



Arizona Geological Society Newsletter

NOVEMBER 2020

Society Announcements

2020 Scholarship Recipients

Our December dinner meetings have been the time when the Arizona Geological Society (AGS) presents scholarships to outstanding students at the state's three major universities, the University of Arizona, Arizona State University and Northern Arizona University.

This year we had a number of outstanding applicants for both the J. Harold Courtright and M. Lee Allison Scholarships, which made our job of selecting the best candidates very challenging.



Dylan Carlini

Dylan Carlini received a B. S. in Geology from the University of Oregon in December 2018. He is currently working on an M. S. in Geosciences at the University of Arizona, where he is focusing his research on low-sulfidation epithermal veins of the Oatman mining district in Mohave County, Arizona.



Audrey Dunham

The 2020 M. Lee Allison Scholarship was awarded to Audrey Dunham. Audrey received a B. S. in Geoscience with a minor in Geophysics from Penn State University in August 2017. She is currently a fourth year Ph.D. candidate working toward a degree in Geosciences at the University of Arizona. Audrey's current research involves a diverse set of projects that highlight her passion for

If you are interested in sponsoring future AGS virtual meetings, please contact:

info@arizonageologicalsoc.org

Continued on Page 2



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2020 Courtright Scholarship Recipient

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This project involves geological mapping of surface vein exposures within the district using the Anacosta method and associated sampling for petrography and whole-rock geochemistry. The Gold Road Vein and its alteration envelope will be examined in detail, studying mineralogical changes and trace element chemistry across the vein and with depth. $^{40}\text{Ar}/^{39}\text{Ar}$ age dating of the Gold Road vein and late dikes, such as at Boundary Cone will better constrain the timing of volcanism and mineralization.

Structural reconstructions of the district using the position of the overlying Peach Spring Tuff will constrain the regional surface topography and possible hydrology at the time of ore formation, allowing inferences to be made about potential hydrologic flow paths of recharging paleo-fluids and the sources for the fluid components.



Audrey Dunham

2020 M. Lee Allison Scholarship

Audrey Dunham received a B. S. in Geoscience with a minor in Geophysics from Penn State University in August 2017. She is currently a fourth year Ph.D. candidate working toward a degree in Geosciences at the University of Arizona.

As an undergraduate at Penn State, Audrey received numerous awards for academic achievements in geology, including the Shell Oil Technical Scholarship, Marathon Oil Honors Scholarship, and Mathew J. Wilson Honors Scholarship, which are presented for academic excellence. More recently, Audrey was recognized as one of the “change-making” scientists of our future, when she received the University Of Arizona College of Science Galileo Circle Scholarship in April 2019.

Audrey has also had numerous community outreach and leadership roles, including spearheading an effort to start an Association for Women Geoscientists (AWG), Southern Arizona Chapter in March 2018. She recently began working as a program coordinator for the University of Arizona Women in Science and Engineering (WISE), who helped coordinate virtual programs for high school students in the Tucson Community. In her spare time, she works as a volunteer at PAWSitively Cats, where she helps to clean and maintain a local cat shelter. Audrey is also a member of the Seismological Society of America (SSA), American Geophysical Union (AGU), and Geological Society of America (GSA).

Audrey’s current research at the University of Arizona involves a diverse set of projects that highlight her passion for studying potential and unknown seismic hazards. Two of these projects (Cascadia Subduction Zone and Teton Fault) involve analyzing data from dense arrays of nodal seismometers. These instruments are small portable seismometers, which can be easily deployed in very dense networks in rugged, inaccessible terrains. Capable of detecting much smaller magnitude earthquakes, these dense arrays are used to gain a higher resolution understanding of the subsurface. Audrey’s third project employs modeling techniques to simulate the ground motion from the M7.8 Gorkha Earthquake, which occurred on April 25, 2015 in Nepal. Its goal is to gain a better understanding of seismic hazards by studying the relationships between seismic shaking, topography and landslides in mountainous regions.

Continued on Page 4

Student Outreach Efforts

J. Harold Courtright Scholarship

Harold Courtright had a life-long interest and career in mining and geology in the Cordillera of North and South America. His field mapping skills and exploration expertise led to the discovery of now well known porphyry copper deposits in Arizona and Peru. The scholarship fund, set up after his death in 1986, is designed to promote graduate research in the Cordillera and, while the Society may support exciting studies in any geologic discipline, we do place special emphasis on field geology, economic geology, and the study of ore deposits.

M. Lee Allison Scholarship

Lee Allison began his career in the oil industry but soon transitioned to a career in public service. Before his life was tragically cut short in August 2016, Lee served with distinction as State Geologist in Utah, Kansas, and Arizona, successively. A dynamic and visionary leader and a gifted mentor, Lee combined innovative scholarship and consummate people skills with enthusiasm and optimism to drive his passion for making geologic information available to the public and for rendering it understandable. He was an articulate spokesman on scientific issues of societal importance and was dedicated to communicating their significance and impact in ways that resonated locally, regionally, nationally, and internationally. As a measure of his far-reaching public service efforts, Lee was honored by the American Association of Petroleum Geologists, the Association of Women Geologists, and the American Institute of Petroleum Geologists.

In recognition of his many contributions, the Arizona Geological Society Geosciences Scholarship was re-named in Lee's honor following his death. Fittingly, the M. Lee Allison Scholarship is awarded to students who demonstrate exceptional achievement in pursuit of degrees in the earth sciences and who show balanced records exhibiting academic excellence, a passion for research, outstanding professional and general community involvement, and leadership in all of these areas.

For more details about these scholarships visit our Student Outreach Page:

<https://www.arizonageologicalsoc.org/Students>



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Dues (check box) 1 year: \$35; full-time student (membership is free)

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Enclosed is a _____ tax-deductible contribution to the J. Harold Courtright or the M. Lee Allison Scholarship Funds.