

ISSUE

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# ASPIRNAUT™



Editor: Rachel Baugh

Photo Credit: Susan Urmey

## Celebrating Success 2023

We have spectacular successes from 2023 to share. Thank you for helping talented, underserved students aspire, seek, and achieve their dreams. We couldn't do it without you!

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## QuestBridge Finalists and Matches

Among the Aspironaut™ Lu-Springer Research Scholars, two high school seniors were chosen as Questbridge national finalists, and they matched!! Congratulations to **Julianna Gallup, who matched at Princeton University, and Michael Gallup, who matched at Yale University.** Both Julianna and Michael were 2022 and 2023 Aspironaut™ participants. QuestBridge connects exceptional youth to selective colleges or universities and provides full, four-year scholarships plus expenses to QuestBridge college partners.



**Julianna Gallup**  
Sevierville High School  
Princeton University



**Michael Gallup**  
Sevierville High School  
Yale University

## College Early Decision

Congratulations to all students who received notification about their early decision college acceptance! **Karen Escobar-Salgado** was accepted to **Vanderbilt University** and **Owen Staples** was accepted to **Vanderbilt University**.



**Karen Escobar-Salgado**  
Carter High School  
Vanderbilt University



**Owen Staples**  
Deer Isle-Stonington High School  
Vanderbilt University

# More decisions coming...

We await news about many more Aspirnaut high school seniors in the coming weeks.

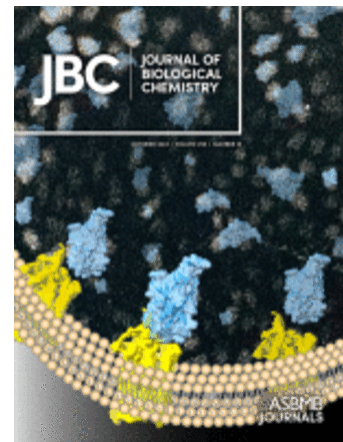
## Landmark Publication

### JBC "Editors Pick" Showcases Aspirnaut™ Co-Authors

Congratulations to **Dr. Sergei Boudko** and **23 Aspirnaut™ interns\*** on the publication in the Journal of Biological Chemistry. Collagen IV of basement membranes: III. Chloride pressure is a primordial innovation that drives and maintains the assembly of scaffolds. Read the publication [HERE](#).

Described by JBC editors as "an exceptional contribution to the field," the study included the work of student researchers over several summers. Specifically, Aspirnauts analyzed multiple tissues from 34 animals to discover the pivotal role that chloride ions play in collagen IV assembly and stability.

The JBC publication joins the list of other high-impact discovery science performed and published by Aspirnaut™ "expedition" teams and highlights what talented students and engaged mentors can accomplish in a summer experience, noted Julie Hudson, Aspirnaut™ executive director.



Supplement attachment [HERE](#)

\**L-R, Top Row:* Camryn Cole, Di'Andra Edwards, Sydney Farrar, Julianna Gallup, Michael Gallup, Martina Gergis, Aalia Holt, Madeline Lach; *Middle Row:* Elizabeth Leaf, Olivia Servidio, Max McFarlin, Monica Moran, Galeesa Murph, Charlotte Myers, Conni Ni; *Bottom Row:* Neve Redhair, Rocio Rosa, Jaedan Sockbeson, Octavia Ailsworth, ZaKylah Bryant, Jacob Edwards, Finn Mahoney, Lauren Taylor



## Featured Aspirnaut™: Jenny Diaz Sales

**Jenny Diaz Sales** is a 2023 Aspirnaut™ and a graduate of Berea College. She is currently working under the mentorship of Dr. Sergei Boudko.

**1. Tell me a little about growing up and your background.**

I was born into the indigenous lineage of Maya Mam in Juan Ostuncalco, Guatemala, the fifth of eight siblings; I come from a low-income family. My grandmother raised me, my siblings, and some cousins. Education was not an option for us due to our financial circumstances. However, a non-profit organization called Education and Hope allowed us to study. I am the first in my family to get a high school diploma and college education.

**2. What has been your biggest challenge during your educational journey?**

One of the hardest things during my personal journey was learning English at the age of 19. What made this challenging experience truly remarkable was that it served as the gateway to a world brimming with many opportunities, such as earning a tuition-free scholarship at Berea College and delving into diverse aspects of the scientific world, and now working at Vanderbilt in the Division of Nephrology.

### 3. What made you apply to Aspirnaut™?

The Aspirnaut™ program is a distinctive program that welcomes students from diverse backgrounds and nationalities. As an international student, the limitations I faced in pursuing internships were not a deterrent when I applied to this comprehensive program. It not only provides us with opportunities to expand our curiosity in the scientific field but also prioritizes our mental and physical well-being. Another significant aspect of the Aspirnaut™ program is its inclusion of various speakers who share their early experiences in the field of science: this has been a great source of inspiration for me, reinforcing my commitment to embracing my journey despite the anticipated obstacles. Additionally, I had a wonderful mentor, Dr. Boudko, who has been instrumental in encouraging me to immerse myself in lab work. His passion and patience allowed me to surpass my imagination during my work.

### 4. What motivates you?

My driving forces propelling me forward in life are my ancestors, family, community, and Education and Hope. These factors serve as my primary motivations to continue pursuing my dreams of becoming a doctor and working with Indigenous women in my community.

### 5. What are your future goals and aspirations?

Berea College selected me to be the first recipient of The Taylor Fellowship, which gives curious students like me a platform to spend a year anywhere in the world exploring fields of study that we are most passionate about. In my case, I want to learn about the art of healing within multiple indigenous cultures in several countries around the world.



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## Update: Aspirnaut™ Chemical Biology Lab at Wynne High School



Wynne High School after the tornado  
AP Photo/Adrian Sainz

Wynne High School is in a small, rural town in the heart of Arkansas Delta farmland. In March 2023, VUMC's Reporter announced that Aspirnaut™ would partner career scientists from Vanderbilt University Medical Center with teachers and students at Wynne High School to conduct research in medicine, agriculture, and the environment. Then, a tornado on March 31 changed everything.

Wynne High School was a total loss as the building was ripped apart. Fortunately, hope was not lost, and the school has transitioned into temporary

structures, with a modular building designated for the Aspirnaut™ Chemical Biology Lab. With the help of exceptional school leaders and teachers, the research lab plans are moving forward with a slightly delayed timeline for full launch.

Students will gain experience in discovery science, conducting experiments at the cutting edge of medically important biological questions like diabetes. Aquaria of diverse animals associated with the lab will be installed to inspire curiosity about the invisible world of molecules and cells that enable life.

Stay tuned for the full launch in spring 2024!



Billy Hudson, Ph.D., with Wynne High School science teachers Clay and Patricia Spann standing in front the the Aspirnaut™ Chemical Biology Lab

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## **Aspirnauts™ Selected as Kidney STARS Attend ASN Kidney Week in Philadelphia**

**Jennifer Diaz Sales** (2023 Berea College Graduate; Biology), **Oscar Hanson** (Junior, Berea College), and **Hugo Arce-Santamaria** (Junior, Berea College) were selected to participate in the American Society of Nephrology's (ASN) Kidney Week as part of the Kidney STARS program. The Kidney STARS program provides travel support for students interested in nephrology to attend ASN Kidney Week.



"This opportunity allowed me to expand my curiosity and understanding of the nephrology field. Also, this conference deepened my understanding that we are connected and engaged in collaborative efforts to continuously revolutionize the scientific landscape." **Jenny Diaz Sales** (Berea College)

"The Kidney Week events at the ASN Meeting provided me with incredible insight into the latest breaks in nephrology and renal science. This allowed me to develop a greater appreciation for the research conducted through my internship with Aspirnaut." **Oscar Hanson** (Berea College)

"This conference provided a unique opportunity to dive deeper into the world of nephrology and has given me the motivation and aspiration to continue in my studies so that one day, I can contribute meaningfully and pay it forward." **Hugo Arce-Santamaria** (Berea College)

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## **2023 Review : Updated Data**



## 2024 Application is OPEN! **Deadline: January 17, 2024**

We are accepting applications for High School and Undergraduate Aspirnaut™ Summer Research Internships. Recruitment of participants includes those from rural areas and those who identify as underrepresented in the biomedical, clinical, behavioral and social sciences. We are looking for students who have achieved excellent grades and test scores in math and science and who have demonstrated a commitment to pursuing a career in a STEM field.

To learn more about the High School Program, Click [HERE](#)

To learn more about the Undergraduate Program, Click [HERE](#)

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**DONATE NOW**

If you are interested in getting involved or sponsoring an Aspirnaut™ experience, please contact Rachel Baugh at [rachel.baugh@aspirnaut.org](mailto:rachel.baugh@aspirnaut.org).

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