Taking the world’s temperature: land, sea and air

With a big spool of fiber optic cable and a large suitcase-size laser generator, Foundation Professor Scott Tyler ’90 Ph.D. (hydrology/hydrogeology) of the College of of Science travels the globe taking the world’s temperature. He has dropped a temperature-sensing cable through Antarctic ice to the ocean bottom to measure the temperature and gauge the melting of the ice sheets. His wonder-cable has been to Switzerland to study glaciers, to Germany to study coal mine reclamation and acid mine drainage, and to the San Francisco Bay to study the dynamics of salt marshes. He used the technology to study water temperature at Devils Hole in Death Valley and help protect the endangered Devils Hole pupfish.

Just this fall, Tyler, a hydrologist who recently received a prestigious American Geophysical Union fellowship, established a system to measure the water temperature at drought-stricken Lake Shasta in northern California to help water managers release the proper temperature water to keep the endangered Chinook salmon alive. The system measured the water temperature continuously every few centimeters from the surface of the lake to the lake bottom.

Tyler pioneered these applications of fiber optic cable. His instrument facility at the University of Nevada, Reno Center for Transformative Environmental Monitoring Programs (CTEMPs) receives funding from the National Science Foundation (NSF) and makes the equipment available to researchers across the country.

In partnership with Oregon State University and with $2.2 million in funding from the NSF, CTEMPs has recently expanded its offerings to make aerial robots, also known as unmanned aerial systems or UAS, available to scientists to enhance their research.

With collaborators from the University, Tyler recently completed a UAS pilot project in Mongolia to gather data about fish populations to be used in evaluating a proposed dam upriver from their habitat.

“We were successful in showing this UAS technology can be used in a new way,” Tyler said. “We spotted a huge Taimen on a flyover, as well as other fish. The pictures were clear, and the project was a great success.”

—Mike Wolterbeek ’02

Ozmen Center turns ideas into actions

Since opening its doors in The College of Business in September 2014, the Ozmen Center for Entrepreneurship has built an interdisciplinary program spanning across campus and out into the community.

“We teach a different way of thinking,” said Chris Howard, Ozmen Center director. “I describe it as diagonal thinking. We take the knowledge students learn in class and apply it to get different and desired results.”

In addition to offering University students a space where they can strategically and creatively execute ideas with help from area business leaders, the Ozmen Center focuses on academics and enriched curriculum. This curriculum, part of the University’s entrepreneurship minor that is open to all majors, is designed to enhance student business endeavors long after graduation.

Numbers in the entrepreneurship minor have grown since the program’s inception in fall 2013, and the program boasts students from a number of colleges across campus. The minor was purposefully designed without pre-requisites so any student wanting to build a startup business could benefit.

Much of the Ozmen Center’s first year was spent learning about and integrating into the community entrepreneurial landscape. It hosted events such as 1 Million Cups, a free weekly national program designed to educate, engage and connect student and community entrepreneurs. Additionally, the Ozmen Center team worked closely with the Nevada Small Business Development Center and the City of Reno to offer Assess, License and Launch, a program designed to help entrepreneurs navigate the city’s Business License Department.

Most recently, the Ozmen Center welcomed thought leaders from the internationally-renowned Lincoln Laboratory Beaver Works, an entrepreneurship center at the Massachusetts Institute of Technology in Boston. Organized by Ozmen Center founders Fatih Ozmen ’81 M.S. (electrical engineering) and Eren Ozmen ’85 MBA of Sparks-based Sierra Nevada Corporation, the meeting was designed to discuss project-centric educational collaborations, something at which the MIT center excels.

“Our goal this next year is to place more emphasis on business,” Howard said. “We are going to look more closely at the Beaver Works model and hope to establish interdisciplinary curriculum working with community organizations to further establish project-based learning.”

—Nicole Shearer ’03

At the Ozmen Center for Entrepreneurship, students from across the University collaborate with each other and area business leaders.
Improving teff grain production to help global food security

A project to improve teff grass, a staple grain that originated in Ethiopia, is underway in the University’s College of Agriculture, Biotechnology and Natural Resources. The aim is to make it more drought tolerant and productive under the harsher growing conditions being experienced worldwide and as the popularity of this gluten-free grain grows with farmers and consumers in the United States.

“Teff is an emerging crop in Nevada with about 1,200 acres grown each year,” said John Cushman, professor of biochemistry and molecular biology and graduate program director in the Department of Biochemistry. “Teff is now in demand as a highly nutritious, gluten-free grain suitable for consumption by gluten-intolerant persons.”

“As demand for this crop increases, it makes sense for us to develop better varieties with increased drought tolerance and yield stability under drier conditions.”

The research team includes Cushman, Juan Solomon, assistant professor of forage agronomy, and Jay Davison, alternative crop and forage specialist with the University of Nevada Cooperative Extension in Fallon, along with graduate students, a research geneticist at the USDA’s Agricultural Research Service and plant-breeding statistical experts with Maxell HyBrids. The project is supported by Hatch Act funds.

“The partnership aspects of this are very important to the project,” said Bill Payne, dean of the College of Agriculture, Biochemistry and Natural Resources. “They serve to illustrate how, despite scant resources, we can move forward to achieve a greater impact for global food security for millions of people.”

“Teff improvement is important for growers and consumers in Nevada, the nation and the world,” Payne continued. “You will see more multidisciplinary, collaborative projects like this designed to have an impact on people’s lives. Jay Davison’s seminal work promoting this to Nevada growers has laid the groundwork for collaborations such as this.”

–Whip Villarreal, Class of 2015

Global idea sharing with international master teachers

Teachers from all over the world brought their experiences and ideas into the community this fall in a cultural exchange of ideas and philosophy.

For the fifth consecutive year, the University’s College of Education received the Teaching Excellence and Achievement (TEA) grant from the United States Department of State, Bureau of Educational and Cultural Affairs. This grant offered the University, in partnership with the Northern Nevada International Center, the opportunity to host 19 teaching fellows from 16 different countries. This year also marked the 100th fellow hosted in northern Nevada.

During their six-week stay this fall, the teaching fellows attended workshops in the College of Education and shadowed mathematics, English and foreign language teachers in Washoe County School District middle and high schools.

The fellows, all highly experienced master teachers in their own countries, had to compete in a rigorous application process for selection. Countries represented this year included Armenia, Bangladesh, Costa Rica, India, Jordan, Mali, Nepal, Nicaragua, Niger, Nigeria, Russia, Senegal, South Africa, Thailand, Ukraine, Uzbekistan and Venezuela.

“TEA Fellows learned about the U.S. and our education system, but they also broadened our understanding of cultures, teaching and learning practices,” said Jennifer Mahon, project director and associate professor in the College of Education.

The program allowed the teachers to learn different teaching approaches, use technology in the classroom and better understand the education system in the United States, while at the same time, share their own culture and expertise with a wide array of people from northern Nevada. In addition to their activities at the University and local middle and secondary schools, the fellows completed community service activities, were hosted by local families and took part in area cultural activities.

–Nicole Shearer ’03
Honoring 40 years: Douglass Center for Basque Studies

Basque Scholar Emeritus William A. (Bill) Douglass ’61 (Spanish) and the late Jon Bilbao, also an emeritus faculty member, collaborated on many projects together, including co-founding the University of Nevada, Reno’s Basque Studies Program, which later became the Center for Basque Studies. On Nov. 3, their contributions to the center and to the Basque community were recognized during a special ceremony. The University announced the renaming of the center as the William A. Douglass Center for Basque Studies, and the naming of the library as the Jon Bilbao Basque Library.

Douglass’s influence has been profound. Throughout his career, Douglass has been dedicated to meeting the center’s major goal of bringing information about the Basques to the general public. He has received many honors from Basque people and institutions: an honorary doctorate awarded in 1984 by the University of the Basque Country, his naming in 1998 as one of the 20 corresponding members of the Basque Language Academy and the 1999 Lagun Onari Award for distinguished service to the Basque people given by the Basque government.

In addition to being recognized as one of the leading scholars of Basque studies in the world, Douglass is a member of the Nevada Writers Hall of Fame. He began his leadership role in Basque studies nearly 50 years ago when he was asked by the legendary Nevada writer Robert Laxalt to direct what was then known as the Basque Studies Program and envisioned as a joint venture between the University and the Desert Research Institute.

Douglass recalled in 2012, “Bob didn’t think of himself as a Basque scholar, even though he was Basque and wrote about his Basque heritage. So, he asked me if I would do it.”

Douglass majored in Spanish as an undergraduate at the University. His interest in the Basque Country took off when he was studying anthropology while doing doctoral work at the University of Chicago. He traveled to the Basque Country and did research for his dissertation there. It was during a visit to the Pyrenees in 1967 that Laxalt made Douglass the offer of directing the fledgling Basque Studies Program at the University. Douglass accepted Laxalt’s offer, and though believing his time would probably amount to “only a few years,” stayed in the position for 33 years.

“Bill is not one to take credit, not one to toot his own horn, but as you look back at any of the major achievements of the Center, you will always see his handprint on it,” Michonne Ascuaga, chair of the center’s advisory board, said.

–Natalie Savidge ’04 and John Trent ’85, ’87, ’00 M.A.

“The NRAP program helps with multiple aspects of life, and not just staying sober,” says sophomore Claire Clark, shown here with Daniel Fred, Nevada Recovery and Prevention Program coordinator.
Record enrollment, but no Vermont?

The University of Nevada, Reno welcomed 20,898 undergraduate and graduate students to campus this past fall, a 4.8 percent increase over the fall 2014 enrollment of 19,934 students. This year’s enrollment represents the University’s largest ever and includes students from across the country, all 17 Nevada counties and many countries around the world.

While it includes students from 49 states, it does not, however, include a single, solitary student from Vermont … not a single one.

And so, the University decided to close the gap with a light-hearted social media and marketing campaign that conveyed the University’s status as a national university located in an appealing setting. The campaign pulled out all the stops, including contacting Governor Brian Sandoval and alumni currently residing in Vermont to help find five academically well-qualified students to attend a NevadaBound recruitment session on campus. More than 50 Vermont students responded.

This is the first year since the University began tracking these statistics in 1993 that Vermont was not represented in the student body. Since that time, 86 Vermont students have attended the University.

Drawing a comparison to one of Vermont’s iconic products, University Director of Admissions Steve Maples said, “Rounding out the list to cover all 50 states again would be sweet, kind of like maple syrup.”

–Kathie Taylor ’11

Expanded program supports recovery on campus

Assimilating into college life can be a challenge for any student. Life away from home, a rigorous academic schedule, an expanded network of friends and the pressure to succeed present a lifestyle many students adjust to during their time in higher education. But for a person in recovery from a substance use disorder, these lifestyle adjustments can present additional challenges.

University of Nevada, Reno students in recovery and students who choose to lead a substance-free lifestyle are benefiting from services provided by the Nevada Recovery and Prevention program (NRAP). NRAP began in fall 2011 as a project of CASAT (Center for the Application of Substance Abuse Technologies). With generous funding from The Stacie Mathewson Foundation, including a recent $50,000 contribution, NRAP provides students who are recovering from substance and behavioral addictions with a nurturing and supportive environment that facilitates peer connections.

“NRAP is not treatment. It’s not clinical. It is recovery support,” said Daniel Fred, NRAP project coordinator. “Being in recovery and going to college can be very isolating. Our goal with this program is to offer a safe place where students can be surrounded by others in recovery and supported by people and programs that will help them succeed, not only in college, but also in life.”

“I like this program because it works on multiple aspects of my life, not just remaining sober,” said Claire Clark, sophomore in Human Development and Family Studies. “It’s exciting for me to be at a university and to think of myself as a student.”

NRAP has proven the need for a collegiate recovery prevention program on campus. It has 80 core members from each University college. In May 2015, University President Marc Johnson recognized NRAP’s significant contribution by pledging additional funds to the program as part of the University’s commitment to foster the whole student – mind, body and spirit.

–Nicole Shearer ’03
Robots outnumber scientists in one University lab

There are more robots than people in the College of Engineering’s Robotics Research Laboratory, but they haven’t taken over just yet.

With 34 in all, ranging from the 5 foot 5 inch-tall advanced PR2 humanoid robot to three small humanoid robots, a cute dog robot and 20 other various robots, they far outnumber the robotics researchers in the Computer Science and Engineering Department who conduct a range of imaginative and innovative research.

The computer science researchers recently demonstrated the first rudimentary steps in programming the advanced autonomous PR2 robot named Ada. Ada began by interacting with a student who was preparing a pot of tea. The robot watched with its multiple sensors and cameras. Using software developed by the researchers, Ada recognized the student’s actions, then inferred his intentions. Ada offered the student sugar for his tea. For an encore, the robot carefully put a place-setting on a dining table.

Another of the lab’s advanced robots, the six-foot-tall Baxter, was also powered up for the demonstration. The bulky, red humanoid robot delicately took a Rubik’s Cube from a grad student, slowly turned it around, cataloged each side, sensed the colors and then methodically spun the cube until it reached a “solve.”

“The Rubik’s Cube is the beginning of development for pattern recognition and manipulation for both the robots,” said David Feil-Seifer, assistant professor. “We want the robot to see the scene, evaluate the current situation and react after making a plan, in some ways similar to the cube. Our goal is to increase the capability every day, every week, every month, working to make the robots do something new.”

The actions were not preprogrammed. The intent recognition was prepared using complex algorithms developed by computer science faculty and students in the Robotics Research Lab and the Computer Vision Laboratory.

“There’s better collaboration between humans and robots if they can anticipate what we will do, or want,” Monica Nicolescu, director of the College of Engineering’s Robotics Research Lab, said. “These advanced humanoid platforms can do more complex interactions and scenarios. They have more sensors, capabilities and perceptual abilities. They can perceive more about the world and have more natural interactions with their hands, and it’s all autonomous.”

Mike Wolterbeek ’02

The College of Engineering Robotics Research Lab is working with two full-size autonomous humanoid robots to study human-robot social interactions.

Luke Tanaka named fall Herz Gold Medalist

Luke Tanaka ’15 (accounting) has been named recipient of the fall 2015 Herz Gold Medal for having earned the highest grade-point average in the graduating class. Tanaka has dedicated his time toward the betterment of The College of Business and the Reno community through extensive involvement with the Business Student Council and Circle K International. He also studied abroad in London with the Nevada Global Business Program and represented The College of Business during the Executive Mentorship Program in Seattle. In addition to his work with The College of Business, Tanaka was an Honors Program student who served on the student board of the Phi Kappa Phi honor society chapter. Outside of academic pursuits, Tanaka has developed a passion for bicycle touring and spent last spring break biking the California coast to raise money for the Kiwanis International and UNICEF joint venture, the Eliminate Project.

Executive Vice President and Provost Kevin Carman congratulates Herz Gold Medalist Luke Tanaka during the Winter Commencement Ceremony.
Getting greener

Peavine Hall opened in August 2015 and is the University’s first facility built to Leadership in Energy and Environmental Design (LEED) Gold standards. However, the University’s commitment to LEED construction standards is not new. Over the past decade, every new building – a list that includes major projects such as the Joe Crowley Student Union, the Mathewson-IGT Knowledge Center and the Center for Molecular Medicine – has been built to the equivalent of LEED Silver standards.

Large-scale efforts aimed at environmental sustainability are happening across the University and include:

- Water-wise actions – At the Main Station Field Lab, treated effluent from the nearby Truckee Meadows Water Reclamation Facility provides much of the irrigation water for the pastures, saving more than 6.5 million gallons of water annually.
- Transportation options on and beyond campus – Alternative transportation options and charging stations for electric vehicles are available.
- Energy efficiency – Conservation steps have resulted in a 19 percent reduction in per-square-foot energy use. Some facilities are sourced by solar and wind energy.
- A truly green campus – A new green-waste recycling program is now in place, and organic landscape practices have been adopted.

Behind these big efforts are the contributions of individuals across the University campus.

“Every incremental gain we make has the potential to have a large influence,” John Sagebiel, assistant director of environmental programs in the University’s Department of Environmental Health and Safety, said. “For example, we recycle about 400,000 pounds of paper a year on campus. A piece of paper doesn’t weigh much, so this shows that the contributions of individuals make a difference.”

–John Seelmeyer

Faces on the Quad

Gennady Erlikhman, a postdoctoral research student studying with Gideon Caplovitz, assistant professor in psychology and cognitive neuroscience, has been working in the Caplovitz Lab since 2014 after receiving his Ph.D. in computational cognition from UCLA. He was recently awarded the Ruth L. Kirschstein National Research Service Award, a $150,000 fellowship over three years. The fellowship was granted from the National Eye Institute of the National Institutes of Health to support a project aimed at understanding how the human brain allows us to see objects around us, particularly when they are in motion. The project uses a variety of non-invasive neuroimaging techniques including functional magnetic resonance imaging (fMRI). Erlikhman’s selection for the fellowship acknowledges his potential to become a productive, independent investigator in a scientific, health-related research field. Erlikhman received a dual bachelor’s degree in cognitive science and philosophy from the University of Pennsylvania and a master’s degree in psychology from UCLA.

Daniel Leonardini is a junior from Fairfield, Calif. studying international affairs and economics as a dual major. He was a member of the Nevada Debate Union 2013-2014 team when it ranked first in the nation. Leonardini was social chair and is now president of the Tau-Gamma chapter of Kappa Sigma, one of the newest chartered fraternities at the University. The chapter started with three men in 2013, received its charter in 2014 and grew to nearly 80 members by 2015. Kappa Sigma focuses on four pillars: fellowship, leadership, scholarship and service. At last summer’s Kappa Sigma Conclave, the chapter was recognized with 12 awards and the new Tau-Gamma chapter was the first chapter in the history of Kappa Sigma to win the highest award within the first year of being chartered. Leonardini hopes the chapter’s name remains connected to strong character and is known for a sense of community and passion for service. Prior to enrolling at the University, Leonardini traveled to Africa and volunteered to provide proper eyewear to rural villagers in Rwanda. He plans to graduate in 2017.

Jena Valenzuela graduated from Arbor View High School in Las Vegas in 2012 where she played basketball, tap danced and conducted the marching band as the drum major. She continues her love of music as a member of the University’s Wolf Pack Marching Band, where she has played alto saxophone since her freshman year. She has seen the band grow from about 120 members to more than 200, and has traveled to play for the Nevada football team to many states including Louisiana to play in the 2014 R+L Carriers New Orleans Bowl at the Superdome. Valenzuela is studying media graphics and strategic communications in the Donald W. Reynolds School of Journalism. She won the Best Published Article Award her sophomore year, and in her junior year she earned the top grade-point average and was inducted into the journalism honor society Kappa Tau Alpha. She received the Paul A. and Gwen F. Leonard scholarship her senior year. Valenzuela interned for the Arizona Women’s Political Caucus and is currently a multimedia intern for the University’s office of Marketing and Communications and co-creative director for Wolf Pack Relations, a student-run public relations firm. Valenzuela also received one of the three top prizes for the fall 2015 Annual Student Art Exhibition.

–Natalie Savidge ’04