

## Suri Student Profile – Rameez Zaman



**What year are you? Rising senior, right?**

Yup!

**What major?**

Major: Chemistry-Biology

Minor: Communication Studies

**Age?**

21

**Hometown?**

Williamsport, Pennsylvania – Home of the Little League World Series!

**Why did you choose West Chester University for your undergrad degree?**

There were a lot of things I was considering. I knew from a very young age that I wanted to

go to medical school, so a big factor for my undergrad decision was which school could help me get there best and how much it would cost. The pre-med program at West Chester has a placement record of 95% for those who were recommended by the committee, a fairly high percentage especially when many med school admittance rates are less than 5%. Moreover, West Chester is near Philadelphia which obviously has a lot to offer in terms of art, food, music, and different cultures. I was honestly between University of Pittsburgh, West Chester, and Lehigh. I was accepted to all three as well as their respective Honors Colleges. I was leaning towards Pittsburgh because my brother, who is a year older, is getting his degree there. However, before my decision, I received the Board of Governor's Scholarship for West Chester, and that pretty much sealed my decision. There was no way I could say no to that, and I am glad I did not because I enjoy my academic life at West Chester – the Chemistry Department is awesome.

**Roger says you have already been accepted to Hershey Medical School but you are also considering other options?**

I applied to Penn State College of Medicine, located in Hershey, as an Early Assurance candidate at the end of my Sophomore year. I was accepted into their Early Assurance program in the Fall of my Junior year after completing an interview with them. The Early Assurance acceptance came with a provision for my official matriculation: I had to take the MCAT and receive a certain score on it. I intend to work in Primary Care, which is why I wanted to apply to Penn State, as they promote a broad education and their school is located within Penn State Hershey Medical Center, Children's Hospital.

I am a guy who likes to have options and even though I am certain that I applied to the right school for me, it is tough to think about what could've been if I took the chance to apply to other schools across the country [insert wedding day joke]. With Early Assurance, one may not apply to other schools unless

the contract is terminated by either party. Although I sometimes feel like I have cold feet and will be left wondering, it would not be an intelligent decision for me drop this, as it is exactly what I wanted a year ago and it still aligns perfectly with my aspirations and academic goals.

**You started working with Roger Barth as a sophomore after reaching out to him about research. What motivated you to seek out research experience this early in your college career?**

I actually approached him toward the end of my freshman year and we agreed to start working at the beginning of the next Fall since I wouldn't be around for the Summer. My oldest brother was a Psychology major and I remember him telling me about the research he was doing when I was still in high school. I remember thinking it was really cool that he was aiding a real scientific study and that he would be listed as an author on the paper. I decided to approach my General Chemistry II lab professor to see if he had any advice. He said he himself was not working on anything but advised me to just go around and ask the chemistry professors if I could work with them. I emailed quite a few professors, not expecting much as I was a freshman who was still completing General Chemistry II...I obviously did not have much knowledge or skill. Dr. Barth was one of the only ones who emailed me back and he asked me if I wanted to hear about what he was working on and if I wanted to see his lab. So I did and I thought what he was doing was different to say the least. The rest is history.

**I understand you learned about SURI through your roommate. Tell me about this.**

I actually found out about it my Sophomore year while I was browsing through the WCU website. I decided not to apply that year because I was working on obtaining a job as Nurse Extender at the hospital in my hometown that I had been working at all through high school. This past year, I completely forgot about it until a friend told me that she had applied. I looked online and it turned out the deadline had already passed. About a week later my roommate, Eric, told me he got an email saying that the deadline was extended, so I told Dr. Barth and we got to it (thank you Eric!!). Eric, a Physics major, also ended up being accepted into SURI.

**How did this fulltime lab experience go versus Fridays in Roger's lab earlier on. How much more intensive was it? How much more autonomy did you have, as you worked in the lab alone while Roger taught classes?**

The biggest differences were time, my understanding of the project, and autonomy. Usually I'd come in, Dr. Barth would succinctly tell me what was going on and what I was doing that day. I'd do it and then we would debrief and I would leave. I enjoyed this because I like doing lab work and I knew that what I was doing was important for the project. However, I did not have much time to devote due my academic responsibilities, clubs I belong to, and the many other things that go on in a student's life and so I did not feel like I was working *with* Dr. Barth on the project. During SURI I had much more autonomy because I had a lot more time to devote – this was my job now. I helped develop the plan and strategy for the project. I felt a lot more responsible for the project and I had a much better understanding of what was going on. During the school year if something went wrong while I was working, I'd have to clean up early and call it quits due to the short block of time I had. This time if something went awry, I was able to sit down, consider my options, call an audible or start over if I had to, and continue working. Moreover, I had the time to analyze my own data and the ability to decide which direction to head next depending on what seemed to be working and what was not working.

**What have you gained from SURI and from your earlier undergrad research? How will these skills be transferrable to the work that you hope to do as a doctor?**

Analyzing data, trial and error, patience & persistence. Working in a lab is exhausting. My projects largely required me to perform the same experiment with minor tweaks repeatedly hoping for the data to come out how I wanted it. If the data did not come out correctly, then I'd have to go back to the drawing board and figure out what I needed to do next. There is honestly a lot of value in this, and I believe much, if not all of it, is transferrable to the work a physician does. Physicians are always analyzing the large amount of data they take in for every patient, including lab work. They must then decide which course of action to take based on the data. There can often be trial and error involved when working with a patient on a medication or a diet. The trial and error, however, is much more drastic than the trial and error I do in the lab, as doctors are dealing with humans and I am dealing with malt. Performing research has taught me to stay patient and be persistent. Not every experiment goes as planned and it can be very frustrating, but I must continue in some way in order to reach my goal. This can be applied to anyone in any part of their life.

**I understand you cannot partake of the item that you are studying – you are legal drinking age but you cannot have gluten, which is in the barley/malt using in brewing. You wore a dust mask during research, is that correct?**

This is correct. I had to be very careful not to ingest any of the particles after grinding the malt. I also had to be sure none of it was on my hands, or anything else I frequently touch such as my cellphone. Cross-contamination is very serious for Celiacs. The mask was funny at times, as I would often see people walk by the lab and smile and wave. I of course reciprocated, but you cannot see my facial expressions behind the mask and safety glasses, so I imagined myself looking unwelcoming to say the least.

**You already have a published article. Please tell me about that.**

My sophomore year Dr. Barth and I worked on developing an equation that would replace Kolbach's residual alkalinity equation. We measured the pH of barley mashes that consisted of ale, Munich, and pilsner malts that were mashed with water that was artificially alkalized and hardened with calcium. Mash pH is very important in the brewing process. Our results can be used to predict mash pH from water and malt parameters.

**I understand this second round of research may end up in another paper getting published. Wow, 2 published papers before you graduate college. Is this something that medical school admissions folks pay attention to?**

I sure hope so! Many others applicants I've spoken to have also done some type of research. If I were on an admission team I would appreciate it as it shows that we actually are interested in learning and that we are curious.

**Tell me about working with Roger Barth....how was he as a teacher, supervisor, mentor?**

Dr. Barth is a good guy and I've really enjoyed working with him. I haven't had him as a professor yet, so I cannot speak on that. However, he is always going over specifics of whatever project we are working on to make sure I know what is going on. I like that because I want to know what I am doing and obviously it is important to him that I learn as well and am able to provide input. He never gets mad at me. My sophomore year there was a period where for three sessions in a row, I either messed up to

where I had to start the experiment over (and had to wait until I could come in again) or broke some of his glass lab-ware. I was obviously frustrated with myself and all he said to me was that this sort of stuff happens in the laboratory all the time and to just be patient. Moreover, he is always looking out for my health. I just found out not too long ago that I am a Celiac so he is always asking me how I'm doing and he tries to give me advice on how to deal with the lifestyle change.