



The University of Akron  
**College of Polymer Science  
and Polymer Engineering**

# STUDENT SPOTLIGHT

Tell us about a talented student you want to see in the spotlight by emailing us at [cpspe-alumni@uakron.edu](mailto:cpspe-alumni@uakron.edu).

**Akshata Kulkarni** is currently studying to earn her doctorate in Polymer Engineering under Dr. Sadhan Jana. Read more about Akshata and her academic journey in CPSPE.

## How does your major fit into your life's plan?

I want to be able to develop products that can solve problems that concern our planet. For example, my Ph.D. project involves developing materials for demulsifying oil water emulsions. If I succeed, I would be reducing the problem of fuel efficiency to some extent. My undergraduate years laid a strong foundation for this plan and now a Ph.D. at The University of Akron is taking me a step closer to my goal. This Ph.D. experience has allowed me to explore several research avenues and has also helped to strengthen my critical thinking and problem-solving skills.

## What have you learned that makes a difference to you?

I started my Ph.D. immediately after college. In college, you have a set of assignments, exams, and projects which you need to complete in order to get your degree. There is a high level of certainty which you don't find in your Ph.D. career. Sometimes things work in your first try, but sometimes they won't work until you fail several times. However, these experiences and failures are also essential. Through these failures, I have learned that a Ph.D. is a period that not only helps you to accomplish a new milestone in your career, but also teaches you how to rise stronger each time you fall. Edison's proverbs about failing several times before he invented the electric bulb now make much more sense to me. I have a small note on my student office desk which reads, "If it hasn't worked yet, you haven't tried enough!" On a lighter note, I learned that the rheology of polymers was not as easy as I had imagined it to be!

## Why did you choose The University of Akron, specifically the College of Polymer Science and Polymer Engineering?

My undergraduate professors always spoke highly about the polymer program at The University of Akron. During my internships at the National Chemical Laboratory, Pune and 3M India, I met polymer researchers who were either CPSPE alumni or were associated with Akron in some way. All of them told me that if I was planning to pursue a Ph.D. in polymers, it should be from CPSPE. And here I am, four years later, grateful to the people who recommended UA to me.

## Tell us about your experience in an internship or research project.

During my initial years as a Ph.D. student, I worked on a project in collaboration with Dr. Pugh's group in Polymer Science. I have truly enjoyed this collaborative effort between our groups. Dr. Pugh always encouraged me to get acquainted with the synthesis as our group did the compounding, testing, and characterization. I used to spend some amount of time talking to her students in their student office where we discussed newer ideas, and I also was able to learn some hardcore chemistry. The project also involved regular online and in-person meetings with members from industry. As a first-year student, I was very intimidated, but the encouragement and appreciation that I received from my mentors, as well as the audience helped me to develop my presentation and communication skills over the course of time. Thus, I believe that the collaborative effort and industrial affiliation has been a valuable addition to my Ph.D. career.

## Who is your favorite professor (or staff person) and why?

I would like to say it is Dr. Jason Randall. It is really commendable how he ensures that all of the equipment is up



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and running so that we students can continue our work without any obstacles. He also sends us regular updates about every piece of equipment, and promptly responds to any requests made by a student. Thank you so much!

**What are your plans after graduation?**

After graduation I would like to work in the corporate research and development sector. I have always been a fan of applied research, and I think a product development or application engineer/scientist role in an industry would be an opportunity to apply the knowledge/experience I have gained so far.