University innovation center to spur autonomous systems development

With $3 million from the Governor’s Office of Economic Development Knowledge Fund, the University has established NAASIC, the Nevada Advanced Autonomous Systems Innovation Center, with the goal of creating unique industry-university partnerships to commercialize technologies in autonomous systems. This includes land-based, aerial and stationary robotic systems such as industrial robots, advanced manufacturing systems, driverless road vehicles and underwater robots.

“The vision for this initiative is to partner with the private sector to support innovation for advanced autonomous and manufacturing systems,” said Manos Maragakis, dean of the College of Engineering. “This collaboration between our colleges and the business community will stimulate economic development with tremendous potential to become a hub of technology that will benefit the entire state.”

NAASIC is a collaboration led by higher education that involves EDAWN, the Governor’s Office of Economic Development, the manufacturing industry and K-12 and higher education programs to enhance Nevada’s workforce.

“This has tremendous potential to become a hub of technology that will benefit the entire state,” Maragakis said. “This is a true systemic approach to economic development. A number of agencies and organizations we already work with are coming together to generate a new level of engagement.”

The University has more than a dozen faculty members across several departments and colleges, including engineering, business, geological sciences, cooperative extension and environmental sciences, who are contributing to the research, design, implementation and commercialization of advanced autonomous systems. The integrated effort is led by the College of Engineering.

“Our faculty expertise and interest is part of an innovation eco-system we are creating in our region,” said Mridul Gautam, vice president for research and innovation at the University.

“Ultimately every aspect of what we do at the University is part of the effort; materials, software, communications, electronics, durable goods, the legal and social aspects of autonomous systems, detecting plant diseases on arable land and even development of our seismic network – for firefighting, identifying earthquake faults and other environmental monitoring,” Gautam said.

Lt. Col. Warren Rapp (ret.), previously with the Nevada Institute of Autonomous Systems, is the new NAASIC business director.

“From my previous perspective as program manager for northern Nevada UAS testing, the University is already known as an evolving leader in the UAV and autonomous systems fields of study,” Rapp said. “From the inception of their minor degree program this year to supporting the testing efforts of new companies coming to northern Nevada, and now NAASIC, few universities across the country can match this commitment to success.”

NAASIC will eventually be based in the University of Nevada, Reno Innovation Center, slated to open in June at Sinclair and Stewart streets near the Terry Lee Wells Nevada Discovery Museum.

—Mike Wolterbeek ’02
Statisticians predict how weather impacts baseball

An analysis of statistical data offers insight into how weather and, more specifically, temperature may impact baseball teams’ performance. The published research project, “The Impact of Temperature on Major League Baseball,” was published in Weather, Climate and Society, a journal of the American Meteorological Society.

Brandon Lee Koch ’13 (mathematics), who conducted the research as a McNair Scholar at the University, worked alongside University mathematics and statistics professor Anna Panorska to complete the study. The two found that commonly referenced MLB statistics—runs scored, batting average, slugging percentage, on-base percentage and home runs—significantly increase, while walks significantly decrease, in warm weather compared to cold weather. The study also examined individual stadiums, offering insight into which stadiums are affected by temperatures the most and the least.

The study evaluated 22,215 games, spanning the 2000-2011 regular seasons. Analyses were performed on all MLB games, games played in the National League, games played in the American League and games played in 23 different MLB stadiums. Home and away teams’ performances were analyzed separately for each population of games.

“It could be beneficial for managers of MLB teams to take the game-day temperature into account when setting their lineups,” Koch said. “For instance, if a manager is having difficulty choosing between two players for his starting lineup, and one player is a more patient hitter and tends to draw more walks than the other player, the manager might benefit from starting the patient hitter in cold temperatures.”

As portrayed in the 2011 film “Moneyball,” the use of statistical data analysis plays a valued role in baseball.

– Nicole Shearer ’03
Statewide expertise + ongoing teacher support = improved math education

A statewide initiative is underway to improve math instruction and student achievement in Nevada. The Nevada Mathematics Project, a multi-agency collaboration, provides professional development for teachers throughout the state in the Nevada Academic Content Standards for mathematics.

The project, led by University Associate Professor of Elementary Mathematics Education Teruni Lamberg, focuses on the progression of mathematics learning from third through eighth grade curriculum by helping teachers develop a thorough understanding of the preceding grade and what will be taught in the following grade.

Last summer, Lamberg, along with a higher education project team, traveled to four sites around the state where they held week-long, professional-development workshops for teachers representing each school district in Nevada, including some private and charter schools.

“Every single part of this team gave valuable input into what the project should be,” Lamberg said. “We didn’t just share knowledge, we co-created new understandings of how to help Nevada students achieve in math.”

During the workshops, teachers learned math from the perspective of a student. They spent time refining pedagogical skills through the Standards for Mathematical Practice by implementing a whole class discussion framework.

“We are not reinventing mathematics in this program, but simply giving teachers many more options in how they present the content to the students,” Jeffery Cramer, math and science coordinator at Northeastern Nevada Regional Professional Development Program, said. “The more models we use, the more students we can reach.”

The Nevada Mathematics Project includes representatives from the University of Nevada, Reno; University of Nevada, Las Vegas; Northeastern Nevada Regional Professional Development Program; Western Regional Professional Development Program; Nevada Department of Education and each of the state’s school districts. The project is funded through the Nevada Science Partnership Grant through the Nevada Department of Education and would, by the end of three years, cover the entire Nevada Academic Content Standards for mathematics.

To learn more about the Nevada Mathematics Project, including the people involved, visit nevadamathproject.com.

– Nicole Shearer ’03

Preparing for college early

Nearly 800 Clayton Pre-AP Academy middle school students sported blue Wolf Pack T-shirts donated by the Nevada Wolf Shop at the fourth annual College Day pep rally Oct. 24. The energy-amped rally promoted enthusiasm for future learning.
ASUN invests in career development of students

The Associated Students of the University of Nevada (ASUN), the undergraduate student government organization, is investing in expanded internship opportunities, increasing the pool of real-world learning experiences for students and engaging with area businesses and organizations.

Coordinated with the University’s Nevada Career Studio and with $30,000 in ASUN funding, the Pack Internship Grant Program launched in October and supports 21 internships with northern Nevada businesses, non-profit organizations and public agencies. The program partners with employers to develop mutually beneficial, substantive opportunities for University students, and it funds student wages at $12 per hour for 120 hours.

“This is huge for the economic development of the area,” ASUN Vice President Alex Bybee said. “It helps to stem the outflow of innovative talent from the region, keeping those graduates here to contribute to the workforce. It also expands access to students, since unpaid internships currently exclude the most economically disadvantaged students.”

University President Marc Johnson said he has never been at a campus where students support other students to the extent they do at the University.

“We want to offer all of our students a remarkable experience, and that means offering opportunities to work inside and outside the classroom and put their knowledge to work,” he said. “This contribution by students toward creating internship opportunities is impressive. These days, businesses are taking interns not only to get work done, but, more importantly, internships have become a two to three month interview process.”

– Nicole Shearer ‘03

ASUN is funding 21 internships with 12 local organizations to expand access to real-world work experiences for students.
Marching band grows in sound and numbers with Greater Nevada Credit Union’s support

From 120 members in 2012 to 180 in 2014, the University’s marching band, the Pride of the Sierra, has grown in numbers, support and spirit.

This year, the Greater Nevada Credit Union continued its fundraising campaign, “It’s Time to Support the Band.” The fundraising drive entered its final year of a three-year pledge. The credit union has contributed $20,000 each of the three years, and committed to a matching-gift program to contribute up to another $15,000 annually.

“In addition to the pledge, we saw over $50,000 in combined fundraising at the beginning of the season,” Will Plenk, director of the marching, pep and symphonic bands and conducting instructor, said.

“The Greater Nevada Credit Union support and funding from the community has made so many exciting things possible,” he said. “We have increased our visibility in the community, largely due to sponsored Greater Nevada Credit Union events. We are also able to travel more with the teams, going to UNLV this year and San Diego State last year.”

To learn more about supporting the University Marching Band, a major ensemble of the Department of Music in the University’s College of Liberal Arts, contact Kristen Kennedy, director of development, at (775) 784-6873; Greater Nevada Credit Union at (775) 882-2060; or donate online at supportnevada.unr.edu/MarchingBand.

– Natalie Savidge, ’04

Commitment to civic engagement earns national designation

The University is one of 92 colleges and universities selected to participate in a national initiative on civic learning and democratic engagement. Designated as a Lead Institution by the Student Affairs Administrators in Higher Education Association, the University will continue to encourage students’ civic development through thoughtful community partnerships, engaging leadership opportunities and democratic participation.

“The CONNECT Shuttle takes University students to and from organizations in the community to make community service and service learning more available to students.

“Civic engagement is a core value in higher education,” Shannon Ellis, vice president of Student Services, said. “The University’s recognition as a national leader in this field is a reflection of the quality of our current efforts and also our ongoing commitment to inspiring students to challenge themselves through leadership and service roles moving forward.”

– Nicole Shearer ’03
Ponderosa Village held its grand opening Aug. 28 and offers 132 units for graduate and professional students.

Campus life: New housing for growing student body

As the University’s student population continues to grow, so do the on-campus housing options available. The opening of Ponderosa Village this fall marked a new beginning for the many graduate students and their families who now call it home. Located on the east side of campus on Evans Avenue, the former site of University Village, Ponderosa Village is home to graduate and professional students from each college at the University, including the University of Nevada School of Medicine. Twenty-five percent of the occupants are international students.

Ponderosa Village offers 132 one- and two-bedroom units, each with modern appliances, efficient cooling and heating systems, wireless Internet and washers and dryers. The complex of six three-story buildings includes a separate community center with offices and common space for resident use.

Graduate student recruitment is an important component of the University’s journey toward classification by the Carnegie Foundation for the Advancement of Teaching as a “research university - very high.” Ponderosa Village and the amenities offered assist with these recruitment efforts.

The project was completed through a public-private partnership. Balfour Beatty financed, constructed and owns the approximately $20 million complex. The University is leasing the property to Balfour Beatty for 42 years and the University’s Residential Life, Housing and Food Services manages the complex. At the end of the lease period, the University will own the complex.

Construction of Peavine Hall, a new sustainably designed residence hall, is underway at the corner of Sierra Street and 11th Street, north of Sierra Hall. The 400-bed residence hall will house primarily freshmen. Living on and connecting with campus in the first year at the University contributes to the likelihood that students will persist, re-enroll into their second year and ultimately graduate. Construction of Peavine Hall is funded through residence hall fees.

– Nicole Shearer ’03

Spenser Blank was named one of 25 national 2014 Media Fellows Scholars. A dual major in Spanish and journalism with an emphasis in strategic communications, Blank is the first student from Nevada to receive this scholarship which is awarded to undergraduate students studying mass communications, journalism, marketing or political science. Blank has completed internships with The Glenn Group in Reno and Cox Communications in Las Vegas. In the 2014 spring semester, he participated in University Studies Abroad Consortium’s program in Bilbao, Spain. Blank serves as assistant director of public and campus relations for the Associated Student of the University of Nevada and is a member of the University’s Journalism Student Advisory Council, Sigma Phi Epsilon fraternity and the Spanish Club. Blank credits the Reynolds School of Journalism and Center for Advanced Media Studies for providing a foundation for professional work. Blank will graduate from the University in May.

Caitlyn Adley, an ROTC Cadet and one of the Level Leaders at the University’s Orvis Student Nurses’ Association, was selected to represent the University at the 62nd National Student Nurses’ Association annual convention in Nashville, Tenn., last spring. Adley has excelled academically at the University and was a top performer at last summer’s ROTC Camp where she obtained the highest possible rating and had the highest physical fitness score for her cohort. Adley is an active volunteer at Wolf Pack football games. She organized and competed in CrossFit competitions and intramural activities in the region and on campus. As a community-service awareness project, Adley led an ambulance ride-along with REMSA. She served as the Army ROTC Liaison to the Reno Veteran’s Guest House where she coordinated multiple events including a highly successful telethon fundraiser. She is also an active member of the Nevada Military Society. Adley graduated in December with her degree in nursing.

Patrick Nipay, a senior mechanical engineering student, is part of E-scholars, a group of 20 engineering students who received scholarships based on their academic achievements and interest in green energy. Nipay has worked as a tutor for the Trio Scholars Program for three years and also worked for Upward Bound tutoring high school students. He is currently assisting mechanical engineering assistant professor Emil Geiger in creating a tool that can help with algae biofuel research. He presented the preliminary project at the McNair Scholars Berkeley Symposium in August. He is working on a capstone project for a child with cerebral palsy. His team, Pack in Motion, is creating an adjustable, custom chariot that can be used for all terrains. He has been a student ambassador at the University since his sophomore year, and has held several leadership roles in his fraternity, Phi Delta Theta.

– Natalie Savidge ’04
Celebrating the 1874 birth of the University ... in Elko

The University Preparatory School – precursor to the University of Nevada – first opened its doors in Elko to seven students on Oct. 12, 1874. The Nevada State Legislature approved the relocation of the University to Reno in 1885, and students were welcomed to classes in Morrill Hall in 1886.

The original school bell made the move to Reno and later was returned to Elko where it has been on display outside of Elko High School’s “old gym” on College Avenue – the original site of the University – since 1974.

Recognizing the timber framework holding the bell was in dire disrepair, members of two Elko Rotary clubs embarked on a project to reconstruct the framework in Nevada’s sesquicentennial celebration year. That goal was met Oct. 22, when University representatives joined with residents of Elko to dedicate the new structure. The dedication event was designated by the NV150 Commission as a Legacy Project commemorating Nevada’s sesquicentennial.

“Getting to this point was not easy, and discussions about the project began more than a decade ago. But those behind the effort persisted and, with donations from Elko’s Rotary clubs, Barrick Gold, Newmont Mining Corporation, Ormaza Construction and numerous individuals, the “Nevada Bell Project” came to fruition.

“I think it is just wonderful that we are preserving this monument that is not only the site of the original University of Nevada, but also the site where higher education began in Nevada,” said Kevin Melcher ’79 (physical education) ’81 M.A. (physical education), member of the Nevada System of Higher Education Board of Regents and Elko resident and Rotarian, said.

–Jane Tors ’82

Bookshelf: The Red Queen’s Run

Nevada Professor Emeritus and author Bourne Morris recently released her first novel in a mystery trilogy about murder on a university campus. Morris spent 26 years as a beloved professor at the University of Nevada, Reno Reynolds School of Journalism where she taught marketing communications and media ethics.

A captivating whodunit, “The Red Queen’s Run” intrigues readers with the combative politics of a journalism school that led to the murder of its dean. Heroine Meredith “Red” Solaris and the case detective are at the center of the devious agendas of faculty and students alike as layers of the plot thicken and characters evolve. Red must sleuth out the murderer before she finds herself the next victim.

Before joining the Reynolds School, Morris served as head of advertising giant Ogilvy’s agency in Los Angeles where she worked with clients such as Mattel, Columbia Pictures and General Foods. She was later honored to be a member of the 1984 Olympic Organizing Committee. Bourne became a full professor at the Reynolds School in 1983.

–Carrie Bushá ’06

Critical Acclaim

“Former university professor Bourne Morris proves herself a masterful storyteller in this compelling debut novel. ‘The Red Queen’s Run’ is compulsive reading as it takes on the ripped-from-the-headlines topic of campus violence. I can’t wait to follow its smart new heroine, Red Solaris, as this trilogy continues.”

–Alan Deutschman, University of Nevada, Reno professor and author of “Change or Die”

“When a lonely, attractive journalism professor is swept up in a murder mystery, her curious mind and tough refusal to cave in to intimidation leads her into danger ... and a volatile romance. ‘The Red Queen’s Run’ is a psychological thriller that reveals the Ivory Tower to be a hothouse full of monstrous egos, where bullying thrives long past playground days, and academic discipline requires research skills of the detective kind.”

–Kate Manning, author of “My Notorious Life”

Professor Emeritus Bourne Morris retired from the Reynolds School of Journalism in 2009 to commit herself full time to writing fiction. Her first novel, “The Red Queen’s Run” is available online and in stores.

Tower to be a hothouse full of monstrous egos, where bullying thrives long past playground days, and academic discipline requires research skills of the detective kind.”
Climate change further endangers Devils Hole pupfish

Climate change is hurting reproduction of the endangered Devils Hole pupfish, threatening the survival of this rare species that has numbered as few as 35 individuals, new research by the University of Nevada, Reno and Desert Research Institute shows.

Scientists Scott Tyler ’90 Ph.D. (hydrology/hydrogeology) of the University’s College of Science and Mark Hausner ’10 M.S. (hydrology), ’13 Ph.D. (hydrogeology), a hydrologist at DRI, report that water on a small shelf near the surface of the 400-foot deep geothermal fissure in the Mojave Desert where the pupfish live is heating up as a result of climate change and is likely to continue heating to dangerous levels.

The hotter water, which now reaches more than 93 degrees, has shortened by one week the amount of time pupfish larvae have to hatch during the optimal recruitment periods. The recruitment period is the 10 weeks during which water temperatures are conducive to egg hatching and sufficient food is available to sustain the newly hatched larvae.

This decrease contributed to the decline of the adult pupfish population, according to their scientific paper, “Life in a Fishbowl: Prospects for the endangered Devils Hole pupfish (Cyprinodon diabolis) in a changing climate,” published in Water Resources Research, a journal of the American Geophysical Union.

Tyler and his team used fiber-optic cable distributed temperature-sensing equipment, pioneered by Tyler, to monitor temperature changes in the water-filled limestone cavern in the Ash Meadows National Wildlife Refuge, a detached unit of Death Valley National Park.

The iridescent blue, one-inch-long pupfish have lived in the top 80 feet of the water-filled cavern for more than 10,000 years.

“There is no question that the temperature is going to rise on the shallow shelf, and there is no question that the fish are going to be affected,” said Tyler, lead scientist in the project, co-author of the paper and a professor of hydrological sciences at the University.

–Mike Wolterbeek ’02

Seismological network doubles as Tahoe area fire lookout

Four high-definition, infrared-capable mountaintop cameras have been installed at Lake Tahoe by the Nevada Seismological Laboratory to help fire agencies monitor and respond quickly to fires. The cameras are part of its earthquake monitoring network that spans the Great Basin and eastern Sierra Nevada mountains.

“The fire cameras, and especially the Internet backbone and network that supports it, are a valuable tool for fire officials and Tahoe researchers who are studying the lake’s environment,” Graham Kent, director of the University’s Nevada Seismological Laboratory, said.

On the evening of Aug. 9, the University’s Snow Valley Peak camera was being used by Mac Heller of the Lake Tahoe Basin Management Unit of the U.S. Forest Service to scan the area, which had been getting lightning for several days. He saw thin wisps of smoke in the Spooner Summit area and contacted the Forest Service’s dispatch center in Camino, Calif.

“Once the suppression resources were on scene, they reported it as a half an acre,” Heller said. “Who knows how big the Spooner fire would have been if it had been reported later.”

–Mike Wolterbeek ’02

Scuba divers conduct fish research at Devils Hole, the only habitat for the naturally occurring population of the endangered fish. It is an extreme environment, with water temperatures and dissolved oxygen concentrations near their lethal limits for fish.

Building out the earthquake monitoring network with high-definition cameras allows agencies to monitor fires such as the 2014 King Fire in California’s El Dorado County. This photo was captured from the new Angel’s Roost fire camera at South Lake Tahoe.

Photo by Scott Tyler