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**A HISTORICAL FIRST:** The Houston Area Survey reveals insights into the region's Asian population. See story on Page 5.



**A ROLE MODEL OF SUCCESS:** Norma Torres wants to help disadvantaged students follow her path to college.

## Helping Underserved Students Prepare for College

Norma Torres was 8 years old when she came to the United States. Her single mother worked as a housemaid and spoke only Spanish. Torres knew three words in English: "I don't know," a phrase she used repeatedly to survive her introduction to a new land — a country in which she would eventually flourish beyond anyone's expectations.

Torres is graduating from Rice University this May with a near-perfect grade point average of 3.97 and a place on the President's Honor Roll. A double major in political science and Hispanic studies, Torres has been accepted to the Harvard Kennedy School of Government, where she plans to pursue a master's degree in public policy.

Not only is Torres an excellent student, she also is

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## High School Students Wrap Themselves Around Math

Like most of her friends, 'Chon Brooks gets excited about music, football and clothes. Unlike most of her friends, she also gets excited about equations.

"I love mathematics. I love the complexity of equations. If you give me an equation, I'm happy. Just me and my math," said Brooks, a senior at Worthing High School in Houston, who is enrolled in Worthing Rice Apprentice Program (WRAP) at Rice University.

"I live for students like her. You wait for that moment when the student lights up, and you know something has taken off inside of them," said Steve Cox, professor of computational and applied mathematics (CAAM) at Rice, who founded WRAP 10 years ago.

Each week, 19 students arrive by bus at Brown College on the Rice campus, where Cox and his wife, Laura, are

*Continued on Page 3 >>*

a leader that has a passion for helping others like her to attain a college education. For her service to the greater community and devotion to the “economically and culturally disadvantaged,” Torres was awarded the Rice University Alan Grob Prize in April.

“My dream is to create a more equal society, where a person’s socioeconomic level doesn’t determine what opportunities they have,” she said. “I don’t want to be an outlier. I don’t think I should be one of the few who is able to make it. We need to work together so that more people have better opportunities through education.”

To that end, Torres is already helping students make it into college. Last year, as president of the Hispanic Association for Cultural Enrichment at Rice (HACER), Torres led a team that created the Young Owls Leadership Program (YOLP), which prepares underserved students for college.

Through a \$45,000 grant that Torres was instrumental in obtaining, YOLP brought 54 students to Rice and housed them for a week on campus, while teaching them about the college admissions process, financial aid, resume writing and interviewing skills. The intense week was completely run by Rice students who enlisted the help of Rice faculty and staff members.

“I was amazed by the effectiveness of the program and the amount of work Norma and others she recruited put into it,” said Ruth Lopez Turley, associate professor of sociology, who gave a presentation to the high school students.

KIPP Houston Public Schools also collaborated with YOLP, calling on its alumni, who currently study in such schools as Georgetown, Duke, Boston University and Swarthmore, to serve as advisers.

Vanessa Ramirez ’02, director of the KIPP Alumni Association, witnessed Torres give inspirational speeches to the high school students about how she stretched beyond her comfort zone by attending Rice. “She told them that she had accepted all of the challenges of her new environment with courage and optimism,” said Ramirez. “I couldn’t

help but feel immensely proud of her.”

This coming summer, Torres will once again lead a team and administer the program on the Rice campus. But this time, YOLP is teaming up with the Houston Independent School District, which has offered a sizable grant to cover the expenses.

Born in Queretaro, Mexico, Torres started her education in the United States in the fourth grade at River Oaks Elementary, where she struggled with her English and was required to spend the following summer in school to catch up. “One of my teachers told me I should go back to Mexico,” Torres said. “That motivated me to work really hard and show her that I could do it.”

Torres showed her and continues to excel: Torres went on to Lanier Middle School, graduating second in her class, and then to Lamar High school, where she graduated with highest honor in the International Baccalaureate program. She was accepted to Rice in 2009.

Success wasn’t always easy for Torres, but

**“IT’S IMPORTANT FOR STUDENTS FROM LOW SOCIOECONOMIC LEVELS TO SEE OTHER STUDENTS WITH SIMILAR BACKGROUNDS BE SUCCESSFUL IN COLLEGE. IT ENCOURAGES THEM TO FOLLOW IN THE SAME PATH.”**

—NORMA TORRES

with the support of her mother, Maria del Carmen Torres, and her godmother, Mary Blake, Torres overcame some challenging times in her life. “I learned from my mother how to work really hard,” Torres said. “She has been working since she was 12, cleaning houses and taking care of children.”

Her mother also provided moral and financial support by selling tamales to pay for the SAT exam and by selling mole (a traditional Mexican dish) to pay for textbooks. Her mother always made sure that Torres fulfilled her school duties. “Although my mother didn’t speak a word of English, she always sat next to me while I completed my homework,” Torres said.

Her godmother was responsible for enrolling Torres at River Oaks Elementary and encouraged Torres to apply to Rice. “She is my second mother,” Torres said. “She has been my mentor and adviser since the day I got here.”

When Torres arrived at Rice, she was ready to give back to the community. During her freshman year, she participated in Urban Immersion, a program designed by the Community Involvement Center to introduce students to urban issues, social needs and the diversity of Houston. Torres volunteered at the Houston Women’s Center, cleaned up Hermann Park and worked at a soup kitchen, all in one intensive week.

In her sophomore year, Torres was elected outreach coordinator for HACER and created a program in which HACER members visited HISD schools at least once a week to encourage students to pursue a college education. “It’s important for students from low socioeconomic levels to see other students with similar backgrounds be successful in college,” Torres said. “It encourages them to follow in the same path.”

In her junior year, Torres was elected president of HACER and reelected in her senior year, making HACER one of the most active student organizations on campus. She

also generously cultivated other leaders.

“When she grew into an upperclassman, Norma took it upon herself to mentor younger students and often went the extra mile to help them with whatever

they needed,” says Rice senior and HACER member Placido Gomez ’13.

After attending the Princeton University’s Public Policy and International Affairs Junior Summer Institute, Torres is convinced more than ever that she eventually wants to run for public office in Texas.

“I learned how important it is to have people who are drafting policy to understand the real issues of the people being affected,” she said. “My grandmother used to tell me that my mission in life is to leave it better than I found it, and that is what I want to do. I have a long journey ahead, but I am ready for the challenges.”

**DAVID D. MEDINA**

Director

Multicultural Community Relations

## Center for College Readiness and the AVID Center Join Forces

The Susanne M. Glasscock School of Continuing Studies' Center for College Readiness at Rice in collaboration with the AVID Center has created a comprehensive college readiness system in 10 Houston-area school districts: Alief, Alvin, Channelview, Deer Park, Fort Bend, Houston, Humble, Klein, La Porte and Pasadena.

The collaborative is committed to helping students in the consortium schools prepare to succeed in academically rigorous courses. Through engaging teachers, administrators, counselors, parents and students in carefully constructed learning opportunities, the collaborative will work to build awareness among all stakeholders of the importance of college and to increase the number of high school graduates who are ready for college.

Thus far, the initiative has organized eight events, most notably the College and Career

Counseling 101 workshop and the College Readiness Summit, with each hosting more than 240 educators. The College and Career Counseling 101 workshop is designed to educate counselors on their role in helping students navigate their college and career pathways, and the College Readiness Summit, which hosts teachers, administrators, counselors and parents, provides educational resources and strategies to prepare students for college readiness.

"We are thrilled to be able to work so

closely with these Houston-area districts toward the advancement of their college readiness goals for their students," said Jennifer Gigliotti, executive director of the Center for College Readiness and associate dean of the Susanne M. Glasscock School of Continuing Studies. "Part of our vision here at Rice involves engaging with Houston," she said, "and this is a prime example of how we are accomplishing that."

► For more information, visit [http://college.ready.rice.edu/College\\_Readiness\\_Initiative.aspx](http://college.ready.rice.edu/College_Readiness_Initiative.aspx).

### BRET NEWCOMB

Marketing Specialist  
Susanne M. Glasscock School of  
Continuing Studies

## WRAP *Continued from Page 1*

the college masters. With the aid of student mentors from Rice and UT-Houston, Cox introduces the Worthing students to the theoretical, experimental and computational aspects of neuroscience.

"We want to challenge students to learn, and we do that by helping them learn how the brain learns. They get a hands-on introduction and an integrated course in mathematics, biology, electronics and computer programming," said Cox, whose research focuses on computational neuroscience.

During a recent session, the students used earthworms to measure the speed of neuronal impulses. "We've gotten more sophisticated in the curriculum," Cox said, "but what hasn't changed is the close mentoring." Among this year's mentors is Meagan Whaley, a third-year graduate student in CAAM who hopes to go into teaching.

"Part of my reason for getting involved with WRAP is wanting more experience as a teacher. It's rewarding but it's also a challenge. Some of the kids catch on very quickly, and some of them take more time and need more encouragement and patience. I'm learning how to balance those things," Whaley said.

Loyce Gayo James enrolled in WRAP while a student at Worthing in 2010, and now is a freshman studying applied mathematics at the University of Texas at Austin.

"WRAP revolutionized my mindset on



**A BRAINY EXPERIMENT:** Rice students help Worthing High School students understand how the brain learns.

higher education. I've always had a passion for math, but it wasn't until WRAP that I realized I wanted to pursue it. For the first time in my academic career, I was involved in a structured way of learning. WRAP sparked the fire inside of me to do research," she said.

Another mentor who wants to enter teaching is Arias Storm Hathaway Turner, a senior majoring in mathematics. "I'm interested in pure math, but I'm also interested in creating math curriculums for high school and college students," Turner said. "Through WRAP, I'm learning on the job."

"We're looking for students who have confidence and have some proficiency in algebra, and who are excited and want to know more about their own brains," Cox said. "The mentors don't have to be experts, just patient, advanced learners eager to share their curiosity with high school students." WRAP receives financial support from Rice alum Terrence '86 and Terry Gee and the National Science Foundation.

### PATRICK KURP

Science Writer  
George R. Brown School of Engineering

## Promoting Diversity

The Office of Diversity and Inclusion was established in 2010 as a way of cultivating a diverse, scholarly community that is central to the fulfillment of Rice's educational mission and goals.

To support this effort, Associate Provost Roland Smith began the process of researching the structures at peer institutions. Next he interviewed Rice deans, vice presidents, the Faculty Senate speaker and an array of departments across campus. He used the insight garnered to design the Council on Diversity and Inclusion (CODI), which includes 10 chairs of working groups and 10 at-large members to facilitate the coordination of activities aimed at creating and sustaining an open and inclusive environment for the Rice community.

Appointed by Rice University President David Leebron and operational since spring 2012, CODI includes representatives from offices across campus that focus on diversity issues so that the university may better plan and implement diversity outreach and activities. This team approach enables the coordination of efforts across campus while also supporting targeted initiatives that are developed and implemented within schools and other units on campus.

Chaired by Smith, CODI includes the following working groups:

Campus Climate Assessment; Multicultural Undergraduate Life; Multicultural Graduate Life; Faculty Recruitment and Development; International Students and Scholars; Gender and Sexuality; Multicultural Alumni Affairs; and Faculty Research, Centers, Institutes and Programs; Multicultural Community Relations; EEO/ Human Resources and Disability Support.

CODI meets twice a semester. At each meeting, presentations are given on a variety of topics. For example, at the February 2013 meeting, Ratna Sarkar, director of Institutional Research and chair of the Campus Climate Working Group, gave a presentation about demographic data on Rice students. She explained to the group how such data is captured across colleges and universities nationally. The group was able to see enrollment trends for Rice and other data relevant to Rice.

During another meeting, Russell Barnes, director of Affirmative Action, reported that the sexual harassment training program is up and running. The long-term goal is to modify the training to keep it fresh. Barnes sent copies of the diversity-training program to coun-

cil members for review and feedback on how to improve the process.

Once the diversity training program is released, it will be administered on a mandatory basis for all students, staff and faculty. President Leebron wants to make sure that Rice is doing all it can to ensure that Rice has a diverse and welcoming environment. It is crucial that all members of the Rice community be aware and respectful when it comes to recognizing each other's differences.

Last fall, John Hutchinson, dean of undergraduates and at-large member, and Catherine Clack, associate dean and chair of the Multicultural Undergraduate Working Group, gave a presentation on diversity issues concerning undergraduates. Hutchinson announced that thanks to Shelah Crear, director of First Year Programs, the undergraduate experience has improved. Clack announced that the freshmen mentoring pilot that began in 2010 in the Office of Diversity and Inclusion has now been institutionalized in her office under a new name, HARAMBE. During HARAMBE, staff and students spend quality time with first-year students to bond and orient them with myriad issues at Rice, ranging from academic support to other university services.

Other meeting participants included Rebecca Isaac, president of the Black Student Association (BSA), and Alexandra Zambrano, vice president of the Hispanic Association for Cultural Enrichment at Rice (HACER), who gave a presentation to the council on their participation in the National Conference on Race and Ethnicity experience. Both students said that that experience opened their eyes to the need for more diversity-focused dialogue between Rice students and faculty. Students learned that they can make a difference on their campuses by taking the first step to promote diversity.

► **More information on CODI and other Office of Diversity and Inclusion initiatives can be found at the Office of Diversity and Inclusion website at <http://diversity.rice.edu>.**

**THERESA CHATMAN**

Director of Graduate Recruitment and Retention Programs  
Office of Diversity and Inclusion



## Kinder Institute Conducts First Houston Area Asian Survey

For the first time ever, the Kinder Institute for Urban Research's Houston Area Asian Survey conducted a systematic look at the local Asian population of any American city.

Based on three surveys conducted over a 16-year period in 1995, 2002 and 2011, the surveys explored the demographics, life experiences, attitudes and beliefs among Houston's varied Asian communities. The surveys showcased the similarities and differences among the Vietnamese, Indian/Pakistani, Chinese/Taiwanese and Filipino populations, the area's four largest Asian groups. It also compared the socioeconomic differences between Asians and other major racial and ethnic groups in the region.

"Houston's Asian communities will play an increasingly important role in all aspects of our city as this area continues to grow and change," Stephen Klineberg, co-director of the Kinder Institute said. "This is the most ethnically diverse large metropolitan region in the United States, and the three Houston Area Asian Surveys provide a rare look at the rapidly growing Asian population over time in our community."

More than 280,341 Asians live in Harris County, according to the 2010 U.S. Census, and comprise 7.7 percent of a total population of 4 million. The Vietnamese are the largest Asian community in Harris County, followed by the Indians, Chinese, Filipinos and Koreans.

The surveys found that large and rapidly increasing numbers of Harris County adult Asians are the American-born children of immigrants, and they are even better educated than their parents. Thirty-one percent of the respondents in 2011 reported they were born in the United States compared to only 10 percent in the first survey in 1995. U.S.-born Asians are more likely to have a college education — 58 percent of first-generation Asians and 61 percent of second-generation Asians have college degrees. In stark contrast, only 37 percent of native-born Harris County Anglos have college degrees. American-born Asians are earning higher incomes than their elders — 42 percent of the U.S.-born Asians aged 25 and older are making \$75,000 or more per year, compared with 29 percent of first-generation immigrants. The U.S.-born Asians also are more likely to have close personal friends who are Anglo, black or Latino, and to have been in a romantic relationship with someone who was non-Asian.

In spite of much higher levels of education on average than those



**"HOUSTON'S ASIAN COMMUNITIES WILL PLAY AN INCREASINGLY IMPORTANT ROLE IN ALL ASPECTS OF OUR CITY AS THIS AREA CONTINUES TO GROW AND CHANGE."**

—STEPHEN KLINEBERG  
CO-DIRECTOR OF THE KINDER INSTITUTE



**ASIAN INFLUENCE (L-R):** Community leaders Rogene Calvert, Glen Gondo and Kim Szeto attend an event where the findings of the First Houston Area Asian Survey were released.

of Anglos, Asians generally report lower household incomes. Thirty-six percent of Anglos have household incomes of more than \$75,000, compared with only 28 percent of all Asians.

"Part of this difference may be due to being younger and having arrived as immigrants with educational credentials that may be difficult to transfer into a new society," Klineberg said. "Part of it also may reflect the impact of continuing discrimination that makes it harder for Asians to reach the top positions in the American economy."

The surveys also look deeply into the religious and political views of Harris County Asians, including their attendance at religious services, their faith traditions and political affiliations, and their support for government initiatives aimed at curbing economic inequalities. More than 70 percent of Asians voted for Democrats in the recent election, whereas almost 60 percent of Anglos aligned with Republican candidates.

"The ability of Republicans to broaden their appeal to Asians and Latinos, and of Democrats to boost turnout among these rapidly growing communities will determine the political positioning of Harris County and the State of Texas in the years ahead," Klineberg said.

Houston's strong Asian communities, particularly the rising numbers of second-generation Asian Americans, will move rapidly into civic and business leadership roles, while broadening their friendship networks across all ethnic

communities and contributing significantly to the area's continuing development.

"Asians will be indispensable partners in the efforts to build a truly successful, inclusive, equitable and united multiethnic future for Houston and America in the years ahead," Klineberg said.

► For more information about the Kinder Institute Houston Area Asian Survey or to download a full copy of the survey report, please visit [www.kinder.rice.edu](http://www.kinder.rice.edu) or contact the institute at [kinder@rice.edu](mailto:kinder@rice.edu).

MEGAN DILLINGHAM

Communications Manager  
Kinder Institute for Urban Research

## Rice Alumna Shines

About 80 students and advisers from Rice, Emory and Duke and 12 schools from the United Negro College Fund attended the Southern Regional Conference of the Mellon Mays Undergraduate Fellowship (MMUF) Program hosted at Rice last fall.



Fay Yarbrough

The conference included panels of MMUF alumni and graduate school recruiters from Rice, University of California at Berkeley, University of Chicago, Duke, Emory and Princeton. Forty-four students presented their research. The highlights of the conference, however, were the alumni panel discussion and the keynote speaker, Fay Yarbrough '97, associate professor of history at the University of Oklahoma.

While at Rice, Yarbrough's MMUF mentor was Edward Cox, associate professor of history and the first MMUF coordinator at

Rice. Yarbrough attributes her success to the mentoring she received from people like Cox.

Yarbrough is the author of several articles, as well as a new book, "Race and the Cherokee Nation: Sovereignty in the Nineteenth Century." The book uses innovative data to pose big questions, specifically the complex relationship between the construction of sexual boundaries and the formation of tribal and racial identities. The study analyzes how Cherokee lawmakers used marriage laws to construct conceptions of race and gender in the face of Jackson's Indian policies and how the Civil War and Reconstruction reconfigured the thinking of Cherokee legislators. Informed by a sophisticated analysis of marriage records, district clerk records, legal statutes, contemporary newspapers and per-

sonal papers, the book guides the readers into the complex world of Cherokee communities, how marriage laws functioned in the life of everyday people in the Cherokee Nation, and how Cherokee and African-American conceptions of sexuality and interracial sex differed.

Yarbrough is also co-editing a collection of essays, tentatively titled "Gender and Sexuality in the Indigenous Americas, 1400–1850," which examines marriage, sex, race, and identity among the Choctaws with the focus primarily on one family, that of William Beams, a white man who married a Choctaw woman and had several children with both her and, later, with a slave woman of African descent. Her other new project is an examination of the impact of the American Civil War on the Choctaw Nation. Yarbrough teaches courses on 19th-century American history, including a new offering, The Nineteenth-Century Black Experience.

**ROLAND SMITH**

Associate Provost  
Diversity and Inclusion

## Helping the Houston Area Women's Center

In December, Rice's Department of Information Technology (IT) hosted a fundraiser and a donation drive for the Houston Area Women's Center (HAWC), a United Way agency that provides shelter, counseling and advocacy to support individuals in building lives free from the effects of violence.

IT collected new toys, games, gift cards, clothes, accessories and household items for HAWC's gift program, which makes it possible for a child or parent to experience the fun of choosing and sharing the perfect present with someone they love. Concurrently, gently used clothes, shoes, accessories and household items were collected for a resale shop that assists HAWC clients.

The entire Rice community was invited to a holiday dessert festival to sample a variety of homemade desserts, including bananas Foster, chocolate fondue, black Russian snowballs, limonada suica and other goodies in exchange for a donation.

For the past seven years, IT has supported HAWC during the holiday season. This is the first year the entire campus was invited to the bake sale, which raised more than \$600 for HAWC.

Anneliese Davis '95, chief development



**SWEET GIFTS:** Homemade desserts were the highlight of IT's festival that raised money for the Houston Area Women's Center.

officer of HAWC and Rice alumna, was the featured guest during the dessert fundraiser. "I loved being on campus," Davis said, "and having the chance to meet and chat with the dessert masters of Rice IT."

**LIZ BRIGMAN**

Senior Technical Writer/Editor  
Information Technology



## No Teacher Left Inside

If our children do not have the experiences and memories of wading bare-foot in a fast-flowing stream, smelling autumn from beneath a pile of leaves or experiencing the emotions of sitting on a tree branch while the wind blows, how will they grow up to become stewards of our planet? It is up to us to take our children by the hand and lead them into the world of natural wonder — the world of becoming nature explorers.

This year, with the theme No Teacher Left Inside, Ericka Lawton and Matthew Cushing, Rice University School Science and Technology (SST) assistant directors, led the Conoco-Phillips-Rice Model Lab teachers on four field experiences to learn about teaching science outside the classroom. Teachers were hosted by the Children’s Museum of Houston, where they had the opportunity to participate in Eco-Station, an indoor-outdoor environmental exhibit with a native plant garden, woodland area, pond and research pavilion. They also created streambeds, collected insects, tested for water quality and explored soil types.

Next, teachers explored Armand Bayou Nature Center, a 2,500-acre nature preserve. Naturalists guided the teachers to experience the unique qualities of the wetlands prairie, forest and marsh habitats. Teachers learned how to protect and restore vanishing Gulf Coast habitats and spent time watching birds, hiking on trails, and observing snakes, alligators, turtles and bison.

Their final explorations were at the Houston Nature Discovery Center co-hosted by Texas Parks and Wildlife. Teachers spent two Saturdays exploring as they were trained in Project WILD and Project WILD Aquatic, outdoor explorations that involve students in researching environmental issues through field investigations that teach the importance of scientific inquiry through firsthand experiences. Teachers learned best practices for field studies, guiding students to formulate a research question, choosing a viable study site, systematic data collection and applying field ethics when conducting investigations. The student-guided investigations that teachers receive mirrored the processes undertaken

by professional wildlife biologists, which provided opportunities to strengthen service-learning efforts. Keeping in step with STEM efforts, these projects offer science, technology, engineering and mathematics content through extensions and online resources for each activity.

“The Armand Bayou and Project WILD

**“THE ARMAND BAYOU AND PROJECT WILD EXPERIENCES PROVIDED ME WITH HANDS-ON LEARNING OPPORTUNITIES THAT I DID NOT HAVE AS I STUDIED SCIENCE GROWING UP. HAVING THESE EXPERIENCES ALLOWED ME TO INTERNALIZE AND BETTER UNDERSTAND CONTENT THAT I TEACH MY STUDENTS.”**

—PATRICIA GUERRERO

experiences provided me with hands-on learning opportunities that I did not have as I studied science growing up,” Patricia Guerrero, a teacher in New Caney ISD, said. “Having these experiences allowed me to internalize and better understand content that I teach my students.”

This year, SST’s vision of restoring teachers’ and children’s connections to the natural world became reality. The Conoco-Phillips-Rice Model Lab teachers and their students became nature explorers. No teacher and no child were left inside.

The Rice University SST program in the Wiess School of Natural Sciences is able to provide professional development in science, like the Conoco-Phillips-Rice Model Science Lab, to Houston-area K–12 science teachers through generous support from the Conoco-Phillips Foundation, the Texas Regional Collaborative, the Houston Independent School District, the National Science Foundation and other sponsors.

► For more information about this and other programs, please visit <http://sst.rice.edu>.

LINDA SCOTT

Executive Director  
School Science and Technology



**SCHOOLS WITHOUT WALLS:** Teachers attended four field trips to learn how to teach science outside the classroom.

## Empowering Students Through Math, Science, Engineering and Technology

Community outreach is something many Rice students take seriously. The team behind Rice Empower, a program designed to foster interest in the science, technology, engineering and math (STEM) fields among K–12 learners, is no exception.

Started in 2010 by Kareem Ayoub '12 and Thierry Rignol '12, the goal of the program is to send teams of Rice engineering students to Houston schools to talk about what it means to be an engineer or a scientist and to give the students a hands-on experience through design challenges.

In its first year, Rice Empower reached 1,500 students. Since then, nearly 2,000 students in school districts throughout the greater Houston area have participated in the program.

“We want students to interact with each other and to understand the fundamentals of physics, chemistry and engineering,” said Rignol.

Rignol recently formed World STEM Works, an umbrella organization that uses Rice Empower as a template to build similar outreach programs at universities throughout the U.S. and around the world. The World STEM Works model is in place at Duke University, the University of Texas at Austin, Georgia Tech, Johns Hopkins University, Oxford University and the National University of Singapore.

Nearly 180 Rice science and engineering students participate in Rice Empower. Sophomore Trent Navran, a cognitive sciences major, serves as president. With offices in the basement of the Rice Memorial Center, the group is excited about the growth of the organization and how it's dovetailing with World STEM Works.

“Every person in our organization is a leader in some capacity, whether they are leading discussions with students and teachers at a school meeting or helping to devise design challenges,” Navran said.

“What we are really hoping for is to show students what they can do with STEM fields and encourage them to pursue learning about them on their own, not just in the classroom,” Rignol said. “We're looking to plant that seed of interest.”

**“WHEN STUDENTS HEAR FROM THESE PROFESSIONALS, IT CREATES THIS CASCADE EFFECT. THEY GET TO SEE WHAT PEOPLE ARE REALLY DOING, AND THAT PLAYS A POWERFUL ROLE IN INSPIRING KIDS TO STUDY THE SCIENCES AND ENGINEERING.”**

—THIERRY RIGNOL '12



**PLANTING THE SEED:** Rice students encourage high school students to pursue a career in the STEM fields.

Rice Empower isn't simply about students and teachers. The group also is committed to working with professional scientists and engineers to help spread the word. Rignol says that it's vital for students to hear from professionals what they do and how they are using their STEM education in the real world. It helps to show students that a career in STEM fields is about

more than solving equations.

“When students hear from these professionals, it creates this cascade effect,” said Rignol. “They get to see what people are really doing, and that plays a powerful role in inspiring kids to study the sciences and engineering.”

The group is undergoing the approval process to be a nonprofit organization, and both Rignol and Navran are excited about the possibilities to come.

“We want to empower ourselves to empower others,” Navran said. “This is about sharing how much you can do with science and engineering and helping students be the best they can be.”

► For more information, visit <http://worldstemworks.org/>.

**HOLLY BERETTO**

Marketing Specialist

George R. Brown School of Engineering

## Say, 'Si,' to Higher Education

As a way to practice their Spanish, Rice students from three Spanish classes reached out to high school students in underserved areas to encourage them to pursue a college education.

Serving the community while learning Spanish is part of the curriculum of Rice's first- and second-year Spanish courses. In the past, students in these courses have worked with elementary school children and maintenance workers at Rice. Two years ago, the project was expanded to include Spanish AP students in the Yes Prep Public Schools.

The Rice students created a series of videos that talk about the importance of higher education while offering a glimpse of university life. Five diverse and creative videos were presented and each video included original photography, music and narration in Spanish by the Rice students.

After the video presentations, the Rice students were divided into groups with the high school students and answered questions about university life. Lastly, Tamara Siler from Minority Recruitment at Rice supported this activity by donating T-shirts to the high school students.

Freshman Francie Hessel from Jones College viewed her experience not only as an opportunity to learn more about the Hispanic



**HABLANDO ESPAÑOL:** Rice students practice their Spanish while serving the community.

communities of Houston, but also as a way to use her Spanish for service.

"I love to actually use my Spanish, and this summer I will do so in Peru," she said.

For junior Molly Horn the experience boosted her confidence in speaking Spanish and she learned the importance of service learning. "It was nice to know that, after only a year of studying, I knew enough Spanish to communicate with the Yes Prep students," she said. "The language barrier exists for so many people that I want to do my best to help people

cross it and communicate effectively."

These types of encounters between Rice Spanish students and Yes Prep students have been ongoing since fall 2011. The goal is two-fold: offer Rice students the opportunity to serve the Houston Spanish-speaking community and encourage the Yes Prep students to pursue higher education.

**LUZIRIS PINEDA TURI**

Lecturer

Center for the Study of Languages



## RUSMP Develops Mathematics Campus Leaders

The Rice University School Mathematics Project (RUSMP) is always ready to provide professional development to assist schools and school districts on topics that are needed to better prepare teachers and campus leaders for the challenges that they will face in promoting student achievement.

Schools with which RUSMP collaborates recently expressed a need for developing K-12 mathematics campus leaders. This led to the development of the Seminar for K-12 School-Based Mathematics Coaches and Mentors that use researched-based and proven strategies to increase student learning and achievement.

The two-day seminar was designed for campus-based mathematics leaders from schools in Houston ISD, Katy ISD and Goodrich ISD, as well as private schools in the greater Houston area. Seminar topics included developing effective communication techniques, strategies to support a school's mathematics program, the language of mathematics, formative assessment strategies to promote success and actions that mathematics coaches can take as they perform their job on their campuses.

One of the seminar's highlights was the role-playing activity of situations that resembled scenarios that leaders would encounter. These scenarios involved mathematics teachers adapting to changes in the pedagogical content knowledge needed to teach mathematics curriculum standards, veteran teachers teaching

only to high-stakes tests and educators using outdated instructional tools. After each scenario was modeled, leaders discussed solutions that could be readily implemented to solve the problems.

The scenarios led to a homework assignment in which the mathematics leaders viewed a 20-minute audio or video on the mathematics pedagogy needed to teach a lesson. Anne Papakonstantinou, RUSMP director, Richard Parr, executive director, and Susan Troutman and Carolyn White, associate directors, met with leaders in small groups to provide feedback on essential techniques for developing the rapport, content knowledge, resources and pedagogical skills to promote student achievement.

Papakonstantinou and Parr led a conversation on the correct use of academic language in the mathematics classroom. Leaders discussed examples of words and phrases to avoid, such as "flip it" to indicate inverse operations and "reduce" a fraction instead of the correct academic term "simplify." Leaders discussed the use of colloquial language that could create misconceptions for





▲ **SOLVING PROBLEMS:** RUSMP directors met with teachers in small groups to provide feedback on strategies to increase student learning and achievement.

◀ **NUMBER ONE:** Teachers participated in a variety of activities, including role-playing, in preparing to become campus leaders in mathematics.



students and could result in a lack of understanding of mathematics for students whose first language is not English.

One leader summed up the seminar: “My time was well spent in meaningful activities with powerful professional leaders to help me become a more effective coach as I work with teachers in order to increase student achievement in mathematics.”

**CAROLYN L. WHITE**

Associate Director  
Elementary and Intermediate Programs  
Rice University School Mathematics Project

“MY TIME WAS WELL SPENT IN MEANINGFUL ACTIVITIES WITH POWERFUL PROFESSIONAL LEADERS TO HELP ME BECOME A MORE EFFECTIVE COACH AS I WORK WITH TEACHERS IN ORDER TO INCREASE STUDENT ACHIEVEMENT IN MATHEMATICS.”



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# AT LARGE



**INSIDE THIS ISSUE:** Rice students practice their Spanish by encouraging high school students from Yes Prep Public Schools to pursue a college education. See story on Page 9.

**David D. Medina,** Director, Multicultural Community Relations, Office of Public Affairs

