

# MMA

## MMA Scholarship Spotlight

### David C. Walker Stands Out in the Southern Miss Polymer Science Engineering Department

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**Y**ou will be hard-pressed to find many Southern Miss undergraduate students as familiar with the university's Polymer Science Engineering Department than senior David C. Walker.

"The summer prior to my junior year of high school, I had the opportunity to work in the aerospace composite lab," said Walker. "That pretty much stapled me to polymer science engineering at USM."

Walker, who graduated from North Forrest High School in 2017, worked two summers in the lab before enrolling at Southern Miss. There, he fostered his passion for chemistry, and he will finish his undergraduate studies in the spring.

"I knew I wanted to do something chemistry-related. So seeing all those things, at the time they were hieroglyphics, [but] seeing all those different things that made it interesting, seeing the applications, it was hard not to get hooked. It got me early."



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*"One thing that's interesting with chemistry...[is] the more you know, the more you realize you don't know. That's where I'd like to put my passion, to learning more." - David C. Walker*

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**N**ot only did it get him hooked early, but he also made a notable first impression on his professor, Dr. Jeffery Wiggins.

"He demonstrated remarkable aptitude in demonstration of knowledge in organic chemistry," said Wiggins. "[David] quickly learned a broad range of synthetic polymerization and analytical skills and techniques. He worked under the direct supervision of a 2nd year Ph.D. student in a difficult area of polyacrylonitrile copolymer synthesis and morphology control as carbon fiber precursor polymers."

Dr. Wiggins said he is also impressed by the depth of Walker's course study in his Polymer Science Engineering major. It includes:

- Polymer composites
- Polymer processing
- Polymer rheology
- Engineering design
- Organic chemistry
- Polymer physical chemistry
- Polymer analytical chemistry
- Polymer reaction kinetics

Dr. Wiggins said this curriculum is uniquely integrated within the school's graduate program. In addition to his aggressive course load, Walker also does 15-20 hours per week of advanced polymer research.

"In fact, his graduate student mentor graduated [in the] fall of 2019 with her Ph.D., and since then [has] personally overseen Mr. Walker's research, essentially treating him as a graduate student to keep carbon fiber precursor science and engineering an active track in my group," Wiggins said. "David flourishes at independently producing novel precursors in his research, and his polymer synthetic and analytical skills are providing him a pathway to realize one or two first author publications as he completes his undergraduate degree."

Walker plans to go to graduate school after he finishes his undergraduate degree. He has applied to Southern Miss, Georgia Tech, Louisiana State University, and the University of Texas at Austin. He will make his decision early next year.

"One thing that's interesting with chemistry, or if anything in life at that point, one thing that's interesting, the more you know, the more you realize you don't know," Walker said. "That's

kind of where I'd like to put my passion, to learning more. And then being able to tell other people and help other people learn is also another passion of mine."

That passion is already evident. Walker has a leadership role in the Polymer Science Student Association, and Dr. Wiggins said he also engages in outreach activities and demonstrates consistent leadership opportunities within his peer group.

"This level of scholarly productivity is testament to Mr. Walker's scientific and scholarly talent," Wiggins said. "I have earned genuine respect for Mr. Walker, and quite frankly it is students of his character, ability, motivation, and enthusiasm who highlight the exclusive rewards university teaching offers."

Walker said his success is made easier by his scholarship from the Mississippi Manufacturers Association.

"It's an extremely significant thing. I know a lot of people who need financial assistance and who had to take out extra loans," Walker said. "So to have donors, it's a really big deal, just to know other people are dedicating their time to help the generation behind them."

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#### **About the MMA Endowment Scholarship**

In celebration of its 60th anniversary in 2011, the Mississippi Manufacturers Association (MMA) established the Mississippi Manufacturers Association Endowed Scholarship fund at the following universities:

- **Jackson State University**
- **Mississippi State University**
- **The University of Mississippi**
- **The University of Southern Mississippi**

Checks in the amount of \$60,000 were presented to each university in December 2011 and January 2012 to fund the endowments. The endowment funds will provide annually two \$1,000 academic scholarships to students who are classified as juniors, with at least a 3.0 grade point average, and have declared majors as follows:

- **Jackson State University** - manufacturing & design technology
- **Mississippi State University** - industrial and systems engineering in the Bagley College of Engineering
- **University of Mississippi** - degrees in areas of study within the Center for Manufacturing Excellence at Ole Miss
- **University of Southern Mississippi** - degrees in areas of study within the School of Polymers and High Performance Materials or in the Industrial Technology engineering program

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