University engineering grad students bring energy research into K-12 classrooms

University doctoral students are back in middle and high school this year, but this time at the front of the classroom, working with teachers as they present their energy-related science and engineering research to young students.

With a $1.2 million grant awarded to the College of Engineering from the National Science Foundation, these doctoral students are developing new skills as they teach, mentor and communicate science and technology to local schools. The experience prepares them to take on leadership, public education and advocacy roles in their future science, technology, engineering and math (STEM) careers.

“It’s an exciting project with significant benefits for all involved,” said Kam Leang, the project’s principal investigator and an associate professor in mechanical engineering. “Particularly, the training program’s main goal is to build on doctoral students’ science and technology education, to prepare them to become future STEM leaders and to help promote and grow STEM in Nevada.”

Through the innovative, three-year program, supported by the NSF’s Graduate Teaching Fellows in K-12 Education program, six University graduate students are matched each year with STEM teachers in four Washoe County School District schools. Through inquiry- and project-based activities, the graduate students will encourage middle and high school students to ask questions that lead them to their own discovery of knowledge and exploration of science.

Research-based projects brought by University graduate students into the classrooms this semester include energy-efficient micro-vehicles, flight dynamics and trajectory planning of descent vehicles, and earthquake and structural engineering.

“This project aligns with our strategic priorities to increase our doctorate enrollment, prepare our graduate students for future STEM disciplines, and to build a pathway for K-12 students through high school, college and into the workforce,” said Manos Maragakis, dean of the College of Engineering.

This program involves faculty from mechanical, civil, electrical, chemical and materials engineering, as well as the College of Science, College of Education and College of Agriculture, Biotechnology and Natural Resources. A traveling energy-science-technology lab, the E-Mobile, is also being created.

—Mike Wolterbeek ’02

Mendive Middle School teacher Nick Nemsgren ’00, left, and University mechanical engineering researcher and associate professor Kam Leang, right, watch as eighth-grade students conduct a flame-test experiment with metallic salts.
University enrollment rises: most National Merit Scholars, most diverse student body

The University of Nevada, Reno welcomed 18,227 undergraduate and graduate students to campus this fall, marking the largest enrollment ever and continuing the trend of steady enrollment growth.

The University also welcomed more than 80 new University Presidential Scholars and 16 new National Merit Scholars, the largest number of each scholar type welcomed in a semester. The University received sponsorship status by the National Merit Scholarship Corporation in spring 2009.

“Students-of-color now comprise 29 percent of the University’s total enrollment, the highest percentage to date. "Having a diverse student enrollment contributes to the overall education experience and prepares students for increasingly diverse workplaces and the global economy,” University President Marc Johnson said.

—Natalie Savidge ’04

University News

Nevada ranks top tier among ‘Best National Universities’

*U.S. News and World Report* has again ranked the University of Nevada, Reno in the top tier of “Best National Universities.” In developing its rankings, *U.S. News* surveys more than 1,600 universities and colleges. Schools in the “Best National Universities” category offer a full range of undergraduate majors, masters and doctoral degrees and are committed to a productive research program.

In separate rankings of specific programs, *U.S. News* ranks the College of Engineering among the nation’s “Best Undergraduate Engineering Programs” and the College of Business among the “Best Undergraduate Business Programs.”
University of Nevada professor leads $14 million biomass research project

What do you get when you cross agave plants with poplar trees? A University of Nevada, Reno-led research project believes the result will be more water-efficient trees with far-reaching implications for biomass production in hotter, drier climates.

Putting the water-efficient and turbocharged photosynthesis from plants such as agave into woody biomass plants such as poplar trees can hedge against predicted hotter and drier climates. The resulting fast-growing trees will be suitable for establishment on marginal land as a source of renewable biomass. The development of new, water-efficient crops will also help reduce competition with food crops on productive farmland.

John Cushman, professor of biochemistry in the College of Agriculture, Biotechnology and Natural Resources, is the project leader on a five-year, $14 million study funded by the U.S. Department of Energy Genomic Sciences division to advance this research.

"With climate change predictions for a 7-degree Fahrenheit increase in temperature and a decrease in reliable precipitation patterns by 2080 for much of America’s breadbasket, and with a greater need for sources of biofuels for transportation, these biodesign approaches to enhancing biomass production become very important," said Cushman.

Through the multi-institutional project, the University received $7.6 million, with a sub-grant to University of Liverpool. The Oak Ridge National Laboratory received $6.7 million with sub-grants to Newcastle University and University of Tennessee, Knoxville.

—Mike Wolterbeek '02

Nevada Wolf Shop presents 700 T-shirts to Clayton Middle School students

Clayton Middle School in northwest Reno sets aside its uniform policy one day each week and allows students to wear college and university gear. These "College Days" help Clayton’s nearly 700 students visualize themselves as college students.

Once again, the University of Nevada, Reno showed its support for the Clayton initiative—in a big way. At an all-school assembly in October, every Clayton student was presented a Wolf Pack T-shirt, donated by the University’s student-owned store, the Nevada Wolf Shop.

“The sixth-grade and middle-school years are the ideal time to reach out and help young scholars prepare themselves for higher education,” said Marcelo Vasquez, associate dean of students at the University.

Clayton Principal Bruce Meissner ’94 was named the 2011-12 Washoe County School District Middle School Principal of the Year and the 2011-12 Nevada Middle School Principal of the Year.

—Natalie Savidge '04
Nevada Writers Hall of Fame honors Bill Douglass

The Nevada Writers Hall of Fame honored William A. (Bill) Douglass ’61 (Spanish), world-renowned scholar of Basque studies and founder of the University’s Center for Basque Studies, as its latest inductee.

It was fellow Nevada Writer Hall of Fame inductee Robert Laxalt ’47 (English) who first approached Douglass about coordinating the Center for Basque Studies. Douglass said he thought he’d do it for a few years. That few years turned into 33.

“I’m amazed that they paid me a salary to do it,” he said of his career in Basque scholarship, research and writing. “I have had to do very little that I didn’t want to do. It was a great privilege, and probably key to that was the writing. Even as an undergraduate, I knew I wanted to write.”

Some of his writing accomplishments include Amerikanuak: Basques in the New World (1975 with Jon Bilboa), and oral histories Beltran, Basque Sheepman of the American West (1979) and Tap Dancing on Ice: The Life and Times of a Nevadan Gaming Pioneer (1996), about his father, one of the founding partners of Reno’s Club Cal Neva and the Comstock Hotel-Casino.

Even now, though retired since 1999, Douglass said he writes almost every morning.

The Nevada Writers Hall of Fame also presented the annual Silver Pen Award to Elizabeth Raymond, a cultural historian and professor at the University who has published a number of interdisciplinary works, and to Claire Vaye Watkins ’07 (English), an alumna who recently lit up the literary community with her book Battleborn.

The Nevada Writers Hall of Fame awards are produced by the Friends of the University of Nevada, Reno Library to help build the literary culture of Nevada.

—Claudene Wharton, ’86,’99M.A.
Center for Basque Studies expands international publishing presence

The Center for Basque Studies has been integral in promoting the history and research of the Basque culture since it was first established at the University in 1967. The center, which is recognized as an academic authority on the Basques and has published more than 60 books on the culture, has recently expanded its role as the leading international publisher of works in English promoting the Basque culture.

Daniel Montero, publications coordinator of the Center of Basque Studies, is spearheading a publishing partnership with the University of the Basque Country. The center plans to publish 24 books on Basque and other academic topics produced by faculty at the University of the Basque Country, the largest Basque public university with three campuses in major Basque cities. Though the series is only in its second year, 10 books have already been published.

"The University of the Basque Country is always producing new research and there is a lot of room to expand the series," Montero said. "The University of the Basque Country is always producing new research and there is a lot of room to expand the series," Montero said.

The center, which is located in the University’s Mathewson-IGT Knowledge Center, is home to the largest Basque library outside of the Basque Country and has been important in helping the Basque culture stay internationally relevant. The Basques, victims of violence and oppression in their homeland under the 30-year-long Spanish dictatorship of Gen. Francisco Franco, have seen the center as a champion of their culture on an international level.

“The center is kind of like the ‘Harvard’ of Basque studies in the English-speaking world,” Montero said. “We are the premier world leader for Basque research topics and studies outside of the Basque country.”

—Megan Akers, Class of 2013

expanding horizons — making connections

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CASEY COFFMAN
Cycling Team president, placed fifth in the individual omnium category, earning him the fifth-best "all-mountain" rider ranking in Division 1 cycling. Coffman’s performance helped lead the Cycling Team to its ninth place finish at the 2012 Collegiate Mountain Bike National Championships in New Mexico. The Nevada Cycling Team, a club sport, is recognized as a USA Cycling Team and is almost entirely funded by local corporate sponsors. Coffman is majoring in forest management and ecology and graduates spring 2013.

KATIE LYONS
University of Nevada School of Medicine class of 2014, presented at the American College of Sports Medicine national meeting in San Francisco in May. Her presentation focused on the School of Medicine’s innovative, clinical approach to weight loss and mobility in an obese population. Lyons, who graduated summa cum laude with a degree in Biology in May 2009, is an accomplished former Nevada skier. She was a three-time NCAA qualifier and earned All-America honors in 2008 after finishing seventh in the women’s slalom at the NCAA Championships. She also was an ESPN The Magazine Academic All-District selection and earned a prestigious NCAA Postgraduate Scholarship.

JEANNETTE SALAS
was one of 40 students selected nationwide to complete an internship with the Congressional Hispanic Caucus Institute in Washington, D.C. last summer. The Congressional Hispanic Caucus Institute is a nonprofit organization committed to developing the next generation of Latino leaders. A graduate of Sierra Vista High School in Las Vegas, Salas is majoring in political science and Spanish and graduates in spring 2013. She served as a University student ambassador and completed a study-abroad program in Madrid, Spain, through University Studies Abroad Consortium.

Aluminum coating could replace cancer-causing product

Attempts to replace chromate coatings with non-toxic coatings have been underway since the 1980s. The awareness on effects of chromates was brought to the forefront in 1993 by the real-life incident portrayed in the movie Erin Brockovich, released in 2000.

Now, a University research team has developed a new environmentally-friendly coating for aluminum to replace the carcinogenic chromate coatings still used in aerospace applications. The chromate conversion coatings have been used for more than 50 years to protect aluminum from corrosion.

“There is no question that this will be able to replace the chromate-based coating. Even though our coating formulation is yet to be optimized, the coating has shown exceptional performance,” said Dev Chidambaram, lead scientist and assistant professor of materials science and engineering.

Although the use of chromates for consumer and automotive applications has been banned, chromate coatings are still in use by the defense and aerospace industries under various exemptions. The search for a suitable replacement has been elusive primarily due to one main characteristic of the coating referred to as “self-healing,” the ability of the coating to heal itself after being damaged or scratched.

The formulation by Chidambaram’s team performs comparably to the chromate-coating formula in its ability for self-healing. The team developed and tested more than 300 coatings before arriving at this formulation.

—Mike Wolterbeek ’02

UNCE Dean and Director Hinton retires

The longest-serving female dean of an academic unit at the University of Nevada, Reno has retired. Karen Hinton, the dean and director of University of Nevada Cooperative Extension since 1998, retired in October. Jerry Buk, the director of Cooperative Extension’s Southern Area, was named interim dean and director by University President Marc Johnson.

Hinton was named the interim dean and director of Cooperative Extension in July 1998 after serving three years as the Western Area Director of Cooperative Extension. She was formally named to the dean and director post in December 1998. Hinton’s 14-year stint as dean has made her the longest-serving top female administrator of an academic unit by more than three years, according to University records.

“It certainly hasn’t felt like 14 years,” Hinton said. “The time has flown by.”

All told, Hinton worked 31 years at Nevada. Prior to being named as dean and director of the Cooperative Extension, she was an extension home economist in Douglas County, an extension educator in Carson City and a western area extension director.
University ranks in the top 25 best ‘Outside Universities’

The list is impressive in that all the colleges and universities included in a recent Top 25 ranking by Outside Magazine are in picturesque locales.

The institutions listed in Outside’s Top 25 Outside Universities run the gamut from the bucolic “Farm”-like setting of Stanford University to the gorges and waterfalls of Cornell University, to the trade winds and blue surf of Hawaii, Manoa to the abundant sunshine, silvery rills of a downtown river and mountain setting of a place called the University of Nevada, Reno.

The University checked in at No. 23 in Outside’s rankings released in August.

Curriculum played an important role in the University’s ranking. As put by Outside writer Avital Andrews, “With 79 percent possible sunny days per year and a trove of places to ski, hike, raft, paddle, sail, and tube, Nevada’s student body gets out a lot, a fact helped by the more than 20 classes that require fieldwork.”

Jim Fitzsimmons ’91 (recreation), ’97 M.S. (physical education), director of campus recreation and wellness, knows a thing or two about making recreation and wellness a way of life, and a way for a campus to become better connected. An outdoor enthusiast, Fitzsimmons is also one of the world’s top CrossFit competitors and recently placed sixth at the 2012 Reebok CrossFit Games.

Fitzsimmons said student recreation centers have become, in a very real sense, one of the keys to developing a sense of community on a college campus.

One of the University’s strengths in the “Outside University” rankings was the campus recreation and wellness program.

“Student recreation centers exert a tremendous influence on a student’s decision to attend a university, and perhaps just as importantly, to stay at the university they choose to attend,” Fitzsimmons said. “They visit a campus, and their decision is often an emotional decision: ‘Did I like the campus, the people there and where I’m going to live?’”

The University’s Lombardi Recreation Center sees about 700,000 student visitors in a year. Fitzsimmons is often amazed by how busy it gets: “I’ll come in here, and it’s going crazy,” he said.

Justifiably proud of the expert instructors he has been able to recruit, Fitzsimmons noted that for the center’s yoga, pilates and CrossFit and triathlon classes, “we have some of the top people in these fitness disciplines teaching these courses.”

CrossFit has quickly become one of the University’s national recreation calling cards. The University is home to the first and largest university-affiliate CrossFit program in the country.

—John Trent, ’85/’87, ’00 M.A.

Three University of Nevada, Reno online master’s programs named ‘Best Buys’

GetEducated.com, a consumer group dedicated to assisting students in comparing and rating accredited online degree programs, colleges and universities, has named three of the University’s online degree programs as “Best Buys”: the Executive MBA and two master’s degree programs in education.

The Executive MBA (EMBA) was ranked the number 42 “Best Buy” in the “Best Affordable Accredited Online MBA Programs” category. The program is taught by the same faculty that teach the College of Business’s part-time MBA program, which is ranked number four in the country by Bloomberg BusinessWeek.

The two “Best Buy” master’s degree programs in education, offered by the College of Education in partnership with Extended Studies, include the Master of Science in Equity and Diversity in Education, ranked number 31, and the Master of Education in Literacy Studies, ranked number 36.

The University now offers seven entirely online master’s degree programs. There are now more than 110 fully online, for-credit courses offered at the University. That’s about 44 percent more than three years ago.

More than three quarters of the 3,400 or so courses offered at the University now use WebCampus, the University’s online course management system, in some way to incorporate the use of technology. Three years ago, about 1,100 courses were using the system.

For the fourth consecutive year, a course taught using WebCampus at the University has won a Blackboard Exemplary Course Award, an international award that recognizes innovative courses using technology to enhance learning.

Principles of Biological Investigations, taught by Elena Pavlovsvudova, associate professor of biology, was one of only 36 courses internationally to receive a 2012 Blackboard Catalyst Award for Exemplary Courses.

—Claudene Wharton, ’86, ’99 M.A.