



Science Initiative News

Spring 2021

Program Updates

In 2021, The LAMP Fellows Program welcomes 23 faculty members and 12 graduate students, the largest ever class of college educators, to their yearlong immersive training. Also, 6 prior LAMP-trained educators in the LAMP “Leaving the Light On” Educator Learning Community (ELC) work to complete original educational research projects, accepted for presentation at the Original Lilly Conference on College Teaching in November of 2021. In a time of COVID-19-necessitated remote teaching, the LAMP Learning Assistant Program is supporting more students than ever; this spring, 19 undergraduate and 7 graduate learning assistants will help LAMP-trained professors in their integration of active learning to online and Hyflex courses. Lastly, due to LAMP-led efforts, UW has a site-wide license to an encompassing set of virtual *Labster* labs that can be used throughout the year, funded through the CARES Act. These labs enable students to actively experience high-end labs, immersing students in a narrative that asks them to solve a problem within a virtual research lab.

The **SI Roadshow** had a successful fall hosting virtual outreach and in-reach events for students and teachers across the state. The team is looking forward to more opportunities and collaborations this spring. We are welcoming new students to add to our already amazing team of undergraduates: Austin Bernard - a physics, math and engineering student, Makayla Wheeler - an honors and elementary education student, and Nischal Khanal, our new technology assistant.

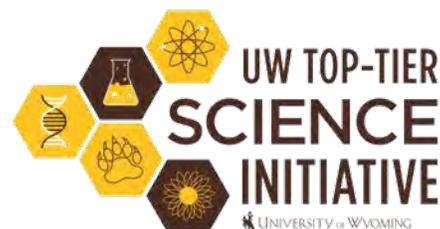
IMPORTANT DATES

- Every Friday, LAMP Lighters come together for LAMP Coffee & Curriculum from 8-9am on Zoom! During these sessions prior LAMP fellows facilitate sessions about active learning strategies they have implemented.
- On Monday, May 17th, new LAMP Fellows who opt for the face-to-face Summer Institute will have their daylong pre-institute kickoff session. The face-to-face Summer Institute is May 24th to May 29th, 2021. This Institute will be held at the Table in the Wilderness Camp and Retreat Center outside of Centennial, Wyoming. Fellows opting to engage in the online summer institute will spend their week together in July (specific dated TBD). The theme of this year’s Institute is “Learning Through Place”.
- Undergraduate, post-bacc and graduate students wishing to apply to be a LAMP learning assistant in the summer or fall of 2021 should look for applications to open by the end of February.
- Applications for the 2021-22 WRSP fellowships will be open from late February through March.
- WRSP students will assist with the State Science Fair March 7-9.
- WRSP students will assist with the Women In STEM conference at UW in May.

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Program Updates Cont'd

With more than 60 research fellows, the **Wyoming Research Scholars Program (WRSP)** enters 2021 with a thriving and talented group of undergraduate researchers. Last fall, students new to the program participated in a hybrid in-person/virtual seminar course, where they discussed interdisciplinary research and worked on professional development. Despite the pandemic, WRSP students engaged in productive research throughout the fall, culminating in the 2020 WRSP Virtual Symposium on Nov 13-14. Students' presentations from this virtual conference were recorded and are available on the Science Initiative website. As the new semester gets underway, students will continue their research projects while also participating in statewide STEM outreach via virtual platforms. Many students will continue their undergraduate research throughout the summer.

CURE

In fall 2020, we kicked off our first year of a three-semester Course-Based Undergraduate Research Experience (CURE) sequence aimed at underclassmen with a First Year Seminar called "Introduction to Ecological Research". This in-person FYS allowed students to engage in hands-on research in stream ecosystems in and around Laramie. The goal of the new CURE program is to facilitate authentic research in college courses, accommodating many more students than can be supported by one-on-one research fellowships. This spring, the second course in the sequence, "Research in Action", is underway. Students who take part in these courses are eligible for summer research internships and can continue into the third course of the three-course sequence in Fall 2021.

Dana Foundation Grant

The Roadshow is excited to announce that they have been awarded a \$1,500 grant from the Dana Foundation for neuroscience outreach. The Roadshow will be working with their teacher partners at Laramie High School and Cheyenne Central High School to bring a virtual outreach experience to their psychology classrooms in March to teach students about the brain and share ongoing neuroscience research happening on campus.

Graduate Student Group Partners with SI Roadshow

Community Outreach Program for STEAM Engagement (COPSE) is a network of graduate students all across campus who are dedicated to building a sustainable community of students engaged in a variety of outreach activities. They do this by encouraging student growth through communication, training events, and assessment strategies for future opportunities. Seed funding from the Berry Biodiversity Conservation Center has enabled COPSE to pursue a campaign promoting the importance of diversity from the scales of microorganisms to extra-solar systems in K-12 classrooms by way of art. When COVID hit in mid-2020, COPSE and Roadshow saw an incredible opportunity to join forces. This symbiotic relationship has proven to have far-reaching benefits. Roadshow opened the avenues for the graduate students in COPSE to virtually meet with classes around the state and teach students about their area of expertise. The extensive experience with incorporating active learning techniques in the classroom by the Roadshow team has empowered COPSE members to develop rich curriculum for deep learning and intuitive assessment methods. This invaluable hands-on training has allowed COPSE members to become more effective at outreach activities and qualified to spread what they have learned to other community members.

-Cristilyn Gardner (member of COPSE)

HHMI Inclusive Excellence Award

Led by LAMP director Rachel Watson, UW's application for the HHMI Inclusive Excellence Award advanced to the next stage of the competition; UW is fortunate to be one of only 15 institutions nationwide to be part of a national learning community re-envisioning inclusive collaborations between 2-year and 4-year institutions.



People in SI



WRSP Scholar

Kianna Olson

Hometown: Laramie, WY

Majors: Astronomy & Astrophysics, Physics

Faculty Mentor: Michael Brotherton

Kianna is working with Dr. Michael Brotherton (Physics & Astronomy) on the MAHA Project. With the MAHA project, they are doing reverberation mapping, a technique that will allow us to better determine the size of Active Galactic Nuclei (AGN). Another key interest of this project is to search for binary supermassive black holes. This past December, Kianna was an author on a paper published in The Astrophysical Journal, titled “Monitoring AGN with Hbeta Asymmetry. II. Reverberation Mapping of Three Seyfert Galaxies Historically Displaying Hbeta Profiles With Changing Asymmetry: Mrk 79, NGC 3227, and Mrk 841”.



LAMP Learning Assistant

Sydney Comet

Hometown: Aurora, CO

Major: Molecular Biology

Faculty Mentor: Amy Navratil

Sydney Comet was a learning assistant for Biological Chemistry. She conceptualized a novel strategy for allowing students to reflect on their class preparation. She created a blog for each student, and before every synchronous session, students wrote about things that surprised or confused them about the pre-class readings and vodcasts. In this team-based learning (TBL) classroom, Sydney’s teams showed marked growth. They learned to give one another rich, substantive feedback, and this allowed members to hone their communication skills and build a productive team. Sydney was also a member of the Virtual Roadshow team. Throughout the summer, she assisted in making vodcasts for our statewide K-12 partners; these included kitchen science and updates on her own lab work as part of the COVID-response team at the Wyoming Public Health Labs. Sydney also helped facilitate a synchronous session with Riverton Junior High Students in which they solved mock genetic counseling case studies. Sydney overflows with passion for student success. One of Sydney’s students commented, “Whenever we were stuck in some problems, she explained those problems at her best level. And she was really helpful for me throughout the semester.”



LAMP Fellow

Ami Wangeline

Instructor, Biology, LCCC

Ami Wangeline was a fellow in the 2017-2018 LAMP class. Ami teaches courses across the biology curriculum and supervises extensive undergraduate research. During her year as a LAMP fellow, Ami worked to re-design the General Biology curriculum, making the labs inquiry-based and learner driven. Ami performs systematic assessment of every pedagogical innovation that she implements; she collaborated with LAMP-director, Rachel Watson and LAMP-mentor Ed Nuhfer on a research study showing how student-self assessment can help us better understand impacts of privilege. [This study was published in the journal Numeracy](#). Ami’s pedagogical research is complimented by a robust scientific publication record and one that Ami would likely credit to the dedication of her many phenomenal undergraduate researchers. Throughout the COVID-19 pandemic, Ami stepped up to teach an overload of courses. Heading into this spring semester, Ami will be teaching 20-credit hours. This unprecedented effort is just one of continued testaments of Ami’s dedication to students.