

Brody Scholar Summer Enrichment Report: Bethesda 2022

This summer, I participated in research at the National Institutes of Health, Human Genome Research Institute's Immersive Summer Program for Research in Genomics [ISPRinG]. At the institute, I worked in the lab of Dr. Susan Persky, a researcher in the social and behavioral research branch and also the head of the virtual reality simulation lab. As an intern, I took on responsibilities regarding project design, presentation of new developments in our research at various forums, and I also participated in lectures, ground rounds, and trainings that spanned disciplines from internal medicine and primary care to social psychology, to genetics and genomics. In the end, I was able to present at the NIH's own summer research poster event as well as disseminate the results of my projects at ECU's own Summer Scholarship Research forum.



Great Falls, VA approx. 15min from DC

I was in Dr. Susan Persky's laboratory. She's at the helm of the VR program in the Social and Behavioral Branch of the NHGRI. She's a very nice woman, deeply curious, and intelligent. She has 3 young sons, 2 of whom are on the autism spectrum, and I intuit that an aspect of her research is in support of creating a better world for them. In the lab excluding myself, there was a postdoctoral researcher named Allison-Jane. Originally from the UK, she's young, bright, and she will soon be leaving the lab to teach Social Psychology in a tenure track professorship in a Wisconsin University. She was a great teacher to me the entire summer. There were 2 graduate students: Siri, who was planning to attend medical school in the future and Sydney, a master's student preparing for her career outside of NIH. Our lab manager was a young man named Chris who has an arts background like myself. He is the tech-lead and made the virtual reality aspect of our research possible.



From Left: Allison-Jane, Quashawn, Chris, Susan, Sydney, Siri

Our research focused on Stigma, Genomics information, and Primary care. Dr. Persky is primarily focused on the machinations of weight and race stigma in the healthcare setting. I was given some major independence and responsibility regarding the projects I was working on. My first project was to help design a study in which we place medical residents in a VR scenario where a virtual patient, with an ambiguous symptom like fatigue presents with a polygenic risk score on their EMR. The genetic risk report suggests that this patient may be at very high risk for developing diabetes. We wanted to control for apparent race, weight, and the level of risk indicated by the PRS score, such as low/moderate risk vs high risk. We wanted to see whether race, weight, and health status have a differential effect on the care provided by the participant. One point of this study is to demonstrate how there isn't yet a single, standardized methodology for assessing genomic information. Genomic risk information can be useful, but usefulness is conditional and really needs to be properly interpreted and communicated to have genuine benefit. Weight, and race are very normally a component of assessing clinical risk as opposed to genetic risk, and the difference between the genetic and the racial/sociocultural is key.



A Participant interacting with the VR world

My second project involved educating lay-people, survey takers, about the magnitude of the effects of genetics on a person's behaviors using VR scenarios. On this project, I helped design a rubric by which participant responses could be graded for understanding genomics content and then, after doing some quick statistics to make sure my grading was rigorous and consistent, I graded survey responses. In many ways, it was like the academic setting. For instance, sometimes I could tell an individual understood a concept on a deep level, but since I graded on their ability to articulate a particular relationship, I often couldn't give them the point. In other ways though, it was nothing like an academic setting. For example, sometimes a person could get a survey answer completely wrong, as in "Oh, this person is hungrier because they have more genetic hunger *energy*" which doesn't really make sense, but if I'm grading them on the ability to recognize a gene-behavior interaction, I would have needed to give them the point. They would have technically assigned causality to a presumed *genomic* factor as opposed to some other factor despite the lack of clarity. In essence, it was not an exam of vocabulary but of attribution. Thus, this task had become a somewhat philosophical one, and often I had to operate like a computer where I only considered the input given, without making too many inferences, but I also held a loose interpretation of the inputs given.



Examples of VR Characters in Vignette Scenarios

I'm currently working on seeking to participate in the Medical Research Scholars Program [MRSP] in Bethesda between my 3rd and 4th years of school. My time with Dr. Persky went well, and she is willing to support my ambitions which is a major development. Brody students have participated in this program in the past with success. I have spoken with a student from another medical school who participated in the program, and I learned that it can be done such that my Step 1 and Step 2 exams are completed beforehand, and the experience can be a fruitful way to expand one's research background. I'm also excited that I can do the research along with the MRSP as I have a faculty mentor at Brody and at this time, Dr. Cunningham in the department of Psychiatry and Behavioral Medicine at ECU Health. I hope to be working with her on her own projects as well as completing a project of my own and perfecting a manuscript. All of this is happening real time and it's difficult to predict exactly how things are going to go but these are my current goals and intentions.



View of Building #10 from the front entrance

I am so grateful and thankful to the Brody family for allowing Brody students to participate in major undertakings of this kind. It is with their assistance in getting me here and their continued support in all aspects of my growth that I am able to share the significance of being a Brody student with other institutions. I hope to continue to grow in profound ways and mentor students of incoming classes. I truly feel that wherever I go, there I'll indeed be; such that, I will always follow a unique path that I find fun, meaningful, and which I can adapt into service. It could be difficult to traverse this path alone. However, with mentors such as those at Brody, along with colleagues I've made at Brody, I don't feel like I'm walking alone at all. Thus, I am so fortunate to be a Brody student, and this isn't something I will ever forget.