RICE

AT LARGE

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Inside:

MOBILE ART: See story on Page 9.

A PROFESSOR OF CHANGE: Ruth Lopez Turley believes that with the right information and resources many more students will be able to attend college.

Closing the Educational Gap

Growing up poor in Laredo, Texas, Ruth Lopez Turley found out early that being a straight-A high school student didn't guarantee success in life. She discovered that she would need more than good grades to pursue a college degree and achieve her dreams.

She would need to know how to maneuver the college admissions process and how to apply for financial aid, but no one, including her counselor, informed her of this crucial information. It was her boyfriend and future husband, Steve Turley, who would guide her through this process.

Turley went on to receive her undergraduate degree from Stanford University in 1996 and Ph.D. in sociology from Harvard University in 2001 and then became an associate professor in sociology at the University of Wisconsin at Madison. Today, she is an associate pro-

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Learning Begins With an Open Book

Limited access to higher education is one of the greatest challenges facing students today, both in the United States and abroad. For many years, going to college was an opportunity to which only the wealthy could aspire. Yet now, even with scholarships and government aid available, many students still cannot afford college.

One of the commonly overlooked costs associated with college affordability and student success is the price of textbooks and other learning resources. Many students are simply choosing not to purchase textbooks, especially in community colleges, where the cost of textbooks often exceeds the price of tuition.

The open education resource (OER) community has been addressing this problem in much the same way as open-source software developers: make something good

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Turley *Continued from Page 1*

fessor of sociology at Rice and directs the Houston Education Research Consortium (HERC), a center within the Kinder Institute for Urban Research that seeks to close the socioeconomic gaps in education achievement and attainment through rigorous research.

What propelled Turley to become a sociologist and create HERC was her experience in high school. "I was really drawn to studying education and education inequality because I saw firsthand that there are a lot of people who are smart and work hard but just don't have the right information or the right resources to attend college," she said.

Started in 2011 with a $1.3 million grant from the Laura and John Arnold Foundation, HERC has partnered with the Houston Independent School District with the goal of bringing together education researchers and education decision-makers. "It's about researchers informing the decision-makers, and the decision-makers informing the researchers so that policy development and implementation can be more successful in Houston schools," she said.

HISD Assistant Superintendent for Research and Accountability Carla Stevens said that HERC has proven to be an asset to HISD. "HERC has served as an external, objective partner to review our research processes, build capacity in our staff, offer training and skill building for our team, and assist with deeper analyses of our data."

HERC is working on several projects. One is to create a longitudinal database that will allow HISD to track students from kindergarten to high school graduation. "We are creating a dataset that will allow us to predict things, such as who is most likely to drop out of high school," Turley explained. This is important, she added, because measures can be taken to prevent a student from falling through the cracks.

A second HERC project is to evaluate HISD's performance pay program known as ASPIRE (Accelerating Student Progress, Increasing Results and Expectations). "This is a controversial program that pays principals, teachers and other employees a bonus based partially on their students' performance."

The third project is to test an intervention designed to reduce test score gaps, specifically between whites and blacks and between whites and Hispanics. The intervention is being tested in three high schools. "Based on previous studies, we have reason to believe that it will work," she said.

"Ultimately, what I want to do with all this research is to close the gap, and a lot of people tell me that's ridiculous," said Turley. "What's really crazy is if we don't do anything about this, that's ridiculous."

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—RUTH LOPEZ TURLEY

A GAPLESS GOAL: Sociologist Lopez Turley talks to her HERC team about research that will be used to help others make informed decisions.

That sense of wanting to help others is a virtue that Turley picked up as a child, when her mother time and again would model examples of generosity. Turley was born in Laredo to parents who had children from previous marriages: her mother had four children, and her father six. Together they had two more. When Lopez Turley was five, her parents divorced; when she was 14, her father died.

To care for her family, her mother, Jane, did everything from being a waitress to cleaning construction sites and houses to working as a nurse's assistant. She remarried a man who had three grandchildren, and to add to an already crowded household, she took in a friend and her daughter who were homeless.

"The thing that amazed me about my mother is that she would take in people and declare that I had to share everything with them," said Turley. "As a kid, I was very upset about the situation because we didn't have very much and we had to share everything."

But Turley said she learned an important lesson from that experience. "I learned that it is totally different to be generous out of abundance than to be generous out of very limited resources," she said.

Instilled with this sense of generosity, Turley said she wants to use her research to help solve the problem of educational inequality. "Even if I'm not directly involved in creating that change, I know that my research will be used to help others make informed decisions."

DAVID D. MEDINA
Director
Multicultural Community Relations

Rice Basketball Team Celebrates Nature With the Community

The Rice University basketball team joined forces with the Nature Discovery Center to celebrate the fall season with the Houston community.

October marked the Nature Discovery Center's 19th annual pumpkin patch, where families were able to pick pumpkins and enjoy kid-friendly games in a carnival atmosphere.

The Nature Discovery Center seeks to "ignite lifelong curiosity, understanding and respect for nature through education." An organization familiar with the importance of volunteers, the center began first and foremost as a grassroots effort in 1979 with the formation of the Friends of Bellaire Parks. In the 1980s, the organization raised $1 million to buy the 3.75-acre Henshaw estate — now Russ Pitman Park — which houses the Nature Discovery Center.

Outside of seven full-time and three part-time staff members, the center continues to rely heavily on volunteer labor and community donations. These staff members and volunteers offer numerous hands-on programs that look to stimulate visitors' interest in nature and science. Through classes, exhibits and field investigations, the center receives an audience of 40,000–60,000 people a year from the Houston area, about 80 percent of whom are under the age of 18.

This year, the pumpkin patch offered not only pumpkin picking, but also horse rides, face painting, food and carnival games for children of all ages. Rice's basketball team volunteered by hosting the devil's rope bridge, in which youngsters — after being safely strapped into a harness — attempted to walk across a thick piece of rope tied between two trees. Sophomores Seth Gearhart and Dan Peera along with freshman Ross Wilson were responsible for securing each child in the harness, assisting them with climbing the ladder to the bridge and ensuring their safety as they walked the rope. The players rotated these stations, while providing constant motivation to those braving the bridge.

"It was so fun to work with such a diverse and magnanimous group of kids," Gearhart said. "There were children from all over Houston, and every last one of them — from 3 to 13 years old — was overwhelmed with excitement. You forget how important these types of activities are to overcoming fears as a child. Seeing many of them go from a state of trepidation climbing up the ladder to completely ecstatic while on the rope was really a great reminder of our own childhoods. As always, we loved being out in the community and getting a chance to know more of Houston's youth."

The Rice basketball team is no stranger to the Nature Discovery Center and the pumpkin patch, having volunteered at the center the past two years. The team also makes many visits to local schools, community centers and other charitable events as part of an ongoing commitment to service and goodwill.

GAELYN ROSE '10
Director of Basketball Operations
Rice University Men's Basketball

OpenStax *Continued from Page 1*

and let everyone use, share and edit it freely and the community will come together to improve it.

Rice joined early in the movement with a platform called Connexions (http://cnx.org). As an example of a system with books and other learning materials that are truly open-source, Connexions has been pivotal in changing the way we write, edit, publish and use educational content. Today, it houses more than 21,000 learning objects, called modules, which are organized into more than 1,200 collections (textbooks, journal articles, etc.).

This content is used by millions of learners per month from almost every country connected to the Internet. Connexions delivers free, open content over the Internet for schools, educators, students and parents to access, downloadable to almost any mobile device for use anywhere, anytime.

Launched in February 2012, OpenStax College (http://openstaxcollege.org) is a new initiative of Connexions that aims to close the education access gap by freely providing professionally developed open textbooks for college students. OpenStax College joins the innovative publishing features of Connexions with a rigorous professional content development and peer-review process to produce free textbooks that are readable and accurate and that meet the scope and sequence requirements of individual courses.

A TEXTBOOK CASE OF INNOVATION: The OpenStax College initiative offers "College Physics," the first of its free, professionally developed open textbooks for college students.

While Connexions has been providing open-source materials since 1999, publishing free textbooks designed to be competitive with major publishers is a new idea. With OpenStax College, Connexions' content is adapted into turnkey textbook solutions, complete with ancillary learning resources, like test banks and slides.

In the next five years, OpenStax College hopes to have free books for 25 of the most common college courses. As of October 2012, the first two books, "College Physics" and "Introduction to Sociology," have been adopted by more than 80 schools and used online by more than 250,000 learners, saving students $1 million this semester alone.

DANIEL WILLIAMSON
Managing Director
Center for Digital Learning and Scholarship
Digital Media Specialist
Connexions

Rice Partners With High School Teachers to Enrich Instruction

The Rice University School Science and Technology (SST) program in the Wiess School of Natural Sciences is now offering Teaching Chemistry Concepts via Inquiry, a full-year course of instruction for high school chemistry teachers.

This course, an expansion of the one-semester Nanotechnology for Teachers course, is designed to provide teachers with new and exciting ways to engage their students in chemistry, update teachers on current research in the chemical sciences and conduct research on how people learn.

Led by John Hutchinson, dean of undergraduates and professor of chemistry, and Amber Szymczyk, assistant director in SST, this program extends Rice's impact in science education from Rice undergraduates to Houston-area students.

THE CHEMISTRY OF COLLABORATION: John Hutchinson watches a flurry of tennis balls tossed at a bowling ball as students study the nuclear nature of atoms.

For example, one lesson that truly engages students is an exploration of the structure of the atom. In this lesson, students lob tennis balls at a bowling ball at the front of the room and make important connections between their observations and the nuclear nature of the atom.

In Teaching Chemistry Concepts via Inquiry, Hutchinson shares these learning experiences with teacher participants, and as a result, high school students throughout the Houston area are now lobbing tennis balls as they piece together the model of the atom. One participant stated, "I loved this course. Dr. Hutchinson blew my mind, every time. Thanks to him and this program, I am such a better teacher, particularly where content knowledge and questioning-back to students (letting them reason out some answers) are concerned."

This program provides teachers with inquiry-based lesson plans that allow students to probe their understanding of science concepts and gain critical thinking skills. Therefore, students tend to learn science concepts more deeply when they have made observations and analyzed data themselves in order to construct a scientific concept rather than hearing a lecture in which the topic is explained directly. Not surprisingly, this methodology for most effectively "learning" science mirrors that of "doing" science (the so-called, scientific method).

Teachers in the program also work together to adapt activities to address the needs of students they teach. As one participant said, "Creating inquiry lessons [is] something that I always wanted to do, and this course has given me far more confidence in making those types of lessons." In fact, many participants list the ability to collaborate with their peers as one of the best features of the course.

SST is able to provide professional development in science to Houston-area K–12 science teachers through generous support from the Texas Regional Collaboratives, the Houston Independent School District, ConocoPhillips Foundation, the National Science Foundation and other generous sponsors.

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

CAROLYN NICHOL, PH.D.
Executive Director
School Science and Technology

Inclusion Cultivates Excellence

As the number of Latino employees at Rice University increased in recent years, the benefits administrators realized that this group was lagging behind the general employee population in two areas: retirement savings and wellness. Rice's Human Resources promptly set out to discover why this was and how to remedy the situation.

Rice identified the need to target its Latino employees in 2003 after noticing lower participation rates and less awareness of financial planning. Rice then worked to develop programs to penetrate cultural and language barriers. These programs are still continuing and even expanding as the university builds on this population's trust and successes.

"Our efforts started internally, offering benefits and other HR information both orally and written in Spanish," said Elaine Britt, director of benefits and compensation.

"Some of our techniques evolved over time as we learned the specific preferences of this population," she added. For example, Rice's benefits team quickly realized that the Latino population generally prefers oral communication for discussing personal issues like money and health.

"They prefer to form a relationship with an individual, and once they trust that person, they then trust their word," said Britt. "This is very different from the usual modus operandi, as our non-Latino population tends to prefer written communication over an oral discussion and usually wants things documented for their records."

The benefits team then partnered with outside vendors to implement programs and materials in Spanish that focus on biannual retirement planning seminars and one-on-one, on-campus sessions with financial advisers. Other targeted campaigns include Spanish-language posters and fliers; emails to supervisors; communication through word of mouth and supervisor endorsement of the sessions; in-person talks to targeted groups; and working with management to authorize time off from work duties for employees to attend programs.

Thanks to these efforts, Rice's Latino employee population is better educated on the nuances of saving, and savings rates have increased among Latino employees. In fact, Rice's Latino population is now exceeding the non-Latino population in participation in the university's voluntary 403(b) program.

Because Latinos are almost twice as likely as non-Latino whites to be diagnosed with diabetes, Rice's benefits team also focused on the university's Latino employees for diabetic education, including measuring blood glucose and education on healthy eating and lifestyle changes to manage and prevent Type 2 diabetes. Through this initiative, 23 percent of Rice's Latino employee population was identified as either diabetic or prediabetic.

Thanks to the diabetes program, the benefits team, in partnership with the university's wellness provider, was able to intervene and assist this population in managing blood sugar and improving overall health. In addition, the university's health-risk assessments are now offered in Spanish.

When thinking about the ways diversity, equity and inclusion are encouraged in higher education, recruitment efforts are often top of mind. The success of employees, however, also needs to be considered. The health and financial well-being of faculty and staff members are critical to their job performance and therefore their success — and in the long run, critical also to the success of the institution.

"The targeting of health and financial programs to Rice's Latino population has engendered a greater sense of loyalty to the university among these employees," said Britt. "These staff members now know that Rice truly cares about their personal health and well-being. At the end of the day, we simply want these employees to have the same chance for success as our non-Latino employees, and now that we are speaking their language, literally, this helps to level the playing field."

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—ELAINE BRITT

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—ELAINE BRITT

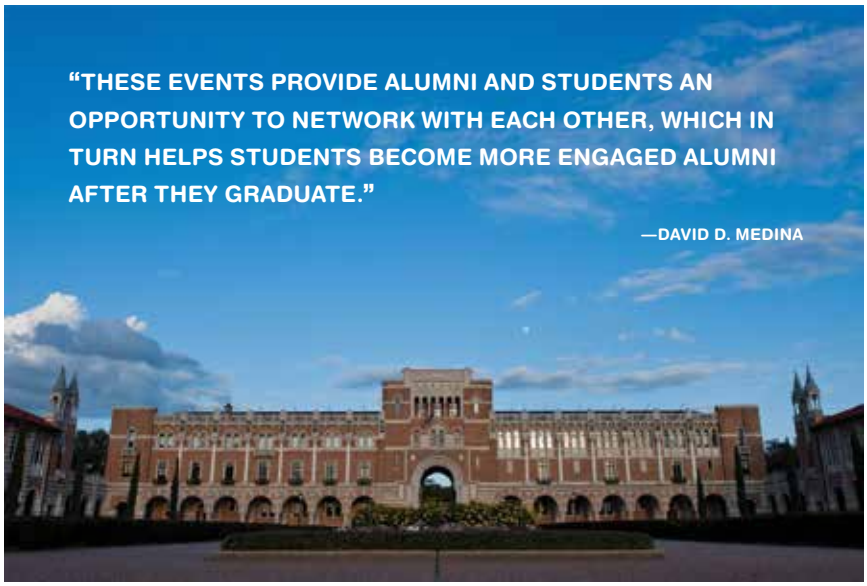
Multicultural Groups Celebrate Centennial

More than 700 alumni returned to Rice Sept. 14–15 for a weekend of multicultural events in honor of the university's Centennial Celebration.

More than $100,000 was raised through donations and ticket sales to host events for the Association of Rice University Black Alumni (ARUBA), Rice University Community of Asian Alumni (RUCAA) and the Society of Latino Alumni of Rice (SOLAR). The Office of Public Affairs' Multicultural Community Relations (MCR) led the planning for all three events.

David Medina, director of MCR, said such events are important because they help alumni build a stronger connection to their alma mater.

"They re-engage and re-energize the alumni," Medina said. "These events provide alumni and students an opportunity to network with each other, which in turn helps students become more engaged alumni after they graduate."



Many alumni who participated in the weekend of events have not participated in alumni affairs for a variety of reasons, Medina said.

"When we created an event that specifically addressed their interests, they felt honored to participate in that event," he said. "We also engaged community members who came on behalf of their colleagues, family and friends."

ARUBA

ARUBA kicked off the weekend with a panel discussion and viewing of the film "Young, Gifted and Black: Reflections From Black Alumni at Rice."

Hosted by KTRK-TV co-anchor Melanie Lawson, the event featured remarks by President David Leebron and Association of Rice Alumni board member Monique Shankle '86. The panel included Jan West '73, Terrence Gee '86 and Douglas Newman of Mouth Watering Media.

The 80-minute film explored the lives of 15 distinguished black alumni before they came to Rice, during their stay at Rice and their careers after Rice.

For alumna Karen Kossie-Chernyshev '85, attending a religious service the day after the event drove home the success and impact of the film.

"We have what is called a 'testimony service' where congregants are given space to publicly acknowledge the goodness of God," she said. "Well, the ARUBA event received positive press during our worship hour. It was referenced in at least five testimonies."

RUCAA

The RUCAA events began early Sept. 15 with a breakfast and symposium, which featured programs by Ed Chen '59, Anne Chao '05 and Adria Baker, associate vice provost for international education.

The breakfast was followed by a luncheon at Cohen House with Rice President David Leebron and University Representative Y. Ping Sun and a keynote address by Marinda Wu, national president-elect of the American Chemical Society.

George Hirasaki, the A.J. Hartsook Professor of Chemical and Biomolecular Engineering, expressed thanks for including his students — current and former — in the event.

"Some saw each other for the first time since they graduated," he said. "It was very gratifying for me to see my former students doing well."

SOLAR

The weekend concluded with SOLAR receptions Saturday evening.

The evening began with a reception at the Suzanne Deal Booth Centennial Pavilion and James Turrell's "Twilight Epiphany" Skyspace, followed by a dinner gala.

Attendees watched a screening of the 30-minute film "Reflexiones: The Latino Experience at Rice," and George P. Bush '98 presented the keynote address. A special presentation was made to University Professor Richard Tapia. The evening concluded with a dance.

Co-chair of the SOLAR event Sofia Adrogué '88 described the momentum created by SOLAR as "formidable."

"We represented more than five decades of Rice University alumni and one brave professor," Adrogué said. "Individual as well as collective contributions are evidenced by the success of the evening and the legacy left with our film."

LASTING INFLUENCE

Medina said that the success of the weekend was another way of showing the community at large how Rice is serving different groups in Houston.

"With experiences like these, we create more goodwill ambassadors for Rice," he said. "Those ambassadors then go out and tell a positive Rice story."

ARIE WILSON PASSWATERS
News and Media Web Editor
Office of Public Affairs
Rice University

Program Inspires Houston Students to Explore Mathematics

The first meeting of Rice's Math Circle brought together about 70 precollege Houston students who explored and solved challenging problems in number theory, inequalities, geometry, polynomials and mathematical induction.

This group joins a national network of Math Circles, organizations that unite mathematicians and precollege students who are interested in mathematics. Math Circles create opportunities for stimulating mathematics enrichment, while providing faculty members with opportunities to provide university outreach.

Students meet with mathematicians in informal settings to work on challenging problems or explore topics in mathematics that receive little or no attention in precollege classes.

The goal is to inspire these students to explore math and encourage a passion for the subject. Math Circles are an ideal way for gifted students to interact with mathematicians and university students who love mathematics.

The Math Circle was launched in September by Zachary Franco, a fellow at Baylor College of Medicine; Anne Papakonstantinou, director of the Rice University School Mathematics Project; and Brendan Hassett, professor and chair of Rice's Department of Mathematics.

PROBLEMATIC FUN: Precollege students meet with mathematicians for a stimulating day of solving challenging problems.

"I am pleased there is interest in this program both from Rice and the Houston community. Houston has a large number of math whizzes," said Franco. "While Internet resources exist for these students, learning math as part of a citywide group like this is more fun."

The Rice Math Circle is designed for Houston-area students in grades 7–12 who have a basic knowledge of geometry, have mastered algebra and want to solve world-class math problems, such as those from past Mathematical Olympiads and American Regions Mathematics League. Students meet in September on selected Sundays on the Rice campus.

Franco led the presentations and was helped by Rice mathematics faculty and graduate students and by Isil Nal, mathematics teacher and assistant principal at the Harmony School of Excellence in Houston. Franco is a former Math Olympiad coach who envisioned the Rice Math Circle as a way to attract and support the development of students gifted in mathematics.

"The Rice mathematics department is pleased to host some of the brightest and most creative students from across Houston," said Hassett. "We are delighted to see them doing math because they love it and gratified that teachers and other members of the community are devoting their time to mentoring them. We are especially appreciative to Zachary Franco for his leadership in starting this program."

For those interested in learning more about Rice's Math Circle, please visit http://math.rice.edu/MathCircle/index.html. Problems, solutions and readings from prior meetings may be found on the site as well as dates for future meetings. Rice's Math Circle offers a tremendous opportunity for students who are bored with the lack of challenging problems presented in their schools.

ANNE PAPAKONSTANTINOU
Director
Rice University School Mathematics Project

Experience STEM Careers — Virtually

What's a neurobiologist? How about a toxicologist? You can find the answers in "Cool Science Careers," a new online simulation produced by the Rice Center for Technology in Teaching and Learning.

Funded by a grant from the National Institute on Drug Abuse, "Cool Science Careers" provides insights into five different neuroscience-related careers: neurobiology, neuropsychology, epidemiology, neuroradiology and toxicology.

Students can take a survey in the "Professions Pathfinder" segment to match their interests to one of these fields. In the "Imagine Yourself" segment, students can explore some of the actual research or experiments that these careers entail.

If questions remain, players can "Ask a Scientist" through an online message system and review answers posted on the simulation website. Another interactive segment allows students to "Zoom In" to a specific career to learn more about educational requirements and salaries. After exploring careers, students can vote for their favorite career and compare their preferences to other students. All in all, it provides a much deeper exposure to neuroscience careers than time or resources could present in most classrooms. This latest interactive simulation joins two other Rice-produced online games, "CSI: The Experience" and "Medical Mysteries," which cover a variety of STEM careers.

The simulations are available free of charge through the Rice portal http://webadventures.rice.edu. "CSI: The Experience," available in English, Spanish and German versions, recently added two new cases to the existing three cases. Players solve crime scene investigations by applying forensic methods and using critical thinking skills. Reviews from teachers reveal that this simulation is a valuable tool for school curricula. As one teacher commented, "I really like this activity. My students stay engaged and it is a nice introduction for them to different parts of the crime lab, and the ethics section is great for them to think about."

A large audience of all ages is drawn to the forensic games by using a search engine. A key theme from players' comments is the power of professional role-play simulations to inspire and motivate interest in STEM careers. For example, as one young person wrote, "(This is) really good and it has helped me decide that I might want a job in forensics in the future."

"I REALLY LIKE THIS ACTIVITY. MY STUDENTS STAY ENGAGED AND IT IS A NICE INTRODUCTION FOR THEM TO DIFFERENT PARTS OF THE CRIME LAB, AND THE ETHICS SECTION IS GREAT FOR THEM TO THINK ABOUT."

The careers of microbiologist, epidemiologist and veterinarian are covered in several of the "Medical Mysteries" games, as are many of the required science curriculum standards. For example, in "Animal Alert" and "Disease Defenders" episodes, students take on these different roles to piece together the cause of a disease outbreak by using science process skills and deductive reasoning.

Real-world applications for science topics are something that both teachers and leisure players appreciate. Simulations such as these give meaning and context to science lessons by engaging players in different roles. The games help to answer questions about why science matters and how science disciplines work collaboratively to solve problems such as disease outbreaks.

For persons of all ages who want to experience a science career virtually, check out these free online games at http://webadventures.rice.edu.

LESLIE MILLER
Executive Director
Center for Technology in Teaching and Learning

REAL-WORLD COOL: Students can now find out about careers in science through a new online simulation produced by the Rice Center for Technology in Teaching and Learning.

Mobile Art Under Construction at Rice

Tucked in a corner of the Rice campus, between the Rice Media Center and Reckling Park, a former Rice transit bus is undergoing a remarkable transformation into a mobile arts residency and art space that will host artists from Houston and around the world. Called Cargo Space, the transformation is the brainchild of Christopher Sperandio, assistant professor of visual and dramatic arts at Rice.

Cargo Space will be built with and feature green materials and processes and have a bunk room, a toilet and shower, a kitchenette with a refrigerator and sink, a dinette and an outside deck on top. It will ultimately be able to sleep six.

Sperandio said Cargo Space is an idea born out of a need. "There simply aren't enough artists visiting this part of the country," he said. The goal is to host artists of all stripes, cultural workers for extensive road trips across the United States and host events around Houston. He purchased the bus with a Humanities Research Innovation Fund grant from the Humanities Research Center.

He jokingly likens it to Jacques Cousteau's famous expedition ship, the Calypso. "The bus will be more like an interdisciplinary expedition vehicle, a land vessel," he said.

Assisted by students and community volunteers, Sperandio is dismantling the bus from back to front, top to bottom. "We're taking something that has served Rice for so many years and are repurposing it," he said. This includes pulling out the floors, insulation and heating and air-conditioning units. "We're stripping it down to the bare metal and building it back up."

Sperandio derives his inspiration from people who have successfully made unusual spaces their home. "I've always been fascinated by the idea of inexpensive and free living, the Utopian fantasy of living off the grid," he said. "I've always been looking at people who live on houseboats, RVs or school buses."

Ali Naghdali, a 2010 Rice graduate who is working toward his architect's license at the Houston architecture firm Ziegler Cooper, is an early supporter and volunteer. "It's amazing when you think of the opportunities once this is done and connecting people with different backgrounds," he said.

Sperandio has set February 2013 as a target date for the project's completion. At that point, Sperandio and an advisory committee will begin the work of selecting and inviting artists to make use of the bus.

Cargo Space is funded in part by the Humanities Research Center, Rice's Office of Parking and Transportation and the Department of Visual and Dramatic Arts. Students, faculty, staff, alumni or members of the community who are interested in volunteering and helping with the bus's transformation should contact Sperandio at sperandio@rice.edu.

For more information about the Cargo Space project, visit www.thecargospace.com.

JEFF FALK
Associate Director
National Media Relations

High School Teachers and Students Test Clinical Trials Simulations

The Rice University Center for Technology in Teaching and Learning has created the first of three "Virtual Clinical Trials" simulations intended primarily for high school students, but the free website will also be available to the general public.

Designing a clinical trial requires understanding of the processes for evaluating new medical treatments. Skills such as formulating hypotheses, establishing experimental and control groups, analyzing data, and drawing conclusions are similar to those taught in many high school science classes.

The goal for those who play the simulations is to develop a better understanding of the clinical trials process. A clearer understanding of the rigor used in trials and their importance to medical breakthroughs could lead to a positive shift in attitudes toward future participation in a clinical trial. These are some of the dimensions that will be tested as part of the first of three "Virtual Clinical Trials" simulations.

TRIAL AND DISCOVERY: By playing a simulation, students learn the process for developing a clinical trial.

In the first simulation, players are challenged to design a clinical trial to test a medical device for improving movement among patients with spinal cord injury. Currently in development, the second simulation requires students to design a clinical trial testing the efficacy of an antidepressant drug in treating adolescents with major depressive disorder.

The development process involved high school teachers and advisers from the University of Texas Health Science Center at Houston, University of Houston and University of Texas Southwestern Medical Center at Dallas. In the 2012–2013 school year, the center will be looking for teachers, locally and nationally, who want to use these new online materials in their classrooms.

With funding from the National Institutes of Health Blueprint for Neuroscience Research, the grant will provide stipends for teachers who participate in this national field test. "We are eager to test the first scenario with different high school classes to determine how much students learn about neuroscience and clinical trials and also to see if there are changes in students' attitudes about the entire clinical trials process," said Kristi Bowling, a principal investigator on the grant.

Teachers who are interested in participating may contact Bowling at 713-348-6197. For a preview of the first simulation, visit http://vct.rice.edu.

KRISTI BOWLING
Science Education Project Manager
Center for Technology in Teaching and Learning

Students Learn Guatemalan History While Helping Residents

Seventeen years ago, Rice's Community Involvement Center hosted its first International Service Project (ISP) to San Lucas Tolimán, Guatemala. Situated on the southern shores of Lake Atitlán, this tiny community would soon become home to the annual trip.

Each May, 14 students and one staff member travel to San Lucas Tolimán to spend two weeks working with the San Lucas Mission. The trip offers students the opportunity to learn about the rich history of Guatemala, while working alongside local residents and contributing to sustainable community projects.

The ISP to Guatemala is one of several international cocurricular service-learning experiences offered by the Community Involvement Center. Offering a unique leadership development opportunity, the ISP is exclusively student-run.

Two student site leaders are selected in early fall to coordinate the trip, select participants, and plan the predeparture education and reflection topics. For several months before departure, participants meet weekly to discuss required readings, participate in orientation lessons and work to meet fundraising goals.

> **"THE INTERNATIONAL SERVICE PROJECT TO GUATEMALA HAS PROVIDED ME WITH FIRSTHAND EXPERIENCE OF A WIDE RANGE OF SOCIAL ISSUES, MY FIRST TIME LEAVING THE COUNTRY AND A REDEFINING OF SERVICE,"**
>
> **—RICE JUNIOR AND ISP PARTICIPANT ALEX SUAREZ**

DISTANT SHORES BECOME A HOME FOR COMMUNITY AND SERVICE: Rice students spend two weeks in Guatemala, providing volunteer work and learning about the history of the Central American country.

"The International Service Project to Guatemala has provided me with firsthand experience of a wide range of social issues, my first time leaving the country and a redefining of service," said Rice junior and ISP participant Alex Suarez.

Established in 1962 by Father Greg Schaffer, the San Lucas Mission works to address the growing needs of the San Lucas community, a place where the average family survives on just $2 a day. Offering a hand up, rather than a handout, the mission addresses both the immediate effects of poverty and its underlying causes. Local projects are designed to build infrastructure and range from a community health clinic to a women's center and school, from reforestation to community farming and coffee production. The mission also strives to promote the common good throughout the community, hiring local Mayans to run all of the projects.

While in Guatemala, students participate in a range of projects, rotating throughout the two weeks. Any given day can consist of gardening, assisting with local construction projects, sorting and bagging coffee beans, and even building fuel-efficient stoves in local homes. Additionally, students have the chance to participate in several informative discussions with community leaders. These talks address such issues as the history of Guatemala, the recent civil war, the cause and effects of poverty, and the ongoing projects to return land to the Mayans.

As a first-time international service experience for many student participants, ISP serves as an opportunity for students to provide context to academic course work and opens doors to many future opportunities, such as the Loewenstern Fellowship; Leadership Rice's Summer Mentorship Experience; and the poverty, justice and human capabilities minor.

Over the past 17 years, the Community Involvement Center has worked to cultivate a strong relationship with the mission. In March 2011, two student recipients of the Hilda and Hershel Rich Family Endowment for Student Community Service traveled to San Lucas to film a documentary on the mission's relationship with the community and the leadership of Father Greg.

The documentary has proven to be key to the lasting legacy of Father Greg and the relationship between San Lucas Tolimán and Rice University. This past summer, Father Greg died at the age of 78. As a way to honor him, the Community Involvement Center plans to continue supporting the San Lucas Mission while helping Rice students on their path to global citizenship.

ABIGAIL SCHUH
Assistant Director
Community Involvement Center's
International Service Project

STEMscopes™ Creates Online High School Science Program

STEMscopes™ has released a new online, comprehensive high school program in the three core science subjects: biology, chemistry and physics.

For the first time, Texas schools will have access to this 100 percent standards-based online curriculum for kindergarten through 12th grade. Developed in 1997, TAKScopes™, the original curriculum for kindergarten through fifth grade, was widely received by educators statewide and acclaimed for its easy-to-use framework designed to bring hands-on, inquiry-based science instruction into the classroom.

In 2010, the same philosophy was used to create the middle school online curriculum for sixth through eighth grades, which was then adopted by hundreds of districts in Texas as a curriculum by teachers, for teachers. In addition to hands-on components using the constructivist 5E instructional model, the STEMscopes™ production team created additional features that included literacy, intervention, interactive activities and a variety of assessments that are aligned to the State of Texas Assessments of Academic Readiness (STAAR™) end-of-course exams.

Finally, in 2012, the same instructional model, framework and teacher-collaborative approach were used to create the high school biology, chemistry and physics digital curricula. After just two months, the high school curriculum had already served 50,000 students in more than 100 schools and 20 school districts.

Founding director Reid Whitaker said, "To have 50,000 students using the curriculum within two months exceeds our wildest expectations. We are so happy that we can now provide school districts across the state with a complete vertically aligned curriculum from kindergarten to high school." There are 24 "scopes," or units, for each of biology, chemistry and physics curricula that together cover 100 percent of the Texas Essential Knowledge and Skills (TEKS) content-based and process skill-based standards. The curriculum is strictly aligned to TEKS standards with ample support for the teachers to implement scientific investigations and research activities in their classrooms.

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—REID WHITAKER

WHERE DIGITAL CURRICULA MEETS SOLID CLASSROOMS: High school students benefit from the new online science program that offers hands-on instruction.

Students experience a variety of components based on the teacher's choice of components. Each component in a scope is designed to be a stand-alone activity. Hence, teachers have multiple opportunities to differentiate instruction for the different learning styles and levels of their students. STEMscopes™ is a division of the Rice Center for Digital Learning and Scholarship. The program is produced with teachers statewide, improved by ongoing and focused feedback from teachers, and reviewed by Rice University professors. STEMscopes™ is available to districts and teachers at a fraction of the cost of other digital programs or traditional textbooks.

Explore a sample of the STEMscopes™ biology, chemistry and physics curricula at http://sample.stemscopes.com. For more information, email stemscopes@rice.edu.

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AT LARGE

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

INSIDE THIS ISSUE: Members of the Rice University basketball team volunteer at Houston's Nature Discovery Center. See story on Page 3.