

Yale applicant majoring in Molecular, Cell Biology, and Developmental Biology who applied to the Mass General Summer Research Trainee Program (SRTP)

In 750 words or less describe your educational and professional goals and how your participation in SRTP will assist in meeting your goals. Be sure to articulate your qualifications and reasons for wishing to participate in this program.

I wish to participate in SRTP in order to improve my technical research skills as well as gain mentorship and professional development that will guide me toward becoming a physician-scientist. I entered college knowing that I wanted to become a physician, but I was unfamiliar of the possibility of becoming a physician-scientist. My high school offered no opportunities for extracurricular research, and science classes had minimal laboratory exposure. The only students who were able to do research were ones who already had a connection in the relevant fields. Thus, I entered college with the belief that research wasn't accessible to a student like me, who did not know anyone else with an MD or a PhD, except her pediatrician or her teachers.

My journey as a research scientist started more than halfway through my undergraduate career. At that time, I started my first laboratory course, in biochemistry, without even knowing how to pipette. When I first met with my PI, I explained that I didn't have any prior research experience, but I knew that I was interested in reproductive biology.

My interest in the reproductive sciences stems from my desire to become a physician in obstetrics and gynecology. This desire did not solidify until the second semester of my sophomore year, when I studied abroad in a comparative health and anthropology program. In this program, I was a part of a case study group that focused on maternal and child health. We examined birthing practices and trends by interviewing local mothers, midwives, and doctors, and visiting delivery rooms in clinics and hospitals. I realized then that I wanted to be a physician who works to protect a woman's agency in choosing when she becomes pregnant and how she gives birth, while also ensuring the well-being of her and her child. However, I also recognized that this agency is only afforded to women with low-risk pregnancies. Women who experience high-risk pregnancies must be closely monitored and do not have the same birthing options. Furthermore, there are women who suffer from gynecological diseases that not only impair their ability to become pregnant, but can also affect much of their day to day lives. In some of these cases, even the best clinician isn't able to offer many choices in choosing an adequate treatment or care plan. I realized that this is where research makes an important difference in medicine.

In the past two year and a half, I have learned not only how to pipette, but also extract DNA and RNA, perform PCR and immunohistochemistry, and assist with mice surgery and anesthesiology. I have spent numerous hours at a microscope, familiarizing myself with the histology of the uterus and placenta. I have been engaged in a project for most of its entirety, from collecting preliminary data to collecting *a lot* more data, to manuscript submission and revisions, and finally to publication. I have started an independent project of my own, writing my first proposal and abstract.

During this time, I have learned about the importance and the subjectivity of statistics, the frustration of failure and the reward of perseverance, and the value of mentorship from both MDs and PhDs. Although I have made strides toward becoming a scientist, I still have a great deal to learn, not only in technical skill, but also in interpersonal and writing skills that are essential to being a successful scientist. I plan to continue research during my gap year in order to expand upon my current research

skillset. Following, I plan to apply to MD/PhD programs, with the hope of becoming a physician-scientist who champions women's health and discoveries in developmental and molecular biology. I hope that the research opportunities afforded by MGH SRTP will expand my technical skills as a scientist. Moreover, professional development resources that include resume/CV building, and public speaking, either from one-on-one mentorship or from program-level workshops, will also help me immensely on my path to a physician-scientist. Finally, I hope that within SRTP, I will find a strong network of support from mentors and peers who have backgrounds similar to mine. I have cherished my community of peers in the STARS II program at Yale, which is aimed for helping low-income, students of color succeed in STEM. With our camaraderie, we share our achievements and struggles as we write abstracts, present posters, and network with colleagues and supervisors. I hope to have a similar community that will support me as I continue on my journey to becoming a physician-scientist.