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### Research Experiences at GWU Help Chemistry Alumna Transition to Doctoral Program

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# Research Experiences at GWU Help Chemistry Alumna Transition to Doctoral Program

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Office of University  
Communications

October 19, 2018

## *Taylor Dodson '17 Researching Treatments for Cystic Fibrosis*

Taylor Dodson

Gardner-Webb alumna Taylor Dodson, a doctoral candidate at the University of Toledo, shows the first DNA sample she extracted with the mass spectrometer.

Taylor Dodson ('17) came to Gardner-Webb University, because Golf Coach Tee Burton was willing to let her play on the team and major in chemistry. She proved that she could excel at the demanding subject and on the golf course. Dodson was a three-time Women's Golf Coaches Association All-America Scholar and was a Big South Conference Women's Golf Student-Athlete of the Year.

After graduating from GWU, Dodson was accepted as a doctoral candidate to the University of Toledo (UT) Department of Medicinal and Biological Chemistry. Not only was she interested in the research there, her father is an alum, and her grandmother and other relatives live in the area. She is assisting Dr. Erin Prestwich to investigate the mass spectrometric analysis of modified nucleic acids from bacteria.

"Dr. Prestwich's main research focus is based around DNA damage and modifications, with a particular interest in pseudomonas," Dodson shared. "Pseudomonas aeruginosa is a microbe that is the No. 1 killer of people with cystic fibrosis."

Cystic fibrosis causes a person's lungs to fill up with excess mucus, Dodson explained. If the mucus is not excreted, bacteria grow and produce a biofilm that can lead to suffocation. Prestwich and Dodson are searching for a drug that will kill the microbes without harming the patient's lungs. Their research has shown some promising results, and Dodson is excited to begin studying RNA modification for her dissertation.

Taylor Dodson ('17), center, visited the Gardner-Webb campus recently to share her experiences in graduate school at the University of Toledo. Gardner-Webb professors, Dr. Stefka Eddins and Dr. Ben Brooks, were Dodson's chemistry mentors.

Additionally, Dodson now understands why her GWU professors stressed the importance of keeping a lab notebook. “I remember in undergrad not liking lab notebooks, but now they are my lifeline,” she affirmed. “Every day I reference the notebook for successes and failures. If you don’t write it down, you will forget. Since January, I have filled three notebooks.”

Before her work in the Prestwich lab, Dodson didn’t know anything about microbiology. She discovered, though, that the experiences she had in the Gardner-Webb science department prepared her for the new environment. “I really enjoyed the research that we did at GWU,” Dodson observed. “Having the research experience helped me transition into the program. I am the only one in the program from a small liberal arts school.”