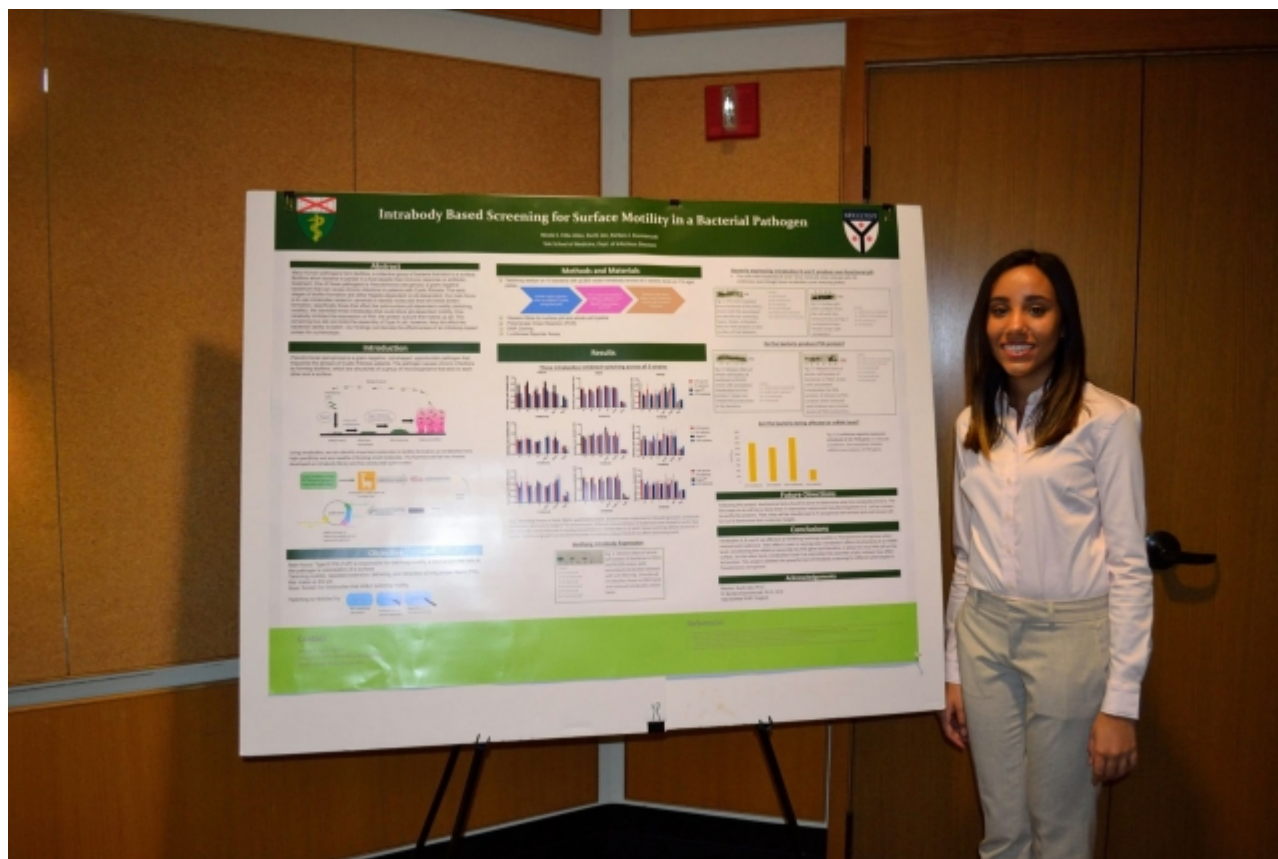
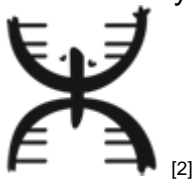


# My experience as a BioMed SURFer (Summer 2017) <sup>[1]</sup>

Submitted by [Nicole E. Félix](#) <sup>[2]</sup> on 16 September 2017 - 10:32pm



My name is Nicole E. Félix-Vélez and I'm a sophomore at the University of Puerto Rico-Mayagüez, majoring in Industrial Biotechnology. I always loved science, the way the world around

us can be explained in equations to solve or the thought of how the most staggering things are composed of the tiniest particles you'll never see with the naked eye. Science just amazes me. Even more so, the fact that science is used every day by researchers or engineers to find ways to make our lives better.

This summer, I had the privilege of participating in the Yale BioMed SURF Fellowship Program, a program from the Yale School of Medicine that gives minority students the opportunity to do research for nine weeks during the summer. The program came to my attention thanks to Ciencia Puerto Rico's Facebook page. They had shared a link to a webinar with the directors of the program, Faye Rogers, Ph.D.; Barbara Kazmierczak, M.D.-Ph.D; and Anthony Koleske, Ph.D. When I saw that the program also accepted freshmen (like me at the time), I decided to participate in the webinar (what's the harm, right?). This was all it took to convince me of applying to the program. The directors had also done a great job in selling it to us. I mean, a nine-week research intensive program and a chance to work with some great PI's at one of the top schools in the country? They didn't have to do much to sell me on the idea. Right then and there I decided I was going to apply, even if I thought I had **zero** chances of being accepted (the odds would have been worse if I hadn't applied). With the help of some friends, family, and professors, I submitted my application for the program.

FEBRUARY 22, 2017- I got an email titled ACCEPTED: Yale BioMed SURF. I didn't even read the email. I got so excited when I saw the subject, I couldn't even bring myself to read the whole thing. I never would have thought that I, a newly-minted freshman from the UPR with **zero** knowledge about lab work, would be accepted to a program at Yale University. As it turns out, I wasn't the first one either. The BioMed SURF program has been around for three years now, and there were UPRM students participating in both 2015 and 2016.

JUNE 3<sup>rd</sup>, 2017- The med school campus at Yale was amazing, and what was even better was the vibe of the school. Everywhere around me there were people from all sorts of backgrounds and they were all very accepting and nice! It's a very supportive and friendly environment, an aspect that was well translated into the BioMed SURF Program. From our peer mentors, whom were grad students at the School of Medicine, to the people in the lab, they all wanted to help us learn and succeed during our summer there.

There was a total of 17 students in the program this year, and all from different backgrounds. From different states here in the US (like Ohio and North Carolina) to the other side of the world (like Nigeria and Afghanistan). There was even a lot representation from the Caribbean! This diversity stems from the program directors' (of the Ph.D. and M.D.-Ph.D. programs at Yale) firm belief that a well-diverse group of people are more successful.

JUNE 12<sup>TH</sup>, 2017- By this point, I was already one week into my research at the Kazmierczak Lab in the Department of Microbial Pathogenesis at the Yale School of Medicine. I worked with *Pseudomonas aeruginosa* and studied their pili-dependent surface motility. It was unnerving the first few days because it was my first time in a research lab, luckily, I was surrounded by people who were eager and willing to help me learn. During the first few weeks, I spent my time getting the lay of the land. I was learning what it was like to work in a lab and was exposed for the first time to different protocols, such as developing Western Blots and transforming DNA, with the help of my research mentor, Ruchi Jain, Ph.D.

The first few weeks of lab consists of reading... a lot. Reading research papers is an essential part of being a scientist, it's how you learn. Additional to the material I had to read for my project, I also read papers for Journal Club. The name was a bit misleading to me. I thought that Journal Club consisted of us writing about something, probably pertinent to our respective projects. Turns out, Journal Clubs are for discussing research papers. What was really interesting though is that, the papers that we read were related to a faculty member at Yale, and later on in the week, we (the students) would have the chance to discuss the paper and the science with the PI's that played a part in the research. We basically got a backstage pass at how that discovery came to be. Also, they were pretty open to talk to us about more personal questions, like telling us their story and how they ended up in science. It was nice to be able to have that conversation with them, since we can often forget that they were once struggling students who were also trying to figure out the world.

I can't stress enough how these faculty talks and our interactions with the peer mentors helped me realize that the possibility of me going to a university like Yale and becoming a scientist is real. We the BioMed SURFers agreed that because of our different backgrounds and because we are minorities, we think that certain things are unattainable. That spaces at an Ivy League Med School are reserved for those who are more privileged. Before the internship, I would have never been able to even picture myself at a university like Yale. Now, because of this experience, I know that a future at Yale or any other university of my choosing is attainable.

AUGUST 1<sup>st</sup>, 2017- My wonderful summer was coming to an end. I wasn't all that excited because what awaited me back home was a mountain of work from my previous semester of school. The light at the end of that tunnel, though, was getting back to friends and family.

Speaking of, on August 1<sup>st</sup> our parents got in. The program was great enough to fly out one parent for the symposium, which means that I had the chance to explain to them what I did during the summer.

At the symposium, we presented posters. This was not your science fair poster with cutesy ribbons and laminated pictures, it was a full-fledged "I'm a scientist" poster which took two sleepless nights to complete. However, the symposium was very exciting. It was the first time I presented my very own research project, and it was great to get feedback on it from my mentors and other scientists.

I was extremely lucky to have been able to have this experience. I had a wonderful time, met some great people, experienced new things, but most of all, I learned a lot. And to think, all I had to do was apply. Seems pretty straightforward, right? Go online, fill in an application, send the application, and then wait. One has to find these opportunities and you can't be afraid of rejection. A lot of people say that as a freshman, you shouldn't apply for internships, that you should leave that for your sophomore and junior year. If I hadn't applied for this program, I most definitely wouldn't have gotten it. But I did, and I got the fellowship. Now, a lot of doors will open up in the future because I was brave enough to apply for this one in the first place, and if you're reading this and thinking of applying to a program, job, or internship, be brave and do it.

## Links

[1] <https://www.cienciapr.org/en/blogs/members/my-experience-biomed-surfer-summer-2017?language=en> [2]  
<https://www.cienciapr.org/en/user/niceden12?language=en>