

ISSUE

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ASPIRNAUT™



Editor: Rachel Baugh
Susan Umy

Photo:

Summer Research Program 2024

We are excited to welcome another exceptional group of interns to the Aspironaut™ Summer Research Internship program. We will be welcoming 15 undergraduate and 20 high school students from 16 states, who will be trained by 30 mentors for a summer of discovery science, professional skills development, and wellness training. Welcome, 2024 Aspironauts!

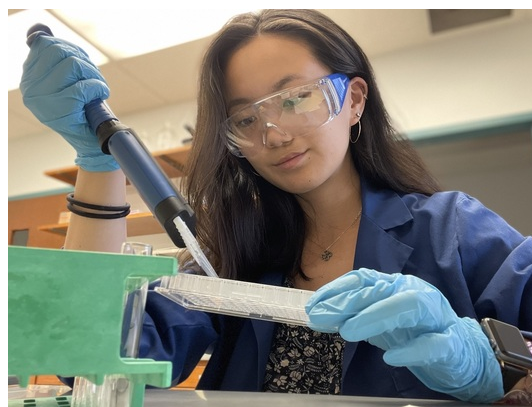
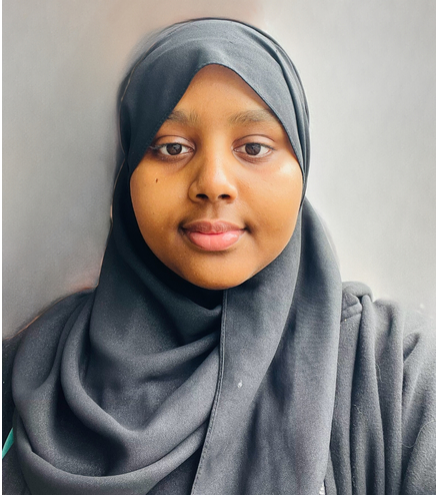


Photo Credit: Erin Smith

Meet the 2024 Lu-Springer High School

Research Interns

**indicates returning Aspironaut™



Fadumo Ahmed
Lewiston, Maine



Brooklynn Black
Marianna, Arkansas



Michael Cantrell
Wynne, Arkansas



Angel Chang
Saint Paul, Minnesota



Karen Escobar-Salgado**
Knoxville, Tennessee



Claire Ewing
Las Cruces, New Mexico



Abbie Grant
Burlington, Vermont



Ryan Gwynn**
Frisco, Texas



Jeffery Huang
Statesboro, Georgia



Ruby Isenhardt
Grant, Michigan



Isabell Johnson
Winooski, Vermont



Ku Moo
Saint Paul, Minnesota



Parker Nichols
Wynne, Arkansas



Grace Park**
Burlington, Vermont



Laklee Perez-Martinez
Hickory, Mississippi



Evelyn Prudenciano
Houston, Texas



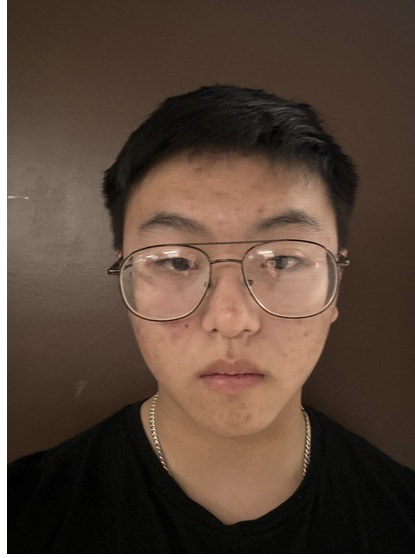
Nayla Ramos Vega**
Plano, Texas



Emmanuel Rodriguez
Houston, Texas



Cesar Rosas**
Houston, Texas



Raymond Zhang**
Wynne, Arkansas

Meet the 2024 Undergraduate Research Interns

**indicates returning Aspirnaut™



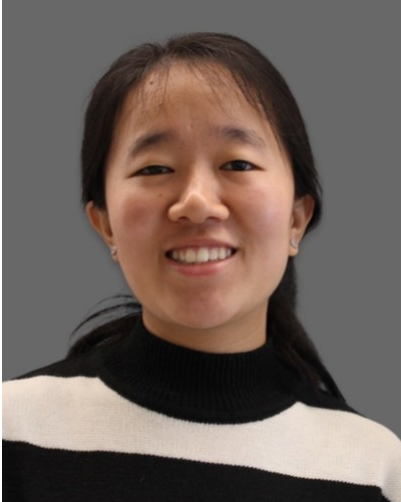
Ryan Anderson
Tulsa, Oklahoma
Bethune Cookman
University



John Bister
Alabaster, Alabama
Berea College



Adrian Castaneda
Madison, Tennessee
Berea College



Dolma Choenzom
Kangra, Himachal Pradesh
Berea College



Martina Gergis**
Nolensville, Tennessee
Davidson College



Kimberly Hoang
Berea, Kentucky
Berea College



Shawn Jamison
Hustonsville, Kentucky
Berea College



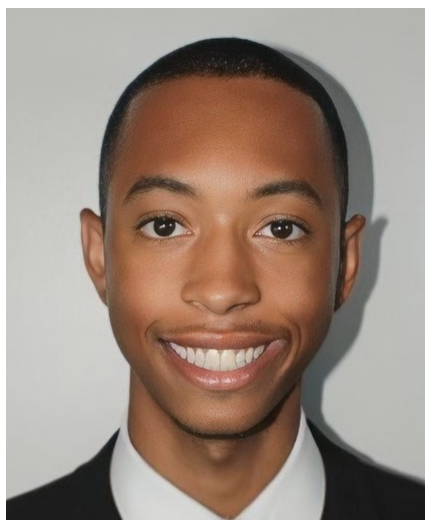
Anna Ruth Madera
Macon, Georgia
Mercer University



Emma Meihof
Columbia, South Carolina
Johns Hopkins University



Colton Miller**
Wynne, Arkansas



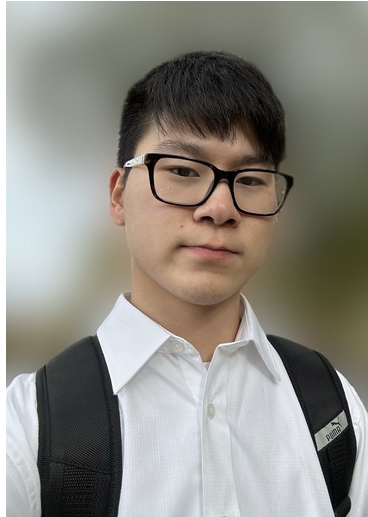
Jalen Smith
Dayton, Ohio



Freddiemae Thompson**
Sheridan, Arkansas



Kyle Vallone
Trabuco Canyon, California
Vanderbilt University



Eun Jun Wang
Berea, Kentucky
Berea College



Marquala Whitmon
Hendersonville, Tennessee
Bethune Cookman University

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**Aspirnaut™ Associate
Scientific Director: Elena
Pokidysheva, Ph.D.**

Elena Pokidysheva, Ph.D., has been a mentor with the Aspirnaut™ Summer Research Internship since 2016 and has personally mentored over ten students. She received her university diploma from the Moscow Institute of Physics and Technology and her Doctor of Philosophy in Biophysics from the University of Basel in Switzerland. She then continued her postgraduate training at Purdue University and Shriners Hospital for Children before joining Vanderbilt as a research assistant professor.



Elena Pokidysheva, Ph.D. with Aspirnaut co-

1. When did you first know you loved science?

I was good at math and physics and initially set out to become a physicist. Physics has always fascinated me because it describes how life is built and how everything works. I started my education at the Moscow Institute of Physics and Technology and drifted more and more into biology.

2. Did you feel you were adequately prepared for college?

The high school I graduated from was rather average. At the beginning of the 1990s in Russia, there were a lot of changes in the education system, and schools were inventing classes that specialized in different science and/or humanitarian subjects. I graduated with a degree as a “math and physics major”. However, the level of entrance exams at the university was substantially higher than what I was taught at school.

3. What was college like at the Moscow Institute of Physics and Technology?

At the time, the university entrance was very different from that in the United States. I earned my spot by taking written and oral entrance exams in math and physics. The written exam in physics had five problems, and you had three hours to solve them. If you could solve three problems during the allotted time, you did well. You were graded on each exam and then accepted according to the sum of the grades. The student's GPA or extracurricular activities did not matter.

Our department had 8 women out of 55 admitted freshmen, which at the time, was the largest number of women in any department. I was a minority in the field, but I feel like that was an advantage of my education. We had three years of very intense classes, and starting from year four, we spent a lot of time doing research in scientific institutions. The standard time to graduate was six years. I enjoyed working in the lab and doing real science. I even had a first-author publication before receiving my diploma.

4. How did you end up in the United States?

I applied to graduate schools in the United States and was accepted to the University of California at Los Angeles (UCLA) and the University of California Santa Barbara (UCSB). I picked UCSB (due to financial reasons) and went to study there. I only completed 1.5 years when a fantastic opportunity at the University of Basel in Switzerland opened for my Ph.D. After completing my Ph.D., I moved to Purdue University to complete my postgraduate training in Dr. Rossmann's lab and then to Shriners Hospital for Children & Oregon Health and Science University under the mentorship of Professor Hans Peter Bächinger, Ph.D.

5. What brought you to VUMC?

I knew Dr. Billy Hudson from conferences and hearing him speak. I knew he was a world-renowned expert on collagen IV, and I was also interested in this protein. He visited the lab in Oregon, and eventually, the partnership led to a position at Vanderbilt University Medical Center. I started mentoring students in the Hudson Lab in 2016 and have had 10 interns over the years.

6. What's your favorite part about mentoring interns?

I find it interesting to get to know them. They are all great people with unique life stories. Hearing their views on a new project gives me perspective, and I know they will give a genuine answer. Their honest feedback helps me gauge how interesting a project is on which we are working. I'm also always so surprised with how much they understand in such a short amount of time. Sometimes, their minds are so curious -- it's fun talking to them and hearing their perspective.



Elena Pokidysheva, Ph.D. with 2023
Aspirnaut intern, Ashley Iglesias Ayala

7. What is essential to know about mentoring high school and undergraduate students?

Accept them as they are. Every student is different, Some are more advanced, and some are lacking confidence. It is important to get the students to learn they don't always have to be perfect. It's okay for an experiment not to work out. It's about how to learn and to encourage them to solve problems and find solutions that will lead to success. It's a good life lesson because science doesn't always work. Plus, it's truly satisfying when you finally have the moment of discovery.

Meet Sabrena Moser

Sabrena joined Aspirnaut™ as the Program Manager after serving as the Fellowship Program Manager at Columbia University Irving Medical Center in the Department of Obstetrics and Gynecology. Prior to her time at Columbia University Medical Center, Sabrena gained experience as the Senior Patient Coordinator at Weill Cornell Medical College and has also worked as a medical assistant and nurse attendant.

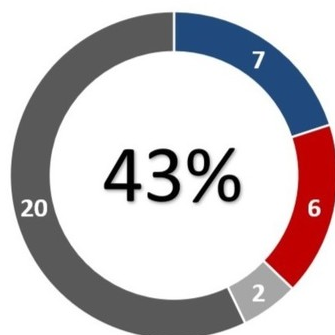


Sabrena is a dynamic individual with a diverse range of interests and expertise. With a degree in psychology from SUNY College at Old Westbury in New York, she prioritizes mental health and well-being, especially in the workplace. Outside of her professional pursuits, Sabrena finds joy in maintaining an active lifestyle through F45 training, indulging her creative side by crafting stunning floral arrangements for her home, and exploring the culinary world by cooking and seeking out new local restaurants. Her greatest happiness, however, comes from spending quality time with her loving husband and their beloved fur-babies.

2024 Aspirnaut™ Participant Data

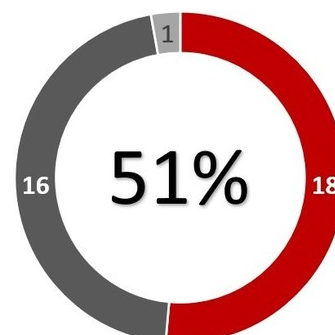
Over the years, we have established a successful framework for diversity recruitment. Recruitment begins in September of the year preceding the summer research program. Each fall, our internship announcement is posted on multiple websites, and a letter and program brochure are sent to over 1,700 key STEM faculty and administrators. Below is a snapshot of data for incoming 2024 interns.

RACIAL/ETHNIC DIVERSITY



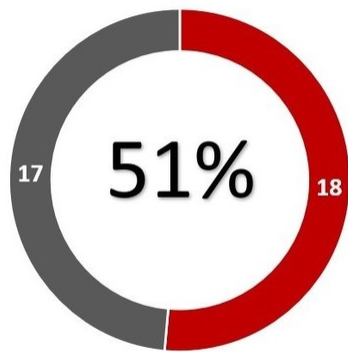
■ African American ■ Hispanic
■ AI/NA ■ All Other

ECONOMIC DIVERSITY



■ Diverse ■ Non-Diverse ■ Did not Disclose

GEOGRAPHIC DIVERSITY

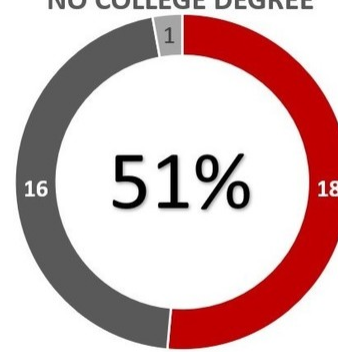


■ Rural ■ Urban

Urbanized: Area of 50,000 or more people

Rural: Populations not included in an urbanized area or part of a metropolitan statistical area

FAMILY LEVEL OF EDUCATION: NO COLLEGE DEGREE



■ Low Education ■ College Degree++ ■ Did not Disclose

Low Family Level of Education: No parent/guardian has a 4-year college degree

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Nashville, TN 37212

If you would like more information on how to get involved with Aspirnaut™, please contact Rachel Baugh @ rachel.baugh@aspirnaut.org

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