

# STEM SPOTLIGHT

## Ryan Edward Pickett

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Bachelor of Science in Civil Engineering  
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### **Q:** How did you select your college major?

**A:** I attended other colleges while playing football and had other majors before settling on my final major of civil engineering at the University of Memphis. I always had a good grasp of math growing up, so I wanted to look into fields that had a math aspect, were challenging, and had potential for a good job that would always be in demand. I decided that no matter what I decided to do, if I got an engineering degree I could apply the problem solving skills I would learn to any job I wanted to pursue. During summers off between my first two years of college I had also worked as a construction worker so it helped me narrow my final choice to civil engineering.

### **Q:** What was the biggest influence in your selection of major/career?

**A:** I do not think it was one thing in particular but a variety of reasons. I would say the most important factor that helped me decide was that with an engineering degree I would be challenged at work and get to solve problems daily. Also, something important to me was the ability market myself to potential employers and job security. I felt with a technical degree such as engineering, I would be able to market

myself in a way that would be competitive for any job I wished to pursue and that there would always be someone looking for someone with a technical degree.

### **Q:** If you could go back to high school and select any elective course to take that would have better prepared you for college, what would it be?

**A:** Physics. I really enjoyed learning physics in college but I had a steep learning curve at first because I had little to no exposure to physics in high school.

### **Q:** What is your favorite aspect of your job?

**A:** The mix of application and research is favorite part of my job. I work for a research organization and with the job I have I get to not only conduct research projects, but I also have projects where we apply this research to real world projects as well. I get to keep learning new things and then apply them to the field—advancing the techniques and practices used by engineers in a variety of specialties or fields.



**Ryan, hard at work!**

**Q: How do you make a positive impact on society/our community?**

**A:** There are several ways that my organization positively impacts society. The organization I work for has several labs and covers many disciplines: ecology, biology, civil engineering, computer engineering, geology, etc. With this diverse work force ERDC Labs touch on almost all areas of science and engineering. Personally, I have worked on a project that analyzed the effect of reinforcing a levee on groundwater flow quantity and groundwater quality. Using a three dimensional numerical computer model, I was able to help assess the possibility of unintended consequences. One such consequence being that by making the levee safer structurally, the salt water trapped in the groundwater was caused to flow up into the farmland around the levee and effect crops or wildlife.

**Q: What's the most interesting thing you have been able to do in your professional career?**

**A:** I was able to use a flood routing model to develop flood inundation maps in support of active duty military personal overseas. Soldiers used these maps to help them determine safe patrol routes and mobility during the rainy season. It felt good to know I was able to help our troops from getting into dangerous situations due to weather and flooding by answering their questions from thousands of miles away.

**Q: What makes you get up each morning excited about your profession?**

**A:** The questions... What problem will I have to solve today? Can we even address that problem with our current tools? Can we develop a tool to solve the problem? You never know when these questions will arise and I look forward to facing them.

**Q: What advice would you share with K-12 students who are considering your profession?**

**A:** You can do it. Don't be discouraged if classes sound hard because I thought the same thing. A lot of the classes are hard but if you put in hard work you can succeed in any field you choose. Work hard, be persistent and remember: "Don't trade what you want most for what you want now."