FY 2019 Year 5 Extension Annual Performance Document

NV_FY19_Year 5Ext_APD

Nevada Space Grant Consortium
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Sponsored Programs & EPSCoR Office
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A. PROGRAM DESCRIPTION:

The National Space Grant College and Fellowship Program consists of 52 state-based, university-led Space Grant Consortia in each of the 50 states plus the District of Columbia and the Commonwealth of Puerto Rico. Annually, each consortium receives funds to develop and implement student fellowships and scholarships programs; interdisciplinary space-related research infrastructure, education, and public service programs; and cooperative initiatives with industry, research laboratories, and state, local, and other governments. Space Grant operates at the intersection of NASA's interest as implemented by alignment with the Mission Directorates and the state's interests. Although it is primarily a higher education program, Space Grant programs encompass the entire length of the education pipeline, including elementary/secondary and informal education. The Nevada Space Grant Consortium is a Capability Enhancement Consortium funded at a level of $581,400 (Federal funding base and augmentation) for fiscal year 2019.

B. PROGRAM GOALS:

The primary goals of the Nevada Space Grant Consortium (NVSGC), and the objectives that have been implemented to meet those goals, are listed below. To ensure that NVSGC provided NASA internship, fellowship, and scholarship (NIFS) awards that qualify as significant awards under NASA's new guidelines, the number and size of the awards have been modified throughout the grant period.

1) Continue to provide and expand STEM research and training opportunities for students through the NIFS program.

1a) We will enhance our outreach efforts to recruit more students who are representative of Nevada's diversity to enter STEM programs and apply for NIFS awards. The target metrics for this objective include:

- Internships: two significant awards at $6,500 each for years one through three, three significant awards at $7,500 each for year four (graduate student funding level), and two awards (budgeted at $7,300 each to accommodate undergraduate and/or graduate student awards) for the year five funded extension. All internship applications are administered through NASA's internships and fellowships website: https://intern.nasa.gov/ or through the Jet Propulsion Laboratory's internship website.

- Fellowships: four awards at $13,000 during year one, at least two significant awards ($18,000 for a full academic year) for years two and three, three significant awards ($18,000 for a full academic year) for year four, and four significant awards ($17,000 for a full academic year) for year five.
- Scholarships: nine awards during year one ($4,000 each for all years), fifteen awards during years two and three, twelve awards for year four, and twelve awards for year five at the new NASA rate of $3,000 each.
- Diversity goals for the above NIFS programs will be attained if 36% of the awardees are female and 25% are from underserved and/or underrepresented groups.

1b) Nevada System of Higher Education (NSHE) faculty will be mentored and encouraged to aid in outreach and retention efforts.

- NVSGC targeted two workshop/training efforts for the first year with a total of 40 faculty participating. Beginning with the 2016 augmentation, this objective changed to one or more training workshop during the statewide meeting as well as any campus visits. Diversity goals for this effort included 36% female and 25% underrepresented minority groups.

1c) We will develop partnerships with organizations across the state engaged in the recruitment and retention of students in STEM academic programs (e.g., Nevada GEAR UP and Upward Bound).

- The target metric for this objective was to provide outreach to at least four student organizations that would result in ten new students applying for NVSGC awards.

2) Expand past/current successful college and precollege curricular and informal education projects. Partner with other education-based organizations to provide enhanced STEM training to the broadest possible student population in Nevada.

2a) Promote curricular and extracurricular programs to provide college and precollege students with hands-on science or engineering activities including the development of teams to compete in science and engineering challenges relevant to NASA.

- There are multiple target metrics for this objective, including two higher education and three precollege and/or informal education awards; ten higher education faculty and twelve precollege teachers engaged in the awards; ten college students and fifty precollege students engaged directly or indirectly (of whom 36% would be female and 25% underrepresented minority groups); and twelve participating precollege schools with fifty-fifty participation between northern and southern Nevada, with at least four of the schools being Title I schools.

2b) Promote and increase the awareness and availability of NASA content-based materials among professors and teachers to enhance STEM teaching endeavors.

- The target metrics for this objective are two training workshops with a total of 40 faculty present.

2c) Partner with other student/teacher training entities to increase NVSGC effectiveness (e.g., DRI's Science Alive K-12 STEM education program has a network with over 200 Nevada schools).

- The target metrics are to develop partnerships with at least four higher education and

precollege education-based organizations over the five-year grant period and to reach at least eight new higher education students and twenty new precollege students either directly or indirectly through NVSGC programs.

3) Enhance research infrastructure to educate and train students to enter STEM careers.

3a) NVSGC will support the development of new innovative NASA-related research experience and expertise.

- Two seed grants in new research areas will be funded in years two and three, and four seed grants will be funded in years four and five (funding amounts are based on the overall grant award each year).

3b) We will increase NASA and business collaborations in research endeavors and workshops to improve course content and increase internships so that graduating students are better prepared for NASA-related careers.

- The target metrics for this objective are to develop three collaborations with NASA scientists, submit two new proposals for NASA-related research, and develop collaborative relationships with two new NASA-relevant businesses.

C. PROGRAM/PROJECT BENEFITS TO PROGRAM AREAS:

NVSGC is highlighting significant efforts that were completed at the end of year four of this grant. Currently, the NIFS and projects awarded in year five have yet to be completed, but the number of awards in year five are provided in the following text. At least one significant outcome for each of NVSGC's overall goals is listed.

<u>Goal 1: Continue to provide and expand STEM research and training opportunities for students through the NASA internship, fellowship, and scholarship (NIFS) program.</u>

During year five, NVSGC awarded five significant scholarships, six significant fellowships (five at $17,000 and one partial award at $15,000), and three significant summer internships at NASA Centers, which directly supports the primary Space Grant goal to advance NASA-related STEM training and research for undergraduates and graduate students. All recipients were competitively selected based on merit by faculty from at least three different NSHE institutions, who reviewed all of the student applications. The only exceptions were the three internships for which the students were selected by researchers at NASA Ames and the Jet Propulsion Laboratory (JPL). Funds from both the NIFS portion of the NVSGC budget and state matching funds for an NVSGC research infrastructure workforce development sub-award (awarded to faculty leaders) provided additional funds for student scholarships. A maximum of six scholarships at $1,000 per student per semester was budgeted for each of the four colleges.

Students always express that their awards provided a unique opportunity and motivated them to continue in STEM fields, which is typical feedback for all NIFS sub-awards. The following is a comment from David Bombara, an undergraduate at the University of Nevada, Reno, who received a NVSGC scholarship and was selected by JPL for a NVSGC internship:

"For my undergraduate research in mechanical engineering at the University of Nevada, Reno (UNR), I proposed a project titled: "Development of an Artificial Muscle-Powered Robotic Grasper for NASA Rovers." I work on this project in Dr. Jun Zhang's Smart Robotics Lab at UNR. This project has improved my skills in problem solving and technical communication.

During the summer, I was also fortunate to intern at NASA Ames Research Center, working under engineers Shannah Withrow and Dr. Lee Kohlman at the center's Office of Rotorcraft Aeromechanics. There, I helped create a proof-of-concept indoor search and rescue robot. The internship allowed me to make lifelong friends and develop strong teamwork skills. I plan to graduate in May 2020 with a degree in mechanical engineering, then pursue a master's degree in the same major. Funding from the Nevada NASA Space Grant Consortium has allowed me to work on projects that excite me and share my research findings with a wider audience. Emerging robotic technologies have enormous potential. I hope to be on the forefront of that development and eventually pursue a PhD related to robotics."

Goal 2: Expand past/current successful college and precollege curricular and informal education projects. Partner with other education-based organizations to provide enhanced STEM training to the broadest possible student population in Nevada.

The projects funded in year four have reported significant success in returns on investment thus far. Approximately 5345 college and pre-college students had either direct or indirect impacts from all projects and 65 teachers. For the projects that were able to acquire demographic data an average of 56% were female and 58% were from one or more under-represented and/or under-served groups; exceeding the diversity metrics established for NVSGC programs. Other products from the NVSGC education-based programs include: eight presentations; six new courses; and enhancements to other course that are still under development.

During year five, NVSGC had sub-awarded two higher education hands-on-training projects and two informal education projects. One of the higher education awards was provided to a female faculty member and one of the informal education awards was provided to female faculty. None of the applicants or awardees were from other underrepresented and underserved (UR-US) groups. The highly successful Academy of Arts, Careers and Technology (AACT) Human-Powered Rover project that was selected for an award in year four indicated that there were 40 student participants (42.5% female) and two male graduate students.

Goal 3: Enhance research infrastructure to educate and train students to enter into STEM careers.

The focus for this goal during the past five years has been to provide more outreach and training to NSHE faculty and students interested in education and research aligned with the NASA Strategic Plan 2014 and 2018. During year five, four sub-awards were made to one female and three male faculty (25% female). The project titles included the following:

1. *Black Holes in Chemically Pristine Environments*
2. *Robot, Sensor, Unmanned and Autonomous Vehicle-focused Cybersecurity Bootcamps for Nevada Students*
3. *An Artificial Muscle-powered Versatile Robotic Grasper*
4. *Wearable Sweat Biosensors for Astronaut Stress Monitoring*

The Principal Investigators (PIs) for nine of the ten research infrastructure awards during year four have reported the following significant results:

Direct student participation: 13 undergraduate and graduate students; Publications: 11 peer-reviewed articles and 5 articles in preparation and 12 presentations; NASA Center contacts: 4, NASA Ames and Johnson Space Center; New Proposals: 6 submitted, of which 1 was funded thus far; Patents: 1 patent application under preparation; and New or enhanced courses: 5 courses enhanced.

One of the recipients of a year four research infrastructure award, Dr. Brittany Kruger, provided the following statement about her sub-award:

"*My recently funded Research Infrastructure project focuses on assessing the degree of detectable chemolithoautotrophy in a non-serpentinizing groundwater system. Final results of this effort are still being synthesized and interpreted, but clear differences are observed between our two end-member sample sites (one recharge zone and one discharge zone). This project has been invaluable as a jumpstart to my research program. It has allowed me to not only strengthen my existing collaborative relationships within this field of research, it has also supported the establishment of new collaborations that will ultimately result in proposal submissions (one currently being assembled). Further, this project has enabled me to become more proficient in cutting-edge skills needed to be at the forefront of my field, and the publication resulting from this work will be extremely valuable to showcase those skills. I am therefore very grateful for this funding opportunity and the NV Space Grant Consortium program.*"

As noted previously, a significant change to the NVSGC program last year was the development and initiation of a Nevada Community of Practice project. A faculty member from each of the four NSHE community colleges agreed to lead a STEM workforce development effort at their campus. This new program builds upon the success of a NASA Office of Stem Engagement Community of Practice grant. All of the faculty leads have stated that the Community of Practice project has strong outcomes and has prompted students to advance into four-year and master degree programs. Two students from Great Basin College (a community college serving rural communities) provided the following statements:

"As a previous recipient of the NV Space Grant I can attest to the quality it gives to students on various levels. As a student I was able to gain experience in areas that would not be available to such extent otherwise. Living in a rural community has a lot of disadvantages from bigger universities. Being a part of the NV Space Grant gave me the opportunity to explore research in a hands-on manner and present it to a peer group of fellow scientists. This is a major milestone for a community college to be able to participate in these bigger discussion groups and helps prepare students for the possibility of graduate school. Not only did I gain experience with preparing and presenting a research topic, but it was also a great weight lifted financially for tuition expenses. I was personally able to use the NV Space Grant to get a jump start on the research that I will be doing for my master's degree. I believe that the NV Space Grant is beneficial for future students to gain further knowledge within their academic and professional careers. Submitted by Lindsay Gowan."

"Hello, my name is Laura Rosales and I am a full-time student at Great Basin College in Pahrump NV. My first time applying for the NASA Space Grant was last spring. From what I have gathered from my instructor Rita Pujari, the NV Space Grant is to help students that are undergraduate and in specific students that are in STEMS. What we did was gather in a group of the six nominee's and came together to gather project ideas. My project last spring was on obtaining a better body decomposition in Mars. The award for this project made a huge impact for me simply because I don't qualify for financial aid. I currently go to college and pay everything out of pocket to avoid loans, the award paid nearly half of my tuition allowing me to be a little stress free from that semester. It also allowed me to engage and interact with others. This to me was quite bit harder because I am a very introverted person. This allowed me to get out of my comfort circle and interact with others. As I said before this allowed me to

work in a group and contribute ideas to each other regarding everyone's individual topic. Overall, I really enjoyed this project and seeing how many undergraduate students come together with new ideas on how to improve our current quality of life and/or future."

D. PROGRAM ACCOMPLISHMENTS:

- NASA Internships, Fellowships, and Scholarships (NIFS): The NIFS target metrics for this year included 2 internships, 4 fellowships, and 12 scholarships. Additionally, 24 Community of Practice scholarships were targeted. Half of the Community of Practice scholarships were funded by state matching funds through a NVSGC Research Infrastructure Workforce Development sub-award and the other half were funded using NIFS funds. All NIFS awards were funded at the NASA defined level to be considered significant awards, except for the Community of Practice scholarships, which were funded at $1,000 per student per semester. Because this program is in the middle of its award period, we do not have complete demographic data to report at this time.

  During the 2019 summer, Internships were provided to three undergraduate students selected by NASA scientists at Ames Research Center and the Jet Propulsion Laboratory (JPL). JPL was so impressed by their Nevada intern that they funded him to continue his efforts for another three weeks. Because there were additional funds available, six fellowships were funded instead of four. The fellowship applicant pool for the 2019-2020 academic year remained the same as the previous year, but there were still more applicants than awards available (i.e., 14:6). Of the fourteen applicants for NVSGC fellowships, of whom 43% were female, 79% reported that they were from an UR-US group; 6 were first generation college students; 2 were Hispanic; 3 were Asian and 3 reported a disability. Most of the individuals selected for the six fellowship awards, 5 out of 6 (83%), were from UR-US groups, i.e., first generation college student (4) and one Hispanic.

  The scholarship applicant pool was significantly smaller than the previous year (i.e., 6:25). We are uncertain why there was such a significant decline in applications. The diversity of this applicant pool was average, i.e., one female and five males of which two were Hispanic and one preferred not to report. The review panel unanimously agreed to fund all five male applicants, but determined that the female application was too weak and not sufficiently aligned to NASA research to warrant funding. Therefore 40% of the funded scholarships went to individual from UR-US groups.

- Higher Education projects: The target metrics for NVSGC higher education sub-awards included two new single year projects and two multi-year projects that would directly engage a total of five faculty and twenty college students. The diversity metrics for the faculty and student participants were 36% female and 25% UR-US groups. NVSGC received six applications for higher education sub-awards and funded two new projects in addition to the two multi-year projects. Both of the new projects were hands-on-training projects with one award going to a female faculty member and one to a male. The two NVSGC multiyear awards were initiated to help improve the sustainability of the projects for more than a year. However, due to delays in finalizing a budget the start of these projects have been delayed. The lead PIs for the multi-year projects included one female (50%) and otherwise none of the PIs for the four total sub-awards were from UR-US groups. Because the projects started in Fall 2019, there are limited results to report and no data are available on the total number of faculty and

students benefitting directly from the projects. Two of the three 2018 Higher Education projects were completed in Spring 2019 and report the following products: one presentation; seven conference proceedings; one publication in preparation; and six new courses. Four students participated in the one project of which three were paid and one was a volunteer. One student was female and the other three students were male Hispanics, resulting in 100% UR-US representation.

- Research Infrastructure projects: The target metrics for the NVSGC research infrastructure program were to receive ten applications and provide four sub-awards that would each result in one new proposal submission. During the fifth year, we received eight proposals of which four were selected for funding. Three of the eight applicants were female (38%) and none of the PIs reported that they were from other UR-US groups. To date, all 2019 projects have plans to submit at least one new proposal. Proposal submissions for the ten 2018 projects has totaled ten thus far with one project submitting five new proposals (two funded, two recommended for funding and one pending). Another project submitted three new proposals of which two were selected for funding and one declined. One project has a patent application in preparation related to research on detecting, locating and tracking multiple small Unmanned Aircraft Systems (sUAS). One of the projects (NV Community of Practice) was a research infrastructure workforce development project that was sub-awarded to the four NSHE community colleges to enhance STEM education. To date, most of the community colleges have been able to sub-award scholarships to their full allotment of six students per semester except the College of Southern Nevada. Because this program is on-going, complete demographic data is not currently available, but we anticipate that this program is providing STEM research training to students of a higher diversity level than the NVSGC diversity target metrics.

- Precollege projects: The target metric for NVSGC precollege solicitation was continue to fund the one multi-year project selected in the previous year. A minimum of five students would gain experience from the project(s), with a participant diversity of 36% female and 25% UR-US groups. The PI of this project was female and therefore 100% of the faculty involved in this program were female. Because of the delay in establishing a correct budget and slow sub-award processing this project does not have data to report. One of the two precollege projects funded in 2018 entitled "Developing Earth & Space Science Curricular Units to Ameliorate Problems of Teaching Practive and Support Student Learning" reported outreach to 36 teachers of which two reported as being from UR-US groups, i.e., 6%. No data was reported on gender.

- Informal Education projects: The NVSGC metrics for the informal education program was to provide direct training for a total of 20 students with a participant diversity of at least 36% female and 25% from other UR-US groups. The budget included funding for at least one new project. Five applicants applied to this solicitation (two females and three males; i.e., 40% female). Two applicants (one female and one male) were selected for funding. One of the currently funded projects is working with the Commercial Crew education group at Kennedy Space Center to bring NASA virtual reality into K-12 classrooms. This project has been very successful and demonstrated at several schools. Final data will not be available until the end of the school year (2020). The three Informal Education projects from 2018 have reported significant results. The project entitled "Sparking Interest in NASA themed STEM content through State-wide Informal Education Partnerships" reports that they have provided content

to an estimated 1760 students of which approximately 49% were female and approximately 60% were participating in the free or reduced lunch. No other demographic data could be captured for this project given the prohibitions on capturing demographic data in the schools. For the project entitled "University/Museum Partnership for Informal Education in Robotics" it is estimated that more than 1600 students and 65 teachers were impacted by this project. It was not possible to acquire demographic data for this project. The third 2018 project, entitled "Inclusion Rocks! Introducing Underrepresented Students to the World Around Them Through Geoscience and Remote Sensing" included several components including a festival and direct interaction with teachers and students. Although the school district prohibited collecting information on attendees, it is estimated that approximately 500 students, teachers and chaperones attended one session and approximately 1300 students and teachers participated in the STEM festival events. Two college students consistently assisted with this project and both were female.

E. MILESTONES

Milestones were met as stated in the Year 5 extension proposal milestone table. All applications for NVSGC programs were advertised with applications due in the January to March 2019 timeframe. Reviews were conducted in a timely manner and selected recipients (based on reviewer scores and consensus agreed upon during a review panel meeting) were informed of their award in a timely manner. The only area where NVSGC experienced delays was in the preparation and delivery of sub-awards. The delay was due to several factors including: the physical moving of the Nevada EPSCoR and Sponsored Projects Office; hiring of new personnel who process sub-awards and continuing delays with the online financial system WorkDay.

F. PROGRAM CONTRIBUTIONS TO NASA EDUCATION PERFORMANCE GOALS:

- **Diversity:** NVSGC programs have overall exceeded the diversity targets established for the current grant year (36% female and 25% UR-US) for all program elements (average was 41% for females and 0% to 79% UR-US), but individual program elements either were not able to collect sufficient data or did not meet not meet the NVSGC diversity metrics.

- **Minority Serving Institution Collaborations:** Nevada is currently a state with no ethnic majority and this is reflected in the enrollment statistics for higher education institutions. Since 2016, minority enrollment across NSHE institutions (all of which are NVSGC affiliates) has exceeded "white" enrollment and the gap is increasing. In 2012, the University of Nevada, Las Vegas (UNLV), achieved designation as a Minority Serving Institution (MSI). In 2015, UNLV achieved designations as an Asian American and Native American, Pacific Islander-serving Institution (AANAPISI) and as a Hispanic Serving Institution (HSI). The College of Southern Nevada has received designation as an MSI, AANAPISI, and HSI. Nevada State College has also been designated as an MSI and AANAPISI, and it is an emerging HSI. The three remaining NSHE degree-granting institutions (Truckee Meadows Community College; the University of Nevada, Reno; and Western Nevada College) are also emerging HSIs.

- **Office of Education Annual Performance Indicators:** Only UR-US students receiving significant funding are reported: 8 of 14 2019-20 NIFS awarded (note: 5 students elected not to report their demographic data) and 9 students involved in 2018-19 faculty education and research infrastructure are reported. Item STEM-19-5 provides the total number of 2018-19 peer-reviewed publications (16) and presentation proceedings (16). Note: 2019-20 data on publications and proceedings are not available at this time.

    - API 3.3.3: STEM-19-1 17

    - API 3.3.5: STEM-19-5 32

G. IMPROVEMENTS MADE IN THE PAST YEAR:

NVSGC is continuing to make improvements in all aspects of its programs. The timing of solicitations has been modified so that announcements are made earlier and all solicitations now being announced on the same date during the Fall semester. Previously, solicitation announcements were staggered through the early part of the Spring semester. Solicitation information and guidance is continuing to be provided via webinars for all solicitations to explain the programs and provide tips on how to submit the best possible application/proposal. We maintain and are continuing to improve our "NV NASA Programs" website to provide timely information of benefit to Space Grant solicitations, as well as other non-Space Grant, NASA-relevant solicitations.

We continued two new solicitations within the existing framework of the NVSGC programs to ensure a significant portion of NVSGC funding is going to the community colleges to enhance STEM education via a Nevada Community of Practice program. We continue to designate some of the scholarship funds directly to this program, as well as a research infrastructure workforce development sub-award, to provide more scholarship funds and a small amount of funds to cover faculty salaries and material costs. The other new program, a three-year, hands-on-training (HOT) solicitation for either higher education or precollege students has been slow to be initiated. Both of these solicitations are competitively reviewed in a similar manner as all other NVSGC programs.

H. CURRENT AND PROJECTED CHALLENGES:

The most significant challenge for NVSGC this past year continues to be a slow sub-award process that is primarily due to continuing issues with a fairly new online financial service system. Although NSHE is working with the vendor to resolve the issues, those relevant to sub-awards among institutions remain problematic. Additionally, the alignment between the NASA Office of STEM Engagement reporting deadlines and the timing of the NVSGC sub-awards continues to be offset, i.e., sub-awards need to operate past the end of our contract period and both APD and OEPM reporting occur half-way through the sub-award periods and not at the end of the sub-award. Because of these issues, we will be requesting a one-year no cost extension to provide time for projects, all invoicing and reporting to be successfully completed.

Attaining diversity goals, particularly for UR-US groups remains a continuing challenge because of the lower number of diverse students engaged in STEM curricula compared with Caucasian/white STEM enrollment. We are hoping that the informal education and precollege projects funded by NVSGC will gradually improve the diversity of STEM enrollment.

I. PROGRAM PARTNERS AND ROLE OF PARTNERS IN PROJECT EXECUTION:

NVSGC partners include all institutions within NSHE and planetarium/museum and business affiliates. The roles of NVSGC partners are listed below.

NVSGC Academic Affiliates: All of the NSHE degree-granting Universities, Colleges and a non-degree granting Research Institute are vital members of NVSGC. The affiliates include: University of Nevada, Las Vegas (UNLV); the University of Nevada, Reno (UNR); Desert Research Institute (DRI); Nevada State College (NSC); College of Southern Nevada (CSN); Great Basin College (GBC); Truckee Meadows Community College (TMCC); and Western Nevada College (WNC). UNLV, UNR and DRI play significant roles in mentoring most NIFS awardees and implementing higher education, precollege, and informal education projects. The number of students applying for and receiving scholarship awards from the colleges is gradually increasing.

Outreach Institutions: Precollege and informal education projects are a highlight of Fleischmann Planetarium (University of Nevada, Reno), the College of Southern Nevada Planetarium, the Jack C. Davis Observatory (Western Nevada College), the Challenger Learning Center of Northern Nevada and particularly the DRI Science Alive center. This center focuses primarily on teacher training events and the development of precollege, hands-on-training kits (Green Boxes, which are similar to Foss kits) that provide STEM content for Nevada's K-12 schools. Science Alive is also working to provide enhanced STEM education to higher education students and adult populations.

Industry: NVSGC business affiliates provide guidance to education and research programs, as well as a few periodic internships. These affiliates include Arabis Training Resources, Digital Solid State Propulsion, and Sustainable Grounding Systems. Arabis Training Resources provides free training on composite materials repair for University of Nevada, Reno, students as space allows. Arcata Associates, Inc., although not currently a NVSGC business affiliate, is continuing to play a significant role in providing collaborative opportunities with Teledyne Brown Engineering at Marshall Space Flight Center. Three years ago, they launched an internship program for UNLV students, which has resulted in the successful employment of former UNLV interns. Arcata Associates, Inc., is currently a member of the NV NASA EPSCoR Technical Advisory Committee and has provided significant funding for two Clark County School District Student Spaceflight Experiments Program (SSEP) awards.