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Tania Brown Gains Valuable Experience Through Undergraduate Research

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Tania Brown Gains Valuable Experience Through Undergraduate Research

BY OFFICE OF UNIVERSITY COMMUNICATIONS ON AUGUST 27, 2020



Biology Major Tests Efficiency of Using Fruit Peelings to Remove Contaminants from Water

For her Undergraduate Research Scholar Project, Gardner-Webb University student Tania Brown, of Gastonia, N.C., studied an idea with a practical application. A biology major with a concentration in biomedical sciences, Brown tested the efficiency of using watermelon and cantaloupe peels to remove Bromothymol Blue from water. Bromothymol Blue is a dye used as an indicator in determining pH. It is yellow in acidic solutions, blue in basic solutions and green in neutral solutions, but is harmful to the respiratory tract and digestive system if swallowed.

“My favorite fruits are cantaloupe and watermelon,” Brown shared. “I wanted to research something I could see the actual benefits from within my everyday life.”

Brown was one of 11 Gardner-Webb students who applied for and received a grant from the GWU Undergraduate Research Scholars Program for the summer. The students worked 40 hours a week for five weeks on their projects, which they hope to present in a professional forum. Each one had a faculty mentor or collaborator who guided them through the project. Brown’s mentor was Dr. Venita Totten, professor of chemistry, who also encouraged her to apply for the research grant.



Tania Brown conducts her research in the laboratory at Gardner-Webb.

“I never liked chemistry, mainly because I didn’t have a teacher to break it down as well as Dr. Venita Totten,” Brown noted. “I took General Chemistry 1 & 2 with her, and she made it all click. Doing the chemistry research was not in my plans, even though I got an A in both classes. Dr. Totten invited me on many occasions (to apply for the summer research program), and I decided to go for it. It was one of the best experiences of my undergraduate career.”

Brown read scholarly articles that were similar to her study to create a plan. “One of my biggest challenges during this experiment was coming up with my own methods to study and test,” she described. “I learned that I had to trust myself and know that God was with me every step of the way along with a great mentor, Dr. Totten.”

She discovered that watermelon and cantaloupe had much the same effect on Bromothymol Blue. “I was completely surprised to see such a similarity in the results, when their peels are so different in texture, thickness, etc.,” Brown affirmed.

She believes the experience of conducting the research, along with the connections she made and the wisdom she gained, will help her get accepted into a graduate program. “Being in a lab and able to perform tests and experiments has helped drive my passion for my major, and it shows me the necessary steps to take when performing intense research,” Brown related. “I am now considering getting my PhD in chemistry, focusing on cosmetics. This project will help me in my future when I am conducting research to learn what natural fruits and chemicals are healthy and best for products that aid in hair growth for different hair types.”

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.

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2020 Gardner-Webb University Summer Scholar Tania Brown

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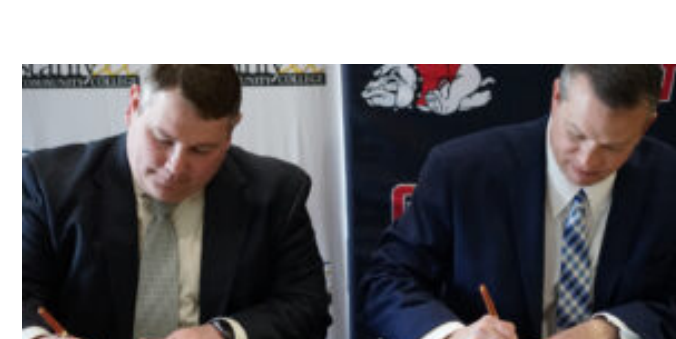


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