Award-winning Tahoe Research Report and Poster

This year we teamed up again with DRI to produce a report for the Tahoe Summit that summarized some key research that is being conducted by faculty from our respective institutions. We also worked together to develop an infographic poster, highlighting current conservation and restoration issues to which our research contributes. We were fortunate to have our report and poster distributed by Senator Reid’s office at this year’s Tahoe Summit. In addition, we provided copies of the poster to the Cooperative Extension offices in the Tahoe Basin, teachers throughout the Washoe County School District, UNR’s Office of Prospective Students and participants at the 50th Annual Conference of the Western History Association, held in Incline Village, NV.

This year’s research report focused on UNR and DRI faculty that are working on priority research issues in the Lake Tahoe Basin. The eleven faculty featured this year work in a variety of disciplines and address a myriad of conservation and restoration issues facing stakeholders in the Basin. In addition to describing the work these faculty are conducting, the profiles give the reader a sense of who they are as people and what motivates their interest in science.

While working on the Tahoe Summit report, we developed the idea for an informational poster that educators could use to teach students about environmental science in the Tahoe Basin. University research is important but it is also exciting work that we hope to convey to budding scientists. The concept behind this effort was to create a visually interesting poster that illustrated the many conservation and restoration issues that science is addressing the region, while highlighting the beauty of Lake Tahoe and the surrounding basin. On the front of the poster, using images created by Ron Oden, a Tahoe-based artist and designer, we present the lake and surrounding forest along with images and information about several plant, fish and wildlife species. On the backside of the poster, for those looking for additional information and resources, we provide information on several areas of ongoing research being conducted by UNR faculty and other members of the Tahoe Science Consortium, in topic areas such as geology and seismology, nearshore zone ecology, invasive species, air quality, fire, and historical rephotography.

We hope that students and others will not only read about what our researchers are doing, but see this research in relationship to the lake and its watershed. Ultimately, we hope that we can inspire the next generation of university researchers to continue this important work.

On November 18, the 24th Annual Silver Spike Awards, hosted by the Sierra Nevada Chapter of the Public Relations Society of America, recognized the University of Nevada, Reno and DRI with “Awards of Excellence” for both the Tahoe research report and poster.

In This Issue:

- Tahoe Summit and Infographic Poster (p. 1)
- Walker Basin Project - Phase 2 funded (p. 2)
- NSF Roadside Heritage Project completed (p. 2)
- Interdisciplinary Environmental Graduate Programs (p. 3)
- NSF EPSCoR Summer Award Recipients (p. 4)
- General Undergraduate Research Award Recipients (p. 5)
- NSF REU Summer Program and Award Recipients (p. 6)
- Undergraduate Student Profiles (p. 7)
- Graduate Student Profile (p. 8)
- Letter from the Director (p. 8)
Walker Basin Project - Phase 2 Funded

In an effort to restore Walker Lake, Congress enacted a law in 2005 that created a program to acquire water rights from willing sellers in the Walker Basin. In order to enact an ecologically and economically sustainable program of water acquisitions, a large-scale integrated research program was established with researchers from UNR and DRI. The primary objective of this research program was to provide the hydrologic, ecologic, economic, and agricultural data needed to inform decisions related to water acquisitions. In April 2010, UNR and DRI researchers completed the first phase of this comprehensive research program and a final report was submitted to the Bureau of Reclamation. This report and other information about the program can be can be found on the project website (http://www.nevada.edu/walker/). In July 2010, $4 million in additional funding was received through the National Fish and Wildlife Foundation, the current manager of the water acquisition program, to initiate Phase II of the Walker Basin Research Project. This second phase of research provides two years of support to extend four key components of the program, for which additional information is needed. The four projects that will continue their research include:

- Evaluation of the Effectiveness of Potential Water Right Acquisitions in the Walker River Basin using a Decision Support Tool (Lead: Doug Boyle, Geography, UNR)
- Determining the Response of Walker River Aquatic Life to Incremental Changes in River Management and Use (Lead: Don Sada, DRI)
- Use of Alternative Agriculture and Irrigation Scheduling Technology For Water Conservation in the Walker Basin (Lead: Wally Miller, Natural Resources and Environmental Science, UNR)
- Economic Development Efforts Targeted Towards the Nevada Sub-regions within the Walker Basin (Lead: Dick Bartholet, Small Business Development Center, COB, UNR)

NSF Roadside Heritage Project Completed

In August 2010, The Academy for the Environment (Mike Collopy) and Raggio Research Center for STEM Education/COE (Jacque-Ewing Taylor), in collaboration with the Eastern Sierra Institute for Collaborative Education (ESICE) and the Lawrence Hall of Science (LHS) at the University of California, Berkeley, completed a 3-year, NSF-funded project called Roadside Heritage. This informal science education program was designed to capture the interest of scenic byway travelers along Hwy 395 and rural communities in the eastern Sierra by revealing the wealth of science, technology, engineering and mathematics (STEM) content inherent in rural landscapes. While creating this unique opportunity for travelers, Roadside Heritage also extended its benefits to a rural population that is underserved by informal science education. In particular, youth and other residents from the byway communities contributed to the project as they play a central role in the interpretation of the region’s contributions to scientific achievement. A major deliverable of the program was a 13-episode audio program that explores the Eastern Sierra environment, showcasing its extreme characteristics and the adaptations these characteristics have fostered. The project also conducted after school youth enrichment classes in three communities, developed a STEM-rich interactive website and constructed portable hands-on science festival kits that demonstrated the ecological principles discussed in the audio stories and classes. We encourage you to visit the project website to download the audio stories and explore the wealth of information it contains (http://www.roadsideheritage.org/).
Interdisciplinary Environmental Graduate Programs

Interdisciplinary environmental graduate programs at the University of Nevada, Reno, offer graduate students the opportunity to work on novel research that often spans multiple disciplines. Taking an interdisciplinary approach is increasingly needed to successfully address today’s complex environmental issues. Students participating in our programs are given the opportunity to work with outstanding UNR and DRI faculty, and to develop the knowledge and skills needed to enter the professional workplace and to make substantial contributions to their respective fields. More information can be found at http://environment.unr.edu/interdisciplinary/.

Atmospheric Sciences
The University of Nevada, Reno (UNR), in collaboration with the Department of Physics and Desert Research Institute, offers programs in atmospheric sciences leading to the M.S. and Ph.D. degrees. The atmospheric sciences degree program is conducted with researchers from the Division of Atmospheric Sciences (DAS) of DRI. Areas of academic study in atmospheric sciences include cloud and aerosol physics, ice phase chemistry and physics, satellite remote sensing of the atmosphere, ground-based remote sensing of the atmosphere, mountain meteorology, weather modification, role of clouds in climate, climate change, atmospheric boundary-layer processes, atmospheric radiative transfer processes, regional climate studies, visual air quality, air pollution measurement and chemical analysis, atmospheric chemistry, source apportionment, air pollutant transport processes, biogenic emissions, vehicle emissions and renewable energy.

Ecology, Evolution & Conservation Biology
Ecology, Evolution and Conservation Biology (EECB) is a multidisciplinary Ph.D. program bringing together faculty and students from several departments at the University of Nevada, Reno. The research strengths of this program include population biology, behavioral ecology, plant responses to climate change, conservation of endangered species and restoration of natural ecosystems.

Environmental Sciences
The Environmental Sciences Graduate Program (ES) is based on the tenet that graduate education in the environmental sciences requires an interdisciplinary approach encompassing the fields of chemistry, geology, biology, ecology, physics and human health. The ES Graduate Program offers programs of study leading to M.S. and Ph.D. degrees.

Hydrologic Sciences
The Graduate Program of Hydrologic Sciences is one of the largest such programs in North America and is consistently a top ranked program in the United States to study hydrology. The goals of the program are to provide fundamental and advanced training to students in the critical fields of surface and subsurface hydrology. Over 70 faculty at the University and DRI conduct research in areas such as contaminant transport (surface and subsurface), watershed and ecohydrology, aqueous geochemistry, global climate change, groundwater hydraulics, vadose zone hydrology, surface water hydrology and water resources engineering, students have a tremendous range of options to study.
Well-known as a research institution, The University of Nevada, Reno more than doubled its research funding in the last decade. Less well-known is how many of those research dollars are available to undergraduate students in all disciplines. The University is committed to providing research opportunities to undergraduates. These experiences can be very important in introducing students to the research process, establishing working relationships with faculty and developing credentials that increase their competitiveness for graduate school. They also can provide glimpses into possible future careers.

The Office of Undergraduate and Interdisciplinary Research promotes research opportunities for undergraduate students and maintains a network of faculty mentors to guide student research projects.

One such program is supported with funding from the National Science Foundation, the state of Nevada and the Nevada Experimental Program to Stimulate Competitive Research (EPSCoR). This program supports students interested in science, technology, engineering and math (STEM) disciplines, and has a focus on climate change-related research. Both academic year and summer research awards are available.

The University-funded General Undergraduate Research Awards (GURA) are competitive research grants available to all undergraduate students in any field of study, regardless of class standing. The Honors Undergraduate Research Awards (HURA) are allocated through a competitive process to senior undergraduates in the University’s Honors Program. About 60 research scholarships a year are awarded through the various programs managed by the Office of Undergraduate and Interdisciplinary Research. Proposal requirements, applications and other information on undergraduate research opportunities can be found at www.unr.edu/undergraduateresearch.

**Summer 2010 NSF-EPSCoR UROP Award Recipients**

Summer EPSCoR grant proposals are solicited annually in the spring semester. Successful proposals are funded up to $4,500 for the student and $1,000 for the faculty mentor. For more information or to view upcoming EPSCoR solicitations, visit: http://www.nevada.edu/epscor/

- Issa Beekun, UNR  
  Department: Electrical Engineering  
  Mentor: Casin Yaman Evrenosogly  
  Project Title: Towards a Sustainable Climate: Methods for Reliable Integration of Renewable Source to Power Grid with Accurate Weather Forecasting Techniques

- Corbin Benally, UNLV  
  Department: Electrical and Computer Engineering  
  Mentor: Shahram Latifi  
  Project Title: Reliability Analysis of Nevada EPSCoR Climate Change Data Portal

- Mark Burger, UNLV  
  Department: Life Sciences  
  Mentor: Frank Van Breukelen  
  Project Title: Understanding the Biological Effects of Global Climate Through Calorimetry

- Eric Ceniceros, UNR  
  Department: Physics  
  Mentor: Kent Hoekman  
  Project Title: Practical Demonstration and Analysis of Electricity Production via Biomass Gasification

- Ian Collier, GBC  
  Department: Social Sciences  
  Mentor: Doug Hogan  
  Project Title: Monitoring Lowland Pika Population Response To Climate Change

- Isabel Flores, WNC  
  Department: Nursing  
  Mentor: Mike Sady  
  Project Title: Climate Learning Is My Aspiration

- Ashwitha Francis, UNLV  
  Department: Life Sciences  
  Mentor: Brett Riddle  
  Project Title: Impact of Historical Climate Change on the Genetic Structure of the Great Basin Pocket Mouse

- Stephanie Kover, UNR  
  Department: Civil and Environmental Engineering  
  Mentor: Edward Kolodziej  
  Project Title: Fate and Transport Studies of Synthetic Growth Hormones with Adverse Affects on Water Quantity

- Dante Lorenzetti, UNR  
  Department: Civil and Environmental Engineering  
  Mentor: Eric Marchand  
  Project Title: Development of Arsenic Concentration and Speciation Model for Private Well Water in Douglas County

- Matthew Tooth, UNR  
  Department: Physics  
  Mentor: Radu Presura  
  Project Title: Neutron Stars in the Laboratory: Can We Do It?

- Valerie Tu, UNLV  
  Department: Geoscience  
  Mentor: Elisabeth Hausrath  
  Project Title: CO2 Sequestration and Dissolution Rates of Serpentinite Soils of the Klamath Mountains, CA

- Michael Ulrich, UNLV  
  Department: Life Sciences  
  Mentor: Frank van Breukelen  
  Project Title: Ubiquitin Dependant Proteolysis in Rana sylvatica
2010-11 General Undergraduate Research Award (GURA) Recipients

The Office of Undergraduate Research provides competitive grants available to all UNR undergraduates through the General Undergraduate Research Awards (GURA) program. All undergraduate students regardless of the field of study and class standing are eligible to submit a proposal. GURA grant proposals are solicited annually in the spring semester and students are allowed up to one year to complete the project. Up to $1,200 per grant may be awarded.

Jackielou Boado  
Department: Environmental Science  
Mentor: Jerry Qualls  
Project Title: Evaluating the Age of Soil Organic Carbon Taken from Sites of Elevated and Ambient Atmosphere CO2

Danielle Cox  
Department: Sociology  
Mentor: Marta Elliott  
Project Title: Esteem and Desirability of Leadership in Intergenerational Power Dynamics

Dionne Drakulich  
Department: Biology and Nutritional Science  
Mentor: Chris Pritsos  
Project Title: Helicobacter Pylori Eradication Through the use of Bovine Milk Fat Globule Membrane (MFGM) and Lactoferrin: A Possible Replacement for Antibiotics

Kirsha Frederickson  
Department: Psychology  
Mentor: Lee Dyer  
Project Title: Caterpillar-Parasitoid Interaction Diversity Along an Altitudinal Gradient Within the Sierra Nevada

Erin Frias  
Department: Anthropology  
Mentor: Louis Forline  
Project Title: Neo-Shamanism and the Ayahuasca Experience

Natalia Garrido  
Department: Psychology  
Mentor: Larry Williams  
Project Title: Automated Video Based Training Package to Teach Discrete Trial Training

Masakuzu Geshu  
Department: Mathematics and Chemistry  
Mentor: Aleksey Telyakovsky  
Project Title: Application of Adomian Method to Model Concentration on a Surface of Rotating Disk

Antionette Gray  
Department: Biochemistry  
Mentor: John Cushman  
Project Title: Crassulacean Acid Metabolism in Orchids

Andrew Hales  
Department: Psychology  
Mentor: Deborah Davis  
Project Title: A Study of the Effects of Emotional State on False Confession

Showera Haque  
Department: Physics  
Mentor: Radu Presura  
Project Title: Electromagnetic Dynamics of the Z-pinch Wire Array

Michael Koch  
Department: Environmental Studies and Geography  
Mentor: Majorie Matocq  
Project Title: Ecological Niche Modeling of Pika Populations; Incorporating data from newly discovered low-elevation populations in Nevada

Stephanie Kover  
Department: Civil Engineering  
Mentor: Edward Kolodziej  
Project Title: Fate and Transport Studies of Synthetic Growth Hormones with Adverse Effects on Water Quality

Rachel Lecker  
Department: Professional Chemistry  
Mentor: Robert Sheridan  
Project Title: Aryl(trifluoromethyl)carbenes: Reactivity with Nitrous Oxide

Michael Livernash  
Department: Fine Arts  
Mentor: Matthew Mckinney  
Project Title: Science Design for “Is He Dead?” by Mark Twain

Audrey Love  
Department: Fine Arts  
Mentor: Marjorie Vecchio  
Project Title: The Memory Museum

Vincent Ma  
Department: Biochemistry and Molecular Biology  
Mentor: Keith Ikawa, Ronald Pardini  
Project Title: Interaction Between Docosahexaenoic Acid and SMAD Proteins in Colo 205 and WiDr Cells

Kevin Marshall  
Department: Chemical Engineering and Mathematics  
Mentor: Joseph Cline  
Project Title: Light-powered Molecular Motors: Theoretical studies of the control of large molecule rotation by polarized light

Thomas Maxson  
Department: History  
Mentor: Hugh Shapiro  
Project Title: Becoming a God: Popular Views of Mental Illness in Contemporary Taiwan

Kelly Peyton  
Department: Fine Arts  
Mentor: Cheryl Glotfelty  
Project Title: Rediscovering the Terra Incongrita

Travis Phillips  
Department: Biochemistry  
Mentor: Jonathan Baker  
Project Title: Novel Examination into the Collective Behaviours Underlying Muscle Fatigue

Roger Przybyla  
Department: Electrical Engineering  
Mentor: Cansin Yaman Evrenosoglu  
Project Title: Integration of Smart Grid Technology: Costs and Benefits

Ruth Salas  
Department: Community Health Sciences  
Mentor: Subhash Verma  
Project Title: Phosphorylation of ORF37 by the viral kinase ORF 36 leads to degradation of host mRNA in KSHV affected individuals

Michelle Sneck  
Department: Biology  
Mentor: Matthew Forister, Dennis Murphy  
Project Title: A Population - Genetic Study of the Sand Mountain Blue Butterfly

Rosalicia Torres  
Department: Biology  
Mentor: Mario Alpuche-Aviles  
Project Title: Development of Improved Microelectrode Structure in order to Give Better Resolution of Smaller Areas

Heather Wilson  
Department: Biology  
Mentor: Patricia Berninse  
Project Title: Distribution and Transport of Cholesterol within C. elegans

Cynthia Yenter  
Department: Biochemistry  
Mentor: Abigail Forrest, Normand Leblanc  
Project Title: Potential Changes in Expression and Function of Voltage-Gated Potassium Channels in Pulmonary Arteries from Diabetic Rats

Adrian Zambrano  
Department: Chemical Engineering  
Mentor: Ravi Subramanian  
Project Title: Multifunctional Bismuth Titanate as a Photocatalyst for the Conversion of Carbon Dioxide into Methanol
NSF Research Experience for Undergraduates (REU): From Lake Tahoe to Pyramid Lake

During the summer of 2010, eight students participated in the NSF-funded research experience for undergraduates (REU) “Lake Tahoe to Pyramid Lake: Natural Resource Issues in the Sierra Nevada and Great Basin Regions.” Each student conducted an independent research project, with the help of a faculty mentor, focused on the interface between science and policy in the Lake Tahoe-Truckee River-Pyramid Lake Corridor. Hollund Rudolph and Paul Zander, conducted research investigating the distribution of aquatic invasive species in Lake Tahoe with Sudeep Chandra, Associate Professor of Natural Resources and Environmental Science at University at UNR. Amy Teller and Cheryl Higgins, conducted usage and public opinion surveys to determine carrying capacity of Sand Harbor with Jerry Keir, Director of Great Basin Institute. Courtney Cooper investigated networks of information distribution among organizations in Lake Tahoe with Derek Kauneckis, Assistant Professor of Political Science at UNR. Jill Easterday investigated mercury levels in macroinvertebrates in the Truckee River with Mae Gustin, Professor of Natural Resources and Environmental Science at UNR. Lanlan Jin and Katherine Marrow both used photography to document land use changes and land management in the Lake Tahoe Basin with Peter Goin, Foundation Professor of Art Photography/Videography at UNR.

While conducting research projects, students interacted closely with faculty and graduates students conducting research in their fields of interest. During their orientation week, the REU students were introduced to policy issues in the Lake Tahoe-Truckee River-Pyramid Lake Corridor, such as water rights and invasive species, through a series of talks given by guest speakers from non-profit institute, academia, and government agencies. Students also participated in field trips to Pyramid Lake, Lake Tahoe, the Nature Conservancy restoration sites on the lower Truckee River, and Black Rock Desert. At the end of the Summer program, students presented the results of their work at the 2010 Summer Poster Session. In all, the students produced informative research projects and were able to explore the unique ecosystems around Reno, Nevada. Written by Cynthia Downs

2010 NSF-REU Award Recipients

Courtney Cooper
Mentor: Derek Kauneckis
Berry College, Georgia
Department: Political Science
Project Title: Social Science Information Usage Networks Among Organizations in the Tahoe Basin

Jill Easterday
Mentor: Mae S. Gustin
Unity College, Maine
Department: Natural Resources and Environmental Science
Project Title: Mercury in Macroinvertebrates From the Truckee River

Cheryl Higgins
Mentor: Jerry Keir
University of California, Davis
Department: Environmental Science and Management
Project Title: Recreational Capacity Analysis of Watercraft User Experience at Sand Harbor

Lanlan Jin
Mentors: Peter Goin and Scott Hinton
Reed College, Oregon
Department: Biology
Project Title: A Photographic Investigation on the Impact of the Tahoe Keys on the Clarity of Lake Tahoe

Katherine Morrow
Mentor: Peter Goin
University of Connecticut
Department: Environmental Science
Project Title: Management of the Angora Post-Fire Landscape

Hollund Rudolph
Mentors: Christine Ngai, Joe Sullivan and Sudeep Chandra
Humboldt State University, California
Department: Environmental Science and Management
Project Title: Shorezone Spawning of Native Minnows in Lake Tahoe

Amy Teller
Mentor: Jerry Keir
Carleton College, Minnesota
Department: Environmental Studies
Project Title: Social Recreation Capacity and Perceptions of Crowding at Sand Harbor: Two’s A Crowd For Some But Not For All

Paul Zander
Mentors: Christine Ngai, Joe Sullivan and Sudeep Chandra
Northern Arizona University
Department: Environmental Sciences and Education
Project Title: A Comparison of Minnow Trapping Methods in Lake Tahoe
Undergraduate Student Profiles

Stephanie Kover 2010 Summer NSF EPSCoR and 2010-11 GURA Awardee

How did you get involved in undergraduate research? I was looking to get more involved in my field of study. I was interested in the water-related research some of my professors were doing, like Dr. Marchand and Dr. Kolodziej. And I thought, “I should try this out. This might be what I want to do.” I had no idea that I would end up going out to feedlots and handling manure on a regular basis. But now that’s just a typical work day.

What are you currently working on? The work I do in the lab involves the growth promoting synthetic steroids that are implanted in beef cows. These steroids have the potential to end up in our drinking water, causing hormonal imbalances in animals and humans. These steroids are pretty nasty stuff; when fish are exposed to extremely low concentrations (we’re talking about the ng/L range), they can undergo feminization or masculinization. Male fish will grow eggs in their testes, female fish no longer are able to reproduce, and entire populations die. It is exciting to work with this emerging contaminant, especially when awareness of endocrine disrupting compounds, such as synthetic steroids, is really spreading.

Describe a favorite moment during your research. I have to say that I really enjoy field work. The most fulfilling days this summer were those that I spent taking trips out to feedlots, and putting in 14 hours days, getting my hands dirty (Well, not exactly. I wore gloves. Wasn’t about to just dive into manure piles barehanded.) A brief description of the atmosphere: it was scorching hot, plagues of flies flew in from a mile radius, and the only thing dryer than the air were the sandwiches for lunch. But, as undesirable as I make it sound, I had a lot of fun, and jump at the chance to go sampling.

What are your plans after graduation? I want to continue my education and keep doing research after graduating.

What advice would you give to a fellow student considering undergraduate research? Honestly, just talk to your professors. A lot of professors at the university conduct research, and you can read journal articles they have submitted. Anyone who is doing research is really jazzed about it. If you show an interest in what they are doing they will be more than happy to talk to you about it, show you around their lab. You may not end up doing exactly that, but it will give you insight into what options are out there.

Michelle Sneck 2009-10 GURA and 2010-11 GURA Awardee

How did you get involved in undergraduate research? I received an e-mail from the Biology department regarding the Undergraduate Research Department’s research opportunities and then I approached my professor, Dr. Matthew Forister, about potential research projects soon after. After receiving my first grant April of 2009 I proceeded to apply for a second grant in March of 2010 to continue my research because I enjoyed the opportunity of presenting my research at the symposium while acquiring invaluable research experience.

What are you currently working on? The Undergraduate Research grant has enabled me to sequence a region of the mitochondria and a nuclear gene of the Sand Mountain blue butterfly (Euphilotes pallescens arenamontana) which is currently under conservation litigation. With this, my advisor and I created a haplotype map that illuminates the genetic relatedness of the Sand Mountain blue to other closely related subspecies of Euphilotes pallescens. I am currently moving forward with this phylogenetics project by sequencing more nuclear DNA to fine tune our understanding of the genetic relatedness of the Sand Mountain Blue butterfly to other subspecies. This will allow us to publish our findings in a scientific journal and potentially aid conservation efforts to protect this beautiful and vulnerable butterfly.

Describe a favorite moment during your research. Research is extremely fulfilling and exciting. Being able to see your own progress and utilizing the scientific method in a very hands-on way is one of the richest experiences I have had as an undergraduate. My favorite moment was actually performing a DNA extraction by myself and not totally screwing up. I’ve made a lot of mistakes but having a supportive advisor really helps. Honestly I’ve loved every minute of being in the lab!

What are your plans after graduation? Being in the lab and having hands on research experience has definitely propelled me towards a graduate degree. I am applying to a few schools but my first choice is University of Texas, Austin. I’d love to continue doing research, learn as much as I can, and see the world in the process.

What advice would you give to a fellow student considering undergraduate research? Do it! My advice is to at least get experience writing grants, which is absolutely essential in academia. Pick a professor you’d like to work with and ask if they have any questions (which they probably do) that they’d like to investigate. Even better, if you have your own questions propose them to a potential advisor. It’s great experience and when I send my CV to prospective graduate school advisors the things they are most impressed with are my grants and research experience.
Much has changed on our campus during the past couple of years. Similar to many other programs, the Academy for the Environment has experienced significant budget reductions. These cuts have forced us to narrow our focus and emphasize those aspects of our program that are most sustainable (i.e., interdisciplinary research). We have continued to do so, through our efforts on the Walker Basin Project, Roadside Heritage Project, Sustainability Initiative, NSF/EPSCoR Climate Change Project and Tahoe Science Consortium. With this increased focus on promoting interdisciplinary research, last year our office was reorganized under the Office of the Vice President for Research. With this change came some additional responsibilities. In particular, we have been asked to manage the Office of Undergraduate Research and provide oversight to the environmentally-oriented interdisciplinary graduate programs (i.e., Atmospheric Sciences, EECB, Environmental Sciences and Hydrologic Sciences). Given this broader set of responsibilities, our office has been renamed the Office of Undergraduate and Interdisciplinary Research, within which the Academy for the Environment resides. This change is also reflected in the renaming and reorganization of our website (http://environment.unr.edu/) and this newsletter. We hope this consolidated name will reduce confusion and more accurately reflect the activities for which we now have responsibility (i.e., undergraduate research, interdisciplinary environmental graduate programs and interdisciplinary environmental research). Next time you are in Ross Hall, please stop by our new office in Room 202.

Graduate Student Profile

Mark Hausner
Ph.D. Student in Hydrogeology, Graduate Program of Hydrologic Sciences

Where are you from? I grew up near the Chesapeake Bay, just south of Baltimore, Maryland.

Where did you get your undergraduate degree? Masters? I got my undergraduate degree in Civil and Environmental Engineering from Cornell University, and I completed my MS in Hydrologic Sciences here at UNR.

What brought you to the Hydrology graduate program at UNR? Before I started at UNR, I worked at the Washoe-Storey Conservation District, and I had some good experiences working with UNR faculty and students there. UNR Hydrology is a strong program with a great reputation, so it was a natural fit.

What are you currently working on? For my Ph.D., I’m looking at the physical environment of Devils Hole. Part of Death Valley National Park, Devils Hole is a groundwater-fed pool in southern Nevada that’s home to the endangered Devils Hole pupfish. Although the population was near extinction in the 1970s due to groundwater mining for irrigation, it seemed like it had recovered nicely. In the late 1990s, though, the population began declining again, and nobody’s been able to establish exactly why that happened. We’re examining the water temperatures and circulation patterns to identify any recent changes in the physical habitat of the system that may have led to this population decline. It’s a great interdisciplinary project to work on, in that it combines biology, geology, engineering, and hydrology.

Describe a favorite research moment. Our research group has a site where we’re monitoring snow temperatures on Mammoth Mountain. Near the end of a frustrating day of trying to calibrate instruments there, I climbed out of the small bunker that housed our equipment to see the sun going down over the mountain ridge. It was a great reminder of how lucky I was to be working there, even when things weren’t going right.

What are your plans after graduation? While I love doing field research in hydrology, I also enjoy teaching. Ultimately, I’d like to work as a professor at a research university, but it’s hard to make plans in the current economy.

What advice would you give to an undergraduate researcher contemplating graduate school? I’d echo some advice a friend gave to me years ago: don’t say “no.” If you have a chance to see somebody’s field site, visit their lab, or go somewhere new to work, do it. You might find something you love doing.

Contact Us
Office of Undergraduate and Interdisciplinary Research
1664 N. Virginia Street, Mail Stop 436
Ross Hall, Room 202
Reno, NV 89557-0436
Phone: 775-784-8262; Fax: 775-784-8261
Email: environment@unr.edu
Web: http://environment.unr.edu

Letter from the Director, Mike Collopy

Much has changed on our campus during the past couple of years. Similar to many other programs, the Academy for the Environment has experienced significant budget reductions. These cuts have forced us to narrow our focus and emphasize those aspects of our program that are most sustainable (i.e., interdisciplinary research). We have continued to do so, through our efforts on the Walker Basin Project, Roadside Heritage Project, Sustainability Initiative, NSF/EPSCoR Climate Change Project and Tahoe Science Consortium. With this increased focus on promoting interdisciplinary research, last year our office was reorganized under the Office of the Vice President for Research. With this change came some additional responsibilities. In particular, we have been asked to manage the Office of Undergraduate Research and provide oversight to the environmentally-oriented interdisciplinary graduate programs (i.e., Atmospheric Sciences, EECB, Environmental Sciences and Hydrologic Sciences). Given this broader set of responsibilities, our office has been renamed the Office of Undergraduate and Interdisciplinary Research, within which the Academy for the Environment resides. This change is also reflected in the renaming and reorganization of our website (http://environment.unr.edu/) and this newsletter. We hope this consolidated name will reduce confusion and more accurately reflect the activities for which we now have responsibility (i.e., undergraduate research, interdisciplinary environmental graduate programs and interdisciplinary environmental research). Next time you are in Ross Hall, please stop by our new office in Room 202.

Photo by Jean Dixon