



WSU Emeritus Society

Retired Faculty Serving the Future

SPRING/SUMMER 2021 Newsletter

SHOWCASE



Emeritus Society Grants & Awards 2021

Our award committees have selected seven undergraduate students to receive awards and grants that will support their research efforts. Tom Dickinson, SURCA Awards Committee Chair, announced the following five recipients of a \$500 award to recognize their significant research and scholarly contributions:

Jack Spencer Smith, Arts, Humanities and Creative Activities

Chelsea Weaver, Physical Sciences and Mathematics

Randi Richards, Biosciences

Olivia Willis, Social, Economic and Behavioral Sciences

John Bussey, Engineering and Applied Sciences

In addition, Alexander Hammond, Arts and Humanities Research Grant Committee Chair, announced the following two undergraduate recipients of \$1,000 grants to encourage innovative research and creative activity in the Arts and Humanities:

Anya Guadamuz, School of Music

Emma Ledbetter, School of Molecular Bioscience (CAS)

As retired faculty from disciplines across the university, we feel it is important to do what we can to encourage students' research, scholarship, and creative activities. This allows us to contribute to the continued advancement of WSU, our community, and the state. We are very honored to present awards to undergraduate researchers in five categories, and our new Arts and Humanities grant to our first two awardees. Congratulations to all our recipients!

Tom Brigham

More details available at: <https://surca.wsu.edu/>



Nicolas Kiessling
Professor Emeritus
Department of English

EMERITUS SOCIETY LEGACY OF EXCELLENCE AWARD

The annual Legacy of Excellence Award is given to a professor emeritus who, in retirement, continues to make outstanding contributions to academia, the University, and the community. The 2021 Award was given to Nicolas Kiessling, Ph.D., during the Annual Showcase ceremonies in March where fellow Emeritus Alexander Hammond delivered a very moving tribute: <https://www.youtube.com/watch?v=gpYMfM644z>

Dr. Kiessling is an internationally recognized scholar of Medieval and Early Modern literature and culture. Since his retirement in 2000, he has shed new light on the lives and libraries of seventeenth-century antiquarian and biographer Anthony Wood and English writer Robert Burton. Kiessling's 2002 *The Library of Anthony Wood*—a catalogue of 6,758 items—won praise as “a monumental and exemplary achievement.” His annotated edition of Wood's autobiography adds detailed notes and a biography to Wood's own life accounts. Kiessling's research opened new perspectives on books printed surreptitiously by Catholics in England from about 1558 to 1800. His essay on the illegal transfer of some 20,000 such books out of England was awarded the UK CILIP's History Essay Award for 2017.

Since retiring, Dr. Kiessling has held a visiting appointment at Université de Haute Bretagne, Rennes, France, and a Fulbright Senior Scholar appointment in Casablanca, Morocco.

Engineering and Applied Sciences Award

John Bussey, Honors College



Chemical engineering and materials science and engineering major and WSU Honors College student John Bussey, with mentor John McCloy, explores the topic of “Characterization of Mt. St. Helens Ash for Use as a Lunar Regolith Simulant.” An important issue in planning exploration of the Moon is the effect of the lunar regolith (dust), which is destructive and hazardous to humans and equipment. A key need in mitigating this hazard is finding quality analogs (simulants) in high quantities that can be used for testing lunar equipment. Bussey found that the ash that landed in Pullman and similar locations following the volcanic eruption in 1980 is a relatively high-quality, medium-fidelity simulant that is potentially promising for testing of lunar-bound products—particularly those that are mechanical.



Anya Guadamuz School of Music

Arts & Humanities Grant Recipient

Music performance major Anya Guadamuz’s research project is titled, “Music of the Spheres: Using Astrological Symbolism to Explain Dualities within Music” which will become the topic of her Honors College thesis. According to reviewers, she applies “ancient Hellenistic astrological techniques to modern understanding of western music” and, using quantitative observations and qualitative interpretation, seeks to show how “the philosophy of musica universalis or ‘music of the spheres’” offers tools to understand how music functions and affects humanity. Reviewers said her advisor, Sophia Tegart, noted Guadamuz’s skill in analyzing music and placing it within a social context in history. She also excels at research that draws relationships between music and people, and whose inquiry is effectively focused by the concept of dualities.

Arts, Humanities, and Creative Activities Award

Jack Spencer Smith, School of Music

Music composition and music education major Jack “Spencer” Smith researched with mentor Gregory Yasinitsky and composed “Hero, Op. 3: A French Overture for Wind Ensemble” to inspire upcoming musicians to learn about forms of the past, to be able to understand why musicians must know about these historical forms, and to recognize that they as musicians are important in their ensemble and in the world of music. The overture in the Baroque style of the early eighteenth century was scored for a modern wind ensemble. It demonstrated integration of historic harmonic and melodic characteristics and a command of counterpoint. The project was judged to be independent in development and creative in approach, impressively grounded in historical research, and scholarly in its presentation.



Physical Sciences and Mathematics Award

Chelsea Weaver, Voiland School of Engineering

Physics and astronomy major Chelsea Weaver researched with mentor Brian Saam the topic of “Fluxgate Magnetometer Integration in Spin Exchange Optical Pumping Experimental Setup and Electron Paramagnetic Resonance Frequency

Shift Measurement.” Weaver’s project involved developing and implementing new sensors and magnets to achieve the required stability of magnetic fields in the region where the alkali atoms are being manipulated so they can be used to polarize the nuclei of noble gases for biological systems imaging applications. Reviewers applauded Weaver’s ability to quickly learn a wide variety of experimental techniques, assemble new circuitry, independently analyze data, and advance the understanding of the underlying physics in imaging techniques.



Biosciences Award

Randi Richards, College of Arts & Sciences

WSU Vancouver biology major Randi Richards researches with mentor Stephanie Porter the topic of “The Evolution of Heavy Metal Tolerance Leads to UV Tolerance in Plant Microbial Symbionts.” Her project involved the study of soil Rhizobium bacteria, plant symbionts. Despite the importance of rhizobia for plant health, little is known about how they adapt to environmental variation in the soil. She tested Rhizobium strain tolerances to UV light under different soil characteristics. She examined 179 strains of Mesorhizobium from Oregon and California and found that while soil chemistry is not a strong predictor of UV tolerance, there is support for the idea that adaptation to harsh soil chemistry leads to greater UV tolerance in rhizobia, possibly to protect strains from higher UV irradiation in more extreme soil types. A better understanding of the interaction between Rhizobium-soil-UV light will lead to strategies to improve plant ecology. Reviewers said that Richards is credited with learning laboratory techniques and working independently on her project, and for her ability to confront challenges, working well with others in the laboratory, and grasping the “big picture.”



Social, Economic, and Behavioral Sciences Award



Olivia Willis, Honors College

Neuroscience and psychology major and WSU Honors College student Olivia Willis researched with mentor Cheryl Reed the project “Inspiring Transportation Career with K-12 Curriculum Activities.” Willis investigated how to best introduce middle- and high-school students to transportation engineering so they will gain a positive view of the field as a possible career. With a sample of 116 students, the outreach activity consisted of an online survey, a pre-activity test, links to videos, an online transportation

game, a post-activity test to gauge learning, and an optional short essay about the activity. To obtain a diverse sample for the experiment, students were recruited from local middle and high schools and through TRIO Upward Bound math and science programs nationwide. Early results indicate students’ knowledge of transportation engineering improved significantly between the pre- and post-activity tests with a p-value of 8.5859E-06.



**Emma Ledbetter
College of Arts & Sciences
Arts & Humanities Grant
Recipient**

Microbiology major Emma Ledbetter researches “The Rhetoric of Communication of Scientific Information about COVID-19” with advisor Melissa Nicholas. It is also the topic of her Honors thesis. The project allows Ledbetter to tap into her journalism experience as science writer and editor-in-chief for the Daily Evergreen, on her training in science, and on her studies in English of “the language we use to construct epidemics.” Ledbetter seeks to understand how such rhetoric contributes to “alienation of people in the U.S.” and can be refined in the discourse used in future pandemics. Reviewers said Nichols praises Ledbetter’s skill as a researcher, stresses her highly sophisticated analytical ability and grasp of the fundamental rhetorical principles informing her inquiry, and emphasizes that the theme, texts, methods, and artifacts of analysis in the interdisciplinary project are “completely of her design.”