



## New Dean of Engineering Hits the Ground Running

Listening. That is what Sallie Keller-McNulty has been doing since becoming Dean of Engineering on July 1. "I'm in listening mode," she said, "learning about what research is going on, understanding how the school operates—its people and infrastructure. I've been learning about ABET and where we are in the education process. I've been gathering information—what we do and how well we do it. I've been meeting with students, staff, faculty, alumni, trustees, and industrial partners."

What Dean Keller-McNulty is learning from these many meetings will go into developing a vision for the School of Engineering, a strategic plan for the school's development over the next twenty years. But there is much more listening to do before a plan can be developed. "Formulating a vision for the next twenty years has to be a collaborative effort involving all members of the School of Engineering and its alumni. The initial phase of this exercise is meeting with the faculty and school leadership. I have been meeting with some of the faculty and staff, but have more to get together with. I've met with some of the student leaders, but I'd like to expand that dialog to include

all engineering students by mid-semester and with alumni by the end of the term. I want to develop a meaningful dialog between my office and engineering students," she said. She sees regular town hall meetings with students as a good way to

opportunities for undergraduates. We're working now with the Jones School to develop an undergraduate program in business. I also see a need for more leadership and management training for chairs and faculty, and I think our alumni can contribute here. They know a lot about leadership because they are out there in these kinds of positions in industry."

"I want to hear what our alumni have to say—what they can contribute to a strategic plan." Dean Keller-McNulty said she would like to have focus groups made up of alumni to hear what they think is important to the school. "Our alumni are our 'product,'" she said. "They are out there in the real world and

they can tell us how well their engineering education serves them, or in what ways we could improve engineering education at Rice. It's important for us to listen to them. I want to know what they think is the right thing to do."

"Alumni will be very important in this process of creating a new vision, a new mission for the School of Engineering," she said. "They can best contribute by engaging in dialog with us, advise us. As we develop new initiatives, they can help us to move them forward. I've really been energized by what I'm seeing and learning. I think that if we all work together, we can make our very good school even better."



*Dean Sallie Keller-McNulty introduces her Great Dane, Lucy to a group of students at the School of Engineering ice cream social in August.*

begin that dialog, and working closely with student organizations as a way to sustain it.

"I would also like to increase the number of undergraduates who get research experience while they are here. Currently, about 60% of our students have done research for credit or pay when they get their bachelor's degrees. I want to increase that number to 80%. Industrial partners will be important in reaching this goal, as they can establish internships. Perhaps there are alumni out there who can help put some Rice undergraduates into internship positions, too."

Dean Keller-McNulty has a keen interest in developing leadership skills at all levels throughout the school. "I'm seeing that we need more leadership training and

# Meet the New REA Board Members

**Albert Grobmyer** has been the executive vice president of Puffer-Sweiven, LP, since 2000. Houston-based Puffer-Sweiven is a leading supplier of products and services for process control and flow control to the oil and gas, chemical, and power industries. Albert has executive responsibility of four of the company's seven business units.

In his twelve years at Puffer-Sweiven, Albert has held a number of management positions with the company. Prior to Puffer-Sweiven, Grobmyer served as a senior manager for Andersen Consulting (Accenture). Albert received a B.S. in Chemical Engineering from Rice in 1987.



**Rob Kreder** is a co-owner of Celerity3 Engineering, which provides engineering, design, and safety consulting services to the oil and gas,

petrochemical, and chemical industries. Prior to establishing Celerity3 Engineering in January 2004, Rob was an executive vice president with Berwanger, Inc.

Rob has remained active with the Department of Chemical Engineering at Rice by providing classroom instruction on process safety and serving as a judge for the senior design competition. Rob received a B.A. in Chemical Engineering in 1992 and is a licensed professional engineer in the state of Texas.

**Roshan Gummattira** works as an applications engineer with the Digital Signal Processing Group at Texas Instruments, where he has been employed since 2002. He received a B.S. in Chemical Engineering in 2000

and a Master of Electrical Engineering from Rice in 2002.

**Amanda Geck** graduated from Rice in 2004 with a degree in Computational and Applied Mathematics. Since graduation, she has worked as a processing geophysicist with Veritas DGC, a geophysical services company. The company produces 2-D, 3-D, and 4-D surveys for the oil and gas industry, imaging subsurface geology to identify areas where subsurface conditions are favorable for the production of hydrocarbons.

In addition to her responsibilities as a processor in the imaging group, she also has taken on projects to increase recruitment and improve the training program for new hires, and is currently tracking progress of long-term projects for Veritas' programming division worldwide.

**Glenda Govia** is a 1998 graduate of Rice. She holds a Bachelor's degree in Chemical Engineering and currently works for ExxonMobil. Glenda is interested in promoting engineering licensing among Rice alumni and in promoting diversity in the School of Engineering at Rice.



**Bryan Guido Has-sin** became managing partner of R7 Solutions in March 2004. R7 provides Geographic Information Systems (GIS) solutions to

organizations in the energy, real estate, and municipal industries. GeoRoom™, R7's flagship software product, integrates a company's spatial, relational, and unstructured data, presenting it in a web-based map interface. Founded by seven Rice graduates, R7 maintains a strong relationship with the university, its students, and its alumni.

Bryan has held other positions at R7, including director of technology and director of technical presales. Before joining R7 in January 2002, Bryan led

software development efforts at Ant-machine Technologies and UUNET. Hassin earned degrees from Rice in computer science and electrical engineering in 2001 and a Master of Computer Science in 2002.

**Nathaniel Richards** became president of Entrance Software in July of 2003. Entrance is an IT consulting firm specializing in business process automation and systems integration for all market segments of the energy and manufacturing industries.

Outside of professional responsibilities, Nate serves in various volunteer capacities, including as an advisory board member of Houston Achievement Place (a local children's charity), and as a volunteer at Houston's First Baptist Church's Mission Training Center. He also provides a foster home for Houston Beagle and Hound Rescue charges. Nate earned a Bachelor's degree in Computer Science from Rice in 2001.



**Steve Shaper** is the chairman of Optimal Payments, a Montreal based internet payments company that specializes in high risk credit cards and

checks. Optimal Payments screens and scores internet payments, weeding out potentially fraudulent transactions so that bank and card association standards are met. Steve is also a partner in Convergent Investors, a very high tech venture capital fund based in Austin. Additionally he works with four smaller companies in the payment area. Previously, he worked in manufacturing for twenty-five years followed by fifteen years in financial services building, with partners, TeleCheck, an international check guarantee company. His specialties are marketing and mathematical predictability of financial transactions. Steve believes that engineering serves perfectly as a background for a broad (see New Board, page 7)



# Engineers Without Borders Active at Rice

The Rice University Chapter of Engineers Without Borders (EWB) was started by three Rice students in the spring of 2003 and began with a water project in a small community in Mali, West Africa. Since then, the organization has expanded with four new projects in El Salvador, Mexico, and Nicaragua. Rice EWB's mission is to complete engineering projects that empower developing communities without harming society or the environment. Through these projects,

**Engineers Without Borders (EWB)** is a nonprofit organization dedicated to helping communities in the developing world improve their quality of life through sustainable engineering projects that address basic needs for water, shelter, and energy systems.

EWB encourages the development of socially- and environmentally-conscious engineers with practical, hands-on, international engineering experience.

In the past year, two new professional chapters have sprung up in the Houston area – EWB Houston and EWB Johnson Space Center – with professional engineers from Houston working on projects in El Salvador and Rwanda, respectively.

Rice EWB is maintained entirely by students, a governing board of thirteen students oversees the activities of the entire organization and project leaders manage each project group. Students manage everything from chapter organization, fundraising, training, and design, to implementation. The chapter also works with professors and professional engineers in the Houston area and in our project-countries who provide project mentoring,

design advice, and a wealth of practical experience.

The Rice chapter is currently engaged in four projects, the most advanced of which is a water distribution, storage, and purification system in El Salvador. The team first traveled to El Salvador in January 2004 to gauge needs in the area, and decided on a project with San Jose Villanueva. This is a community of 700 where it is common for women to wait hours to obtain spring water for washing and children to suffer from prolonged sickness due to water contamination. The team traveled again in April to conduct the necessary health survey and water testing, and to make plans for the project. In January 2005, students and community members together implemented a 40,000 liter water storage tank and channeled water to a series of convenient washing stations. Commu-

nity members no longer have to wait to wash clothes, and the project was such a success that people now come from neighboring communities to use the system. The team plans to implement water purification during their next trip.

The Mexico project team traveled in May 2004 to implement a water distribution system in the small community of Piedritas. The team installed a solar pump and PVC distribution network which fed multiple water outlets, increasing the flow rate and allowing more community members to fulfill their water needs. The team is now looking into an appropriate purification system to remedy microbial

contamination problems as well as to reduce the extremely unhealthy levels of fluoride in the water.

Rice EWB has two projects in Nicaragua, one of which is a structural project in the communities of El Panama and Aragon. The team first traveled in March 2004 and discovered that during the rainy season – almost a six-month period in Nicaragua – a river between the two communities is prone to flooding, blocking access to schools, medical help, and any outside supplies. Children do not attend school when the river is flooded, and in case of emergencies, a rope is tied across the river so that injured, sick, or pregnant individuals can be hauled across. The team plans to build a steel-truss pedestrian bridge across the river to allow easier access during the rainy season.

Rice's newest project is also in Nicaragua, with a small community called Bernardino Diaz Ochoa. The team traveled in March 2005 to meet with the community and discuss their needs. The community lacks electricity entirely, so the team plans to implement a solar powered lighting and ventilation system for the small school this coming winter. The team will also (*see EWB, page 7*)



*Senior psychology student Cameron Decker consults with a villager in El Panama, Nicaragua where EWB is working to construct a bridge over a gorge that separates two villages.*

# News from the GRBSOE

## Bioengineering

This is an exciting time for bioengineering. During the past decade rapid advances in nanotechnology are making it possible to manipulate the basic building blocks of life. To seize the opportunity and emerge as an international leader in bioengineering, Rice is aggressively working to develop new, multidisciplinary approaches to advance global knowledge of the treatment of cancer, heart disease, and infectious diseases. Rice is at the forefront of tissue engineering, cell and gene therapy, nano-biotechnology and computational bioengineering. Our achievements include:

- Increased research grant support by 275% over the last three years in the Department of Bioengineering.
- More than \$20 million in funding for three new NIH Bioengineering Research Partnership grants led by bioengineering faculty.
- Bioengineering faculty have participated in four new graduate training grants worth more than \$10 million; including two NSF IGERT programs, an NIH biotechnology training grant, and an NIH nanobiology training grant.
- An increase of bioengineering undergraduates by 25% in the last three years and PhD students by 30% in the last three years.
- Last year, we hired four new faculty members, including two endowed chair holders.

Our new hires include professor and department chair, Rebecca Richards-Kortum, professor Ariel Fernandez, assistant professor Michael Diehl, and assistant professor Junghae Suh.

We have exciting developments to report on the education front as well.



*Jennifer West looks on as grad student Melissa McHale works in the West group's bioengineering lab. Undergrads James Moon and Eva Wang are also shown.*

This summer, we developed a very special internship for bioengineering undergraduates – BIOE 405. Students in the internship participated in a leadership course, a gross anatomy laboratory, clinical medicine rotations, and a translational research experience. Although Rice is located across the street from the Texas Medical Center, the largest medical center in the world, this is the first Rice undergraduate course to place students directly in the clinical medical and research environment. Based on the impact after just one summer, we plan to continue and expand these highly successful joint educational efforts.

Students who participated in the program this summer wrote about how the experience transformed their thinking about research. One student reported that just after she received CPR certification she was asked to use this skill in her ER rotation. She was asked to help perform chest compressions on a cardiac patient that came in to the ER – the patient did not make it and she wrote about how this helped her understand the limitations of clinical medicine and the need for better detection technologies to identify vulnerable plaque. Another student who had previously participated in undergraduate research in ultrasound imaging wrote about how he saw his first clinical ultrasound examination

in his rotation through labor and delivery. This gave him a unique perspective in understanding the needs of his field and guided his thinking about pursuing a graduate degree.

Finally, this year we are beginning to develop a new component of our senior design course focused on bioengineering to address health problems in developing countries. We are searching for alumni partners to help develop and support this important endeavor. If you wish to participate in any way, please contact Dr. Rebecca Richards-Kortum (rkortum@rice.edu).

## Chemical & Biomolecular Engineering

### Chemical Engineering name change reflects new plan

*by Jade Boyd for the Rice News*

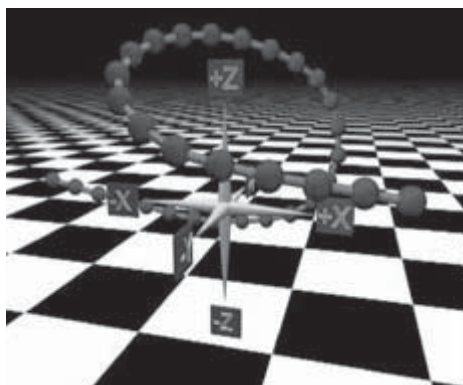
A bachelor's degree in chemical engineering was among the first degrees offered when Rice opened its doors in 1912, and the degree is still a ticket to some of today's best-paying careers in industry, including petrochemicals, pharmaceuticals and microprocessor manufacturing.

In an effort to stay ahead of industry trends and provide students with the skills they need to succeed, the Department of Chemical Engineering has developed a new strategic plan that puts equal emphasis on molecular biology, chemistry, mathematics and physics as fundamental sciences of the discipline.

The plan, which resulted in renaming the department "chemical and biomolecular engineering," has approval from the provost and the department's advisory and development board.

The strategic plan reaffirms Rice's commitment to core skills: quantita-





*This image represents a semiflexible polymer molecule buckling in strong shear flow. It is the work of Dr. Matteo Pasquali, associate professor of chemical and biomolecular engineering.*

tive, systems-based approaches that have made chemical engineering successful. It calls for new research directions, faculty hires in the biosystems area, new or revised courses and additional subject requirements in biology at the undergraduate and graduate levels. Finally, the plan calls for continued investment of resources to further develop the traditionally strong areas of materials, complex fluids and energy systems.

“Over the past century, our profession has consistently been called on to take molecular-level discoveries from the lab and scale them up for the marketplace,” said department chair Kyriacos Zygourakis, the A.J. Hartsook Professor of Chemical and Biomolecular Engineering.

For example, although penicillin was discovered in 1928, it wasn’t tested in animals until 1939, and even then, researchers couldn’t produce enough of the drug to conduct human trials. After the United States’ entry into World War II, drugmakers worked together to scale up production to treat secondary infections from battlefield wounds. In a research-and-development undertaking rivaling the Manhattan Project, chemical engineers created entirely new systems for fermentation, mixing, cooling, eliminating foam, separating penicillin from the fermentation broth and freeze-drying it into a powder.

Today, revolutionary advances in

molecular biology are opening new avenues for the development of materials, biological products and medical therapeutics. At the same time, economic and social forces are driving a transition toward more sustainable energy sources and environment-friendly production methods.

“With their proven ability to translate molecular-level discoveries into new and cost-effective products, chemical engineers are uniquely qualified to play leading roles in these revolutions,” Zygourakis said. “To meet these new challenges, we must integrate molecular biology into the scientific foundation of our discipline, something we have already done with chemistry, physics and mathematics. This expanded knowledge base will enable us to engineer new products by scaling up processes from the molecular to the system level.”

Chemical engineers are increasingly turning to systems-based approaches in their efforts to understand biological processes and develop bio-based products. For example, CargillDow, DuPont and others have begun to use “green” production methods to make commodity chemicals. The new processes use genetically modified bacteria to convert sugars into biodegradable polymers that eventually find their way into a multitude of consumer goods, from fibers for apparel or carpets to plastic containers and packaging materials.

“Progress in this area has been hindered by our inability to understand the complexity of biological function and structure,” said Nikos Mantzaris, assistant professor in chemical and biomolecular engineering. “This complexity is the result of interactions among the numerous components of cells, cell populations and their environment. The challenge now is to integrate systems-based engineering approaches with modern experimental tools in order to elucidate biological function and guide the rational design of biological processes.”

“We are not becoming bioengineers or biologists,” Zygourakis said. “Our goal is to integrate molecular biology into our core in order to equip a new generation of chemical engineers with the theoretical, computational and experimental skills needed to design products and processes that are sustainable and environment friendly.”

## Computational & Applied Mathematics

Faculty in the Department of Computational and Applied Mathematics were busy in fiscal year 2005, submitting a total of eighteen proposals to funding agencies. Fourteen of these were funded for a total of \$2,492,810. The majority of these projects were standard three-year grants from funding agencies such as NSF, ONR and AFOSR. Three of the projects, which may be renewed annually, were contracts with NOAA, DOE/Sandia and DOE/LBNL.

One of the projects funded is an NSF CAREER grant, a highly competitive five-year grant that was awarded to Assistant Professor Mark Embree. The National Science Foundation established the Faculty Early Career Development (CAREER) program in 1994. CAREER grants are considered by NSF to be its most prestigious award for junior faculty members.

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An upcoming conference at Rice will celebrate the contributions of three mathematicians, Jim Douglas, Don Peaceman, and Henry Rachford. This year marks the 50th anniversary of the publication of their seminal paper on the alternating direction implicit method (ADI) “The Numerical Solution of Parabolic and Elliptic Differential Equations” (Journal of the Society for Industrial and Applied Mathematics, Vol. 3, pages 28 - 41). The impact of this work on the oil industry was immediate; this new idea resulted in the development of more accurate and efficient computational methods for

reservoir simulation. However, the theoretical and practical aspects of the ADI method led to extensions, generalizations, and ensuing applications far beyond the original application of reservoir simulation.

*Fifty Years of Alternating Direction Methods: Celebrating the contributions of Jim Douglas, Don Peaceman, and Henry Rachford* will begin with two talks on the history and impact of the ADI method to past and current scientific industrial problems. Invited lecturers will present about twenty thirty-minute presentations on recent research activities in the area of numerical solution of partial differential applications that were influenced by the ADI method. A banquet on Saturday night, November 5, will conclude the conference. For more information, see <http://ceee.rice.edu/meetings/dpr/>



Jim Douglas



Don Peaceman



Henry Rachford

a wide range of fields and industries, come and talk about their experiences. It would be very beneficial for the current undergrads to hear about the diverse careers that exist for electrical engineering majors and get advice on pursuing them. We are also beginning a monthly IEEE newsletter that will feature articles on ECE current events, classes, and career opportunities. If you can't make it to campus for a talk, please consider sharing your experiences after graduation from Rice with the students through a brief newsletter article. We are also hosting presentations from several companies interested in recruiting Rice undergrads with information about opportunities for ECE majors. We would love for you or a representative from your company to give an informational session. In addition to these events, we plan to continue several IEEE traditions and begin new ones, with events such as study breaks after exams in the intro ECE classes, an end-of-year BBQ, and a presentation for freshmen, "What is Electrical and Computer Engineering?"

Please let us know if you might be interested in giving an informal lunch talk, giving a presentation on your company, contributing to a newsletter article, or in contributing financially to make these events possible. Please contact IEEE co-presidents Gina Upperman and Brian Van Osdol at [sb.rice@ieee.org](mailto:sb.rice@ieee.org).

## News from IEEE

The Rice chapter of IEEE is a student organization dedicated to informing ECE students of events in the department, preparing the undergrad ECE majors for life "beyond the hedges," encouraging freshmen and sophomores to major in electrical engineering, and creating a greater sense of community among ECE students.

We have several new events planned for this year that need alumni support to make them possible. The first is a Friday lunch series for all ECE undergrads featuring informal talks on research and careers by professors and alumni. We would love for Rice ECE alumni, who are now working in

field of wireless (3G) modem implementation. Dr. Sengupta is currently a senior member of the technical staff at Texas Instruments in Dallas. Also, Rebekah Drezek, Assistant Professor in Bioengineering and Electrical and Computer Engineering has been named to the 2004 list of the 100 Top Young Innovators by Technology Review for her cutting-edge research in nanotechnology and biophotonics.

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The ECE Department would like to hear from Rice alumni who are interested in helping the department. We are expanding the senior design courses and are looking for judges for a senior design contest. Also, the various research centers in ECE are expanding their advisory committees and would appreciate the involvement of Rice alumni. Please contact Prof. Joseph Cavallaro, [cavallar@rice.edu](mailto:cavallar@rice.edu), about some of these opportunities.

## Mechanical Engineering & Materials Science

This past July, Professors Emeriti Alan Chapman and Franz Brotzen turned 80 and 90, respectively. Alan and Franz continue to teach MEMS courses and are vital members of the workings of the department. "Their leadership, institutional memory, and their commitment to students is something we other faculty strive to emulate," said Enrique Barrera, chair of MEMS. We celebrate their birthdays with continued spirit and dedication to making MEMS the best engineering program for our students and constituents.

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In July Professor Andrew Meade and Adjunct Professor John Bertin hosted Rice University's first ever Arc Jet Technology Workshop. When the workshop was first proposed to NASA Johnson Space Center and the Air Force Office of Scientific Research, it was thought that attendance of thirty-five scientists would be too much to ask for. However, more than ninety

## Electrical & Computer Engineering

The Electrical and Computer Engineering Department has updated the department web site with new information on research and education programs; see <http://www.ece.rice.edu/>.

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ECE Alum Dr. Chaitali Sengupta (MS'95, PhD'99) has been named to the 2004 list of the 100 Top Young Innovators by Technology Review for her innovative contributions to the

people from industry, the Department of Defense, and NASA JSC, Ames, Langley, and Marshall attended the workshop, which was considered an unqualified success. The workshop fits into Meade's long-term plans of forming a research center concentrating on validation, verification, and calibration of physical problems critical to the aerospace community, although the proposed center could also benefit a number of efforts in science and engineering. Meade and Bertin plan on submitting a review of the workshop to the AIAA Journal and are assembling two conference sessions at next year's AIAA Aerodynamic Measurement Technology and Ground Testing Conference in San Francisco. Meade is the associate chair of the department, and he and John Bertin are both Rice alumni.

*(New Board, continued from page 2)*

and diversified career. He earned a BA in Mechanical Engineering in 1958 from Rice and an MBA from Harvard in 1960.

Steve has been a very active alum. He has served on five university search committees. He has been president of the Association of Rice Alumni, chairman of the Rice Fund Council, and served on the Rice Board as an Alumni Governor.



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John Waits has served as president and chief operating officer of Omnistar, Inc., since May 1995. Prior to Omnistar, John was president of GPS

Technology, a Houston firm. Earlier in his career John worked for Zapata Corporation, where he served in a variety of executive positions including divisional chief financial officer and two senior vice president positions. Zapata is a Houston firm involved in a range of ocean related industries. John was with Zapata for 17 years.

John holds Bachelor of Science and Master's degrees in Mechanical Engineering from Rice University, and a Master of Science in Economics from the Graduate School of Industrial Administration at Carnegie-Mellon University.

*(EWB, continued from page 3)*

perform water testing to determine the causes of illness among children in the community, and may eventually build a cistern by the school and expand the school building itself.

In addition to project team activities, Rice EWB holds periodic training sessions for all members that teach skills that will be needed to complete projects in the field. Training sessions have focused on surveying techniques, use of concrete, cistern construction, water testing, and solar systems. The organization has also worked with the Civil and Environmental Engineering Department to develop academic courses in project management, bridge design, and sustainable technologies for the developing world. Technical help is also obtained from our project mentors, often professional engineers in the Houston area.

Engineers Without Borders is a unique organization that provides rewarding opportunities for students and professionals. Rice EWB is always trying to broaden membership and reach out in new ways. More information about Rice EWB can be found at [ewb.rice.edu](http://ewb.rice.edu), or by contacting [ewb@rice.edu](mailto:ewb@rice.edu).



## Upcoming Events

### REA Fall Social

Monday, October 24  
6-8 p.m.  
Saint Arnold Brewery  
2522 Fairway Park Drive  
Houston 77092  
[www.saintarnold.com](http://www.saintarnold.com)

### Fifty Years of Alternating Direction Methods: Celebrating the Contributions of Jim Douglas, Don Peaceman, and Henry Rachford

November 4-5  
Duncan Hall  
Rice University  
<http://ceee.rice.edu/meetings/dpr/>

### REA Reunion at Homecoming Weekend

Friday, November 11  
4-6 p.m.  
Duncan Hall  
Rice University  
2005 Outstanding Engineering Alumni will be honored with presentation and reception

## REA Info

Rice Engineering Alumni (REA) is the oldest alumni association of Rice University. The REA Board of Directors is a volunteer organization of 25 alumni serving staggered 4-year terms. Those interested in serving should contact the alumni affairs office at (713) 348-4057 or [engalum@rice.edu](mailto:engalum@rice.edu). Officers of the Board are:

### President

John T. Perez, ChE '96

### Vice President

Dick Wilson, CE '52, '56

### Treasurer

Marshall Pounds, Envi '74, '76

### Secretary

Mary Watrous, Envi '00, '02

Other members of the board are listed on the REA webpage at: <http://alumni.rice.edu/rea/>



# REA Membership form

You may fax this form back to the REA at (713) 348-5210 or mail it to the Rice Engineering Alumni, MS-520, 6100 Main Street, Houston, Texas 77005-1892. Help us keep the REA — Rice's oldest alumni association — running strong.

Name	Class/Degrees
Home Address	Business Name
Phone Numbers	Position
	E-mail

I want to become a contributing member of the REA from August 2004 until August 2005.

☐ Recent Alumni (past five years) — \$15

☐ Members — \$25

☐ Sponsors — \$100

☐ Lifetime Patrons — \$250

☐ Lifetime Benefactors — \$500

☐ Scholarship Donors — \$1,000

☐ Endowed Scholarship Donors — \$50,000

(Pledge can be paid over a five-year period.)

Enclosed is a check or money order (made payable to "Rice Engineering Alumni").

Please charge my (circle one) Visa / MasterCard / American Express.

Account number	Expiration
Signature and billing address (if different from above) for card	

My company will match this gift. (Corporate matching gifts count toward membership.)

Company Name	Amount
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You may also pay dues at  
<https://online.alumni.rice.edu/giving/giving.asp>  
by specifying  
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