

Ouachita Baptist University

Scholarly Commons @ Ouachita

Press Releases

Office of Communication

4-25-2020

Ouachita's Patterson School of Natural Sciences continues Summer Research Program, celebrates 20 years despite pandemic

Rachel Gaddis

Ouachita News Bureau

Follow this and additional works at: https://scholarlycommons.obu.edu/press_releases



Part of the [Higher Education Commons](#), [Organizational Communication Commons](#), and the [Public Relations and Advertising Commons](#)

OUACHITA
BAPTIST UNIVERSITY



NEWS

For immediate release

Ouachita's Patterson School of Natural Sciences continues Summer Research Program, celebrates 20 years despite pandemic



By Rachel Gaddis

August 25, 2020

For more information, contact OBU's news bureau at newsbureau@obu.edu or (870) 245-5206

ARKADELPHIA, Ark.— Ouachita Baptist University's J.D. Patterson School of Natural Sciences Summer Research Program celebrated 20 years of student research this year with 26 students and 12 participating faculty members. Ouachita was one of the few institutions in the state to continue summer research during the COVID-19 pandemic; the 2020 cohort also was a mere two students short of the program's overall record number of student researchers in a single summer.

In its 20-year history, the Patterson Summer Research Program has given 313 Ouachita students the opportunity to work one-on-one with science faculty to conduct research in their respective fields – an opportunity more commonly found in graduate school. Students apply and must be accepted into the program and are provided with a stipend as well as campus housing at a reduced cost.

After two decades of summer research, the Patterson Summer Research Program was confronted with the possibility of postponing or canceling students' research altogether.

"We were extremely fortunate that our program was not canceled," said Dr. Tim Knight, dean of the Patterson School of Natural Sciences and professor of biology. "I was confident we could wear masks and physically distance in our building, but there was still an element of risk in bringing this group back to campus."

Following CDC guidelines and in an effort to safely continue the faculty-advised and hands-on approach of the Summer Research Program, Ouachita students and faculty were required to pass a COVID-19 test prior to arrival on campus, monitor symptoms, wear face coverings and physically distance six feet apart. No positive COVID-19 cases were reported among the participating students or faculty.

"The students and faculty did an outstanding job," Knight said. "They came back without being infected and followed the guidelines, and we have successfully shown what can happen if everyone cooperates!"

Dr. Ruth Plymale, associate professor of biology and holder of the J.D. Patterson Chair of Biology, supervised students screening soil bacteria for antibiotic production that could treat antibiotic-resistant bacterial infections. Plymale said she adjusted her research spaces to be physically distanced at six feet and limited equipment to one student, but overall her students' projects did not change.

"The biggest adjustment for me was not being physically near the students," Plymale said. "A major component of my students' project was to use bioinformatics tools in a command-line computer interface to analyze bacterial genomes. Because of physical distancing, I was not always able to see their computer screens, and that made troubleshooting more difficult.

"Although there were some bumpy patches, they learned and adapted quickly," she continued. "I was extremely pleased with the outcome of this summer's research! Griffin Hopkins and Taylor Savage worked hard and maintained a high-quality standard; they did a wonderful job!"

Plymale also explained the significance of conducting research "as we each got an advanced glimpse of the fall semester."



(Image left) Junior Landon Irby and senior Caleb West work to create a solar-powered sun tracker.



(Image right) Junior Timothy Spiva analyzes microRNA.

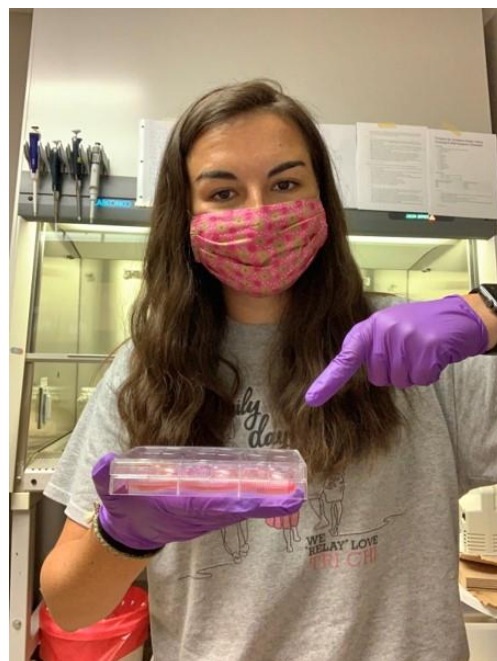
For Dr. Angela Douglass, associate professor of physics, her students' project involved building a solar sun tracker. Unlike some student research projects, Douglass' students began their research from home before transitioning to in-person, but she said it "initially forced them to fully think through the design and find problems with it before the tracker was constructed, which saved us time and money."

"While I missed seeing the students each day, thinking through the design before purchasing the parts and constructing it helped students learn to think critically and avoid costly mistakes," Douglass said. "Overall, I think the process made them better researchers."

"My students went above and beyond my expectations," she added. "It would have been easy for them to not give their full attention to the project since they were home for a portion of the program, but Caleb West and Landen Irby were diligent, creative researchers. They were excited to optimize our device and I was impressed with their enthusiasm and hard work."

For students like Kayla Whittington, a junior biology and chemistry double major from North Little Rock, Ark., the Patterson Summer Research program's decision to remain open this summer has kept her on track with her goals. Whittington also was able to conduct her original research interest: synthesizing porphyrins for potential use as photosensitizers in photodynamic therapy.

"To be able to do summer research will be significant for each of us moving forward, as we prepare for applications and interviews for graduate and professional programs. We will be ahead due to our research background," Whittington said.



(Image left) Junior Gabe Poe studies photodynamic therapy (PTD) as an alternative to chemotherapy and radiation for cancer treatment. (Image right) Senior Erin Chappell evaluates the role of GPI-anchored proteins in cell lines taken from cancerous mammary glands.

Julianne Weaver, a senior biology major from Benton, Ark., spent the summer testing the effects of Honokiol – a Chinese herbal medicine – on U87 Glioblastoma cells and its potential to slow the growth of cancer. Weaver said she "would not have been able to completely focus on and learn from my research if I had to do it during the semester."

“Once I heard that most schools started canceling their research opportunities because of the virus, I was expecting the worst but really hoping that I would still be able to come back this summer to do research,” Weaver said. “I was thrilled when they announced our research was not canceled, and I was so pleased with how smoothly this summer went and how much I was still able to learn regardless of the different measures put into place to maintain social distancing.”

“I think that it is very significant that we continued to conduct research,” said Timothy Spiva, a junior biomedical sciences major from Malvern, Ark., who conducted micro-RNA analyses from exosomes of heterocellular carcinomas. “For the students, this really helped us all to advance our academic careers. We all really benefited from being back on campus and seeing each other. From the perspective of the university, I think it was huge to bring students back to campus on a smaller scale and see how life will be this coming semester. I think it also provided hope to the university along with the other students that we can come back to campus safely after seeing that nobody tested positive for COVID-19 throughout the eight weeks this summer.

“The faculty in the Patterson School of Natural Sciences were amazing this summer,” Spiva added. “From the dean, Dr. Tim Knight, to each individual professor, they all put in extra time and effort to make this a possibility for us, which I am very appreciative of.”

Other Ouachita students who participated in the Patterson Summer Research Program included:

- Jasmine Baughman, a senior biology major from Pangburn, Ark.
- Jorie Beaumont, a senior nutrition & dietetics major from Lockport, Ill.
- Ben Carpenter, a junior physics major from Sterrett, Ala.
- Erin Chappell, a senior biology major from Bryant, Ark.
- Olivia Crites, a junior biology major from Poplar Bluff, Mo.
- Peyton Dodd, a chemistry major from Nashville, Ark.
- Emme Edmondson, a senior biology and chemistry double major from Benton, Ark.
- Cannon Fisher, a senior nutrition & dietetics major from Wynne, Ark.
- Griffin Hopkins, a junior biology and psychology double major from Benton, Ark.
- Landen Irby, a junior engineering physics major from Arkadelphia, Ark.
- Harry Jeffrey, a senior biology and chemistry double major from Camden, Ark.
- Race Karlin, a senior biology major from Princeton, Texas
- Jack Patterson, a junior mathematics major from Abilene, Texas
- Gabe Poe, a junior biomedical sciences major from Lake City, Ark.
- Mady Rottinghaus, a senior biology and Spanish double major from Hot Springs, Ark.
- Taylor Savage, a junior biomedical sciences major from Arkadelphia, Ark.
- Aubree Seibert, a senior biology and chemistry double major from Wylie, Texas

- Madison Shankle, a senior psychology and biology double major from Van Buren, Ark.
- Louis Steen, a senior biology major from Olive Branch, Miss.
- Alexis Summerford, a senior biology and chemistry double major from Arkadelphia, Ark.
- Ryane Thurman, a junior biomedical sciences major from Cabot, Ark.
- Tessa Watson, a senior biology, psychology and sociology triple major from Smackover, Ark.
- Caleb West, a senior biomedical sciences major from Marion, Ark.

Other Ouachita faculty members who served as advisers for Patterson Summer Research students included Dr. Joseph Bradshaw, W.D. and Alice Burch Professor of Chemistry and Pre-Medical Studies; Dr. Detri Brech, Charles S. and Elma Grey Goodwin Holt Professor of Dietetics and Pre-Medical Studies; Dr. Kevin Cornelius, professor of physics; Dr. Sharon Hamilton, assistant professor of chemistry; Dr. Timothy Hayes, professor of chemistry and holder of the E.A. Provine Chair of Chemistry; Dr. Sara Hubbard, associate professor of chemistry and holder of the Nell I. Mondy Chair of Chemistry; Dr. Blake Johnson, assistant professor of biology; Dr. Christin Pruett, associate professor of biology; Dr. Nathan Reyna, associate professor of biology; and Dr. James G. Taylor, professor of biology.

Ouachita's Patterson Summer Research Program is named in honor of Dr. J.D. Patterson, a 1947 Ouachita alumnus who passed away in 2017. Dr. Patterson, a longtime trustee and benefactor of Ouachita, funded a number of academic initiatives, including the Patterson Summer Research Program. The Patterson School of Natural Sciences also is named in his honor.

In addition to Patterson Endowment funds, Ouachita's Patterson School of Natural Sciences received summer research funding from Arkansas IDeA Network of Biomedical Research (INBRE) and Arkansas Established Program to Stimulate Competitive Research (EPSCoR). These off-campus funds supported seven summer researchers.

For more information about the Patterson School of Natural Sciences and the summer research program, contact Dr. Tim Knight at knightt@obu.edu or (870) 245-5528.