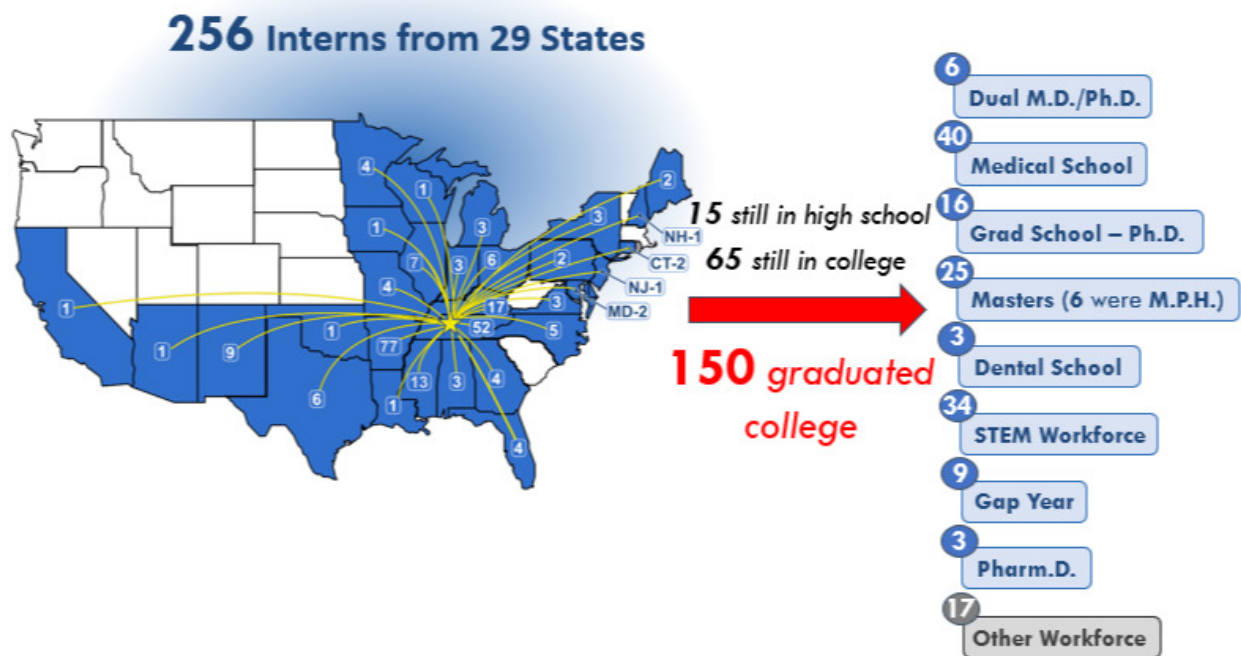




Editor: Rachel Baugh

12 YEARS OF SUCCESS



#GIVING TUESDAY

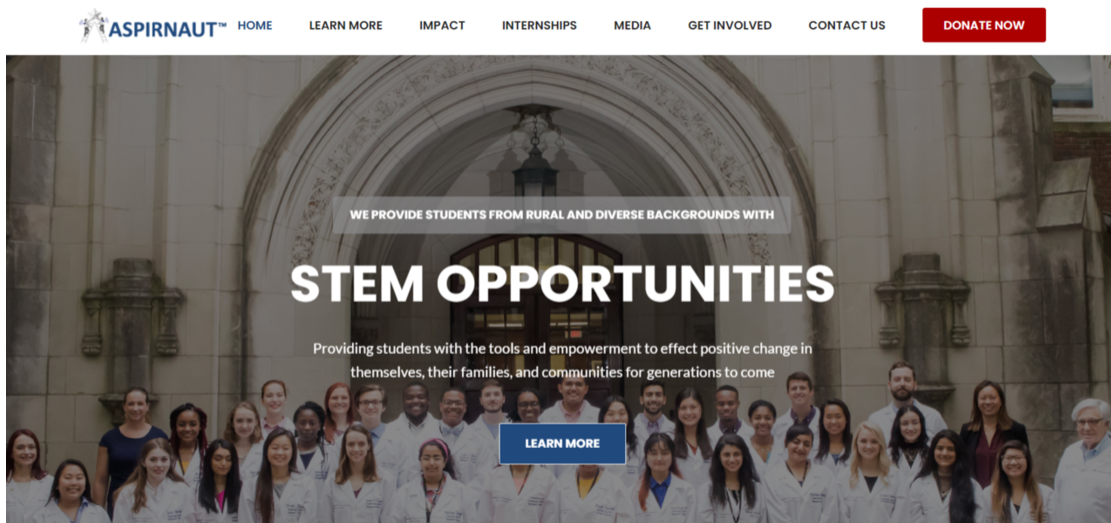
Today is Giving Tuesday! Aspironaut™ is participating for the 2nd year, and we thank everyone who has supported our mission along the way. We have compiled 12 years of program outcome data to showcase our interns' successes.

Your support is crucial to our mission. Each year, our goal is to increase the number of summer research internship opportunities available for talented students from rural and diverse backgrounds. Please consider giving and help change the trajectory of someone's life.

DONATE NOW

*#GivingTuesday is a global day of charitable giving to kick start the holiday season.

New Aspirnaut™ Website Launched!!!



We have a whole new look! Please check out our new website www.aspirnaut.org and let us know what you think. When we needed our website redesigned, we hired **Esther Huffman**. Esther was one of our first high school Aspirnaut™ research interns (2009). We think the new website is spectacular and hope that you do too.

To read more about Esther's journey to success, click [HERE](#).

For more information on Esther's designs, visit her website.

<https://www.estherhuffmandesign.com/>



New Partnership

Thanks to a generous contribution by Green Mountain Antibodies, Vermont high school students from diverse backgrounds have the opportunity to participate in the Aspirnaut™ summer research program. Green Mountain Antibodies and CEO Dr. William Church take

pride in serving its customers, employees, community, and the greater world. They place value on education and helping students find research opportunities that could impact the world of science.

We are excited to partner with Green Mountain Antibodies and look forward to the many opportunities this will create.

Catching up with Kaleb Branch and Madison Yarbrough

Kaleb Branch is a two-time Aspirnaut™ summer research participant from Jonesboro, Arkansas, and a freshman at Emory University. Kaleb plans to major in chemistry with a minor in global health, culture, and society. **Madison Yarbrough** is a two-time high school research intern who also participated in the weekly after-school Aspirnaut™ Beaming program at Poyen Elementary School, Arkansas. Madison is a freshman at Wesleyan University and plans to double major in neuroscience and behavior and psychology.



Kaleb Branch and Madison Yarbrough, 2019

1. How did you first become interested in science?

Kaleb: Oddly enough, my first interest in science was sparked when I read the series “The Enemy” by Charlie Higson. Although it is very unrealistic due to the book’s entire premise being based on the existence of zombies, I was hooked. From the discussion of human physiology to the explanation of how vaccines work, my nine-year-old self fell in love with it!

Madison: As a kid, I was always fascinated with the idea of healing people. I loved watching medical shows and performing “life-saving operations” on my stuffed animals. Ever since I can remember, I was known as a curious child, repeatedly asking questions for hours. I cannot count the number of times my parents would jokingly say, “Hey, curiosity killed the cat, you know?” When I joined the Aspirnaut™ after-school program in elementary school, I realized just how much I loved science, because it was a place where my millions of questions were embraced.

2. Tell me about growing up in Arkansas.

Kaleb: Arkansas was simultaneously the best and the worst place for me. I faced my fair share of hate, discrimination, and ignorance, but honestly would not trade it for the world. It has taught me so MUCH about my life. After arriving at Emory, I realized that most of my experiences back home were not normal. But I also realized that no matter where I go, I will still have to deal with the things I went through in Arkansas.

Madison: Growing up in rural Arkansas definitely had its setbacks, many of which did not appear until I arrived at Wesleyan. There is an obvious learning curve that I have had to work hard to overcome. My high school teachers did everything in their power to prepare us for college, but our school lacked all of the resources other schools had. It is not as common for students from Poyen to go out of state for college, so when I began applying to out-of-state schools, I felt discouraged at times. Thankfully, I had friends that I met through the Aspirnaut™ program that I could rely on when I felt discouraged.

3. How did you hear about the Aspirnaut™ program, and what made you apply?

Kaleb: Unlike many of my peers back home, I knew I did NOT want to spend my summer in Arkansas simply working and hanging out. I knew I needed to learn more about what I wanted to do with my future, and I figured it was time to “play with the big boys” and do some “real-life” work. So after a long and complicated process of researching different internships, I applied for the

Aspirnaut™ program. What drew me to this internship the most was their goal and mission statements. While growing up, it was very rare to find programs specifically made to help people who either looked like me or came from backgrounds similar to mine. The fact that this was Aspirnaut's entire mission was amazing.

Madison: My school district was one of the schools that participated in the Aspirnaut™ Beaming Labs Program. We had Skype calls every Thursday after school, where we conducted different experiments, and in the summers, we had a trip to the Vanderbilt University campus. I was a part of this program from third through sixth grade and absolutely loved it! Being a part of this program and a slight push from my amazing chemistry teacher persuaded me to apply to the high school program during the summers after my sophomore and junior years.

4. What resources best helped you through your college journey so far?

Kaleb: The best resources have been my family, friends, previous teachers, mentors, etc. - but one of the biggest reasons for my successful college journey is due to Mrs. Cindy Nash. Upon my first meeting her during our Aspirnaut™ college planning one-on-one sessions, I knew there was something special about her. She gave off such an inviting aura and welcomed every Aspirnaut™ with open arms. Besides guiding me through every step of the college admissions process, she also provided some of the wisest and most necessary input of my teenage years.

Madison: The best resources for me have been my amazing high school science teacher, Mrs. Amanda Jones, and everyone in the Aspirnaut™ program. Mrs. Jones is the one who encouraged me to apply to the program and has been a huge support along the way. The Aspirnaut™ staff has helped prepare me for every step of my college journey so far. They helped guide me through the college essays and application, as well as guidance through the QuestBridge process. I have received a never-ending flow of support. I can easily say I would not be where I am today without the help I received from my mentors in the program.

5. How is your first semester at college going amidst the COVID-19 pandemic?

Kaleb: It is going better than expected! I knew it would be difficult with online classes, the limited amount of people on campus, and the general lack of the typical “fun” that would be happening in normal years. Emory was prepared for most outcomes and delivered when they said they would, making it the best situation they could. It hasn't exactly been easy; I have definitely had my fair share of battles this semester. My biggest issue is probably the lack of human interaction. I'm a HUGE extrovert, and I love to be social and get to know literally everyone! Thankfully, I have been very optimistic about the current situation. I realized that because my social circle has become so limited, it has fostered stronger friendships and bonds.

Madison: The first semester of college has been an adjustment for sure. Transitioning to college is always a stressful learning experience and adding a global pandemic on top of it definitely makes it harder. However, it has still been a great semester for me! In the beginning, it was tough to meet people due to COVID-19 restrictions and the two-week mandatory quarantine when we first arrived. I was fortunate to be a part of the QuestBridge chapter at Wesleyan, which provided Zoom calls as entertainment during the quarantine. I was also lucky enough to get half of my classes in person, but it is sometimes challenging to find motivation with the other half on Zoom. I think that has been one of the biggest academic adjustments in the pandemic.

6. How do you want to make an impact in the world?

Kaleb: Although it is as basic as it comes, I want to leave the world a better place. Considering the fact that I am only eighteen years old, I recognize the possibilities are endless and do not know exactly what that looks like. What I do know is, regardless of what I do, whether it's creating a brand-

new pediatric surgical technique or simply complimenting someone and making their day, I just hope it does something to change the world for the better.

Madison: My biggest goal is to positively impact the world in my personal life and career. In the future, I intend on going into the medical research field, where my biggest goal would be contributing to science to help others. Alongside that, I want to be able to set an example for other students like myself. I believe it is important to show underrepresented students that it is possible to achieve everything you dream of accomplishing no matter what other people say.



Congratulations, Jennifer Bentz!

Jennifer Bentz is one of 58 people nationwide to receive a fellowship from The Honor Society of Phi Kappa Phi, the nation's oldest collegiate honor society for all academic disciplines. Jennifer was a 2018 Aspirnaut™ summer research intern from Berea College and is pursuing a doctorate of medicine at Washington University School of Medicine in St. Louis. Way to go, Jennifer!

2021 Application is OPEN. Deadline: January 6, 2021

We are accepting applications for High School and Undergraduate Aspirnaut™ Summer Research Internships. Recruitment is focused on individuals from diverse backgrounds and underrepresented in STEM careers. 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**](#)



New Publication

Congratulations **Tess McNeely** and **Kamila Nurkmakova**, on their recently published manuscript in *Science Direct*. Tess was a 2019 Aspirnaut™ intern and is an undergraduate student



at Belmont College. Kamila Nurkmakova is a two-time Aspirnaut™ intern who attended Berea College and who is now a Ph.D. candidate in biophysical chemistry at Yale University. The title of their research manuscript from the Skaar lab is "*Clostridioides difficile* proline fermentation in response to commensal clostridia".

You can read the full publication [HERE](#).

Wellness Blog

Controlled deep breathing is one of the most effective ways to lower stress and help the body relax. When you take deep breaths, the brain receives a signal to calm down and relax. During the 2019 Aspirnaut™ Summer Research Program, I led the summer participants through some relaxation techniques and helped them de-stress with a deep breathing exercise. One of the techniques we used was the 4-7-8 breathing exercise. Try this exercise in a relaxed setting and see if it works for you.



1. Start by laying flat on the ground, with one hand on your stomach.
2. Take a deep, slow breath, and silently count to 4 as you breathe in. Keep your hand on your stomach, and make sure your stomach expands with the breath. This is called belly breathing.
3. At the peak of your 4-second breath, hold your breath for a count of 7.
4. Exhale your breath while silently counting to 8, making sure to expel all your air.

Repeat this cycle 3-8 times. Happy relaxing!

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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