Outgoing President’s Message

It has been my distinct honor and pleasure to serve as REA President this year. We have a great board and an outstanding new president to continue our mission to support students, connect alumni and encourage excellence in the REA community. I want to thank my fellow board members, Dean of Engineering Ned Thomas and the School of Engineering staff who have been great partners in this year’s success.

We have been heavily focused on growing our relationship with groups across campus and deepening our interactions with graduate students. We set another record for REA sponsors (399) — many coming from distant U.S. regions. These funds have helped support students through our active investment in the OEDK, RCEL and OwlSpark. For graduate students, we established the Smalley-Curl Graduate Student scholarship for summer programs and funded a travel grant to cover expenses for papers and conferences. Lastly, in partnership with the School of Engineering, REA provided more than $165,000 in scholarships to many deserving students.

In addition to funding special projects, we have hosted multiple REA events that give alumni the opportunity to connect with students and stay active with university staff and the Rice community.

Thank you for supporting these important programs and preparing the next generation of Rice engineers. I hope to continue to count on you to stay involved in mentoring, judging and innovating with our students.

Sincerely,

Wendy Hoening, MSCI ’86
FY2015-2016 President, Rice Engineering Alumni

Incoming President’s Message

It is with great enthusiasm and dedication that I accept the honor and challenge to serve as REA President for FY2016-17. The past year has been yet another extremely successful one for REA. I look forward to leading the team in support of our mission to keep engineering alumni engaged with both the School of Engineering and Rice.

Last year, REA increased its outreach to graduate students, offering assistance with travel funds, stipends and a named teaching assistantship. This year, REA will continue to build on that foundation and strengthen the connection to undergraduates. For the first time, we’ll have an undergraduate liaison to the board to help us better understand the needs of undergraduates — i.e. to learn what excites them about engineering — and to encourage them to be part of REA.

We continue to identify capital spending opportunities. Over the last few years, REA donated to multiple capital expenditures, including RCEL’s Leadership Reaction Course. In hopes of finding new ways to provide funding for the School of Engineering’s needs, REA has decided to dedicate funds over a three-year timeframe to sponsor the build out of an undergraduate lab in mechanical engineering.

We are always looking for board members, committee leaders and mentors. It is your contributions that make the REA successful. We hope to see you at many of the exciting events planned this year!

Sincerely,

Joanna Papakonstantinou, Ph.D. CAAM ’09, M.A. CAAM ’07
FY2016-2017 President, Rice Engineering Alumni

Sponsorships

We reached a new sponsorship record! With a total of 399 individual and corporate sponsors, the REA provides more funding for student-led teams, projects and club activities than ever before, and we continue to be key partners for major initiatives, including the Oshman Engineering Design Kitchen, the Rice Center for Engineering Leadership and OwlSpark.

We Want You to Become an REA Sponsor

The REA wants to bring more support to students and enable them to excel in student-run initiatives and programs. To do this, we require your support. Even though every alum with a degree from the George R. Brown School of Engineering is automatically a member of the REA, not every member becomes an REA Sponsor. Sponsorship is the lifeblood of the REA — it’s what drives all the other endeavors and programs mentioned in this report.

Last year, we set in motion a multi-year initiative to double our sponsorship base to 600+ individual donors. After one year, we set a record number of 399 total sponsors, who have generously contributed to our cause. Please consider joining them and become an REA Sponsor.

Initiate or renew your sponsorship for FY2016–17 at alumni.rice.edu/rea/support-rea. Please designate your gift for Rice Engineering Alumni (GEA). You can also set up a recurring sponsorship. For questions about REA sponsorship, or if you are interested in making a gift, please contact Sara Lillehaugen Rice, director of development and team lead for the School of Engineering, at sdl@rice.edu.

FY2015–2016 REA Funding

<table>
<thead>
<tr>
<th>Use of Sponsorship Funds</th>
<th>FY2015</th>
<th>FY2016</th>
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<tbody>
<tr>
<td>Total REA sponsors</td>
<td>399</td>
<td>399</td>
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<tr>
<td>22% Increase in REA sponsors over previous year.</td>
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<tr>
<td>23% Student Awards and Alumni Honors</td>
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<tr>
<td>10% Student Projects and Grants</td>
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<td>13% Alumni Engagement</td>
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<td>7% Regional Programs</td>
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<tr>
<td>7% OwlSpark</td>
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<tr>
<td>20% Rice Center for Engineering Leadership</td>
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<tr>
<td>20% Oshman Engineering Design Kitchen</td>
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$78,059 Total REA sponsorships in 2015-2016.
Awards and Scholarships

The REA manages a number of financial awards and scholarships that are funded with permanent endowments. In partnership with the School of Engineering, the REA presented more than $165,000 in awards at the end-of-year picnic on April 16. These included departmental awards for academic merit; awards for leadership, research and service; awards for outstanding engineering students; and other designated named awards. A full list of winners is available at alumni.rice.edu/rea/scholarships.

Oshman Engineering Design Kitchen (oedk.rice.edu)

The REA once again provided significant support to the Oshman Engineering Design Kitchen, raising more than $15,000 in grants and creating lasting mentorship opportunities by connecting alumni with students.

- **Senior Design Team**: The REA provided $5,000 for Pre-Ictal Predicators (pictured below), a multidisciplinary group of seniors, to help develop neurostimulator implants that sense early signs of a seizure in patients with intractable epilepsy. Their innovative design won first place in the Houston Global Health Conference.
- **Showcase Design Prize**: For the first time, two senior engineering teams, Brays Yourself and Rice Outstenting, tied for the top prize in the George R. Brown Engineering Design Showcase, held April 14 at Rice University’s Tudor Fieldhouse. Each was granted $5,000 for the Excellence in Engineering Award.

OwlSpark (owlspark.com)

Founded in 2013, the OwlSpark program allows Rice students, faculty, staff and recent alumni to launch companies based on their innovative ideas from concept to demonstration. Using small grants and an emphasis on low-cost iterative experimentation, startup teams perform valuable mentorship opportunities by connecting alumni with students.

- **Prototype Fund**: The REA contributed $5,000 to fully support OwlSpark’s prototype fund, allowing entrepreneurs to take innovations and ideas from concept to demonstration. Using small grants and an emphasis on low-cost iterative experimentation, startup teams perform research, test core assumptions and explore multiple design options before building out their entire product.

Rice Center for Engineering Leadership (rcelconnect.org)

We provided $1,000 for the graduate student Screech competition (organized by RCEL) for grad students to deliver 90-second pitches of their research topics.

“We want to show we can analyze it in real time. Not weeks, not even minutes. It needs to happen as soon as the data comes in, and that’s what we’ve done. We’ve implemented this with a very fast machine and shown it’s possible.”

— Victor Prieto ’16, Team Pre-Ictal Predicators

Student Grants

Our grant program — now in its fifth year — provides more than $10,000 for student-led projects that foster innovation and real-world engineering design outside of the classroom. This year, we established two new grants: (1) a graduate student travel grant to support Rice graduate students who are presenting at conferences in the U.S. or abroad and (2) a graduate student scholarship in the Smalley-Curl Institute that allows an engineering graduate student working in the institute the opportunity to write a research proposal, apply for the grant and mentor an undergraduate research project. The following projects received our support:

- **Rice Seismic Design Team**: Created a model skyscraper for San Francisco that can resist extreme ground motion.
- **No Pane No Gain**: Designed secure, light and durable windows for schoolhouses in rural Nicaragua.
- **Rice Aerolite**: Created a plane that can fly another plane as part of a national Design Build Fly competition.
- **Longboard Holster Team**: Created a device that clips onto a longboard and has an adjustable cross-body strap, perfect for a student on the go. The entrepreneurial team designed the prototype in 2015, and by 2016 had tweaked the design and offered the strap for sale.
- **Rice Electric Vehicle Design Team**: Formerly known as the Rice Solar Car Team, the Electric Vehicle Team sought to design a battery electric urban concept vehicle to compete in the Shell Eco-Marathon.
- **Rice Concrete Canoe**: Participated in a regional competition in Lubbock, Texas, hosted by the American Society of Civil Engineers.
- **Rice Self-Driving Car Initiative**: Promotes a culture of artificial intelligence and robotics research among the Rice student population by engaging in multidisciplinary, team-oriented projects and by developing autonomous vehicles, drones and other outdoor robots.
- **Rice Engineers Without Borders**: Designs and implements sustainable engineering solutions for developing countries.
- **Solar MD Group**: Designing a solar-powered and transportable water filtration system for underresourced communities.

Supporting Students
Connecting Alumni

REA Chapter Programs in 2015–16

Austin: The REA Austin chapter hosted a Habitat for Humanity build in October 2015. About 15 people — alumni, family and friends — volunteered in this third annual event to help with exterior carpentry, roofing and painting. The group gathered at a local eatery following the event. Visit alumni.rice.edu/rea/austin.

Dallas–Fort Worth (DFW): The REA DFW chapter’s signature event, an evening with the director of the Oshman Engineering Design Kitchen (OEDK) Maria Oden and Michaela Dimoff ’16, was held at Greenhill School on April 5, 2016. Maria gave an overview of the history of the OEDK and demonstrated its great impact on the School of Engineering and engineering students at Rice. Michaela shared her unique story of being the first freshman to work in the OEDK and spending all four years there. This past May, Michaela graduated with a degree in bioengineering and biomedical engineering. Visit alumni.rice.edu/rea/DFW.

San Francisco Bay Area (SFBA): In the past year, the REA SFBA chapter focused its efforts on diversifying activities and engaging the alumni in the Bay Area. Based on the feedback collected in an inaugural member survey, three signature events were held: a Rice-Berkeley basketball game at Berkeley, a volunteer session with the Second Harvest Food Bank at San Mateo, and a private dinner and lecture with Professor David Alexander in Palo Alto. The chapter hopes to create more meaningful events for members to reconnect with the school and each other and to strengthen the Rice community in the Bay Area. Visit alumni.rice.edu/rea/SFBA.

Houston: The REA brought together longtime REA sponsors with new supporters to the OEDK for its signature “No Upper Limits” event on February 24. Everyone received a glimpse of the Engineering Quadrangle, Rice University. Visit alumni.rice.edu/rea/houston-events.

Visit alumni.rice.edu/rea/regional-programs for REA events across the nation.

Upcoming Events

Oct. 21, 2016
Alumni Honors Presentation and Reception at Rice Homecoming & Reunion 2016 Duncan Hall, Rice University, 3-5 p.m.

Dec. 7, 2016
REA Fall Social
Saint Arnold Brewing Company, 6:30 p.m.

April 22, 2017
REA/School of Engineering End-of-Year Picnic
Engineering Quadrangle, Rice University

Beginning on Rice Day Oct. 12, REA members can connect with alumni, parents, students and each other through a new online professional development hub dedicated exclusively to the Rice community. Be among the first to sign up at sallyportal.org.

Encouraging Excellence

In 2016, the REA received a remarkable pool of nominations for its Outstanding Engineering Alumnus and its Outstanding Young Engineering Alumnus awards. We are proud to announce Lihong Wang, Ph.D., ’91 as the 2016 OEA award recipient and David Allison, Ph.D., ’08 as the 2016 OYEA award recipient. Below are the recipients’ brief bios. We hope you will join us on October 21 for our Homecoming & Reunion event, where we will give the awards to our recipients. It will be an opportunity to learn more about them and congratulate them in person. Learn more at alumni.rice.edu/rea/alumni-honors.

Outstanding Engineering Alumnus
Lihong Wang, Ph.D., EE ’91

Lihong Wang earned his Ph.D. degree at Rice under the tutelage of Robert Curl, Richard Smalley and Frank Tillett. Since earning his degree, he has distinguished himself in the field of bioengineering, and he currently holds the Gene K. Beare Distinguished Professorship of Biomedical Engineering at Washington University in St. Louis. He has chaired the annual conference on Photonics Plus Ultrasound and has been a charter member of a National Institutes of Health Study Section, a fellow of various professional societies and the editor-in-chief of the Journal of Biomedical Optics.

Lihong has authored several books, including “Biomedical Optics: Principles and Imaging,” which won the 2010 Joseph W. Goodman Book Writing Award and was one of the first textbooks in the field. He has published more than 420 peer-reviewed articles in journals, including Nature (cover story), Science, Proceedings of the National Academy of Sciences, and Physical Review Letters, and has delivered over 400 talks and addresses. He has been a principal investigator on over 30 research grants with a cumulative budget of over $47 million.

Lihong has received a multitude of awards and recognition, including but not limited to the OSA C.E.K. Mees Medal, the IEEE Technical Achievement Award, the IEEE Biomedical Engineering Award, the SPIE Brilliant Chance Biomedical Optics Award and an honorary doctorate that was conferred on him by Lund University in Sweden. He currently serves as the founding chair of the scientific advisory boards of two companies that commercialize photoacoustics.

Outstanding Young Engineering Alumnus
David D. Allison, Ph.D., BIOE ’08

David received a Ph.D. in bioengineering from Rice University and a B.S.E in biomedical engineering from the University of Iowa. Since then, he has been a National Science Foundation research fellow in the Heart Valve Laboratory of The Cleveland Clinic, worked at Surfmodics in its diagnostics and drug discovery business unit, and served as an investment professional with Split Rock Partners in Menlo Park, California, and PTV Sciences in Austin, Texas.

Since then, David has served as a principal at Versant Ventures, a venture capital firm with $2 billion under management focused exclusively on healthcare investments. At Versant, David is responsible for sourcing, evaluating and managing deals across North America and Europe. His involvement within the portfolio has included investments at early stages of new company formation based on academic discoveries, structured pharma/biotech deals and investments into established later-stage companies.

In this report: Hear from the incoming and outgoing REA presidents, discover how your sponsorship is having an impact on students and alumni, save the dates for upcoming REA events and see who is being honored at the 2016 Alumni Honors Presentation and Reception on October 21.

Become an REA Sponsor Today

Sponsorship is the lifeblood of the Rice Engineering Alumni and provides important support for everything from student leadership and entrepreneurship to regional programming and alumni engagement. Explore the many ways your sponsorship makes an impact in this report, and visit alumni.rice.edu/rea/support-rea to initiate or renew your sponsorship for FY2016–2017.