

ACI Foundation Promotes Interest in Concrete Industry Careers...and ACI

One student's journey to an ACI Foundation fellowship

The ACI Foundation fellowship program awards more than \$200,000 annually to students to both further their studies and help them gain professional exposure to the concrete industry and ACI by funding travel to the ACI Concrete Convention.

Madeleine (Maddy) Murphree was awarded the 2020-2021 ACI Foundation Concrete Materials Fellowship. She is pursuing her bachelor's degree in civil engineering with a focus on materials at the University of Florida (UF), Gainesville, FL, USA. She is an active member of the new ACI UF Student Chapter and serves as its President. Murphree's long-term goal is to obtain her PhD and work in academia.



Maddy Murphree

This is the story, so far, of her college experience and introduction to ACI.

Finding Out about Concrete

The path of Maddy Murphree's life changed after taking a vacation to the United Kingdom as a teenager. "I grew up in the tiny town of Gillette, Wyoming. My dad worked for a coal-mining company, so I knew a couple of structural engineers," she said. "But I didn't really have an interest in engineering in general until I went to London and toured the tunnels there. And I thought they were the coolest things in the world."

Before that, Maddy had intended to apply to study chemistry and eventually enroll in medical school. Instead, she was accepted into the UF program to pursue her new goal of becoming a civil engineer. "Going into my first year as a freshman, I knew I wanted to do civil engineering," she said.

"My dad went to the University of Nevada, Reno, to study hydrology, and they have a really good concrete canoe team," Murphree said. "So when I decided on civil engineering, he kept showing me videos and telling me, 'You should

absolutely do this.' I kind of came in knowing that I wanted to do concrete canoe." Two years before Murphree arrived on campus, the UF concrete canoe team won the American Society of Civil Engineers (ASCE) Concrete Canoe Competition for the first time ever. "Then my freshman year, they won nationals again. The timing was really great and exciting," she recalled.

Murphree joined the concrete canoe team, in part because "I'm a big fan of things that shouldn't work. I wanted to know: how is concrete supposed to float?" Then after joining the team, she began learning about different types of concrete. "I spent a lot of time in the lab. At first, I washed dishes—every first-year student, all they do is wash dishes in the lab for hours once a week. But through that I really got to watch concrete being made."

Murphree had not considered concrete before. "Obviously, you walk on it every day, but I never really knew about the process of making it," she said. "Being on the concrete canoe team, I got to mix concrete and had fun. To me, the people in concrete were incredible and they just kept me involved."

Then in her sophomore year, Maddy came back as the mixture design captain and took actual concrete design classes. After getting approval from a professor, she was able to skip some prerequisites to take a concrete mixture design elective. "It was incredible; I knew nothing, but it was so much fun," she said.

She continued as mixture design captain in her junior year. "In my personal opinion, I think mix design is the best part of the concrete canoe team. We actually make the concrete. There is also an emphasis on retaining and recruiting volunteers. Because mix design is intricate, you have to know what you're doing. You have to have experience in mixing," Murphree said. Throughout the year before the competition, many mixtures are tested to design the right one.

Murphree's mentor on the concrete canoe team was fellow student David Orense, an ACI Foundation Scholarship and

Fellowship recipient who went to the ACI Concrete Convention – Spring 2019 in Québec City, QC, Canada. “While there, he saw all these ACI student chapter members attending and wondered why the University of Florida didn’t have an ACI student chapter. So he encouraged me and a couple of others to start an ACI student chapter,” Murphree said. She attended the ACI Concrete Convention – Fall 2019 in Cincinnati, OH, USA, and participated in the ACI Fiber-Reinforced Polymer (FRP) Composites Competition.

The ACI UF Student Chapter has about 25 active chapter members, and they have participated in the ACI Concrete Solutions Competition during the recent virtual ACI Concrete Conventions. “I’ve been the student chapter President for the last year, and it’s just so great seeing the organization grow,” Murphree said.

“When we first started the ACI Student Chapter, I was begging my friends to come to the meetings. But through word of mouth, it’s actually been pretty successful. Our faculty advisor Christopher Ferraro draws people in. He’s a very funny person. He’s an ACI Fellow and is really passionate about ACI. So, even just asking people to one meeting, they normally stick around,” she said.

Impact of an ACI Foundation Fellowship

Murphree applied for an ACI Foundation fellowship in her second year on campus but wasn’t really expecting much. “My friend David Orense encouraged me to apply, saying it was going to be a really good experience to prepare an application and make connections with professors. And, you know, I’m all about gaining experience. So I thought, ‘Of course I’ll apply!’ And so I did,” Murphree said.

“I love writing, so the essays were fine. Actually getting the recommendation letters was a really great opportunity to connect with my professors,” she continued. “I do know that the interview process was a little odd because it was all online due to the pandemic, but it was still a really good experience.”

“When I got the call that I won one of the ACI Foundation fellowships, it was wildly exciting. I honestly wasn’t really expecting to be interviewed because I was so young. When I got the call, it was just one of the most exciting moments of my life. And then I found out 10 minutes later that David got a fellowship too, so we celebrated on Zoom,” Murphree recalled.

The financial part of winning the fellowship has been helpful. “I’m an out-of-state student and my tuition is a little high, so the fellowship is definitely helping with that,” she said.

“One of our favorite aspects of the fellowship is being able to travel to conventions. So I’ve definitely been encouraging other UF students in this field to apply for fellowships. Traveling to the convention and meeting other concrete professionals has been one of the most impactful events in my life,” Murphree said. “When I talk to all of my friends about concrete, they mention that it’s a little odd. But being surrounded by people at the ACI Concrete Convention who also think concrete is the coolest thing on the planet is really validating.”



Maddy (at left) with other UF colleagues



Murphree at work in the field

“Since I got the fellowship, I really want to participate in ACI. So I joined ACI Committee S805, Student Leadership Council, with a couple other fellowship recipients. I really enjoy participating in these events with other fellowship recipients who I met through social events. It has been a kick-start to getting me involved with ACI,” she explained.

Maddy Murphree believes that the reason she has stayed in concrete from the beginning is because of the incredible mentors she has had. She cites UF Associate Professor Kyle Riding—a previous recipient of an ACI Foundation fellowship—as the person “who made concrete cool for me” during the mixture design class during her sophomore year. And Chris Ferraro, Assistant Professor and ACI UF Student Chapter Advisor, has been invaluable to her in providing career advice.

“It’s not just other students or other professors but also the people in ACI who have been willing to meet with me and give me advice. I definitely would not have been able to get here without the incredible people in the concrete industry who have taken time out of their day to mentor me—and without this ACI Foundation fellowship,” she concluded.

For information about ACI Foundation Scholarship and Fellowship programs or to learn more about ACI Foundation, visit www.acifoundation.org.

Selected for reader interest by the editors.