

AeroScholars

NEWSLETTER

Where are they now? A little update on some of our AeroScholars | January 2020



ASHLEY CARPENTER

University of California, Los Angeles (UCLA)

Ashley, a graduate of Hawthorne High School and the 2019 recipient of the Dr. Wanda M. Austin STEM Endowment Scholarship, is now attending University of California, Los Angeles (UCLA) as a physics major.

She spends most of her time on campus either settled on the grass near the iconic Janss Steps (the 87-step original entrance to the university) doing homework or up on the roof of the Mathematical Sciences building, where she'll sometimes go at night to take in the entire UCLA campus and the city of Westwood from above. Every Wednesday evening she finds herself at the UCLA Planetarium, listening to a different astrophysics student each week present on a topic (black holes, dark energy, and exoplanets just to name a few), and watching, enrapt, a projected tour of our night sky.

Ashley's time working at Aerospace has helped her at college in many ways, including teaching her how to find and nurture her own support group. At Aerospace she always had the other AeroScholars to help her with anything she needed. Even now, she regularly communicates with Miguel Tamayo and Natalia

Salazar, occasionally video chatting to check in. By embracing this mentality at UCLA, Ashley has met many amazing, helpful people along the way; she has also organized study groups often seeks out professors during office hours for more in-depth guidance. Working at Aerospace has also given Ashley the opportunity to maintain relationships with mentors who can assist her with topics related to her classes (particularly quantum mechanics).

Ashley says her favorite class this past quarter was chemistry. She learned a lot about quantum mechanics, which presented the most difficult set of concepts for her to grasp, she notes. The class was her first real exposure to college-level physics and though it was difficult, she found it very rewarding—and now, with a smile, she says she can claim to understand just a little bit more about our world.

Extracurricular activities Ashley is involved in include the Regents Scholar Society and the Alumni Scholars Club. This year she volunteered at the “Explore Your Universe” event at UCLA, a science fair designed to educate students about some of the cool things going on in STEM. There, she worked at the booth that explained the “tears of wine” phenomenon. Ashley also had the opportunity to volunteer for the “I’m Going to College” event at the Rose Bowl during the UCLA vs. Colorado State football game. This was an event for elementary, middle, and high school students to introduce them to some of the exciting prospects college has to offer. What made the event even more amazing, she said, was getting to greet a busload of kids from Hawthorne High and see some of her favorite teachers.

Ashley's personal hobbies include honing her guitar skills and learning more about photography.



Kiera McKinzie

California State University, Long Beach

Kiera graduated from Gahr High School and was a 2019 AeroScholar. She is now a freshman at California State University, Long Beach, where she is majoring in electrical engineering.

On campus she spends most of her time connecting with her friends in the student union between classes, or meeting her mom for lunch near the fountain by Brotman Hall. However, on days when her classes are scheduled close together, you can find Kiera sitting near her *next* class reading her notes from the *previous* class. After recently discovering the variety of exercise classes her school offers at the Student Recreation and Wellness Center, the fitness enthusiast can frequently be found in a Zumba class or in the gym.

Kiera's time at Aerospace taught her how to interact well with others, especially different age groups and people from different backgrounds and areas in the country. She also gained experience she feels will be useful for her major, even though, as a first-semester freshman, she can't yet take any upper-division major coursework. Kiera's internship included working on a project for STARS, which touched many components related to electrical engineering and introduced her to coding in C++. She says the experience made her confident that she chose the right major for herself—one that is both interesting and engaging.

Because Kiera didn't have many classes directly related to her major in her fall semester, her favorite class was Linguistics 101: Introduction to the World's Languages. Linguistics stood out the most, she says,

because she learned a lot about so many different languages and cultures around the world and now understands the many factors that affect how a language evolves. Kiera also got her feet wet with Engineering 101 last semester, but yearns for deeper engagement—so she can't wait for next semester when she will take four classes geared toward her major.

As far as extracurricular activities, Kiera joined two clubs: The Society of Women Engineers (SWE) and the Pilipino American Coalition (PAC). The SWE allows members to participate in engineering-related training and development programs, networking, and outreach events, and offers scholarships and internships. Kiera also has the opportunity to form lasting relationships with other engineering students in SWE who all are following the same path. As a member of PAC, Kiera has been able to learn more about her culture while having fun and meeting other people who aren't engineering or computer science majors.

Her learning and outreach efforts don't stop there: For the past five years, Kiera has attended the Cerritos Chinese School where she learns Mandarin every Saturday; she also volunteers for various school events, including seasonal job fairs. Kiera's hobbies include journaling and learning East Asian languages.



AMOBI "AKA" ODINAKACHUKWU

California State University, Northridge

Aka, the 2018 recipient of the Dr. Wanda M. Austin STEM Endowment Scholarship and graduate of St. Bernard High School, now attends California State

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University, Northridge as a second-year student majoring in computer engineering. Aka spends most of his time on campus at the campus library, studying for one test or another.

He says his time working at Aerospace taught him the importance of punctuality and priorities—especially the discipline of completing on time the task at hand, then allowing oneself time to do something enjoyable.

Aka reports that, not unexpectedly, Computer Science was his most enjoyable class this past semester. At Aerospace, Aka worked on data analysis and programming, which also turned out to be the main focus of the class.

If he is not at the library, Aka can usually be found either playing soccer or engaging in ASO (African Student Organization) activities.



GEORGE JAMES

University of California, Merced

George, a 2018 AeroScholar, graduated with high honors from Verbum Dei High and was salutatorian of his graduating class. George is now a sophomore at the University of California, Merced, and is studying computer science and engineering.

George spends most of his time on campus either at the library or in the STEM center, getting help with assignments, studying, or just hanging out with friends until his next class.

He says his time at Aerospace gave him a great deal of experience that George has been applying in the heavily STEM-based classes he's taking. For example, he finds the coding that he learned at Aerospace makes it easier to understand topics introduced in his computer science class.

This past semester, George says his favorite class, surprisingly, was a basic writing course. He had a lot of fun with the in-class discussions and says the professor made sure everyone was engaged and constantly growing in their capabilities. George admits he previously disliked writing, but the course sparked a passion he didn't realize he had!

As far as extracurricular activities, George participated in 3-on-3 intramurals basketball, finishing with a 7-2 record and a trip to the semifinals. George also serves as the acting historian for the Intro Movement Dance team on campus. He usually takes photos at the events as well as records some of their competitions. Side note: This year, the AeroScholars collectively created a t-shirt with graphics inspired by George.



IDALIA PEREZ

Stanford University

Idalia, a 2017 AeroScholar, is a junior studying bioengineering at Stanford University. Her decision to major in bioengineering has been consistent throughout her time at Stanford and she has only become more excited about the subject as each year she delves deeper into the field.

Idalia spends most of her time either in her cozy room during the cold season or on the grass near one of the largest fountains on campus during the warmer seasons. She considers it “her” spot to relax under the sun between classes or finish up an assignment. She loves relaxing with the sounds of the fountain and breeze passing through the trees. In the dorm, Idalia says her room tends to be the “hangout room” where she meets up with her group of friends when they need a break. She confesses that the video game play *does* tend to get pretty cutthroat.

Idalia says her time working at Aerospace helped her come out of her shell and understand that when a job needs to be done, it needs to be *done*—no matter who she needs to contact or work with. Coming into Aerospace, she says she felt intimidated by authority figures but her manager at the time (Jennifer Gautier) pushed her further, knowing that she simply *had* to get out there and share her ideas. Since then, Idalia has been able to smoothly interact and have more meaningful conversations with her professors, friends, and colleagues.

She says her favorite class last quarter was Principles and Practice of Optogenetics for Optical Control of Biological Tissues. Before the class, Idalia had never even *heard* of optogenetics, let alone know what it meant. This was also her first class with graduate students who were well into their career and she confesses she felt lost half of the time. As the quarter progressed, though, Idalia slowly began to better understand the material and soon discovered how interesting it was. Still, at one point she came very close to dropping the class, but her brother advised her to stick with it despite the rigor. In the end, she says she’s glad she learned from a professor and pioneer of the field and came to understand the basics of optogenetics.

Idalia is a member of two clubs—Human Engineers Inc. and High School Support Initiative. Human Engineers consists of a small group of Stanford students, a prosthetist, and an orthotist specialist. They organize an annual mission to the Philippines over Thanksgiving break to provide free prosthetics to members of low-income communities who otherwise cannot afford them. The work supporting the mission included fundraising, soliciting prosthetic companies for part donations, and more.

This year was Idalia’s first time going on the mission and she reports having an amazing time. She remembers spending a full day fitting one patient’s new artificial leg; the feeling she experienced after seeing the patient walk around as though he had always had the prosthetic was one she says she will never forget.



JULIA RIOS

*California Polytechnic State University,
San Luis Obispo*

Julia graduated from Da Vinci Science High School and was a 2018 AeroScholar. Now a sophomore at California Polytechnic State University, San Luis Obispo, Julia is majoring in mechanical engineering with a concentration on manufacturing. She spends most of her time either in the library or the Mechanical Engineering (ME) building.

During her last summer at Aerospace, Julia used company resources such as LinkedIn Learning to explore MATLAB programming, which helped her prepare for the MATLAB class she took this past quarter. Moreover, having gained experience with the SolidWorks CAD program at Aerospace, Julia found the program easy to navigate at school.

This quarter, she particularly enjoyed two classes—ME 251 (a class for mechanical engineers about SolidWorks, engineering drawings, and fasteners/fits) and Calculus IV (exploring vector calculus). In the

latter, Julia learned how to calculate things using line integrals, Green's theorem, Jacobian transformations, and more—all of which have tremendous applications in engineering concepts, she's finding. Julia said she was glad to complete the calculus series and is excited to take higher-level math courses next quarter.

Last year, Julia joined Cal Poly's Hyperloop team. The team has had great results, being the only group invited to participate in the SpaceX-sponsored annual Hyperloop Pod Competition within its first year of establishment. The team is working on several cool projects in preparation to assemble the next pod, which is built from scratch each year. Julia is the manufacturing lead for the team this year, overseeing the fabrication and machining of parts and managing the part drawing process from creation to revision, etc. She has also been involved in metal additive manufacturing research with a professor on campus for the past year. If that's not enough, Julia is partnering with a national lab in northern California on a project to review mechanical properties on selective laser melting (SLM) parts. She is one of only two individuals on campus who operate the SLM machine!



Miguel (right) poses with his father (left) and brother (middle).

MIGUEL TAMAYO

University of California, Santa Cruz

Miguel, a 2018 AeroScholar and graduate from Manual Arts High School, is a sophomore at the University of California, Santa Cruz (UCSC). He is

majoring in computer science but will soon switch to electrical engineering.

Miguel is typically in the library studying, but he often finds himself exploring the abundant redwood forest that covers the campus and mountains surrounding it. He appreciates the closeness to nature, believing that it helps him clear his mind from the school workload. He says his time at Aerospace helped him discover the right major he wants to study.

Over the summer, Miguel says an insistent internal voice told him he should build things that will one day help the world be a better place. At Aerospace, Miguel talked with mechanical engineer Alonzo Lopez about exploring new careers; Lopez introduced Miguel to some of his own projects and suggested possible fields to explore. After realizing the computer science curriculum path was not as hands-on as he would have liked, Miguel concluded that switching to an electrical engineering major would be best for him.

Physics was Miguel's favorite class this past quarter, as well as his hardest. He says he loved discovering why objects interact and behave the way they do, and he learned something new about the world around him in every lecture. He also got to delve into the subject of astrophysics and learn more about satellites and rockets, and the behavior of celestial bodies in our solar system and beyond.

This year Miguel joined the Mathematics, Engineering, and Science Achievement (MESA) group and the Multicultural Engineering Program (MEP) at UCSC—both of which offer a variety of resources to students on campus (such as a 24/7 study space for engineers) and opportunities for students to give back to the community.

Some of Miguel's hobbies include exploring, building, and (naturally) learning about rockets.



NATALIA SALAZAR

California Polytechnic State University, Pomona

Natalia, a 2018 AeroScholar, graduated from Lennox Academy and is now a sophomore at California Polytechnic State University, Pomona, studying computer science.

Last semester, Natalia spent most of her time in the library with her friends, studying to do her best on all her tests and papers. Natalia admits she struggled initially with calculus and discrete math, yet she was able to improve her grades by dedicating more time to studying, asking questions, and doing extra credit.

Natalia says her time at Aerospace motivated her to do better in her classes and understand the importance of succeeding in school. Meeting with Aerospace professionals who exhibited both an incredible ability and a commitment to do their job in the best way resonated with Natalia, demonstrating behavior that she hopes to emulate one day, she says.

This past semester, Natalia has grown immensely in understanding why it's important to always put forth her best effort, and how studying with others can help increase her academic success. Study groups she has participated in have led to real friendships; best of all, these relationships have facilitated her learning experience. Natalia's favorite class this past semester was discrete structures, which presented ample opportunities for her to put serious effort into her work and, in turn, advance along the path to a bright future.

Natalia has joined the Mariachi group on campus to maintain a connection to her Mexican culture, reduce stress, and have fun. For Día de los Muertos (the Mexican holiday honoring the dead), she performed with her Mariachi group at her first concert. She found the experience so empowering, she's committed to continuing her participation in the group. Thus far, Natalia's college experience has been wonderful, and she is looking forward to the next chapter.



CHARLIE RIVAS

St. John's University, St. Joseph, MN

Charlie, the 2017 recipient of the Dr. Wanda M. Austin STEM Endowment Scholarship, is a Verbum Dei High School graduate and is now in his sophomore year at Saint John's University, majoring in physics. He recently completed his foundational physics courses with optics and thermodynamics.

Charlie landed a job as a teaching assistant in the Physics Department. He spends his time grading assignments and lab notebooks for introductory physics classes as well as supervising his own weekly physics lab for life science majors. He has also taken on a leadership role as general director in the Physics Club.

When he *does* take a rare break from physics, Charlie says he's becoming more in touch with the outdoors and has been taking advantage of the thousands of

acres of beautiful forests and lakes surrounding the campus via bonfires, hikes, and lake days—when it's not snowing outside, that is.

When the temperature outside is too discouraging, Charlie says dorm rooms and rec spots become social hubs. He enjoys hanging out with friends and playing rounds of pool inside the study lounges.



HEYDY ARIAS

University of California, Los Angeles (UCLA)

How time flies: Heydy, the inaugural recipient of the Dr. Wanda M. Austin STEM Endowment Scholarship in 2016, is now in her *fourth year* at the University of California, Los Angeles (UCLA), majoring in mathematics for teaching.

She spends most of her time in the library, or anywhere there is a proliferation of whiteboards. Heydy studies a lot with her classmates, who together take a tactical approach to reserving their favorite study rooms in Powell Library and Young Research Library. During infrequent study breaks, Heydy likes to sit near the Janss Steps (perhaps somewhere near Ashley Carpenter?) and relax for a bit.

Heydy credits Aerospace with helping her gain the professional development she needed to excel in college and in her future career. As a first-generation student, she lacked the vital resources and support needed to get to college. Heydy wanted to know

exactly what to expect at school; she says her mentors at Aerospace definitely helped with that! Through the guidance of her mentor, Delilah Nunez, and various Aerospace managers, Heydy says she has been able to overcome obstacles she has faced throughout her college career. In addition, Aerospace has opened her eyes to the different career paths in STEM and has motivated her to obtain a master's degree in the future.

The class Heydy has most enjoyed this year so far has been Mathematics and Pedagogy for Teaching Secondary School Mathematics. Heydy says the students (all of them aspiring teachers) learned how to prove topics in mathematics they learned back in high school and how to effectively teach those topics to students. The focus was on real-life applications, which is important to help young students truly value math as something useful in their daily lives. The class is year-long, so Heydy looks forward to what the next semester has in store.

For the past three years, Heydy has been involved in Hermanas Unidas de UCLA (HaU), an organization that empowers predominantly Chicana/Latina college students and alumnae by providing resources and leadership opportunities—e.g., organizing community service events, social activities, and academic and professional workshops.

Last year Heydy served as HaU's academic chair; this year she decided to step back a bit and simply be a proud member of the organization. Last quarter, HaU raised money for the AIDS Walk and held its annual Halloween fundraiser at Shakey's Pizza Parlor. Next quarter, Heydy says she is looking forward to the annual HaU Statewide Conference, which will be held at UCLA. The conference offers attendees the opportunity to attend informative workshops and network with members from other chapters.



AURELIANO YEPEZ

University of California, Berkeley

Aureliano, a 2016 AeroScholar, was a computer science and data science major at the University of California, Berkeley. He is currently taking a break from school and is working full-time as a full stack engineer at Alectio, a sustainable machine learning company.

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