



AGENDA

STEM-H Advisory Board Meeting

Monday, September 16, 2019

1 to 3 pm Administration Conference Room

FacilitatorGlenda Kodaseet, Communication and Outreach Specialist, R²S²

- Started in June 2019, came from UNM - Main Campus
- Coordinates the STEM-H Board Meetings and Communications
- A list of all Board Members to-date are attached in previous emails from Glenda

Welcome by Dr. Carolina Aguirre, UNM-Valencia Sr Program Manager/Director, R²S²

- The program is currently working on Undergraduate Student Research and the Transition from High School to UNM-Valencia.
- Students are more successful when exposed to internships and hands on experiences, thus, the program is working on strengthening these two areas.

Roll Call/Introductions (all folks in attendance)

- Casey Ahner, Interim Director of Secondary Programs for Los Lunas Schools
- Dr. William “Gill” Giese, Extension Viticulture Specialist, NMSU Agricultural Science Center at Los Lunas
- Samantha Cordova, UNM-Valencia STEM student and Undergraduate Student Research Program participant
- Rodney Wright, Assistant Superintendent, Belen Consolidated Schools
- Donna Flock, Site Coordinator, Los Lunas Facebook or Village of Los Lunas Data Center
- Laura Musselwhite, Dean of Instruction, UNM-Valencia
- Dr. James Bruce Harrison, Associate Professor of Geology, NM Tech
- Miriam Chavez, Principal Investigator, R²S² and Biology Faculty, UNM-Valencia
- Veronica Salcido, Financial Literacy Coach, R²S², UNM-Valencia
- Hank Vigil, Director of Student Affairs, UNM-Valencia
- Sarah Claussen, Career Services, Manager, UNM-Valencia
- John Bollweg, Institution Researcher, UNM-Valencia

Undergraduate Research Presentation by Samantha Cordova, General Science (major)

Research Title: *Phylogenetic relationships among geographically isolated populations of Piñon pines (Pinus edulis).*

Faculty Advisor: Dr. Benjamin Flicker, Assistant Professor of Biology

- Samantha is a full-time student at UNM Valencia working with Dr. Flicker on research.
- Obtained 24 individual samples from populations ranging from the central northern and southern regions in New Mexico
- In order to compare the relationships of piñon pine, she conducted a DNA extraction and DNA sequencing. DNA sequencing revealed 72 DNA sequences that indicate haploid types
- She would like to continue working with the chloroplast genes and the nuclear gene to get a better representation of all piñon populations in New Mexico.
- Her research experience has had a positive impact on her education. She gained the tools and methods to be successful in future lab work.
- She participated in the McNair Undergraduate Research Conference at UNM-Main Campus, the SACNAS Conference in San Antonio, TX, a research conference in Glendale, AZ and at N.M.



Tech in Socorro, NM. All were wonderful experiences and she was able to see a lot of different students and their research at all conferences.

- The Undergraduate Student Research program at UNM-Valencia has offered her different scholarship opportunities, travel opportunities, and fundamental skills to be successful in a future research position in the science community.
- She will likely transfer to UNM-Main, but is also considering N.M. Tech, to major in biology. She is also interested in researching genetics. She stated that she was initially considering pharmacy, but her undergraduate research experience has motivated her to focus on biology.
- She will be graduating in Spring 2020.
- She attended Rio Grande High School, but stopped out, and later completed her GED. She became a full-time student at UNM-Valencia in 2017.
- She gives credit to Victor French and Dr. Miriam Chavez for helping her be successful in her courses as they have been great advisors/mentors to her.

Update on STEM Activities

Dr. Carolina Aguirre, Director, R²S²

- The R²S² program will be purchasing a DNA Sequencer for the Undergraduate Research Program.
- The R²S² program is building a stronger transfer model that supports students entering an undergraduate research project at their transfer institution.

Dr. Miriam Chavez, Principal Investigator, R²S²

- We are finishing up our 3rd year of grant. In that time, a room has been converted into an undergraduate research lab where students can participate in research with different faculty. Samantha was part of the first cohort of students. She took the Undergraduate Research class in Fall 2017 and jumped into the Undergraduate Research program in Spring 2018.
- In the first year of the program, 7 students participated and all are now completing bachelor degrees at a four-year college.
- One student has continued her research through the MARC program at UNM.
- This past year, 8 students participated. Two students are in the McNair/ROP Scholars program at UNM-Main Campus. Another student is in the Nursing Program at UNM-Valencia. Some students are staying in the program due to their successes.
- This year, 3 new students are in the program. There are 7-10 students in the program at any time. Research opportunities are provided in Biology, Chemistry, and Geology, with Math lacking.
- The program is well equipped, but needs more students to participate. Thus, the program is open to all students.
- The program needs to strengthen its support for transfer students regarding their entry or access into research programs. Students transferring with an associate's degree intact need to be tracked as they are more likely to be accepted into research programs. When students transfer to four-year programs, do they have their associates degree? No, not necessarily.
- One of the things offered at NM Tech is offering courses that can be transferred back to obtain an associates degree for the students. It is always useful to have more degrees, something that UNM-Valencia should follow-up on with UNM-Main.

Fall 2019 STEM Activities

Glenda Kodaseet, Communication and Outreach Specialist, R²S²

R²S² is going into its 4th year as a federal grant program funded under Title III – STEM. Basically, the program supports the retention and graduation of STEM students at UNM-Valencia. That is where the program's relationships with the community come into play. Program goals include preparing K-12

students for entry into a STEM field of study, and through activities, stimulate their learning and interest pursuing a STEM degree at UNM-Valencia and getting them used to the college environment.

- **BioBlitz** – Wednesday, September 25
 - The event is comprised of a Health Fair, Job Fair and Biology Scavenger Hunt. The latter exposes students to different aspects of biology. Students will have the opportunity to create a clay imprint in the ceramics studio of a found scavenger hunt object – event memento.
 - Participating students will have the opportunity to win one of 4 \$250 scholarships.
- **Mole Day** – Wednesday, October 23
 - The event exposes students to chemistry. Dr. Jerry Godbout, Assistant Professor of Chemistry, and his chemistry students will engage K-12 students in hands-on activities.
 - Participating students will have the opportunity to win one of 4 \$250 scholarships.
- **STEM Day** – Friday, November 1
 - High school juniors and seniors and UNM-Valencia students will have an opportunity to learn about STEM fields of study, interacting with advisors, faculty and students.
- **STEM Speaker Series** – Wednesdays from 4 to 5 pm
 - September 4 – **Dr. Scott L. Collins**, Associate Director of UNM Sevilleta Field Station and Distinguished Professor, UNM Department of Biology
 - October 2 - **Matt Fetrow**, Director of the Tech Engagement Office at the N.M Air Force Research Laboratory
 - November 6 - **Dr. Emile A. Nakhleh**, Director, Global and National Security Policy Institute, UNM-Main
 - November 20 - **Dr. Marisa Thompson**, NMSU Extension Horticulture Specialist, Los Lunas Agricultural Science Center
- **Field Trips** - Friday, October 18
 - Tour of N.M. Air Force Research Laboratory (AFRL). Students will have an opportunity to engage in dialogue with scientists/researchers and learn about internship and career opportunities.
- **Transfer Tuesdays and STEM-H Walkabouts** focused on UNM-Main, N.M. Tech and NMSU.

Discussion Topics

Internships – Current & Future Needs – STEM Industries

Sarah Claussen, Career Services Manager, UNM-Valencia

- At UNM-Valencia, we have more than 30 internships on file available to students. Most internships are unpaid, though we do connect students with opportunities that are paid.
- Some degrees at UNM-Valencia do require internship experience. These students do receive support to find an internship.
- In the summer semester, only 2-3 students take an internship course for credit, typically they are Information Technology interns.
- There are different opportunities for students if they have an interest in doing an internship. Typically, students' need more education around the value of internships to increase their interest.
- Communicating to students that they are internships available for them is done through New Student Orientations held in the summer, workshops, and classroom visits.
- Career Services works with prospective employers in developing internship opportunities, which include agreements between UNM-Valencia and employers and identifying students.
- Career Services also connects employers to the New Mexico Internship portal, which can help them understand the different components of internships.
- A student that is completing an internship must complete 45 internship hours per credit hour, thus, 130 internship hours are typical of a 3 credit hour course.



Hank Vigil, Director of Student Services *Shadowing – STEM Industries*

- Currently, there is a list of employers seeking interns, but the list needs to grow. Students need to be brought to the table. When they graduate, they need real-world hands-on experience provided by an internship, which helps them compete for jobs. Connecting them to internships supports getting their foot in the door to earn a livable wage, we can set them up for success in New Mexico.
- We have a lot of students who choose to come here because we are in their backyard. Internships are a step towards getting them to UNM-Main or N.M. Tech.
- There are a lot of national internships available, including those with HACU, but they are very competitive. We have a listing of all of those internships and all of that information is given to students, but the internship placements we currently have are more of a one-on-one referral here in the community.
- Do internships need to be the capstone?
 - Some of our certificate and degree programs do require internships to receive an associates degree, but not all. For example, Autocad and others require internships.
- As we have tried to expand our partnerships and dual enrollment, we run into students who are seniors who want to do internships. Is age an issue with internship placement?
 - It depends on the employer, but typically if a student is 18 years of age, it is not an issue.
- What duties are the employers asking a student to do?
 - Develop learning objectives to meet the needs of the student, which is within the internship agreement with employers.
- Job Shadowing – students have the opportunity to decide if they really want to do a specific career for the rest of my life

Action Items

Glenda Kodaseet, Communication and Outreach Specialist, R²S²

Internships and Shadowing

- Board members are encouraged to share ideas or opportunities that support internships, scholarships and career information. Things to keep in mind:
 - Field trips are great opportunities to expose students to STEM industries where STEM professionals can provide research, internship and career information to students. Fridays are the best days for field trips.
- Los Lunas Schools have an internship program with UNM-Valencia.
- UNM-Valencia has an assessment form for students to complete to better understand their soft skills, personal strengths, personality, etc.
- Opportunities for mock professional interviews could be beneficial.
- Students and employers can sign-up for *Handshake* – a listing of employers seeking students for internships. Some opportunities are in the local area, but most in Albuquerque.
- For some students, transportation is an issue.
- Scheduling some one-day shadowing might help students get an idea of what potential careers may be/look like

Support for Fall 2019 and Spring 2020 STEM Activities

- Because R²S² is a grant funded, the program has two more years to execute its objectives. Models need to be developed that others can use and some program initiatives institutionalized.

Meeting Adjourned - Next meeting to be determined.