

Final Reflection on My 2026 Summer Enrichment Experience at Vanderbilt University Summer Institute

by Katya Chyzhyk

Genetic Detectives: Stray Cat Paternity and Predator Trails is quite the mouthful for a summer course name. However, the program itself was packed with work, just as the name suggests. It was academically challenging because our professor presented us with a lot of higher-level biology and genetics vocabulary and expected us to understand it somehow, which I understood by directly asking our professor questions and by rereading the information until it made sense. Dr. Clements was always excited to help us understand challenging genetics concepts and would always encourage us to consider the applications of molecular genetics beyond what we were using for our course. Our coursework was mainly worksheets that we were highly encouraged and expected to complete, but not required to complete. These worksheets included the laboratory procedures for whatever procedure we would be doing, as well as supplemental information and very open-ended questions that Dr. Clements wanted us to answer with our best hypotheses. The worksheets were pulled directly from Dr. Clements' actual assignments, which he gave his undergrad genetics students, so their content was significantly past the scope of my previous high school coursework.

We spent a significant amount of time doing labs. I was a little scared at the beginning of the course when Dr. Clements asked who had done a PCR before, and half the class raised their hands, but we did so many that by the end of the two weeks, everyone was at the same level of PCR proficiency. In addition, I had no idea how to use micropipettes on the first day of class, but Dr. Clements quickly explained to us how to calibrate micropipettes of different volumes. Throughout my two weeks, we did several DNA extractions and DNA cleanups too, as well as gel electrophoresis to go with each PCR. The main problem with these reactions was extended wait times between each reaction, which gave us a lot of free time in the lab. Completing the

worksheets was not enough to keep us busy, as Dr. Clements eventually realized, so he had us run several reactions at once, keeping us on our feet. Although Genetic Detectives wasn't as academically rigorous as other Vanderbilt summer courses, it had a different appeal and difficulty because of the amount of lab work involved. Our labs had very little room for error, as we had limited class periods, so it was very unfortunate if a reaction did not work or did not show sufficient results. My reactions were successful most of the time, but there was one towards the end that my partner and I both doubted ourselves too much in and ended up failing.

The faculty members and students greatly contributed to my positive experience at Vanderbilt. I felt supported by all sides, and I honestly was, since we had a residential proctor, an academic proctor, our professor, and our TAs. Vanderbilt also had a group of counselors, called Student Support Staff, who dealt with anything non-residential or non-academic— they were the ones who took me to the Vanderbilt clinic after getting sprayed with phenol. Dr. Clements was always ready to answer any questions we had and grow our interest in genetics, so much so that he let us in a second, more advanced lab on the last day. We didn't grow as close to our TAs as we did with Dr. Clements, but they were still ready to assist us during labs. Our academic proctor was a political science major, strangely enough, so we had an unfortunate divide in academic interests. However, Caleb was still a great guy, though, and participated in labs whenever he could, and tried his best to help us out and relate to our experiences in the lab.

My residential proctor, Angie, was great. She took her job as a residential proctor very seriously, learning our names on the first day and constantly facilitating bonding exercises between us. All of our PGMs were very efficient; Angie constantly kept us updated with information we needed to know, but also respected the fact that we wanted to go explore by ourselves during SOFT time. Our main form of communication with her and among our proctor

group was GroupMe, and we had to send Angie a text every time we had SOFT, even if we were just staying in the dorms. This, although tedious, was obviously important. However, it was very different from my experience at UChicago, where you could leave the dorms literally whenever you wanted to, and also didn't have to participate in House activities. At Vanderbilt, however, our area and time to roam was much more restricted, and we were really encouraged us to bond with our proctor group mates at required PGNO and PGNI nights. I really appreciated this aspect of VSI; I got to know my proctor group really well at the end of the two weeks because of how much time we were forced to spend together, as compared to UChicago, where I don't think I had a single friend in my House. This is also probably due to VSI being a much smaller summer program than UChicago's Summer Session— I was familiar with around a third of all students in attendance by the end of the two weeks, even though VSI's third session was the largest. This kind of connection really contributed positively to my experience— I'm definitely more of an introvert, so having this kind of forced socialization really helped me build relationships much faster than I would have otherwise.

Location-wise, Vanderbilt has an amazing campus. It is located a 5-minute drive away from Nashville's iconic Broadway street and is surrounded by all kinds of local places to eat and shop. Visiting Nashville on the weekends was also an amazing experience; I've visited the city before, but rarely in the downtown area and definitely haven't gone to any of the museums. Nashville and Vanderbilt both have such a unique, palpable culture that is really amazing just to exist in and experience. We had a boundary for SOFT time that extended a little beyond campus, but even that was more than enough to keep us engaged and involved in experiencing life in Nashville. Although I resented being restricted in where we could explore, the area we did have was more than enough, especially given the limited time we had. I didn't get to know the campus

as well as I wanted to, but even just walking back and forth from the dorms to the dining hall to class was enough to orient me around campus. The campus itself was very green and spacious, with lots of little pathways making it seem smaller than it actually was. Although not as imposing as UChicago's Gothic style, every building on campus was an architectural marvel.

I generally felt prepared to live on a university campus. I have stayed at a few college campuses before, so I had an idea of what to expect at Vanderbilt. I had expected that we would do a lot of walking, but the Vanderbilt campus was very convenient in the sense that almost all of the buildings were centrally located. Medical Research Building III, where our lab was located, was very close to the dining hall, and not that far from the dorms, either. The dorms were very nice too, since Warren College was a dorm for upperclassmen. There was a Munchie Mart near the entrance and tons of common room space for socialization. My only dorm-related issue was honestly my own fault: I brought regular sheets for my bed, not fitted sheets, which slipped off the mattress and bunched up literally every night I slept on them. I had to wait a week until my mom ordered fitted sheets to the dorms, which then took an extra couple of days to get to me because Vanderbilt's mail center has extremely limited hours during the summer. Also, for future reference: Vanderbilt does not provide sheets or towels, and receiving mail is pretty difficult.

I would definitely recommend the VSI programs for future GFF students. Vanderbilt works really hard to simulate the college experience, as I mentioned in a previous report, making sure that you get a glimpse of what college would look like, just with a few more restrictions. I would be more cautious about recommending Genetic Detectives in particular– it's a very lab-heavy course, in contrast to other VSI classes. The other courses are certainly more academic and lecture-based, except for the Med School course, which is more job shadowing and

experience-based. Genetic Detectives was very useful for me to hone my lab skills and introduce me to the kind of laboratory work I will be doing in university, but it's not like I'll be doing PCRs and running gels daily at home. I would recommend this course for GFF students who are very interested in lab work with an already solid understanding of biology and genetics, and who would also like to do some elemental research. I would not recommend this program for anyone expecting or wanting a lecture-based course similar to high school, or for someone who has already had extensive experience in a biology lab. I would love to see more GFF students visit Vanderbilt's two-week programs in the future, as I really only have positive things to say about the program structure and the residential experience.

Genetic Detectives really cemented my love for working in a lab. I had previously heard to take advantage of any research opportunities in college, but didn't really understand what that would entail until I spent two weeks with Dr. Clements. I received unbelievable feelings of satisfaction whenever my reactions worked, and felt inspired to reach out to professors when I got home to see if they had any openings for me to help with research. I did as many extra things as I could to be more involved in our procedures: I recorded the PCR order for my group, poured the agar for the gel electrophoresis, timed the reaction, among other things. I was initially scared that I would be behind my classmates in terms of lab experience, but at the end of the two weeks, we were all at the same level. This program really helped me appreciate the value of research and lab work, so now, when deciding which college to commit to this year, one of my top considerations will be the ease of access to research labs. Although I don't think I could do research for a living, I hope it will be an important part of my undergraduate studies.

Personally, I think my time at Vanderbilt has made me more confident in myself. I have gained confidence in my ability to communicate with my classmates, professors, and friends, as

well as in my academic accomplishments in comparison to my peers. I realized that we're all in the same boat together, and that working with my peers will help all of us have greater success in the future. This program has made me less afraid to express myself to others, and has helped me realize that I will find wonderful, supportive people wherever I go. I am even more excited to go off to college now, and continue building my personality and character to its fullest potential. My favorite memories from Vanderbilt were probably just the afternoons spent exploring with my friends, many of whom I hope to keep in touch with as we branch off into different pathways. This program will help me change the world by proving to me that I have the capacity to change the world, and that I really can do anything I set my mind to. However, I can't do that by myself— I will need support from others, which I will definitely receive as long as I ask for it.

Overall, Genetic Detectives may have been the best two weeks of my summer. I really wouldn't have rather spent them in any other way, and I am so grateful that I had the opportunity to participate in a summer program like this. I wouldn't have been able to participate without the sponsorship of the Garwin Family Foundation, for which I am most grateful. I believe that Vanderbilt's Summer Institute programs align perfectly with the GFF's expectations for summer programs at universities, and I hope to see more students visit in the coming years. I find it hard to believe that no GFF students have been to Vanderbilt yet, but I am honored to be the first. I can already feel this program becoming a formative high school memory for me, one which I will continue to look back on with immeasurable fondness and joy.