adage 'If you build it, they will come' has certainly come true for a San Francisco-based technology company developed with leadership from 2006 alumni Andrew Lee (CS/EE) and Michael Lehenbauer (CS/MA).

Over the past three years, Firebase (www.firebase.com) has gone from a crazy idea to a proven back-end software product used by more than 145,000 developers. And, the startup was acquired last fall to be part of Google's Cloud Platform.

Firebase touts itself as a company that has full-featured libraries for all major

web and mobile platforms and bindings for the most popular frameworks. The company strives to help developers create extraordinary experiences.

Lee joined co-founder James Tamplin in conceiving Firebase's idea during the summer of 2011 while building chat software under their Envolv enterprise. About \$1.4 million in seed funding was raised in 2012 and an additional \$5.6 million was added in 2013. Lehenbauer became a member of the team after spending five years as a product developer at Microsoft. He helped build Firebase's initial version.

Another alumnus, Michael McDonald (CPE/CS, 2014) is a solutions architect for the company, helping enterprise customers successfully build their products on top of Firebase's products.

"Our success has been largely attributable to the way we interact with our customers," says Lee, who previously formed two startups with Tamplin and worked at Adobe, Seagate, and Green Hills Software. "From the beginning, we made it a priority to keep in constant contact with the developers using our products to ensure that we were building something they loved."

Firebase will become a part of Google's Cloud Platform.

Google's engineering talent, resources, and technical infrastructure could dramatically upscale Firebase within the technology marketplace, and the leadership team believes the company, presently with 27 employees at Google's San Francisco office, has only scratched the surface of future opportunities.

"Firebase is still in its early days in a lot of ways and there are a lot more problems to be solved," states Lehenbauer. "Firebase's core idea of building software applications using real-time data synchronization is super powerful, and we give developers a faster and easier way to write modern apps. We've involved our users in the design and iteration of our product, and emphasized developer advocacy and education."

Lee continues leading Firebase's development for Google, while Lehenbauer is still designing and implementing the product's core features.

"I hadn't fully internalized just how much hustle it takes to get your product in front of people and get them excited about trying it," says Lehenbauer. "Your whole team has to be marketing constantly and looking for opportunities to make inroads in the marketplace." ■

Dale Long is executive editor of Echoes and director of media relations.

1967

Patrick H. Cahill (CE) was inducted into the Asphalt Pavement Association of Indiana's Hall of Fame, after retiring as president of Wabash Valley Asphalt. He is a member of the Rose-Hulman Board of Trustees.

1972

Thomas T. Dinkel (ME) received the Chapman S. Root Award for outstanding Wabash Valley community service and leadership. He is president and chief executive officer of Sycamore Engineering, and treasurer of the Rose-Hulman Board of Trustees. (See photo on page 27)

Exceptional Performance and Outstanding Achievement Award.

1987

G.W. "Jerry" Traylor (CHE) is now the engineering director at Nova Molecular Technologies, and has relocated to Houston, Texas.

1989

Nicholas J. Mahurin (ME), founder of Indiana-based health information technology company InfraWare, made a presentation at the 2014 National Health IT Week Policy Summit.

DOUBLE TAKE



COVER ALUM: Michael Meneghini, MD, (CE, 1995) was featured on the cover of *Indianapolis Monthly* magazine's 2014 Top Docs issue. He is an orthopedic surgeon with Indiana University Health Physicians Orthopedics and Sports Medicine.

1979

Michael H. Peters (ME) is the president of Architekton Resources LLC, based in Washington, D.C. He formerly was director of development for Flaherty and Collins, and has experience in telecommunications technology and sustainable energy technology development.

1982

Bill J. Eller (CS) received L-3 Communications Mission Integration Division's

1997

Erik Z. Hayes (ME; MSME, 2001) received Rose-Hulman's Jess Lucas Alumni Leadership Award as a former residence life staff member who has had a rewarding career. (See photo on page 27)

1999

Joshua C. Williford (CE) is director of business development at Northern Electric, Inc., and resides in Fishers, Indiana. He spent the last five years at Gaylor Electric in Indianapolis.

ALUMNI NEWSMAKERS



GILBERT NAMED MILITARY SCIENTIST/ENGINEER OF YEAR

Lt. Col. **Kevin W. Gilbert** (ME, 1992; MSME, 1994) was named the 2014 Air Force Senior Military Scientist/Engineer of the Year for exemplary duty performance, job knowledge, leadership qualities, and personal achievements. The 20-year military veteran is deputy director of the engineering and integration

division within the Space and Missile Systems Center at the Air Force's Los Angeles base.



OHRI LEADING SOFTWARE ENGINEERING PROFESSIONALS

Raman Ohri (CPE, 1993) is the new president of Software Engineering Professionals (SEP), succeeding co-founder **Jeff Gilbert** (ME, 1985), who will remain as chief executive officer. Ohri has worked at SEP since 1993, spearheading recruiting and professional development efforts, and most recently served as vice president of

engineering. SEP, a privately held company based in Carmel, Indiana, is a leader in custom software development.



HINZY APPOINTED VP/GM OF PRATER INDUSTRIES

Pete Hinz (ME, 1992) is vice president and general manager of Prater Industries, a global leader in developing and manufacturing state-of-the-art airlocks, mills, and separators. He has more than 20 years of hands-on management experience focused on continually improving operations, recently serving

as director of continuous improvement for BWAY Corporation.



COOP ELECTED ALPHA PHI OMEGA VICE PRESIDENT

Rob Coop (CE, 1993) has started a two-year term as national vice president for Alpha Phi Omega (APO), the coeducational collegiate service organization. His APO career began at Rose-Hulman, and he helped start IUPUI's chapter. Professionally, Coop manages the bridge inspection department for USI Consultants, Inc.

and lives in Westfield, Indiana. ■

Class Notes

2004

Dylan T. Tarr (CE) is development manager for Mainstreet, the nation's largest developer of post-acute health care properties. He formerly worked at Gresham, Smith, and Partners.

Amanda (Martin) Zuber (EE) was promoted to the rank of major in the U.S. Air Force. She resides in San Pedro, California.

2005

Rita Strack (AB/BCMB) recently completed a postdoctoral fellowship at Weill Cornell College of Medicine, and has taken a position as assistant editor of nature methods in New York City.

2009

Megan O'Brien (ME) earned a doctorate in mechanical engineering from the University of Colorado, and is now a postdoctoral researcher studying biomechanics and human movement control in Boulder, Colorado.

2011

Emily S. Dentler (BE) is senior quality engineer at Advanced Sterilization Products (Orange County, California), a global developer of innovative infection prevention solutions and education programs.

Nicholas H. Rumpke (CE) is estimating manager at Messer Construction Company in Indianapolis. His Messer career started with a co-op in 2008, and went full time upon graduation.

2013

Mitch W. Snyder (CE) is a project engineer for St. Louis-based Tarlton Corporation, and resides in Brentwood, Missouri. ■

Obituaries

1942

Eugene E. Hess (ME), 95, died on October 30, 2014, in Lawton, Oklahoma. He retired from Eynon Associates, Inc.

Clifford E. Roberts (EE), 93, died on October 30, 2014, in Libertyville, Illinois. He retired as a colonel in the U.S. Army before spending 10 years as telecommunications manager for FMC Corporation in Chicago.

1948

Elmer F. Cooke (ME), 90, died on June 23, 2014, in Mentor, Ohio. He retired from General Electric Company.

1950

M. Gene Clingerman (ME), 84, died on July 11, 2014, in Brown County, Indiana. He retired from Cummins Engine Company.

Richard E. Minnick (EE), 88, died on August 22, 2014, in Oceanside, California. He retired from Hughes Aircraft Company.

1951

Alex M. Balu (CE), 87, died on November 5, 2014, in League City, Texas. He retired from USX. Survivors include a son, Brian (ME, 1981).

1954

Michael A. Meslovich (EE), 85, died on August 8, 2014, in Oceanside, California.

1957

Thomas L. Step (CE), 77, died in May of 2013 in Indianapolis after living in Paris, Illinois. He was a civil engineer for the Illinois Department of Transportation and a farmer.



1943

Joe M. Valentine, 92, died on January 3, 2015, in Greenwood, Indiana. He was a successful electronics sales representative and owner of his own electronics firm. He was Alumni Association president in 1986, a class agent for 36 years, and a faithful sponsor of the institute's solar-powered race team. Contributions may be made to the Joe

Valentine Endowed Scholarship Fund at www.rose-hulman.edu/give. ■

1958

Andrew D. Kesler (EE), 81, died on September 5, 2014. As an electrical engineer, he designed fuel cells for NASA's Apollo Space Program, the Lunar Excursion Module, and the Moon Orbital Laboratory, and later designed computers for IBM.

1961

James H. Coffenberry (MA), 74, died on December 28, 2014, in Cave Creek, Arizona. He retired from the defense industry. Survivors include a son, Brian (ME, 1981).

1963

Joseph G. Grumme (PH), 73, died on November 14, 2014, in Jackson, Tennessee. He had a distinguished military career, earning the Bronze Star and two Purple Hearts.

1965

Ray V. Frischkorn (EE), 71, died on November 25, 2014, in Independence, Iowa. He retired as owner of Korn Enterprises.

J.R. Righthouse, Jr. (ME), 71, died on February 28, 2014, in Madison, Indiana. He owned a hardware store in Marysville, Indiana, and was a farmer.

1966

Ronald G. Gesell (MA), 71, died on September 30, 2014, in Stone Mountain, Georgia.

Robert E. Wattleworth (MA), 70, died on September 8, 2014, in Canton, Michigan. He worked for the Ford Motor Company.

1969

Woodrow W. Conover (CHEM), 67, died on December 7, 2014, in Livermore, California. He was co-founder of Acorn NMR.

1970

David J. Hoffman (MSEE), 76, died on November 21, 2014, in Greenville, Texas. He was director of Paris Junior College's Greenville Technical Center.

1972

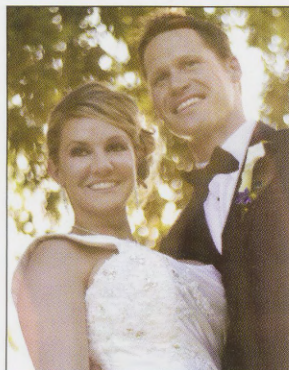
Michael L. Barcus (ChE), 64, died on October 30, 2014, in Farmersburg, Indiana. He was a life-long farmer.

1975

Everett "Bill" W. Phipps (CE), 61, died on November 7, 2014. He worked with the South Carolina Highway Department for 31 years. ■

Marriages

1995



Addam J. Ebel (ME) married **Christel Murray** on July 19, 2014, in Clinton Township, Michigan. He is a senior creative designer for vehicle exteriors and interiors at General Motors in Warren, Michigan.

2000

Scott K. Stranko (ME) married **Kristen Rudicel** on August 21, 2014, in Castries, St. Lucia. He is an engineer at IMMI, and the couple resides in Westfield, Indiana.

2007

Philip M. Deaton (ME) married **Olivia J. French** on December 13, 2014. He is a maintenance and reliability manager at Arkema. The couple resides near Memphis, Tennessee.

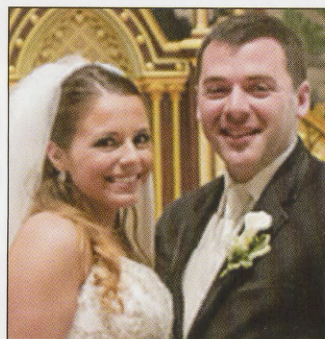
2008



Gareth A. Shields (EE) married **Aysen Lilly** on October 25, 2014, in Plainfield, Indiana.

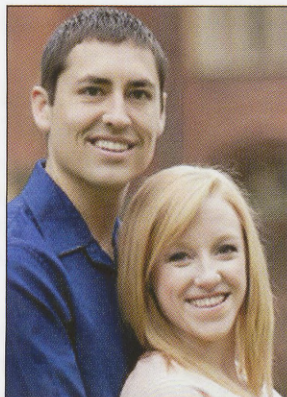
He works for Raytheon in Indianapolis, where the couple resides.

2009



Michelle J. (Vitale) Nolan married **Bradley Nolan** on October 19, 2014, in South Orange, New Jersey. She is a technology consultant for PwC. The couple resides in Jersey City, New Jersey.

2010



Justin A. Druba (BE) and **Mychal A. Fitterer** (BE, 2011) were married in October, 2014. He is a product marketing engineer at National Instruments in Austin, Texas.

2011

Mychal A. Fitterer (BE) and **Justin A. Druba** (BE, 2010) were married in October, 2014. She is the recruiting manager for the engineering leadership program at National Instruments in Austin, Texas. ■

Rosebuds

2004

Jesse P. Somann (EE) and wife, **Brittany**, welcomed their first child, **Ruthi Jean**, on September 2, 2014. The family resides in Colorado Springs, where Jesse is an assistant professor of electrical and computer engineering at the U.S. Air Force Academy. He was recently promoted to the military rank of major.

2005

Rita Strack (AB/BCMB) and husband, **Derek Young**,



welcomed their first son, **Quentin Young**, on August 9, 2014. The family resides in Jersey City, New Jersey.

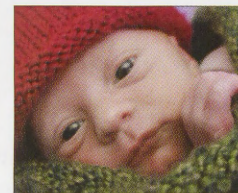
2007

Catherine (Walker) Dragani (BE) and her husband, **Dave**, welcomed a daughter, **Kylie Jane**, on September 23, 2014. Catherine works at Johnson & Johnson, and the couple resides in New Jersey.

Billy D. Whitehouse (CPE) and his wife, **Megan**, welcomed their first child, **Emma Katherine**, on June 28, 2014. Billy works at L-3 Cincinnati Electronics, and the family resides in Cincinnati, Ohio.



2008



Matt D. DeVries (ME/EE; MSME, 2010) and **Sami R. (Dick) DeVries** (ME/BE; MSBE, 2010) welcomed a son, August "Auggie" Matthew DeVries on November 13, 2014.

2009

Elizabeth J. (Ridgway) Krasowski (CE) and husband, **Matthew**,



welcomed their first child, **Delia Grace**, on September 27, 2014. The family resides in Baton Rouge, Louisiana.

Maria A. (Fouts) Straub (ME; MSEM, 2010) and husband, **Dean Straub** (CHE/CHEM, 2010) welcomed their second child, **Paraskevi Alexia Straub**, on October 14, 2014. The family resides in Houston, Texas.

2010

Dean N. Straub (CHE/CHEM) and wife **Maria A. (Fouts) Straub** (ME,



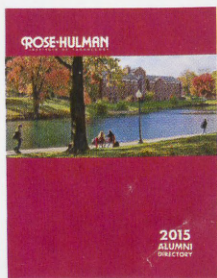
2009; MSEM, 2010) welcomed their second child, **Paraskevi Alexia Straub**, on October 14, 2014. The family resides in Houston, Texas. ■

WE WANT YOUR NEWS

Share news and photographs to alumniaffairs@rose-hulman.edu.

ALUMNI NEWS

Alumni Directory Coming in April



Continuing to provide quality alumni services, the Office of Alumni Affairs will mail in April copies of the 2015 Alumni Directory to all graduates who purchased a copy. Only data from those alumni granting permission will be published.

In addition to alumni data (listed alphabetically, by graduating class, geographical region, and profession), the directory contains a listing of honorary doctorates, past and present alumni officers, and past alumni award winners.

We hope this information, along with the online alumni community (www.rosestem.rose-hulman.edu), will keep graduates connected on social and professional levels. Contact alumniaffairs@rose-hulman.edu about the 2015 Alumni Directory. ■

Voting Underway for Alumni Board Secretary

The following alumni are candidates to become secretary for the Alumni Advisory Board for 2015-16:

Kristopher N. Chaney (CHE, 2001), staff engineer at Eli Lilly and Company

Gregory M. Gotwald (CHE, 2001), attorney with Plews, Shadley, Racher & Braun, LLP

Dan J. Price (CE, 1975), quality assurance director at Procter & Gamble

Alumni can vote at rosestem.rose-hulman.edu/AABsecretary2015. ■

ALUMNI CALENDAR

Check latest events at rosestem.rose-hulman.edu/events

SPECIAL ALUMNI EVENTS

Attitude of Gratitude Week Campus Events | **March 9-14**

Northwest Indiana's Rose On The Road | **April 16**

Career Achievement Awards Presentation, Campus | **May 1-2**

Indianapolis Mini-Marathon Tent | **May 2**

Michael Kelsey Performing Arts Series Show, Campus | **May 15**

Indianapolis 500 Pole Day, Indianapolis Motor Speedway | **May 17**

Class of 1965 50-Year Commencement Reception/Dinner, Campus | **May 29**

Class of 1965 Medallion/Commemorative Degree Ceremony | **May 30**

Rose-Hulman Commencement | **May 30**

Summer Scholarship Golf Scramble, Prairie View Golf Course | **June 25**

SAVE THE DATE
HOME COMING 2015
SEPTEMBER 18-19

SUPPORT SCHOLARSHIPS WHILE PLAYING GOLF



This summer's Alumni Golf Scramble to raise scholarship funds to support bright and talented Wabash Valley and Indianapolis-area students is planned for June 25 at Prairie View Golf Course in Carmel, Indiana. This event has raised more than \$200,000 since 2007. For more information on playing or sponsoring this event, call 812-877-8217. You may also register at www.rosestem.rose-hulman.edu/Scramble2015 after April 1. ■

CAREER ACHIEVEMENT AWARD ANNOUNCEMENT

Four successful graduates in health care, civil engineering, and computer science will be recognized with the Alumni Association's Career Achievement Award on May 2, during Rose-Hulman's Honors & Awards Ceremony.

The award honors alumni from the Class of 1995 for their distinguished achievements within their communities and professions.

This year's honorees feature:



the GE Healthcare Women's Network and Cherie Blair Foundation's women entrepreneurship mentoring program.

AGNES BERZSENYI (MSME)—In her role as senior executive for General Electric, she is vice president and general manager of global product management for GE Healthcare Services. She led commercialization of GE's innovative, pocket-sized ultrasound, Vscan, featured in Popular Science's "Best of What's New," and recipient of the American Technology Award, both in 2010. Berzsenyi is a member



BRIAN DESHARNAIS (MSENV)—Leading the future success of Commonwealth Engineers as vice president, director, and project manager. He specializes in projects involving water resources, wastewater treatment plant and water treatment plant process design, hydraulic and process computer modeling, large diameter sewer tunneling, and trenchless design.



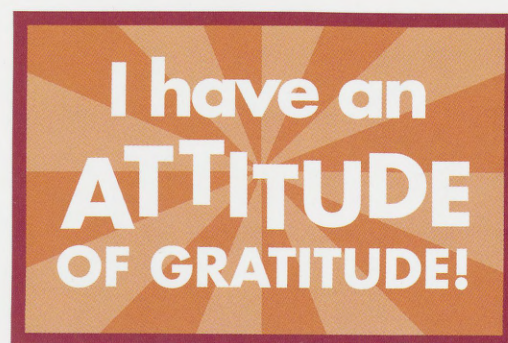
MICHAEL MENEGHINI (BSCE)—As joint replacement director at Indiana University Health's Saxony Hospital, he has been named one of North America's top 22 knee surgeons (2014), one of the top 40 U.S. leaders in hip and knee replacement (2013), and one of Indianapolis' top doctors (2014, see page 27). He has also been elected into the prestigious Knee Society (175 members worldwide) and Hip Society (75 members worldwide), and contributed to more than 50 peer-reviewed publications on orthopedic procedures.

TIM SUBLETTE (BSCS)—Has brought success to several small technology companies, including leading Aprimo's innovative engineering operations for 12 years. He helped create a new business unit that doubled Aprimo's customer base before being acquired in 2011 for \$525 million. Sublette, who has three patents, now is focused on simulation software for 3D printing as president and chief technology officer of 3DSIM. The firm's first products are being released later this year. ■

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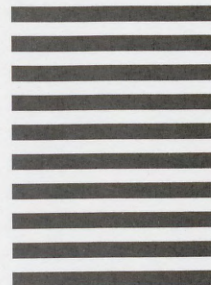
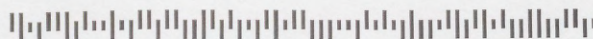
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Echoes Winter 2015

ANNUAL GIVING CIRCLES

Recognizing annual gifts from July 1 to June 30

Herman Moench Circle	\$25,000
Hulman Circle	\$10,000
Founders Circle	\$5,000
Trustees Circle	\$2,500
Presidents Circle	\$1,000
Deans Circle	\$500
Rose and White Circle	\$250
Century Circle	\$100

PRESIDENT'S G.O.I.D. CIRCLE

Recognizing cumulative young alumni giving

Gold	\$5,000
Silver	\$2,500
Bronze	\$1,000

Giving Options

- ☐ A check made payable to Rose-Hulman is enclosed.
- ☐ Credit Card: ☐ V ☐ MC ☐ D ☐ AE

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- ☐ Give online at www.rose-hulman.edu/give

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PARTING SHOT

Reaching New Heights

Freshman civil engineering student Guy Yager scales the campus' new bouldering wall, located in the Sports and Recreation Center. The attraction is 14 feet tall at its highest peak and has several climbing routes, depending on difficulty, to test students' problem-solving skills and physical abilities. (Photo by Chris Minnick)