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GWU Science Alumni Contribute to Discoveries Around the World

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ALUMNI

GWU Science Alumni Contribute to Discoveries Around the World

BY OFFICE OF UNIVERSITY COMMUNICATIONS ON MARCH 16, 2021



Research by Jacob Walley, '17, Receives Honors, Featured in Prestigious International Chemistry Journal

Faculty members in the Gardner-Webb University Department of Natural Sciences work collaboratively to provide students with unique and meaningful opportunities for research. These undergraduate experiences give GWU students an edge when applying to graduate school or seeking employment.

As a result, biology and chemistry graduates from Gardner-Webb are making an impact around the world—studying in prestigious graduate schools, publishing in top chemistry journals, researching the COVID-19 virus, and serving in healthcare fields.

These graduates, such as chemistry alumnus, Jacob Walley, '17, are experiencing the benefits of STEM (Science, Technology, Engineering, and Mathematics) education. [The U.S. Bureau of Labor Statistics](#) forecasts overall employment in the economy to grow by 3.7 percent in a 10-year period, while jobs in STEM fields are expected to grow by 8 percent. The projected median annual wage for STEM job holders is \$86,980 compared to \$38,160 for non-STEM occupations.

According to GWU President Dr. William Downs, "Today's society demands a skilled workforce with expertise in the STEM fields. At Gardner-Webb, our students can follow Jacob Walley's path and meet those demands by coupling a strong liberal arts foundation with focused study in the sciences. Our economy is primed and ready to employ these top graduates."

Walley's research was recently published in one of the most prestigious chemistry journals in the world. He is entering his fourth year as a graduate student in the Ph.D. chemistry program at the University of Virginia (UVA) in Charlottesville.



His interest in research was developed in the GWU chemistry lab and through an internship at Florida State University (FSU) in Tallahassee. He and his mentor, GWU alumnus, Dr. David Podgorski, worked in FSU's National High Magnetic Field Laboratory conducting experiments on Deepwater Horizon, the largest marine oil spill in history.

To ensure graduates like Walley excel in research, the GWU faculty emphasizes a strong academic foundation, noted Dr. Stefka Eddins, professor of chemistry. "In my classes, I strive to teach my students to think about what they are learning, to ask critical open-ended questions, and not just memorize and recall," Eddins explained. "I also try to highlight the connection between life and what they are learning. Although hard to do, these are important topics, even in the 100-level courses, because in science the 100-level courses lay the foundation for successful upper-level work."

Now Walley is studying in the laboratory of Professor Robert Gilliard at UVA and has been recognized several times recently and published 11 papers in his four years there. A compound he synthesized was honored by the American Chemical Society's trade journal "Chemical & Engineering News" as a "Molecule of the Year" for 2020. His research, along with studies by others in the Gilliard Group, can be used in the development of new medicines, conversion of solar energy to chemical fuels, and the development of more environmentally benign methods to produce materials used in society.

Further, he has published two articles in the German journal "Angewandte Chemie," International Edition (English). One is about unravelling the [complexities of carbene versus carbene](#). The other is on the synthesis of the first known example of a compound containing a double bond between an [s-block metal \(beryllium\) and nitrogen](#). Walley's work in this area was also featured in an article in "Chemical & Engineering News." Most recently, his research appeared in the American Chemical Society's journal, "[Inorganic Chemistry](#)."

Walley was honored in March 2021 by the American Chemical Society's Inorganic Division with a [Young Investigator Award](#). He will be speaking at the American Chemical Society's National Meeting in August 2021 and will be featured in a special issue of "Inorganic Chemistry" as well.

"All the chemistry professors at Gardner-Webb are excellent teachers/mentors who genuinely care about their students' future," Walley reflected. "As a result, classes were very engaging, which made learning the material easy. They encouraged me to pursue graduate school. In my final year at Gardner-Webb, I had many discussions with my chemistry professors, where they mentally prepared me for graduate school and how it is entirely different from life as an undergraduate. My professors giving me the right expectations prepared me the most for graduate school."

Located in the North Carolina foothills, Gardner-Webb University is a private, Christian, liberal arts university. Gardner-Webb emphasizes a strong student-centered experience and rigorous academics to prepare students to become effective leaders within the global community. Ignite your future at Gardner-Webb.edu.

GOT A STORY?

We welcome your suggestions and feedback, contact:

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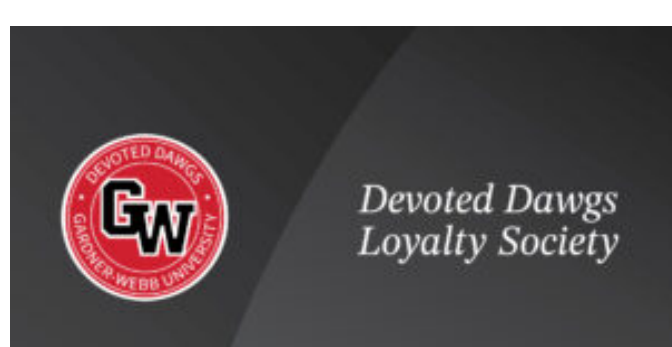
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