



ACS Project SEED
Chemistry for Life®



Project SEED
Virtual Summer Camp

2020 ANNUAL REPORT

Project
SEED
AMERICAN CHEMICAL SOCIETY



VISION

Empowering students through transformative research experiences.

MISSION

To ensure that students from economically disadvantaged backgrounds have opportunities to experience the challenges and rewards of chemically-related sciences.

“ Because of this program, I am 100% sure I want to have a STEM career in the future. ”
- Camper **Fernando Camacho, Guaynabo, Puerto Rico**

TABLE OF CONTENTS

Executive Summary.....	1
Camp Structure.....	3
Project SEED by the Numbers.....	5
Camper Map.....	7
Camp Expenditures.....	9
Virtual Program Schedule.....	12
UnConference Schedule.....	23
Project SEED Staff.....	29
Camper Feedback.....	30
College Scholarships.....	31
Task Force & Committee.....	35
Looking Ahead to 2021.....	39
Yearbook.....	41





VIRTUAL SUMMER CAMP Executive Summary

This year, the American Chemical Society (ACS) Project SEED program entered its 52nd year of planning for summer research. Each year prior, 300+ high school students from socioeconomically-challenged households conducted research at university, government, and industry labs across the US. However, as the COVID-19 pandemic swept the globe, in-person research was no longer safe. **ACS staff developed an alternative: a virtual summer camp experience completely facilitated by ACS staff, a small group of ACS member volunteers, and paid undergraduate and graduate students.**

The reimagined virtual experience aimed to accomplish the original goal of narrowing the well-documented gap in STEM fields, college enrollment, and graduation rates between economically-disadvantaged high school students and students from more affluent backgrounds.

This summer, 291 students participated in the very first Project SEED Virtual Summer Camp. The 4-week virtual experience focused on 3 core objectives:

- **College readiness and professional development**
- **Lab preparedness**
- **Exposure to chemistry-related career paths**

Nearly 50 presenters were solicited to help reach these objectives, including SEED mentors and coordinators who prepared "Research Hikes," or online seminars featuring the science that some students would have worked on had COVID not disrupted the summer's plans.



Meet Cabin Leader **Gerardo Carreon, Texas A&M**

As a cabin leader, I engaged the students and promoted a safe space for them to talk, share their fears and dreams, and work with one another. It challenged me to step out of my comfort zone and build on my leadership skills - something that will serve me well when I start my career in renewable energy technologies.



Campers were organized into 31 groups called "Cabins," run by 62 undergraduate and graduate student Cabin Leaders. Cabin Leaders provided support and encouragement to their campers, graded independent assignments, and hosted a virtual "College Night" to share their respective college experiences.

Many Cabin Leaders came from similar socioeconomic and/or racial and ethnic backgrounds as the campers: 18 were former Project SEED participants or mentors and 22 were ACS Scholars, a program that provides scholarships to minority students historically underrepresented in the chemical sciences. **Despite this summer's unfamiliar virtual environment, many campers reported quickly developing an affinity for their cabin leaders and fellow students, thanks to the ice-breakers, workshops, and meaningful discussions.**

Meet Camper **Bernice Owusu, Irvington, New Jersey**

Having this big dream of becoming a scientist is kind of scary sometimes, but Project SEED helps you uncover your hidden potential and develop skills that are not just essential for a career in science, but for everything you face for your entire life.



The virtual summer camp yielded powerful benefits. Unlike the traditional program, in which students delve into a single research project alongside a dedicated mentor, the virtual summer camp exposed students to a broad range of chemistry-related topics and potential career paths. It also had the unique benefit of connecting hundreds of student participants across time zones and state lines.

Please enjoy this annual summary detailing the sessions conducted, the networks created, and the positive feedback received.



Thanks to the generosity of our dedicated committee task force, a group of 23 coordinators-turned-camp managers, the support of a number of ACS staff members, and the financial support of our many donors and contributors, the very first Virtual Summer Camp was a true success.

Thank you!

VIRTUAL CAMP: ROLES & STRUCTURE

Camp Manager - Manages all cabin leaders in his/her campsite

- Hosts the Monday Campsite Fireside Chat
- Handles any escalated issues or challenges
- Adds any unique campsite activities

Cabin Leader - Manages all campers in his/her cabin

- Hosts Cabin Fireside Chats on Mondays, Wednesdays, and Fridays
- Grades and edits assignments, providing detailed feedback
- Handles any simple technical issues and answers questions
- Tracks student attendance

Campers

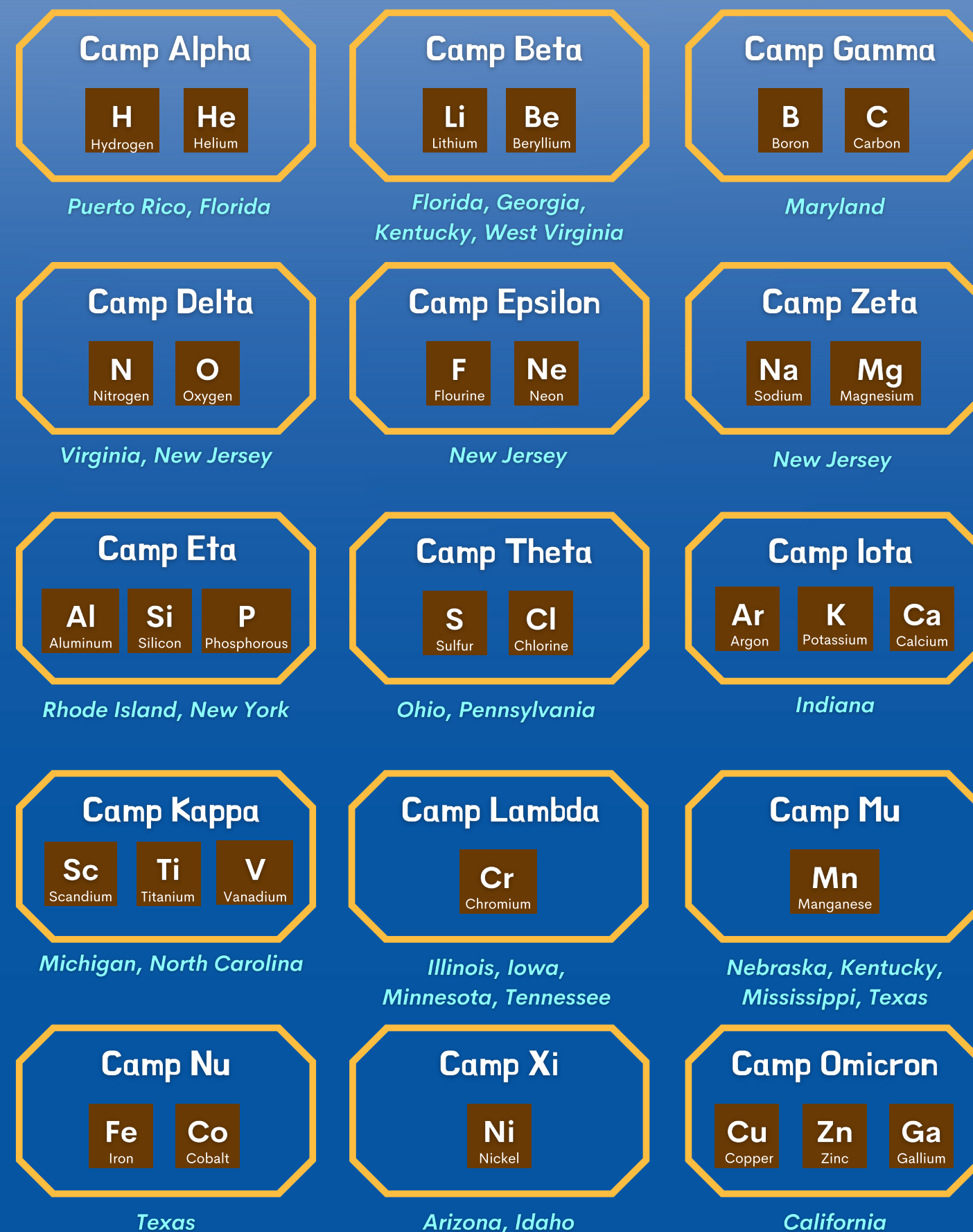
- Completes and submits assignments
- Attends cabin and campsite campfires
- Participates in national itinerary activities

Project SEED **cabins**, named after elements on the periodic table, are loosely organized into campsites by the campers' states of resident. **The campsites are named with letters of the Greek alphabet.**

Total number of campsites: 15 **Total number of cabins: 31**



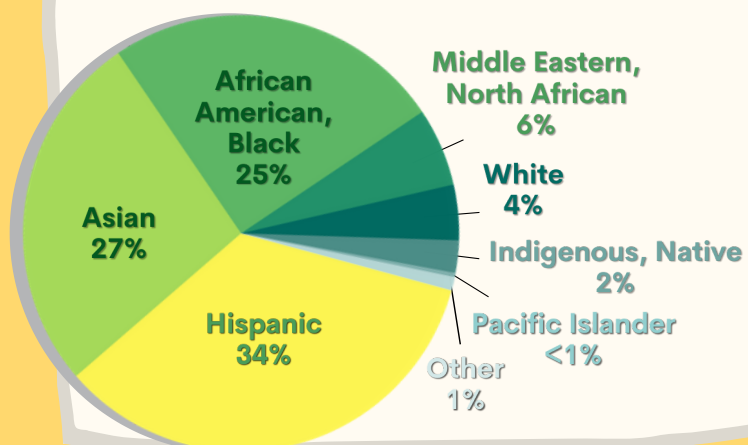
CAMPSITES + CABINS



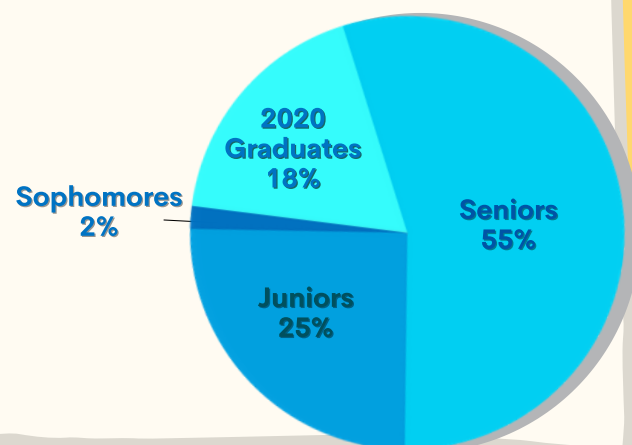
FUN FACT: Camp Omicron was our largest campsite with 32 campers.

BY THE NUMBERS: CAMPERS

STUDENT RACE/ETHNICITY



HIGH SCHOOL GRADE LEVEL



FUN STAT: 97% of campers plan to attend a 4-year college or university. The other 3% plan to attend community college.

GENDER DISTRIBUTION

68% Girl/Woman
31% Boy/Man
1 student is Non-Binary
1 student did not disclose gender

SCHOOL ATTENDANCE

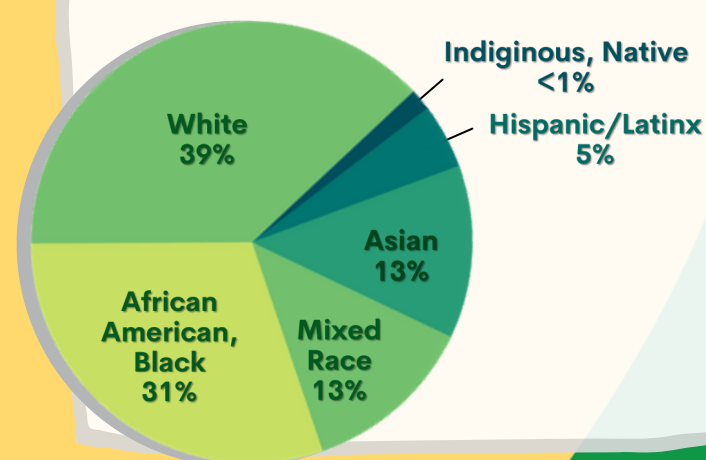
76% Public schools
9% Public magnet schools
8% Private schools
5% Public charter schools
2 homeschool

FINANCIAL ELIGIBILITY

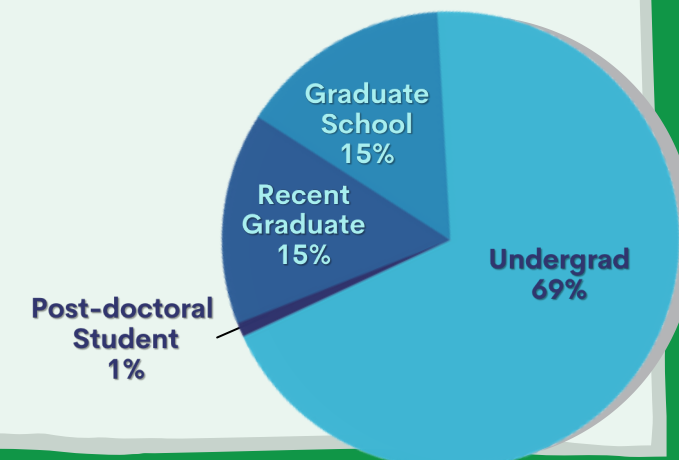
36% of the students live in households that make 100% or less of the Federal Poverty Guidelines.
55% of students' households are between 100% and 200% of the Federal Poverty Guidelines.

BY THE NUMBERS: CABIN LEADERS

CABIN LEADER RACE/ETHNICITY



STUDENT STATUS



FUN STAT: 61% of Cabin Leaders participated in ACS Bridge, ACS Scholars, or Project SEED prior to this year, and 21% of Cabin Leaders participated in more than one ACS program.

GENDER DISTRIBUTION

66% Woman
32% Man
1 cabin leader is Non-Binary

SCHOOL ATTENDANCE

48% Public schools
45% Private schools
4 cabin leaders did not specify

Meet Cabin Leader **Natalia Miller, Princeton University**



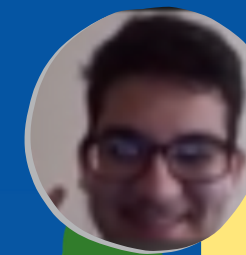
Students were exposed to many different scientific fields through inspiring presentations delivered by a diverse group of professional scientists who looked like them, came from similar socioeconomic backgrounds and overcame challenges to establish successful careers.



CAMPER HOME STATES

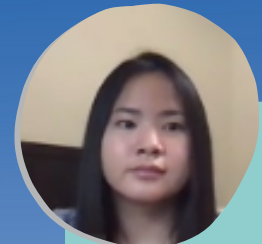


FUN STAT: The 2020 campers represent 25 states and Puerto Rico



Daniel Favela,
Laughlin, Nevada

The summer camp really helped me understand how to prepare for college and grad school and a future career in one of the sub-fields of chemistry that I had not even known existed.



Kennedy Thrash
Corpus Christi, Texas

The speakers helped me see how it is OK for us to not know exactly where we will end up in our careers. I learned that passions change, and people change as we continue our journeys.



Seham Abutaha
Toledo, Ohio

I really liked interacting with highly motivated students - who will be part of my future network - to explore scientific research and the professional world that we will all be a part of soon.



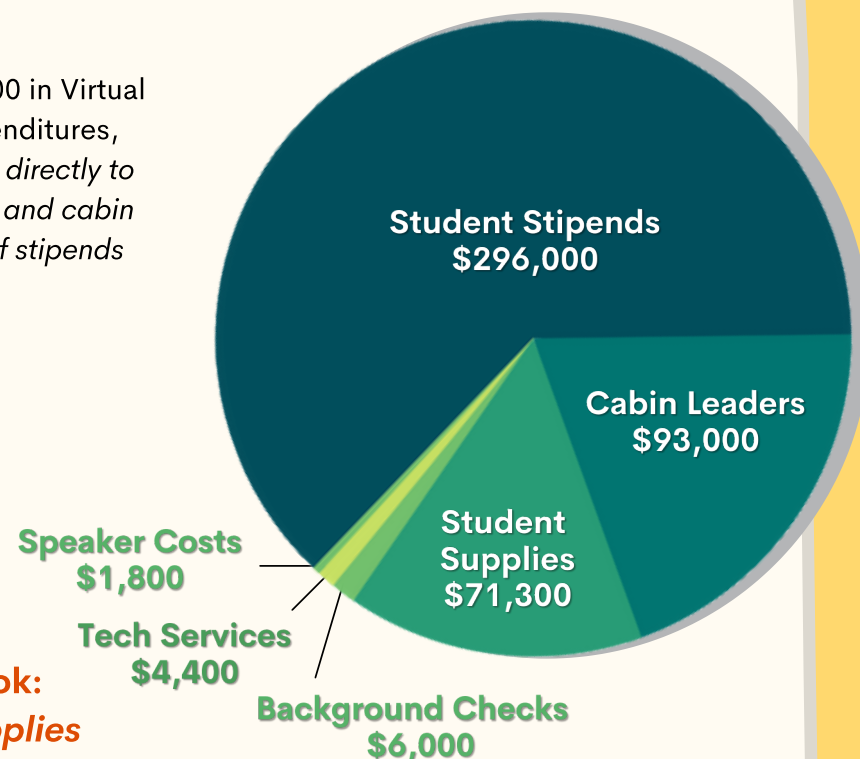
Siham Busera, Silver Spring, Maryland

Some of the presenters were former Project SEED students who are now PhD's. Their stories were inspiring to me, because as they talked about their background, it made me think, "Oh, that's me and maybe I can achieve those things, too."

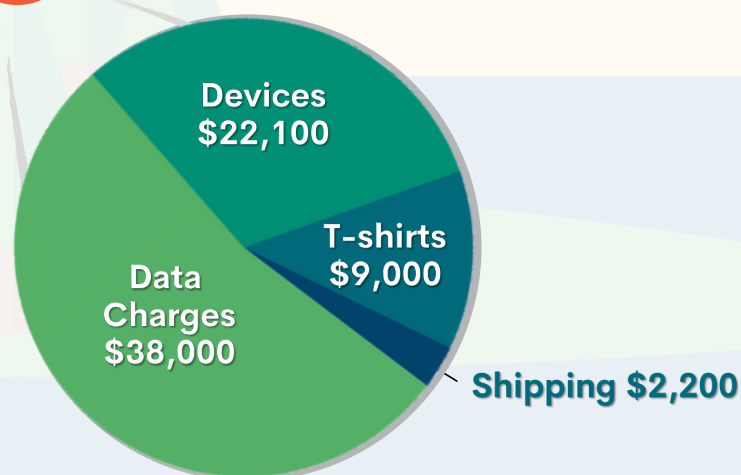


VIRTUAL CAMP: FINANCIAL EXPENDITURES

Of the total \$472,500 in Virtual Summer Camp expenditures, more than 85% went directly to student participants and cabin leaders in the form of stipends and Chromebooks.



A Closer Look: Student Supplies



WHAT DID YOU LEARN?

“ I definitely learned that I am capable of much more than I can imagine. I now know that now all paths are perfectly straight and that when I least expect it, a curve ball could be thrown and everything will flip upside down. Not in a bad way always, but I could definitely come across more problems than I expect.

- Ashley Campos-Hernandez, Frankfort, Indiana

“ The most important thing that I learned is the diverse fields in chemistry. I want to enter a chemistry-related field and had set my mind on chemical engineering but after participating in the research hikes and learning about the presenters' work, I want to keep my options open and thoroughly investigate the different fields.

- Baraa Al-Jasim, Coon Rapids, Minnesota

“ I learned a lot about how the minds of scientists work and the way they think. It wasn't something directly taught to us, but I found similar ways of thinking in many scientists. It was really cool.

- Amira Alkaissi, Toledo, Ohio

“ Some of the most important things I learned is that networking is essential and that you should figure out your life values, stick to them, and uphold academic integrity even when it seems difficult.

- Samrawit Solomon, Indianapolis, Indiana

“ The most important things I learned in camp is to be happy with what you are studying. College is a journey and it does not go in a straight line. It goes in twists and turns, but that's the best part of it all.

- Tatiana Romero, Union City, New Jersey

“ It is important to engage in things that acquire experiences that set you apart from others because the world is immensely competitive. Another thing is to hone your skills and seek opportunities to integrate your passion and interests. Failures are bound to occur along the way, the most important thing to do in the event of a failure is to learn from it and remind yourself of all your success.

- Esther Oko, Irvington, New Jersey



Meet Camper Carrina Tran, Flagstaff, Arizona

This year's Project SEED was definitely something else! I can't say that I don't miss physically working in a lab, but I honestly couldn't ask for a better 2020 Project SEED experience. The webinars and cabin meetings were immaculate. I definitely enjoyed how thorough and planned out the whole experience was. I've learned so much in such a short amount of time! I'll never forget these last four weeks!



FUN STAT: 26% of 2020 campers are returning Project SEED students.

Virtual Program and UnConference Schedules

The Virtual Summer Camp's programming was made possible by the engagement of 50+ facilitators and panelists, many of whom were recommended by ACS staff members, Project SEED committee members and associates, and our broader community of Project SEED coordinators and mentors.

Each week included 4-9 afternoon webinars to best accommodate all 4 time zones. Each camper completed an evaluation immediately following the session and participated in an online forum about the content.

The summer camp concluded with a 2-day conference called the Virtual UnConference. Each day kicked off with a keynote speaker. Students could then choose to attend 2 of 6-7 concurring sessions. ACS staff was instrumental in providing additional facilitator support for these sessions.

PROGRAM HIGHLIGHT: RESEARCH HIKES

One highlight of this summer's Project SEED experience was a series of "hikes," **presentations that explored contemporary research projects.**

Research Hikes covered a vast variety of topics, including:

- Vaccination: A New Approach to the Opioid Epidemic
- Cracking Under Internal Pressure: Photodynamic Azide Crystals
- History and Chemistry of Platinum-based Anticancer Drugs



VIRTUAL PROGRAM SCHEDULE

OBJECTIVES

CC Careers in Chemistry

CR College Readiness

LR Lab Readiness

PD Professional Development

WEEK 1

July 7-10, 2020

PD

So You Want to be a Professional? Webinar

Learn general communication tips around emails, virtual meetings, and online learning so you feel more confident when navigating professional situations.

Justin Zimmerman, American Chemical Society, Program Specialist, Project SEED

Before joining ACS, Justin taught high school chemistry for several years and developed curriculum for his school district, led professional development, and was a Stanford University Hollyhock Fellow. At ACS, he helped introduce a new online application platform and shape the curriculum for the Virtual Summer Camp.



CR

College Readiness Webinar

By the end of the session, students will feel more confident approaching their college search, narrowing college choices, and communicating with admissions staff.

Laura Hermann, University of Nevada, Las Vegas, Early Outreach Specialist & Admission Counselor

Laura holds a master's in education from Vanderbilt University and spent 6 years teaching grade school before moving to higher education. In her current role at the University of Nevada, Las Vegas, Laura works with K-12 students to increase their likelihood of attending college and directly recruits high school students to apply to the university.



FUN STAT: 72% of campers enrolled in Honors, Advanced Placement (AP), or International Baccalaureate (IB) courses.

PD

Presenting You! Highlighting Your Best Self Through a Resume Webinar

How do you show potential employers, colleges and universities, and volunteer groups or student professional organizations what you have to offer? With a resume that presents the best of you!

Greglynn Gibbs, Penn State Berks, Science Division, Chemistry Research Support Technician & Laboratories Manager

At Penn State Berks, Greglynn is responsible for all aspects of chemistry instruction and research laboratories management, as well as faculty and student academic research support. As an ACS member, she is Membership Chair of the Lehigh Valley Section Executive Committee, ACS Career Consultant, and Advisor of the Penn State Berks Student Chapter.



PD

Strategic Planning and Serendipity for Professional Success Webinar

Students will learn about Dr. Echegoyen's impressive and extensive career as a research professor as well as the importance of serendipity in science.

Dr. Luis Echegoyen, American Chemical Society, President

Dr. Echegoyen has been the Robert A. Welch Chair Professor of Chemistry at the University of Texas at El Paso since August 2010 and was elected president of ACS in 2018. Originally born in Cuba, he has worked in the United States, France, and Switzerland, and has directed students in Puerto Rico, Florida, South Carolina, and Texas.



Meet Camper Derrick Sanchez, Union City, New Jersey

I loved learning about all the research from the different webinars, however, I think I appreciated learning more about professional growth and college life. I appreciated these more because as students who are about to experience the world for themselves, tips such as the ones I learned during these webinars are very helpful. Camp has allowed me to study myself and improve some of the skills that are necessary to be successful.



CR

From Senior to Freshman: Surviving Your High School School to College Transition Panel

This panel is an opportunity for students to hear from current undergraduate students about how they decided on a college, made themselves competitive, and spent their first semester. You will also learn about how each person chose their major or career path.

Autumn Cook, University of Maryland, Baltimore County, Current Student, Rising Senior in Chemistry and Women's + Sexuality Studies

Autumn is a Meyerhoff Scholar and intends to complete a Ph.D. in Materials Science focusing on the development of novel nuclear fusion reactor materials. Autumn wants to work as an undergraduate chemistry professor while performing academic research.



Claire Grey, Brown University, Current Student, Rising Sophomore

Claire is studying chemistry at Brown but outside the classroom participates in the Society for Advancement of Chicanos/Hispanics and Native Americans in Science (SACNAS), STEM tutoring, and chamber orchestra. She has presented research at regional and state science fairs.



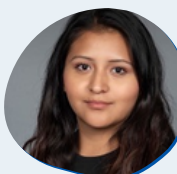
Richard Nwakamma, Emory University, Current Student, Rising Junior in Chemistry

Richard has a Nigerian background and was born and raised in Decatur, GA. He is interested in medicinal chemistry and biochemistry research, leading him to consider a career designing medications, improving drug delivery methods, and developing other medical therapies.



Johanna Riera, New Jersey City University, Recent 2020 Graduate

Johanna recently earned a bachelor's in Biology and believes that a chemical foundation is crucial to understanding many concepts in science. Johanna intends to obtain an MD/PhD to become a medical scientist and is a past Project SEED alum.



Kupaaikaiaio Thomas, University of Colorado, Boulder, Recent 2020 Graduate

Kupaaikaiaio is from Hawaii but traveled extensively abroad, including in New Zealand and Singapore. He recently graduated with a bachelor's in Chemical Engineering and is now earning an industry-based master's in Chemistry specializing in Polymer Science at the University of Oregon.



Meet Camper Ashley Vazquez Romo, Henderson, Nevada

I think the Project SEED Virtual Summer Camp was amazing. I learned about ways to prepare for next year, such as study methods and making sure I do not plagiarize. I also learned about different research projects that I had never heard of before. This sparked an interest in me to stay on top of chemistry research and read more research journals.



LR

The Ethics of Publishing: From Research to Reading Webinar

Go through the publication process, beginning with the researcher's choice of project and ending with readers reviewing the final publication. We will examine the roles of authors, editors, reviewers, and readers at each stage, noting their ethical responsibilities.

Judith Currano, University of Pennsylvania, Head of Chemistry Library

Judith holds a bachelor's in chemistry and a master's in library and information sciences. In her current role, she oversees all activity within Penn's Chemistry Library, including answering research questions and teaching a course in chemical information that is required of all PhD students at Penn. She's also advisor to the Penn's Women in Chemistry group.



LR

Vaccination: A New Approach to the Opioid Epidemic Research Hike

Learn to use molview.org and comfortably discuss opioid use and related disorders.

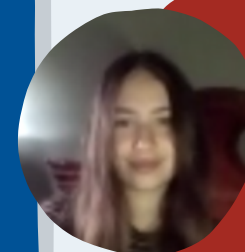
Naomi Lee, Northern Arizona University, Assistant Professor

Dr. Naomi Lee is a tenure-track professor of Chemistry and Biochemistry and an affiliate faculty member to the NIH-funded Southwest Health Equity Research Collaborative (SHERC) and the partnership for Native American Cancer Prevention (NACP). Her research focuses on novel vaccine development using self-assembling peptides and virus-like particles.



Meet Camper Emma Lazo, Bethlehem, Pennsylvania

Listening to the presentations, including one about research into Native American opioid addiction, I was truly amazed to see how scientists are working to positively impact our world.



CC

Careers in Chemistry Panel

Learn more about the wide variety of career options in the chemistry field.

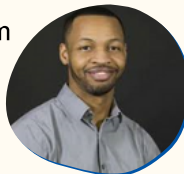
Michelle Rivard, *Dow Chemical, Analytical Chemist/Technologist*

Michelle is a silicone-materials measurement science expert, mastering analytical characterization techniques. She is a huge advocate for STEM and volunteers with the Midland American Chemical Society, ACS Science Coach Program, Project SEED, and Dow's STEM Ambassadors.



Javoris Hollingsworth, *University of St. Thomas in Houston, Assistant Professor of Chemistry*

Dr. Hollingsworth is a former Project SEED scholar and a Gates Millennium Scholar, holding a master's and doctorate degree in Chemistry. Dr. Hollingsworth lived and conducted research in Beijing, China, before returning to the United States to teach in Texas.



Jamie Shetzline, *Library of Congress, Chemist*

Dr. Shetzline's graduate work focused on novel catalyst layer materials and the miniaturization of testing apparatus for proton exchange membrane fuel cells. She was awarded an NSF SBIR Post-doctoral Fellowship and now develops analysis techniques to identify cultural object degradation.

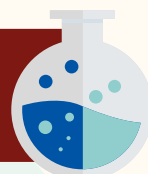


Audrey Skinner, *Imbibe Solutions, Founder and Gastronomist*

Audrey is the founder of Imbibe Solutions, an independent laboratory that works with breweries, wineries, and distilleries to improve their quality control programs. Her favorite class in graduate school - the Microbiology of Fermented Foods - set her on the path to founding Imbibe Solutions.



FUN FACT: 46 campers learned about Project SEED from a friend or family member.



LR

"Standing on the Shoulders of Giants" ...Ethically! Webinar

By the end of the session, students will understand why it is important to cite others' work, what needs to be cited and what does not, how to cite correctly, and how and when permission needs to be requested to reuse published words or images.

Judith Currano, *University of Pennsylvania, Head of Chemistry Library*

Judith holds a bachelor's in chemistry and a master's in library and information sciences. In her current role, she oversees all activity within Penn's Chemistry Library, including answering research questions and teaching a course in chemical information that is required of all PhD students at Penn. She's also advisor to Penn's Women in Chemistry group.



FUN STAT: 97.6% of 2020 campers said they are interested in learning more about STEM after participating in Project SEED.

CC

An Analytical Chemist's Role in the Pharmaceutical Industry Webinar

An overview of career expectations and opportunities based on a personal career journey offers insights into the role of an analytical chemist in the pharmaceutical industry, hopefully inspiring the next generation of Project SEED students for a career in analytical chemistry.

Mirlinda Biba, *Merck & Co., Inc., Principal Scientist*

Dr. Biba earned her Ph.D. in Analytical Chemistry from Drexel University where she focused on the analysis and separation of RNA oligonucleotides with different liquid chromatography methods. Her work has results in over 40 publications and been included in numerous conferences.



The Stress is Real: COVID-19 & 2020 Webinar

At the end of this session, students will be able to describe the normal mental and physiological effects of stress and change, identify and utilize techniques to control stress and worry, provide support for others having a difficult time, and identify their emotional needs to arrive at approaches and beliefs that will best serve them.

Lindsay Bira, *University of Texas Health San Antonio, Adjunct Assistant Professor of Psychiatry and Clinical Health Psychologist*

Dr. Bira speaks often on the topic of mental health and wellbeing. Dr. Bira has been featured by TEDx, Texas Public Radio, Women's Health Magazine, Headspace, Science, Nature Biotech, and more, for her work in stress, PTSD, mindfulness, brain health, and personal growth.



LR

Cracking Under Internal Pressure: Photodynamic Azide Crystals Research Hikes

Learn that light can be used to drive reactions, crystals have very different properties, and chemical reactions that release gas can be used in applications such as airbags.

Anna Gudmundsdottir, *University of Cincinnati, Professor*

Born and raised in Iceland, Dr. Gudmundsdottir obtained a bachelor's in chemistry at the University of Iceland and graduate degrees at the University of British Columbia in Vancouver. She was a postdoctoral fellow at Michigan State and Ohio State Universities.



LR

Beginner's Guide to Literature Reviews Webinar

Learn what defines a literature review, how to conduct a literature review, and how to use scholarly search engines and citations.

Feyisanmi Ojo, University of Maryland, Eastern Shore, Graduate Student

Feyisanmi Ojo is a current master's student finishing a two-year joint program of Natural Science and Agriculture. Feyi attended the University of Maryland, Baltimore County for her bachelor's degree in Biology.



CC

Research and Development in National Laboratories Webinar

Neil Henson, Pacific Northwest National Laboratory, Scientist

Dr. Henson's research interests are the application of computational chemistry methods to energy security problems and using modeling for chemical interpretations of experimental observables. He is also Deputy Director for the WSU-PNNL Nuclear Science and Technology Institute.



Tommy Rockward, Los Alamos National Laboratory, Scientist

Mr. Rockward holds a master's in Applied Physics. With the USFCC Materials and Components Working Group, he helped establish standardized testing for fuel cells and served as the U.S. international representative to establish a hydrogen fuel standard for the Dept of Energy.

**Meet Camper Abeer Khan, Alexandria, Virginia**

Project SEED allowed me to open my eyes and be more open-minded. I was always stuck on medicine and that was the only thing I wanted to pursue, I was sure of it. Project SEED allowed me to see that there are so many other great opportunities awaiting me in a different field. I was very intrigued by the research hikes and am now interested in a career in chemistry. I might become a biochemist or think about getting an MD-PhD so that I can be a scientist and a doctor.



LR

History and Chemistry of the Platinum-based Anticancer Drugs*Research Hike*

Students should leave this presentation appreciating the widespread use of platinum drugs and how their molecular structures facilitate their reactivity inside cells.

Jonathan White, Longwood University, Professor

Dr. White taught freshman chemistry and biochemistry at Willamette University in Oregon, his home state, before starting at Longwood University. He has spend the least few summers establishing a research program investigating metabolically-active platinum drug derivatives.

**Meet Camper Ying yin Zhu, Caldwell, Ohio**

I enjoyed this because I learned the professional skills that I wouldn't have extensively reviewed while in the research environment. I definitely believe these professional development seminars and skills can be implemented in the regular summer [program of Project SEED] because the skills are important alongside research.



LR

PCR Detection of Grape Pierce's Disease Pathogen in California*Research Hike*

Like humans and animals, agricultural crops also have diseases, so pathogens need to be controlled to ensure successful crop production. In this presentation, we will examine an example of grape Pierce's disease in California.

Jianchi Chen, USDA-ARS, Research Molecular Biologist

Dr. Chen received his Ph.D. in Plant Pathology from the University of Georgia and has expertise in bacteriology focusing on research in bacterial pathogens of grape and citrus using molecular biology and genomics approaches.



Yadira Chavez, USDA-ARS, Biological Science Technician

Mrs. Chavez is a biological science technician and received her bachelor's in Biology from California State University, Fresno and has expertise in molecular biology techniques including DNA sample preparation, sequencing, and genomics.





Science Careers at the Library of Congress

Preservation, Research, and Testing Division's scientists and technicians from The Library of Congress will overview research areas, interesting projects, and instrumentation commonly used within the division. Join us to learn more about what science is happening at The Library!

Eric Monroe, *The Library of Congress*, Supervisory Physical Scientist

Dr. Monroe received his Ph.D. in Analytical Chemistry from the University of Illinois, Urbana-Champaign focusing on the distribution of neuroactive compounds across tissues and single cells. He completed his postdoctoral studies examining the HIV virus capsid protein.



Andrew Davis, *The Library of Congress*, Chemist and Polymer Scientist

In his current position, Dr. Davis focuses on collections preservation by studying the fundamental degradation science of polymer-based materials, including paper, film, and modern media. His work has included research on magnetic audio tapes, repair adhesives, and more.



Tana E. Villafana, *The Library of Congress*, Chemist and Spectroscopist

Dr. Villafana received her Ph.D. in laser imaging spectroscopy from Duke University, developing a non-linear laser imaging technique to generate virtual cross-sections in paintings. She works closely with conservators ensuring conservation treatments can be guided by scientific analysis.



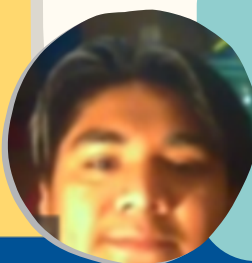
Meghan Wilson, *The Library of Congress*, Preservation Science Specialist

Ms. Wilson has worked extensively with multispectral imaging technology, developing guidelines and workflows for technical operation of equipment and image quality control of capture and processing procedures. She specializes in advanced image processing techniques.



Amanda Satorious, *The Library of Congress*, Preservation Science Specialist

In her current role, Ms. Satorious performs material science research to improve identification of paper composition and historical pigments using portable non-destructive instrumentation. She holds an M.Sc. in Conservation from Cardiff University in Wales.



Meet Camper Brandon Texcucano, Union City, New Jersey

This year's SEED Virtual Summer Program covered a huge amount of job fields and sparked many interests in these jobs. I enjoyed and am honored to have participated in this year's program.



FUN STAT: 99% of qualified 2020 campers said they would like to participate in Project SEED in one form or another again next year.



Pharmaceutical Industry 101: History, Current Perspectives, and Career Opportunities Webinar

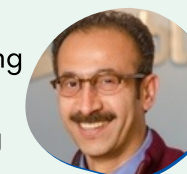
Christopher Murray, *Blueprint Medicines*, Senior Vice President of Technical Operations

Dr. Murray has over 25 years of pharmaceutical product development, clinical manufacturing, and commercial manufacturing experience in the biopharmaceutical industry. He oversees all aspects of commercial and clinical manufacturing, supply chain and logistics, and more for Blueprint.



Vivek "Vic" Kadambi, *Blueprint Medicines*, Senior Vice President of Quantitative Pharmacology and Drug Safety

Dr. Kadambi is an experienced leader and has held positions of increasing responsibility from bench scientist to his current position. He received the American Heart Association Fellowship, Ohio Affiliate and the Young Investigator Award from the Heart Failure Society of America.



WEEK 4

July 28, 2020



How (and Why) to Do the Right Thing When No One is Looking Webinar

Learn the psychology behind why people are tempted to ethically bend the rules at work or school, methods to resist that temptation, and general ethical guidelines. This is a great session for high school, college, and graduate students alike.

David Rettinger, *University of Mary Washington*, Director of Academic INTEGRITY Programs

Dr. Rettinger's academic research interest is academic integrity behavior and has published research on the psychology of cheating in *Theory into Practice, Research in Higher Education*, and more. He is also President Emeritus of the International Center for Academic Integrity.





UN CONFERENCE SCHEDULE

OBJECTIVES

- CC** Careers in Chemistry
- CR** College Readiness
- LR** Lab Readiness
- PD** Professional Development

DAY 1

July 29, 2020

CC KEYNOTE: Third Culture Chemist

This presentation will describe Andres' journey from growing up in Bolivia to landing his dream job teaching chemistry to undergraduate students at Cal Poly, and how, along the way, he discovered that his life experiences uniquely prepared him to achieve his goals.

Andres Martinez, Cal Poly (San Luis Obispo), Department of Chemistry & Biochemistry, Associate Professor

Andres W. Martinez is an associate professor of chemistry at Cal Poly, San Luis Obispo. While he was born in Oakland, California, he grew up in Bolivia, his father's home country. After studying at Stanford and Harvard, and completing his Ph.D., Andres volunteered in Tanzania.



Vibranium, Black Panther, and the Periodic Table

The Marvel Studios' film *Black Panther* was a huge hit in theaters. Join Drs. Collins and Boyd to discuss the basics of the periodic table and how the table itself can be used to predict where the fictional element Vibranium would reside and what properties it would have.

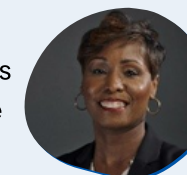
Darryl Boyd, Science Made Simple, LLC, Founder/STEM Ambassador

Dr. Darryl Boyd is a research chemist at the US Naval Research Lab in Washington, DC. His work focuses on the development of chalcogen-based optical polymers. He has won numerous awards, including being named to the 2018 C&EN "Talented 12" class. YouTube: Dr. Boyd the Chemist



Sibrina Collins, Lawrence Technological University Marburger STEM Center, Founding Executive Director

Dr. Sibrina N. Collins is a STEM educator who uses pop culture and movies such as *Black Panther* to engage the next generation of STEM leaders. The Marburger STEM Center is the intellectual home of campus-wide STEM initiatives at LTU, which promotes inclusiveness, excellence, and innovation.



PD Time Management Skills

Time-management skills are key to success as students move through their education, and these skills can be learned and developed. By the end of the session, students will understand the many demands on their time, and some approaches for prioritizing them.

Theresa McCormick, Portland State University, Department of Chemistry, Assistant Professor

Dr. Theresa McCormick started her own research program studying solar fuels after moving to Portland, OR following the completion of her post-doctoral fellowship at the University of Rochester where she studied how to use solar energy. She has been involved with the ACS SEED program for five years.



FUN FACT: Camp Alpha was our first and only Spanish-speaking campsite. All of their camp meetings were in Spanish.

CR Demystifying Financial Aid

Learn about the various types of financial aid available to you, the process to secure it, and how to select a school based on your financial means.

Iona Nee, University of California, Merced, Assistant Director of Domestic Recruitment

Iona Nee has over 5 years of experience in higher education student recruitment and has a passion for supporting students to determine their post-secondary goals and navigate the college admissions process. She began as a Student Tour Guide and worked her way up.



Lisa Perry, University of California, Merced, Director of Students First Center

Lisa Perry, MA, has been with the Students First Center since the campus opened in 2005 and is a key player in the growth of the unit, which serves the Offices of Admissions, Financial and Scholarships, and Registration. She encourages student self-sufficiency and success through technology.



FUN FACT: The most popular intended college majors of 2020 high school graduates were Biochemistry, Chemical Engineering, & Chemistry.

CR Understanding College Terminology and Avoiding Common Pitfalls

We will review the universal lingo found on college campuses and discuss the most common pitfalls that college students can easily fall into. True stories from my experiences will illustrate how small mistakes can lead to big problems but can be avoided with simple rules.

Sandra Suarez, Ramapo College of New Jersey, Director, Upward Bound; Math, Science, and Biology Professor

Dr. Sandra Suarez's graduate research focused on the socioreproductive behavior of red-bellied tamarins in the Bolivian Amazon rainforest. She worked toward Amazonian conservation for nearly ten years in Bolivia before becoming a college professor.



CR Metacognition: The Key to Acing Chemistry (and Everything Else!)

After participating in this session you will understand exactly what changes you need to implement to ace your courses, have concrete learning strategies to use, and become a much more efficient learner by studying smarter, not necessarily harder.

Saundra McGuire, SYM Educational Consulting, LLC, Retired Professor of Chemistry, Director Emerita of the Center for Academic Success

Dr. Saundra McGuire is a professor and Director Emerita of the Center for Academic Success at Louisiana State University. She has delivered keynote addresses and presented workshops on effective learning strategies at over 400 institutions in 47 states and 10 countries.



CR Demystifying Scholarships

Learn more about some of the scholarships available through ACS, including Project SEED Scholarships, ACS Scholars, and the Hach Program. Learn about some top tips to secure scholarship funding and increase your chances of receiving these awards.

Mahalia Randle, American Chemical Society, Department of Chemistry, Program Manager for ACS Scholars

Mahalia Randle has 10 years of scholarship and educational program management experience in the nonprofit and community sectors. Before joining ACS, Mahalia served as assistant program officer at the College Success Foundation where she administered \$3 million in scholarships.



DAY 2

July 30, 2020

KEYNOTE: Finding Your Unfair Competitive Advantage

Michael Ellison, CodePath.org, CEO and Founder

Michael Ellison is the CEO and founder of CodePath.org which transforms computer science education for women and underrepresented minorities at over 150 colleges and universities by improving curriculum, teaching practices, and student support. Michael has founded 3 other nonprofits.



CC So, You're Getting a Chemistry Degree - Chem Tech Careers

Students will have a better understanding of the technical roles, job responsibilities, and work areas within a chemical industry like Dow. This presentation will increase understanding of the differences in responsibilities based on degrees and trainings.

Michelle Rivard, Dow Inc Analytical Sciences, Analytical Technologist

Michelle is a silicone-materials measurement science expert, mastering analytical characterization techniques. She is a huge advocate for STEM and volunteers with the Midland American Chemical Society, ACS Science Coach Program, Project SEED, and Dow's STEM Ambassadors.



CR Different Levels of Conceptualizing Science Phenomena

This session will encourage students to think about the multiple levels of thought that can be applied to a specific scientific concept including learning and applying specific distinct thought frameworks.

Ben Campbell, Longwood University Secondary Science Education Program, Associate Professor

Benjamin Campbell teaches both biology content and secondary science education courses. His research interests include instructional interactions and science knowledge development for early career science teachers.



Meet Camper Neyssa Deriphonse, Irvington, New Jersey

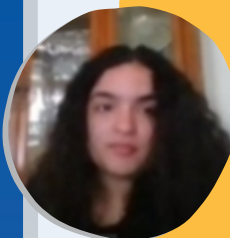
The summer camp went beyond what I expected and I really love it. It was amazing to find out that chemistry can be related to art, gastronomy, and so much more. I have a better understanding about chemistry and also learned a lot from hidden studies that I had not heard of before. The summer camp was excellent and it has left a great experience for me to cherish.



My Chemistry Career: Shuri, Vibranium, and Black Panther

Sibrina Collins, Lawrence Technological University, Founding Executive Director

Dr. Sibrina N. Collins is a STEM educator who uses pop culture and movies such as Black Panther to engage the next generation of STEM leaders. The Marburger STEM Center is the intellectual home of campus-wide STEM initiatives at LTU, which promotes inclusiveness, excellence, and innovation.



Meet Camper Ashley Tejada, Union City, New Jersey

I think that Project SEED did a great job at covering many important topics and providing useful information that we can use in the future.



Unexpected Beginnings: Finding Life's Unexpected Answers (Often Were you Least Expect Them)

This session will answer the questions of why research in pregnancy matters, what is special about the microbiome in early life, and why Kjersti chose to be a physician scientist.

Kjersti Aagard, Baylor College of Medicine, Department of Obstetrics and Gynecology, Professor Chair

Dr. Kjersti Aagaard is an expert in maternal-fetal medicine, serving as professor and vice chair of research. She has worked globally for many years, and has focused much of her global health efforts on understanding the causes and cures for the high preterm birth in Malawi.



A Day in the Life of an OB/GYN Researcher

Learn more about what it means to do research in obstetrics and gynecology, including what it means to manage a lab. Learn about projects Dr. Suter is currently working on, including the developmental origins of health and disease and the effects mothers have on fetuses.

Melissa Suter, Baylor College of Medicine, Department of Obstetrics and Gynecology, Assistant Professor

Dr. Suter graduated from College of the Holy Cross in Worcester, MA and earned her Ph.D. from the University of Massachusetts Graduate School of Biomedical Sciences.



Panel: Careers in Cosmetics, Personal, and Home Care

Amber Evans, BASF Corporation, Development Scientist

Dr. Amber Evans is a cosmetic industry professional with expertise in the science of hair and skin care. In her current role, she is responsible for the development of new ingredient technologies for personal care products. Her experience spans multiple market segments and technical areas.



Dahlia Haynes, SC Johnson, Global Project Leader, RDE Technical Leader

Dr. Dahlia Haynes is responsible for managing innovation-based product development strategies, acting as the key interface between cross-functional work streams, and leading communication to stakeholders to deliver fast-paced cohesive product platform initiatives to many markets.



Jessica Carless, Proctor & Gamble, Product Research Manager

Dr. Jessica Carless has a neuroscience doctorate with 12 years of experience in research and a passion for designing projects that help to understand consumers and drive behavior. Her current role is the "voice" of P&G's global beauty and grooming consumers.



Meredith Petillo, Independent Cosmetic Manufacturers & Distributors, Director of Technical & Regulatory Services

In her role at ICMAD, Meredith Patillo supports creative, innovative companies from startups to established multinational businesses of all sizes so they can succeed in the rapidly changing, highly competitive global cosmetics and personal care industry.



FUN FACT: 34 campers have a family member who participated in Project SEED. 74 have friends who participated too!

Creating Your STEM Identity

Darryl Boyd, Science Made Simple, LLC, Founder and STEM Ambassador

Dr. Darryl Boyd is a research chemist at the US Naval Research Lab in Washington, DC. His work focuses on the development of chalcogen-based optical polymers. He has won numerous awards, including being named to the 2018 C&EN "Talented 12" class. YouTube: Dr. Boyd the Chemist



PROJECT SEED PROGRAM STAFF

Meet Staff Member Racquel Jemison, PhD

Student Experiences Portfolio Manager

Dr. Jemison leads Project SEED alongside other key educational programs serving 700+ students per year, regularly collaborating with other staff to guide the strategic direction of these programs. Guided by her passion for improving underrepresented minority students' access to STEM fields, she is a longtime volunteer for the National Organization of Black Chemists & Chemical Engineers.

BS in Chemistry, Morgan State University

PhD in Organic Polymer Chemistry, Carnegie Mellon University

My priority is to ensure students have support and access to ACS programming to fuel their lifelong excitement for chemistry and help build their scientific careers.



”

Meet Staff Member Justin Zimmerman

Program Specialist

Justin helped plan and launch a new Project SEED database and was instrumental in developing the curriculum and learning management system for the 2020 Virtual Summer camp. Prior to ACS, Justin was a chemistry teacher in North Carolina at Kennedy High School.

BS in Chemistry and Secondary Education, College of Charleston



Meet Staff Member Mahalia Randle

Program Manager

Ms. Randle directs the Project SEED scholarship program and fully manages the ACS Scholars program, providing funding for many students to help them advance their chemistry education. Before joining ACS, Mahalia served as an assistant program officer for the College Success Foundation.

BA in English, Langston University

MEd in Educational Leadership, Northern Arizona State University



Meet Staff Member Kelechi Uzo-Okoro

Program Specialist

Kelechi manages social media accounts, connect hundreds of students to ACS and each other. She also handles program logistics for the ACS scholarship programs.

BA in Business Administration, University of Maryland, Eastern Shore



CAMPER FEEDBACK

Top Ranked Events as determined by camper ranking of all events

1. Vaccination: A New Approach to the Opioid Epidemic
2. How (and Why) to Do the Right Thing When No One is Looking
3. From Senior to Freshman: Surviving Your High School to College Transition

Top Ranked Webinars as determined by camper immediate feedback

1. Metacognition: the Key to Acing Chemistry (and Everything Else!), *UnConference*
2. College Readiness
3. So You Want to be a Professional?
4. Vibranium, Back Panther, and the Periodic Table, *UnConference*
5. Demystifying Scholarships, *UnConference*

98% of campers who participated in Project SEED before reported that they were glad to have participated in the 2020 Virtual Summer Camp

The number of campers reporting that they feel confident in their ability to write a personal statement for college or scholarship applications **increased 57% after Project SEED.**

The number of campers reporting that they feel confident in their ability to create a resume **increased 29% after they participated in Project SEED.**

7%
increase in the number of students interested in a chemistry-related career

95%
of campers said now they know more about chemistry careers

91%
of campers identify as a "STEM person"

89%
of campers feel confident they could work a science laboratory

COMPETITION: COLLEGE SCHOLARSHIPS

Project SEED participants are eligible to compete for a Project SEED College Scholarship as they enter their freshman year. Scholarships are awarded to students who demonstrate a high potential to succeed in chemistry and declare a major in the chemical sciences.

This year:

- **38 students were awarded first-year, nonrenewable scholarships** (2020–2021 academic year)
- **3 students were awarded 3-year scholarships** (2020–2022 academic year)

Meet Awardee **Andrea Mancia, Newnan, Georgia**

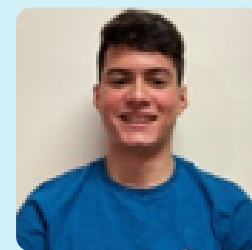
As I start my college chemistry courses, I have felt more prepared and less stressed because I had been introduced to lab techniques and materials through Project SEED.



**Thank you to our
2020 Project SEED College Scholarships Sponsors**

Ashland, Inc.
Bader Philanthropies: Isabel & Alfred Bader Fund
Bayer Foundation
CIBA Specialty Chemicals
Estate of Elizabeth Ernst Fosbinder
Gilead Sciences
Joseph D. Loconti Endowment
Glenn & Barbara Ulliot

Meet a few of our scholarship winners:



Gonzalo Alarcon, Union City, New Jersey

College: Columbia University
College Major: Biochemistry
High School: José Martí STEM Academy
SEED Project: "Evaluating the Effects of Leukemia Inhibitory Brain Injury"
Research Mentor: Dr. Steven Levison, Rutgers New Jersey Medical School
2020 was Gonzalo's second year with Project SEED. His first year in the program, he conducted research at the New Jersey Institute of Technology.



Andrea Mancia, Newnan, Georgia

College: Emory University
College Major: Chemistry
High School: Northgate High School
SEED Project: Cell growth and migration using synthetic biomaterial systems
Research Mentor: Dr. Michelle Gaines, Spelman College
Andrea was a 2019 Project SEED participant and presented her research at the ACS Fall National Meeting in San Diego. After college, she intends to pursue an MD/PhD.



Maura Dresner-Pfau, Boise, Idaho

College: University of Pennsylvania
College Major: Chemical and Biomolecular Engineering
High School: Timberline High School
SEED Project: "Optimization of Gold Nanoparticle Release from Magnetic Polymer Microbead Templates for Sensitive Colorimetric Detection of DNA"
Research Mentor: Dr. Jeunghoon Lee, Boise State University
Maura participated in Project SEED in 2018 and 2019. In 2019, she presented her research at the ACS Fall National Meeting in San Diego.



Alexis Grady, Atlanta, Georgia

College: North Carolina Agricultural & Technical State University
College Major: Chemical Engineering
High School: Benjamin Elijah Mays High School
SEED Project: Polyethylene oxide and molybdenum disulfide
Research Mentor: Shirnece Brown, Clark Atlanta University
Alexis was a 2018 Project SEED participant and graduated from her high school as the Salutatorian of the Class of 2020.



Frank Peprah, Irvington, New Jersey

College: Amherst College
College Major: Biochemistry
High School: Irvington High School
SEED Project: "Microwave-enabled Rapid Fabrication of Enzyme-inspired, Substrate-assisted Catalysts Using Metal-organic Frameworks as Precursors"
Research Mentor: Dr. Huisin He, Rutgers University
Frank plans to attend graduate school to prepare for a career as a biomedical scientist.

2020 College Scholarship Winners

Gonzalo Alarcon *Columbia University, Chemistry*

Soufiane Badri *Virginia Tech University, Chemistry*

Rayna Bandy *New Mexico Tech, Undeclared*

Esthela Barriga *University of California, Riverside, Chemistry*

Jordhan Booth *Tougaloo College, Chemistry*

Shanel Calle Urgiles *Stevens Institute of Technology, Chemical Biology*

Zaid Cervantes *University of California, Santa Cruz, Biochemistry*

Karett Cooper *St. John Fisher College, Chemistry-Pharmaceutical*

Aboubakar Dabre *Clarkson University, Biochemistry*

Hue Man (Lauris) Dang *University of the Pacific, Chemistry*

Emily Delgado *Saint Peters University, Biochemistry*

Maura Catherine Desner Pfau *University of Pennsylvania, Chemical and Biomolecular Engineering*

Emily Duclos Polanco *University of Puerto Rico, Rio Piedras, Chemistry*

Afrah Faraz *University of North Carolina, Chapel Hill, Chemistry and Neuroscience*

Leilani Garcia *New Jersey Institute of Technology, Chemical Engineering*

Alexander Gordon *Purdue University, West Lafayette, Biochemistry*

Alexis Grady *North Carolina A&T State University, Chemical Engineering*

Beili Haung *University of California, Davis, Biochemical Engineering*

Tyler Johnson *Wayne State University, Chemistry*

Zek Edward Kelly *Colorado School of Mines, Chemistry*

Mason Lampron *State University of New York at Oneonta, Biochemistry*

Huixin (Kelly) Ma *University of California, Berkeley, Undeclared*

Kimberlynn Mai *University of Houston, Chemistry*

Areasha Majid *University of California, Davis, Biological Sciences*

Areasha Majid *University of California, Davis, Biological Sciences*

Andrea Mancia *Emory University, Chemistry*

Julian J. Morales *University of Puerto Rico, Mayaguez, Chemical Engineering*

Emily Morrison *Boston University, Biomedical Engineering*

Natalie Nixon *Brown University, Chemistry*

Richard Nwakamma *Emory University, Undeclared*

Oluwapelumi Oguntade *Marquette University, Chemistry*

Mirka Ortiz *New Jersey City University, Undeclared*

Catherine Pangemanan *New Jersey Institute of Technology, General Engineering*

Frank Peprah *Amherst College, Biochemistry*

John Rezk *Princeton University, Undeclared*

Maelah Robinson-Castillo *University of Denver, Chemistry*

Kennedy Rodriguez *American University, Biochemistry*

Natanael Rodriguez *University of Puerto Rico, Rio Piedras, Chemistry*

Royal Smith *University of Maryland Baltimore County, Biochemistry*

Megan Spelock *Fairmont State University, Chemistry*

Nicole Taylor *Rensselaer Polytechnic Institute, Undeclared*

Jagger Torres *University of Texas, Arlington, Biomedical Engineering*

Michael Trimble *St. Mary's University, Chemistry*

Joshua Trombley *Boise State University, Chemistry*

Yazmin Villanueva *University of California, Davis, Biochemistry and Molecular Biology*

Chittra Xiong *University of Minnesota, Twin Cities, Chemistry*

Michael Yang *Vassar College, Chemistry*

Ying Yin (Lina) Zhu *University of California, Los Angeles, Biochemistry*

Congratulations!

TASK FORCE & COMMITTEE

Committee Chair: Don L. Warner

TASK FORCE

Peggy Biser	Faye Rubinson
Maria Bohorquez	Barbara Sitzman
Bryan Boudouris	Chuanbing Ting
Carolyn Burnley	Al Tonelli
Omar Christian	Elsa Alvaro
Steve Fleming	Jason McAfee
Ajay Mallia	Kevin Pate
Michelle Rivard	Emily Smith

Meet Awardee Natanael Rodriguez, Cieba, Puerto Rico

Everything I wished to learn during the Camp was completely covered! Thanks to this program, I feel more confident in my abilities as a student and scientist.



COMMITTEE

2020-2022 Members

Zachary S. Davis
Steven A. Fleming
Susanne M. Lewis
Ajay V. Mallia
Judith F. Rubinson
Jeffery W. Seyler
Don L. Warner

2019-2021 Members

Bryan W. Boudouris
Carolyn A. Burnley
Omar E. Christian
Barbara P. Sitzman
Chuanbing Tang
Alan E. Tonelli

2018-2020 Members

Kimberly Agnew-Heard
Peggy S. Biser
Maria Bohorquez
John W. Hartman
Angela Hoffman
Douglas S. Masterson
Michelle L. Rivard

2020 Associates

Elsa Alvaro
William M. Ames
Michael T.H. Cheng
T. Angele Kwimi
Jason McAfee
Kevin Pate
Emily A. Smith

CONTRIBUTING STAFF MEMBERS

Abraham Durojaiye	Kevin Traylor
Adam Boyd	Kim Duncan
Alicia Bowlding	Lara Kadylak
Anita Mitchell	LaTrease Garrison
Anna Clark	Lily Raines
Audrey Rogerson	Lorinda Bullock
Augusta Reeves	Maria Tolentino
Becky Miller	Mary Ann Klimas
Ben Fiore-Walker	Mary Beth Dobson
Brianne Blevins	Michael David
Colette Mosley	Michael Mcilwain
Danette King	Michael Whitaker
Daniel Meehan	Monica Wixon
Darrell Alexander	Nancy Bakowski
Dave Smorodin	Nathaniel Janick
David Horwitz	Paula Christopher
Deloris Snoddy	Racquelle Stokes
Elizabeth Fraser	Robert Moss
Emily Abbott	Robin Lindsey
Erin Kochel	Robin Polk
Farai Tsokodayi	Robin Preston
Gloria Town	Russell Silber
Jeffrey Mullins	Sally Chan
Jennifer Palmer	Sara Temney
Joan Ogburn-Hyson	Selina Brodie
Jodi Wesemann	Shari Joi Nicolson
John Arnold	Sharon Falby
John Mihalick	Sherri Dotson
Jordan Levine	Stormy Gorham
Joyce Berger	Susan Ainsworth
Karen Trimmer	Terra Thomas
Ken Polk	Terrance Rucker
Kenetia Thompson	Victoria Fuentes
Kevin Thompson	Vuk Keselj

PROJECT SEED TASK FORCE



CHAIR
Dr. Don L. Warner
Boise State University



Dr. Kimberly Agnew-Heard
Altria Client Services



Maria Bohorquez
Drake University



Bryan W. Boudouris
Purdue University



Carolyn A. Burnley



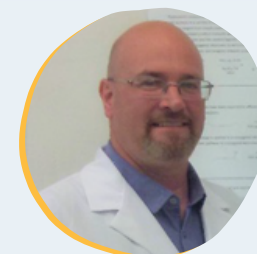
Omar E. Christian
North Carolina Central University



Zachary S. Davis
Wofford College



Steven A. Fleming
Temple University



John Hartman
Helena College, University of Montana



Angela Hoffman



Susanne M. Lewis
Olivet College



Ajay Mallia
Georgia Gwinnett College



Douglas S. Masterson



Michelle L. Rivard
Dow Corning



Judith F. Rubinson
Georgetown University



Jeffery W. Seyler
University of Southern Indiana



Barbara Sitzman
Granada Hills Charter High School



Chuanbing Tang
University of South Carolina

LOOKING AHEAD: 2021

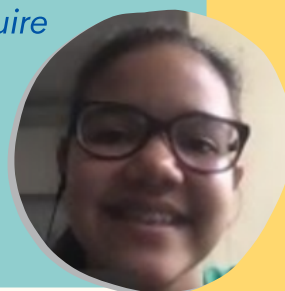
Summer 2020 was an opportunity to pilot a complete virtual offering for Project SEED, demonstrating that high school students can benefit from virtual delivery of content. In future summers, this option can accommodate students who live too far from a participating Project SEED site.

As staff looks to 2021, Project SEED is tentatively planning for both in-person and virtual research programs. In the event that all sites can safely resume research, virtual-only programs will still be conducted for eligible and competitive students who are either not selected for research or do not have a nearby research site.

Applications will open in early 2021.

Meet Camper **Kaura Reyes, Loiza, Puerto Rico**

Thank you for giving us the resources and opportunity to acquire knowledge, connect with other students, get experience with virtual learning and have such an awesome summer experience! Through your support, you are helping students find the path to becoming great scientists in the future.



With your gifts, we were able to stay the course and navigate uncharted waters with agility, skill, and unwavering resolve. We appreciate the opportunity to continue to partner with you to nurture aspiring scientists who may address the next major global challenge.



Meet Camper **Seham Abutaha, Toledo, Ohio**

This summer's camp experience was quite different than the traditional Project SEED internship experience – but still equally valuable. The traditional Project SEED internship experience mainly exposes students to hands-on research and development. This summer camp exposed students to a variety of valuable information about the different areas of study and professional opportunities that are offered within the chemical field.



FUN FACT: The 3 most popular career choices for this cohort were Chemist, Biologist, and Medicine.



THANK YOU

to all of the **campers, cabin leaders, and camp managers** for their patience as we created this new program in only a few short months, and for committing to it once it launched. We also thank the **Committee on Project SEED; Don Warner**, the 2020 chair; and the **task force members** who helped select the participants, create rubrics, and provide ample feedback on planning. We thank the many **coordinators and mentors** for their flexibility, ideas, and recommendations, and those that joined us as camp managers. We thank the **50+ webinar facilitators and panelists** for their time and enthusiasm, and we thank the multitude of **ACS staff members** who helped with each element of the program from our technology needs to shipping, background checks, and paperwork.

Lastly, we thank the many donors and contributors to the Project SEED program. Your investment encourages the growth of our next generation of scientists and creators.



YEARBOOK

CAMP ALPHA

CAMP MANAGERS



Ingrid Montes, University of Puerto Rico, Rio Piedras, Professor/Researcher

Ingrid Montes has a Ph.D. in Organic Chemistry and has taught chemistry for 32 years at the collegiate level. Her areas of research are organometallic chemistry and chemical education. Dr. Montes has been the Puerto Rico SEED Program Coordinator since 2011 and founded the Chemistry Festival, which was adopted in 2015 as an ACS Program. The program is now international with more than 50 festivals held around the world.

Tony "Jose" Prieto, University of Puerto Rico, Professor

Dr. Tony Prieto received a Ph.D. in Organic Chemistry from the University of Puerto Rico and did his post-doctoral studies at UC-Berkeley. As a researcher, he regularly mentored Project SEED students. His research interests encompass organic and organometallic synthesis. He was the founder of the Molecular Sciences Center core NMR facilities and the Materials Characterization Research and Services Center.



CABIN LEADERS: HYDROGEN



Maria Martinez, University of Central Florida, Recent college graduate

Maria's original goal when starting college was to become a doctor but switched majors when she found her passion in chemistry through working in Dr. Jonathan Caranto's bioinorganic chemistry research laboratory. She is now pursuing her Ph.D. in Polymer Chemistry at Louisiana State University.



Nicholas Doak, Duke University, Rising junior

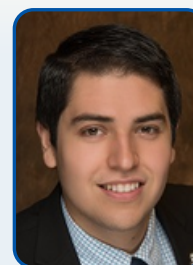
Nicholas is earning a degree in Chemistry with a concentration in Biochemistry and a minor in Biology. He learned much through his work in the Donohue Lab, which takes into account wider applications of the chemical sciences by exploring local adaptation of the model organism *Arabidopsis thaliana*.

CABIN LEADERS: HELIUM



Karla Trancoso, University of Florida, Rising senior

Karla was born and raised in Quito, Ecuador but moved to Florida in 2012, where she has lived ever since. She's studying chemistry and conducts research with both her university under Dr. Rebecca Butcher and the U.S. Department of Agriculture. For the USDA, Karla focuses on microbe emitted volatiles and how it affects fruit flies.



David Castro Acosta, University of Texas, Austin, Recent graduate

David is originally from Mexico but is now proudly a Texan. He's a first-generation college graduate, taking every opportunity to further his studies in biotechnology. After his freshman year, David took an REU experience and gained additional experience in a genetic engineering lab, even gaining a co-author for his contributions.

CAMP ALPHA

H
Hydrogen

He
Helium



Gabriella Beniquez
Fernando Camacho
Emily Duclós Polanco
Yedriel Montalvo

Julian Morales
Karian Nasopoulos
Sofia Robles
Natanael Rodriguez



Grace Lebron
Gabriela Recinos
Kaura Reyes
Samuel Rivera

Jose Rodriguez Ponce de Leon
Luciana Ruggiero
Ashley Vazquez Romo
Jubilie Zeda

CAMP BETA

CAMP MANAGER



Ajay Mallia, Georgia Gwinnett College,
Assistant Professor

Dr. Mallia is an assistant professor of chemistry at Georgia Gwinnett College, Lawrenceville. His research interests include design and pharmaceutically active soft materials, as well as metal nanoparticles. Dr. Mallia's research has been featured on the covers of many flagship journals including the *Journal of the American Chemical Society*, *Chemical Society Reviews*, and *Langmuir*. He has published over 40 peer-reviewed publications and presented his research work at various national and international conferences.

CABIN LEADERS: LITHIUM



Cierra James, Auburn University, *Recent college graduate*

Cierra always had a love for science, something her mother encouraged by sending her to science camps. While she initially thought she wanted to be a marine biologist, Cierra ended up pursuing food science which combined her love of cooking with her passion for science. She begins her Master's program at Virginia Tech this fall.



Lilyveth Mesa, Barry University, *Rising junior*

Lilyveth immigrated to the U.S. from Cuba as a young child, excited to explore novel opportunities in a country where her pursuit of education would be fostered. In her study of chemistry, she worked with Dr. Boulos at Barry University, whose lab merges biochemistry, organic chemistry, and pharmacology. Lilyveth enjoyed internships at Vanderbilt University and the University of Rochester Medical Center.

CABIN LEADERS: BERYLLIUM



Emily Xu, University of Michigan, Ann Arbor, *Rising sophomore*

Emily attended the Gwinnett School of Mathematics, Science, and Technology before going on to study biochemistry in Ann Arbor. She is passionate about science and helping others, which led her to join Michigan's Women+ Excelling More in Mathematics, Engineering, and the Sciences (F.E.M.M.E.S.) organization where she encourages girls in STEM.



Richard Nwakamma, Emory University, *Student*

Richard comes from a Nigerian background and lives in Decatur, Georgia where he attends Emory University by way of Oxford College. He is heavily interested in medicinal chemistry and biochemistry research, leading him to consider a career as a biochemist to help design medications, improve drug delivery methods, and develop ofhter therapies to treat many diseases and disorders.

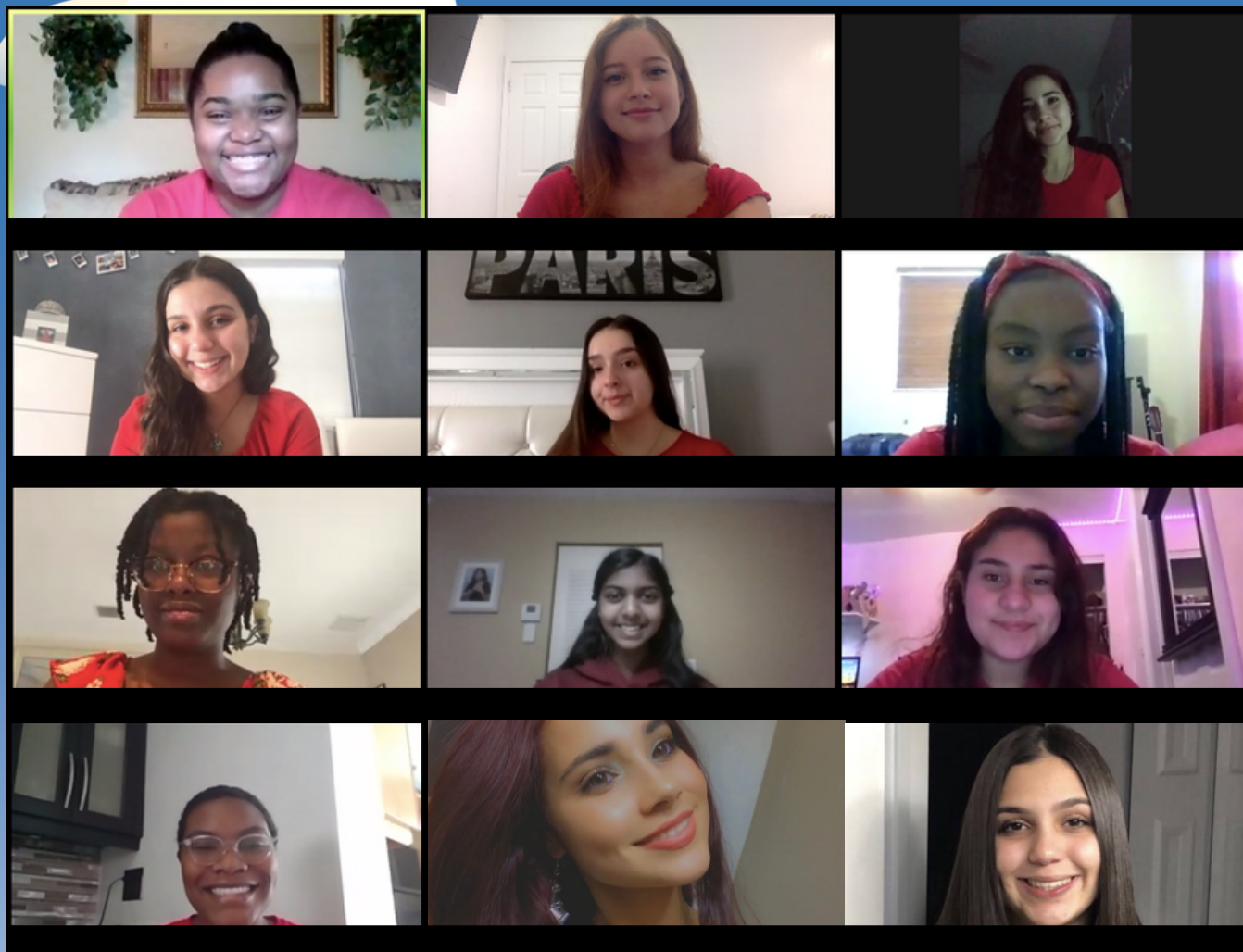
CAMP BETA

Li

Lithium

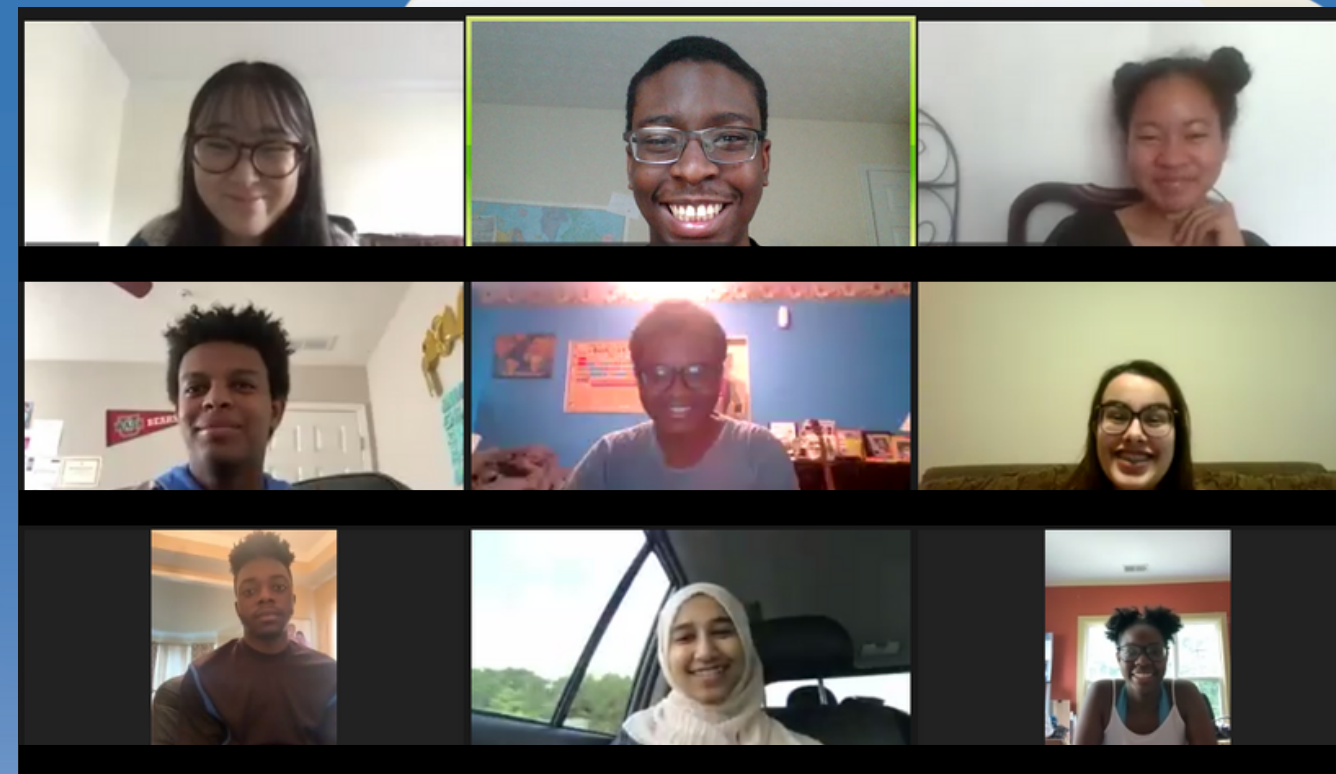
Be

Beryllium



Jennifer Alvarez
 Jessica Alvarez
 Katiana Dartilus
 Oneisha Downer
 Sheila García

Arielle Germeus
 Sofia Melgar
 Kiana Ramirez
 Sigrid Real-Aguilar
 Andria Subhit



Jazmine Harry
 Sydney Johnson
 Kahlil Johny
 Wajiha Mekki

Kalid Mohammed
 Ofuan Oyakhire
 Eun Sil Rollins
 Jehan Sheikh

CAMP GAMMA

CAMP MANAGERS

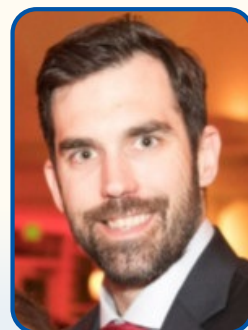


Faye Rubinson, Project SEED, Coordinator

Faye recently retired from Georgetown University where she taught analytical chemistry, physical chemistry, and general chemistry (as well as a few others!) at the college level for over 35 years. Faye is now the SEED Coordinator for the American Chemical Society's Washington SEED program and helps camp managers as needed.

Wesley Farrell, United States Naval Academy, Assistant Professor

Dr. Farrell earned a bachelor's in chemistry from Wake Forest University and a Ph.D. from the University of Maryland. He completed his post-doctoral studies at NIST. At the U.S. Naval Academy, Dr. Farrell's group does research in organometallic synthesis and catalysts.



CABIN LEADERS: BORON



Dorian Brown, Salisbury University, Rising senior

Dorian grew up in a STEM household, with both parents majoring in computer science and his older sister studying biology. At Salisbury University, as a biochemistry major, Dorian performed research under Dr. Anthony Rojas and intends to enter medical school to become a neurologist. Dorian wants to explore autoimmune diseases like MS.



John-Paul Akinbami, Morgan State University, Recent graduate

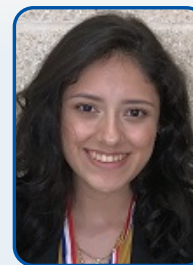
John-Paul always loved chemistry because it bridged concepts like calculation, experiments, and even fun. For over 2 years, John-Paul worked in an organic chemistry lab where he synthesized potential anti-cancer drugs using microwave synthesis and spectroscopy. As a result of this experience, John-Paul intends to pursue a M.D./Ph.D.

CABIN LEADERS: CARBON



Autumn Cook, University of Maryland, Baltimore County, Rising senior

Autumn is a Meyerhoff Scholar and intends to complete a Ph.D. in Materials Science focusing on the development of novel nuclear fusion reactor materials. Autumn wants to work as an undergraduate chemistry professor while performing academic research.



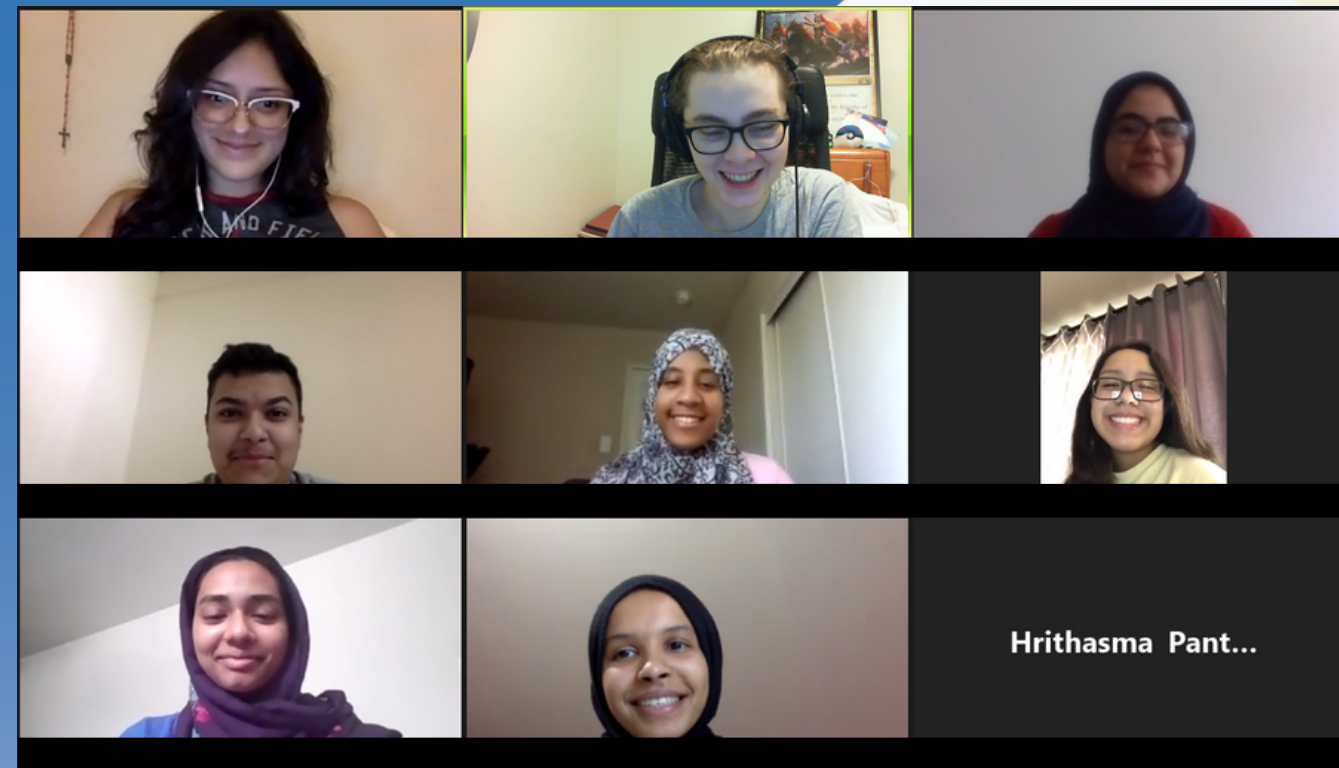
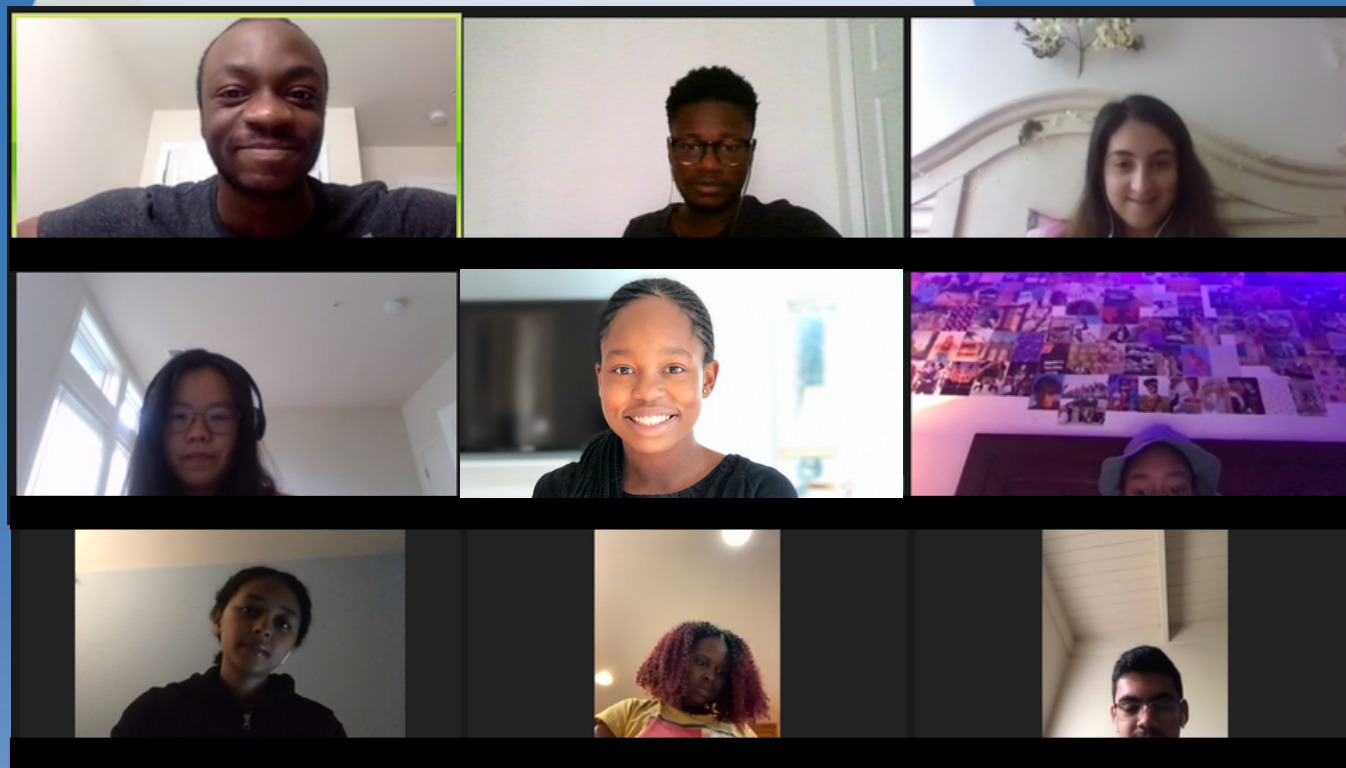
Leilani Garcia, New Jersey Institute of Technology, Rising sophomore

Leilani is a chemical engineering major with a minor in business, and a two time Project SEED participant. When she conducted research, her interest in chemical engineering became clearer as a way to make a positive impact on the world.

CAMP GAMMA

B
Boron

C
Carbon



Mahlet Dagnachew
Arya Das
Linda Gonzalez
Homa Keshmiri
Dorcas Ogba

Orowo Ogba
Abheek Pant
Danic Tchamologne
Sirui Xue

Sakina Azhar
Siham Busera
Abeer Khan
Ashley Machado Rivera
Suheila Mukhtar

Hrithasma Pant
Shreyas Pant
Mahia Rahman
Lorena Sakisa

CAMP DELTA

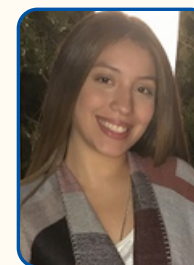
CAMP MANAGER



Alexandra Taraboletti, University of the District of Columbia, Assistant Professor

Dr. Taraboletti is an analytical biochemist at the University of the District of Columbia where she also teaches. She received her Ph.D. in chemistry from the University of Akron and completed her post-doctoral research at Georgetown. Her research focused on the use of mass spectrometry-based metabolomics to investigate neurological diseases.

CABIN LEADERS: OXYGEN



Emely Urbina, Rowan University, Rising sophomore

Emely is a three times Project SEED participant, and had the honor of placing first in many local science fairs in high school. During her first year at Rowan, she continued the work she did in Project SEED in theoretical research. This past year has allowed her to explore different areas of chemistry.



Yasheika Watson, University of the District of Columbia, Rising junior

Yasheika, originally from Jamaica, is earning her biology degree in Washington, DC. Yasheika has found pleasure in understanding how molecular structure affects reactivity and physical properties and enjoys using that understanding to make predictions about the properties of things that surround us daily.

CABIN LEADERS: NITROGEN



Kaira Naff, Longwood University, Rising senior

Keira was inspired to study chemistry after seeing her teacher's passion for the subject. She hopes to share that passion, hoping to foster a love for learning in her future students. She's worked as a tutor for her university's chemistry department and is working hard on a biochemistry research project with a faculty mentor.



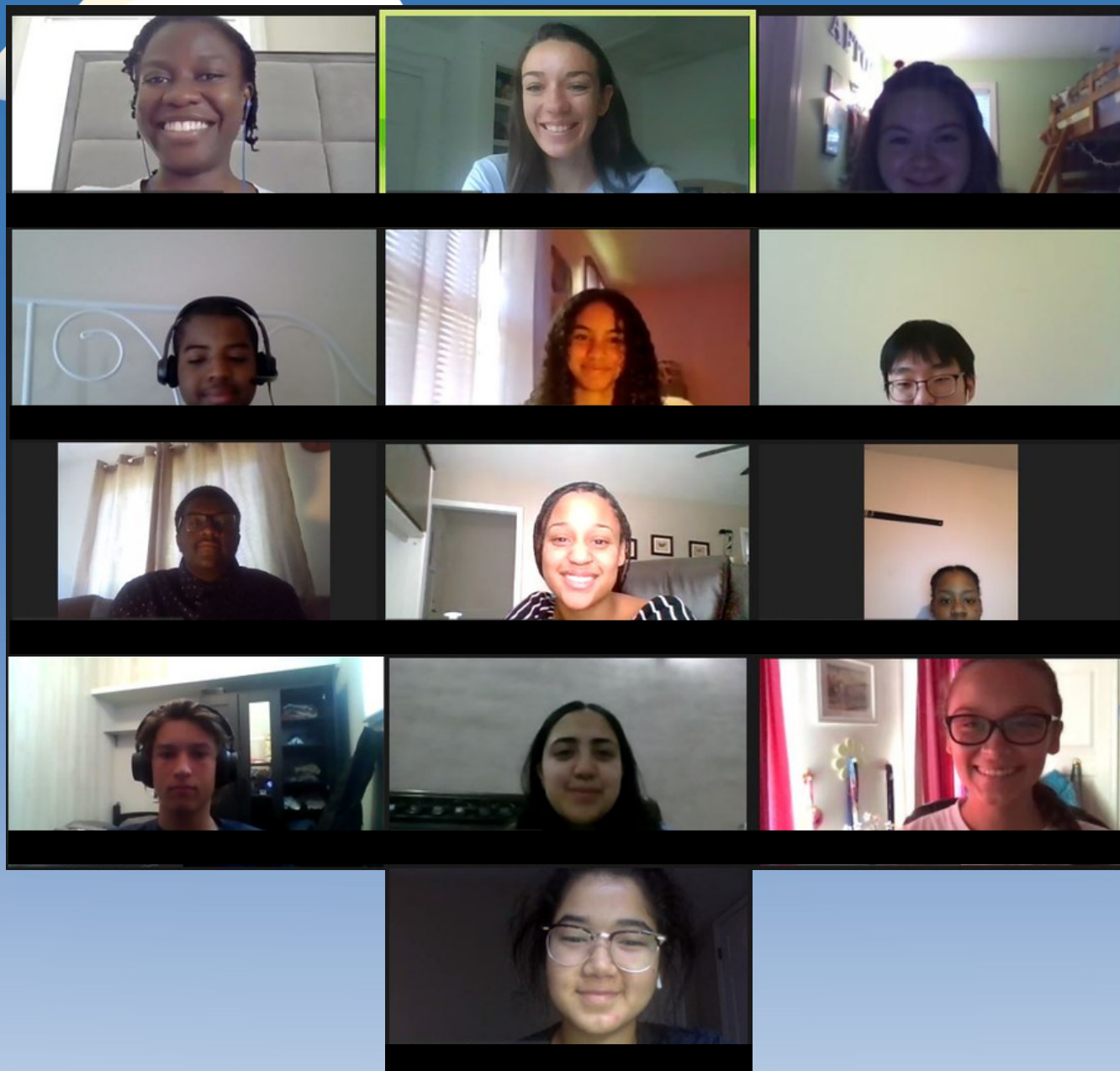
Tasneem Abdus-Shakur, University of District of Columbia, Rising sophomore

Tasneem loves chemistry, especially the concept of understanding the behavior of the universe's smallest particles and being able to manipulate them to create something new or provide a solution to a problem. Her goal is to use chemistry to help improve the lives of others through innovation, like biomaterials for synthetic organs.

CAMP DELTA

N
Nitrogen

O
Oxygen



AsiaNai Ahmad
Nouran Alim
Serai'ya Crawley
Afton Fults
Michaela Greenlee
Antonio Harvey

Malik Issa-Adamou
Youngmin Kwon
Sultana Omar
Daniel Shulgan
Shokhinabonu Tojieva



Rachel Alvitres
Anthony Amaya
Jacobo Arteaga
Katherine Bernal
Sachely Antuna

Irving Castillo
Keyla Checo
Jalissa Colon
Isaac Del Villar
Kaylynn Wilson

CAMP EPSILON

CAMP MANAGER



Bobbi Gorman, Project SEED, Coordinator

Bobbi taught high school math and science for 30 years before retiring, and now works with current high school teachers through the American Chemical Society and the New Jersey Science Teachers Association. Bobbi cares deeply about the younger generation, their education, and mentoring them whenever she can.

CABIN LEADERS: NEON



Alexa Gomez, The College of New Jersey, Rising junior

Alexa is a chemistry major with a specialization in condensed matter, chasing her dreams of a career in material science and analytical chemistry. Upon graduation, she hopes to work for companies that design and manufacture haircare, skincare, and cosmetic products.



Natalia Miller, Princeton University, Rising senior

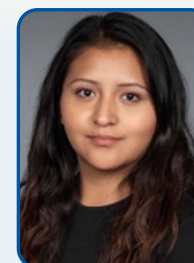
Natalia is a chemical and biological engineering major pursuing a certificate in sustainable energy. She interned with the Avalos Research Group synthesizing biofuels and pharmaceuticals by engineering the metabolisms of yeast cells and bacteria. She is especially interested in the intersection of sustainable materials and chemistry.

CABIN LEADERS: FLOURINE



Jason Saway, Seton Hall University, Graduate student

Jason is a second-year Ph.D. student focusing on organic and pharmaceutical chemistry. Graduate school has enabled him to gain a deeper appreciation for chemical synthesis and its various applications since it is so prevalent in our lives. Once he completes his Ph.D., Jason will pursue a career in medicinal chemistry focusing on neurology.



Johanna Riera, New Jersey City University, Recent graduate

Johanna graduated in May 2020 with a degree in biology and a minor in english. She believes that a chemical foundation is crucial to understanding many concepts in science. Johanna credits Project SEED with igniting her passion for research, and hopes to pursue an MD/Ph.D. to become a medical scientist.

CAMP EPSILON

F
Flourine

Ne
Neon



Elshiekh Ahmed
Neyssa Deriphonse
Ravyn Hamer
J'Sean Height
Monica Ifezue

Hamzeh Kanaan
Hentoff Moneus
Esther Oko
Fernanda Velasco
Chloe Yoo

Iffat Aniq
Noor Hassan
Nicole Hoyos
Aisha Mansoor

Bernice Owusu
Jordan Petzold
Nafisa Yeasmin
Melany Yogalingam

CAMP ZETA

CAMP MANAGERS



Ashleigh Baber, James Madison University,
Assistant Professor

Dr. Baber received her Ph.D. from Tufts University and completed her postdoc at Brookhaven National Lab before teaching at James Madison, where she has worked for 6 years. She runs a research lab for undergraduates studying surface science and enjoys sharing her enthusiasm for chemistry with her students.

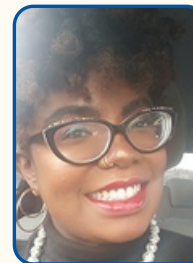
Gina MacDonald, James Madison University,
Professor

Dr. MacDonald is a biophysical chemist who has taught at James Madison since 1996. Currently, her research team studies how environmental conditions can alter different molecule, protein, and peptide structures.

She is passionate about using research to educate, excite, and retain all students in the sciences and often incorporates activities and research into her undergrad classrooms and laboratories.



CABIN LEADERS: SODIUM



Adrienne Lee, James Madison University,
Recent graduate

Adrienne recently graduated with a degree in chemistry, an interest that began for her in high school when she realized how chemists describe the world. Adrienne enjoys teaching and helping others to see the utility and importance of chemical knowledge, and how it applies to them personally.



Maria Garcia, Albright College,
Recent graduate

Maria became interested in science when her mother was diagnosed with an autoimmune disease. Since then, she's pursued studies in chemistry and biology, including research in organic chemistry, neuroscience, and industrial quality checking. She plans to earn a Ph.D. in biochemistry.

CABIN LEADERS: MAGNESIUM



Ogechi Ironi, Georgia Institute of Technology,
Rising senior

Ogechi is a fifth year senior dual degree student majoring in chemistry and chemical engineering. She has experience in water quality testing, polymer chemistry, hydrogel synthesis, and biofuel engineering. Ogechi is considering a Ph.D. in polymer/organic chemistry to work in manufacturing.



Sylwia Stopka, The George Washington University,
Ph.D. Graduate

Sylwia is a first year postdoc at the Brigham Women's Hospital and Harvard Medical School. She attended graduate school at GWU where she received her Ph.D. in chemistry.

CAMP ZETA

Na
Sodium

Mg
Magnesium



Emily Delgado
Madeline Garcia
Erika Gonzalez
Joseph Gonzalez
Valentina Herrera

Kaylee Lopez
Jaime Menjivar
Daymieri Narvaez
Skye Oropeza
Natalie Rivera

Keyleen Argueta
Camille Jaramillo
Tatiana Romero
Derrick Sanchez
Melanie Sinning

Ashley Tejeda
Brandon Texcucano
Zoe Weng
Micki Zheng
Andres Zuniga

CAMP ETA

CAMP MANAGER



Jesse Bernstein, ACS, Volunteer

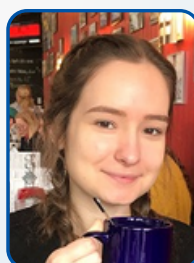
Dr. Bernstein holds a Ph.D. in inorganic chemistry from the University of Buffalo and taught high school chemistry for 44 years. Active in ACS, he served for 3 years with Project SEED and is now on the SOCED committee. In retirement, he continues to participate in community activities at science museums and in other outreach programs. He loves doing science with his grandchildren.

CABIN LEADERS: ALUMINUM



Bryan Novas, University of Vermont, Graduate student

Bryan is a third year Ph.D. student from Connecticut. He is graduate research assistant to Dr. Prof. Rory Waterman exploring facile and selective phosphorus-carbon bond formation through catalysis using cheap and earth abundant materials. He has found immense value in his time in the research lab and stays motivated to solve chemical problems.



Tamara Ruic, Brown University, Rising senior

Tamara is studying geobiology with interests in biogeochemistry and conservation science. She has extensive research experience in tropical biogeochemistry and ecology lab, where she performed lab-based work and recently co-authored a paper in the Journal of Remote Sensing.

CABIN LEADERS: SILICON



Ophelia Wadsworth, Virginia Tech, Graduate student

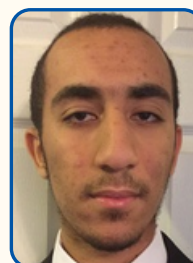
Ophelia is a third year graduate student in chemistry where she researches the viability of functionalized polymers to capture chemotherapy drugs from the bloodstream during treatment. After her time at Virginia Tech, she wants to develop viable devices to prevent chemotherapy toxicity related to all forms of cancer.



Niara Nichols, University at Albany, Rising senior

Niara is studying chemistry with a forensic chemistry emphasis and is a current ACS Scholar, as well as vice president of her university's ACS chapter. Niara's interest in science was ignited by her participation in a science research program which let her work with a professional scientist and conduct her own research project.

CABIN LEADERS: PHOSPHOROUS



Hasan Hamada, Rhodes College, Current student

Hasan is a current premed sociology major. He graduated high school as valedictorian and was accepted at Rhodes as a Cambridge Scholar. He was part of the SEED program and presented his research at the 254th ACS National Meeting and Exposition at Washington, DC in 2017.



Philip Zhou, Baylor College of Medicine, Graduate student

Philip received his undergraduate degree from UCLA in Molecular, Cell, and Developmental Biology. Although medicine is his choice of career, chemistry had always been one of his favorite subjects in high school and college. Learning about how the chemical properties of different molecules explain everyday phenomena fascinates me.

CAMP ETA

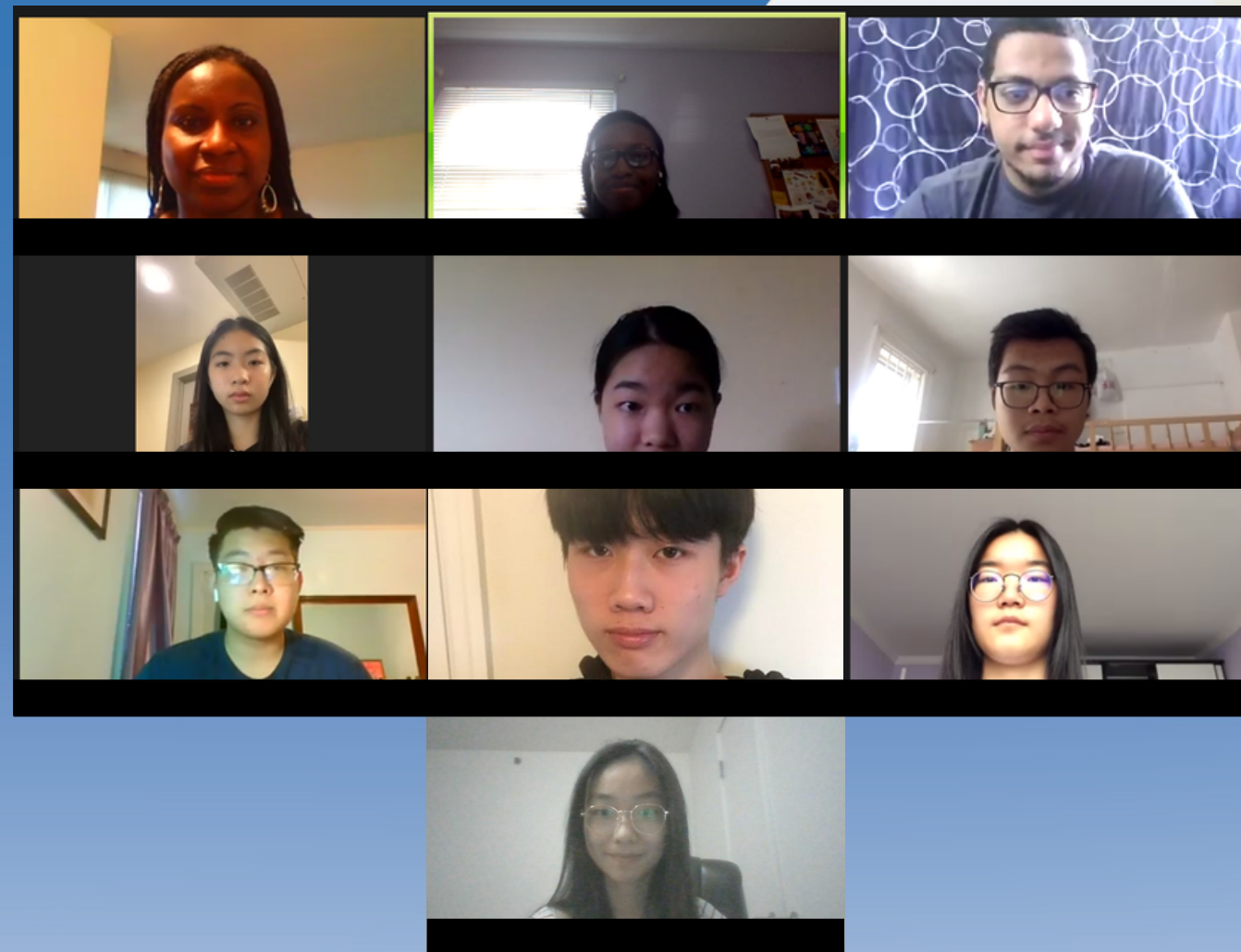
Al
Aluminum



Jocelynn Bechtel
Vaibhav Duggirala
Vishwas Duggirala
Michael Florian
Ehteshamul Haque

Junior Javier
Hei Lai Lam
Leeker Lin
Alex Tang

Si
Silicon



Emily Chen
Michelle Chen
Yuhan Hu
Andy Lin
Rita Lin

Sophia Lin
Henry Liu
George Morcos
Zhiwen Wu

CAMP ETA

P
Phosphorous

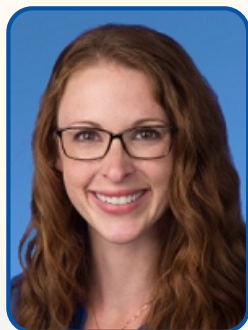


Hana Althour
Aric Hoang
Ngoc Huynh
Quyen Pham
Kwonmuang Thanthima

Tiana Vo
Danny Vu
Mark Vu
Michael Vu

CAMP THETA

CAMP MANAGER



Jamie Shetzline, Library of Congress, Chemist

Dr. Shetzline graduated from Clemson University with her Ph.D. in chemistry. Her graduate work focused on developing novel catalyst layer materials and the miniaturization of testing apparatus for proton exchange membrane fuel cells. Following her research, she was awarded an NSF SBIR Pos Doctoral Fellowship and now works in the Preservation, Research and Testing Division at the Library of Congress.

CABIN LEADERS: SULFUR



Claire Gray, Brown University, Rising sophomore

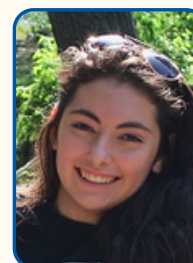
Before attending Brown, Claire participated in her high school's chapter of Society for Advancement of Chicanos/Hispanics and Native Americans in Science, tutored for STEMS, and conducted biomedical research at the local university. She looks forward to returning to school and conducting more research after the pandemic ends.



Brandi James, University of Cincinnati, Graduate student

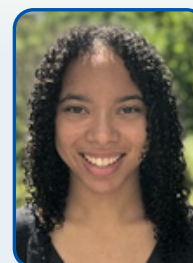
Brandi is a third year graduate student studying photochemistry. Her first appreciation for science sparked in 6th grade learning about renewable and non-renewable energy sources. Brandi enjoys teaching and taught high school students chemistry and pre-calculus in college, including serving in the TRIO Upward Bound program.

CABIN LEADERS: CHLORINE



Francesca Samony, Saint Joseph's University, Rising senior

Francesca is currently a double major in biology and spanish, and even studied abroad in Granada, Spain for a semester. She is interested in all aspects of science education as both a student and a teacher, serving as a chemistry TA and helping to make science fun for students.



Michele Meline, University of Pennsylvania, Student

Michele became a tutor at UPenn to help students find the joy in chemistry that she experiences and to fight the stigma around chemistry classes. She strives to live by the Quaker testimonies of simplicity, peace, integrity, community, equality, and stewardship.

CAMP THETA

S
Sulphur

Cl
Chlorine



Seham Abutaha
Nabaa Ali
Amira Alkaissi
Aiden Bigley
Idris Hakeem

Nathan Hsiao
Andrew Hubbard
Isaac Kim
Tamyra Tate

Glenda Armas
Jason Chen
Eduardo Diazgranados
Aubrie Hetherington
Emma Lazo

Michell Lin
Yuki Lin
Desirae Nance
Laila Suleiman
Belinda Yeung

CAMP IOTA

CAMP MANAGER



Emily Speidell, Indianapolis Project SEED, Teacher

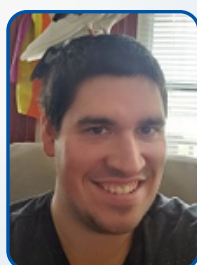
Dr. Shetzline graduated from Clemson University with her Ph.D. in chemistry. Her graduate work focused on developing novel catalyst layer materials and the miniaturization of testing apparatus for proton exchange membrane fuel cells. She was awarded an NSF SBIR Pos Doctoral Fellowship and now works in the Preservation, Research and Testing Division at the Library of Congress.

CABIN LEADERS: ARGON



Hilary Fokwa, University of Richmond, Recent graduate

Hilary is a recent graduate from the University of Richmond. Starting this fall, she will be pursuing a Ph.D. in chemistry at the University of North Carolina, Chapel Hill. She is particularly interested in organic and inorganic chemistry research.



Robert Compton, Purdue University, Graduate student

Robert graduated in 2012 with a B.S. in chemistry from Indiana State University where he became an adjunct faculty member after graduation. He taught undergraduate chemistry lab courses for four years, leading him to set his heart on becoming a chemistry professor. He is now in his fourth year of a chemistry Ph.D. program.

CABIN LEADERS: POTASSIUM



Feven Minaleshewa, Augustana University, Rising senior

Feven attended high school in Ethiopia and is now a biology major with minors in chemistry and math at Augustana University. She won a scholarship at Sanford USD Medical Center based on volunteer commitment and academic achievement and was nominated for two covenant awards at Augustana. Feven balances work, school, and volunteering.



Kaitlin McNeely, University of Southern Mississippi, Recent graduate

Kaitlin started as a biology major but switched to chemistry upon realizing that the fundamentals led to a whole new world of science that continuously becomes more complex. She has been a Learning Assistant and Teaching Assistant as an undergrad, enjoying helping students while learning things herself in the process of teaching.

CABIN LEADERS: CALCIUM



Aarzo Bhimani, Grinnell College, Rising senior

Aarzo is a multicultural student from Switzerland and India, studying biology and chemistry in the United States. Teaching chemistry as both a tutor and class mentor is something she is passionate about, as chemistry education led her to see she was not only taught facts but also taught to be a better student.



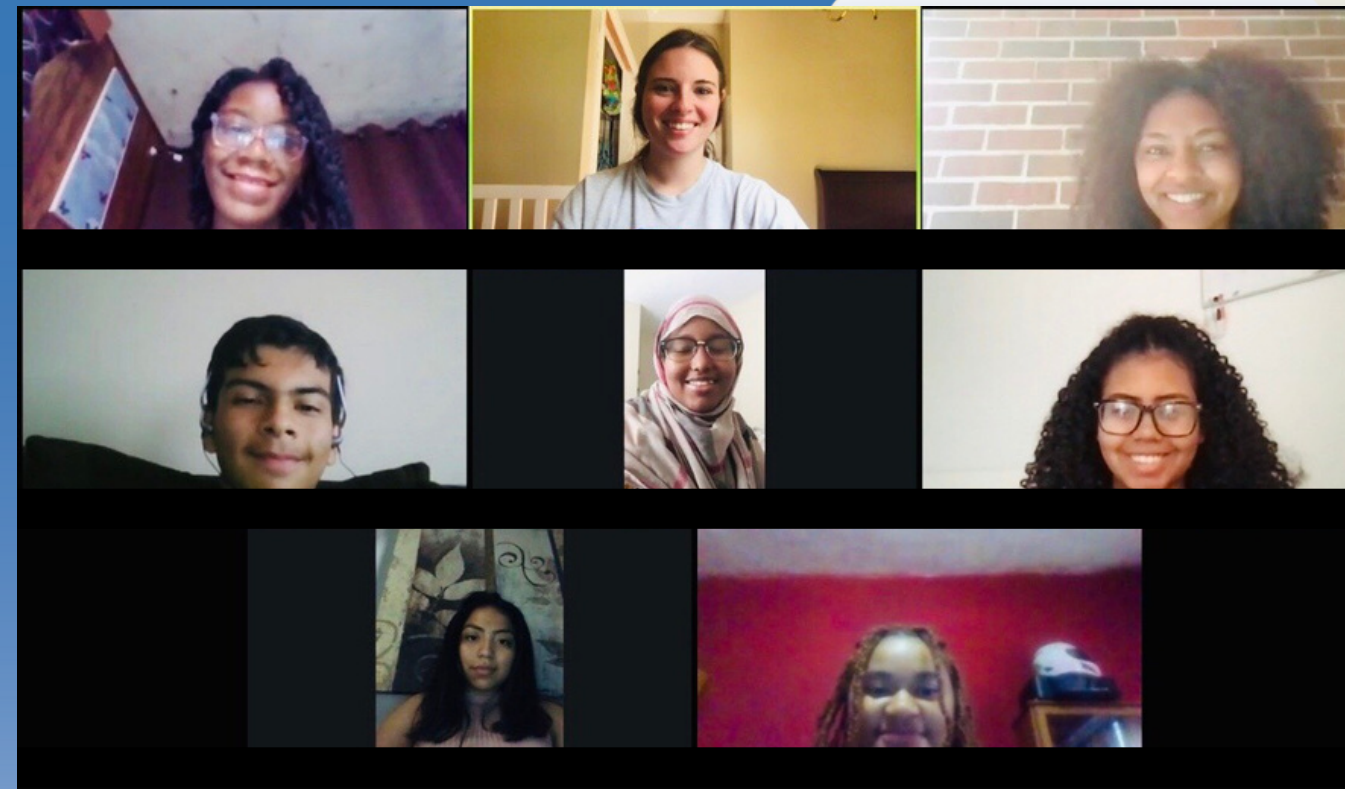
Jordan Munos, University of Wisconsin, Eau Claire, Rising senior

Jordan is currently pursuing a degree in Biochemistry/ Molecular Biology with a minor in Political Science. For two years, Jordan has worked in the lab of Dr. James Phillips at UWEC with the goal of exploring structural and energetic properties of molecular complexes and identifying novel characteristics using computational and experimental methods.

CAMP IOTA

Ar
Argon

K
Potassium



Nabila Abdoukadro
Iydvine Adjahouisso
Rafee Adnan
Rachel Argbah
Grace Atilola

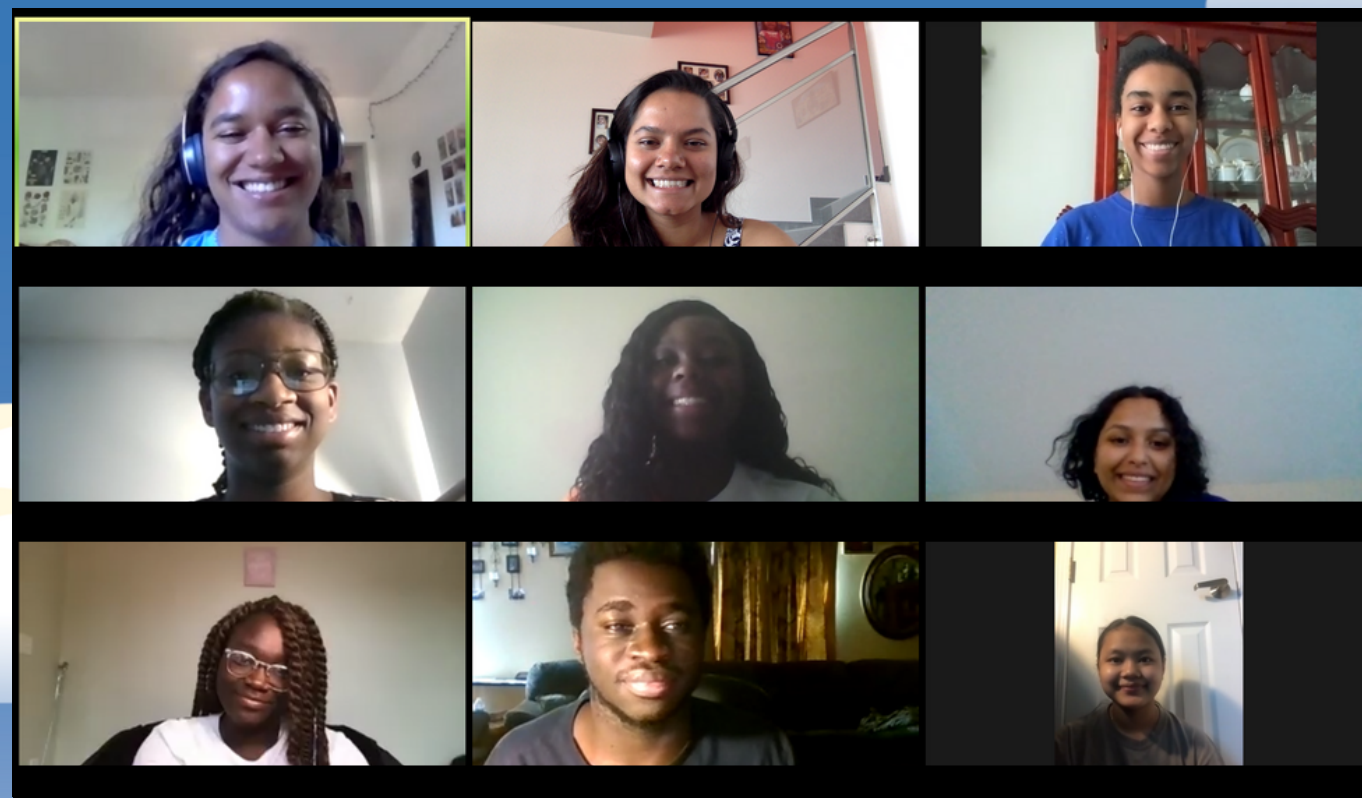
Brya Brown
Ashley Campos-Hernandez
Siji Ketiku
Aisha Kokan

Tiffany Day
Diavyon Eldridge
Fathia Elmoghe
Mahlet Gebremeskel
Jazmyne Girod

Elijah Guzman
Jamyha Hubbard
Angeles Marin
Omolade Olofintuyi

CAMP IOTA

Ca
Calcium



Olaitan Faniyan
Farhanaz Qureshi
Amiyah Robinson
Kyarie Shelton

Samrawit Solomon
Robert Sorsor
Selome Tefera
Linda Tial

CAMP KAPPA

CAMP MANAGERS



Sarah Porter, Longwood University, Professor

Dr. Porter has taught chemistry at Longwood since 2007, specializing in analytical chemistry. She holds a Ph.D. in chemistry and an M.S. in Forensic Science from Virginia Commonwealth University, and a B.S. in chemistry from the University of Virginia. This is her second summer with Project SEED.

Robert Lee, Bob Jones University, Professor

Dr. Lee earned a Ph.D. in organic chemistry at Purdue University and worked in the paint, plastic, and industrial chemical industries for 25 years before joining the faculty at Bob Jones University where he teaches chemistry. He enjoys the ACS mentoring program working with high school chemistry teachers.



CABIN LEADERS: SCANDIUM



Nicholas Sienkiewicz, Western Michigan University, Recent graduate

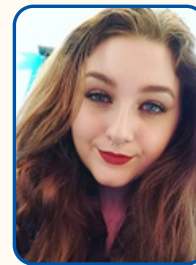
Nicholas recently graduated with a degree in biochemistry and biology as well as a bachelor's of musical arts in Voice. As an undergrad, he spent two years working as a researcher in a medicinal chemistry lab and serving as a TA. His instructional approach focuses on scientific literacy and communication.



Harith Palmer, University of Michigan, Rising junior

Harith is studying chemical engineering and plans to focus on pharmaceutical engineering to ultimately improve and develop new chemical processes for pharmaceuticals to make them more accessible to disadvantaged people. He is also a tutor and holds a student position for the MI-LSAMP Project Design Team.

CABIN LEADERS: TITANIUM



Briana Haas, West Virginia University, Rising junior

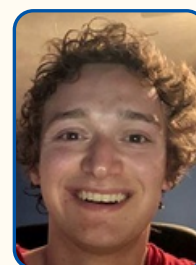
Briana is a chemical engineering major with a minor in painting. She completed a Project SEED internship in 2017 under the guidance of Dr. Michael Fultz. There she acquired new laboratory skills and machine capabilities, and learned basic organic chemistry that was useful in college.



Preston Gourville, North Carolina State University, Recent graduate

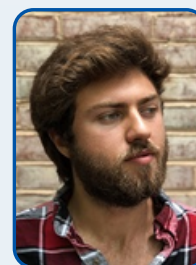
Preston, a Goodnight Scholars student, recently graduated after spending three years conducting research at the Proulx Lab focusing on peptide chemistry, leading to a third-author publication. He was also a member of the Chemistry Honors Program and will pursue his Ph.D. at Vanderbilt in the fall.

CABIN LEADERS: VANADIUM



Lucas Mastromatteo, Brown University, Rising junior

Lucas is currently studying applied mathematics and biology at Brown and spent the last year working in an organic materials chemistry lab under Prof. Matthew B. Zimmt. Lucas loves the way scientists are able to manipulate complex processes that are completely invisible to the human eye. He's been a tutor, teaching assistant, and counselor for other students.



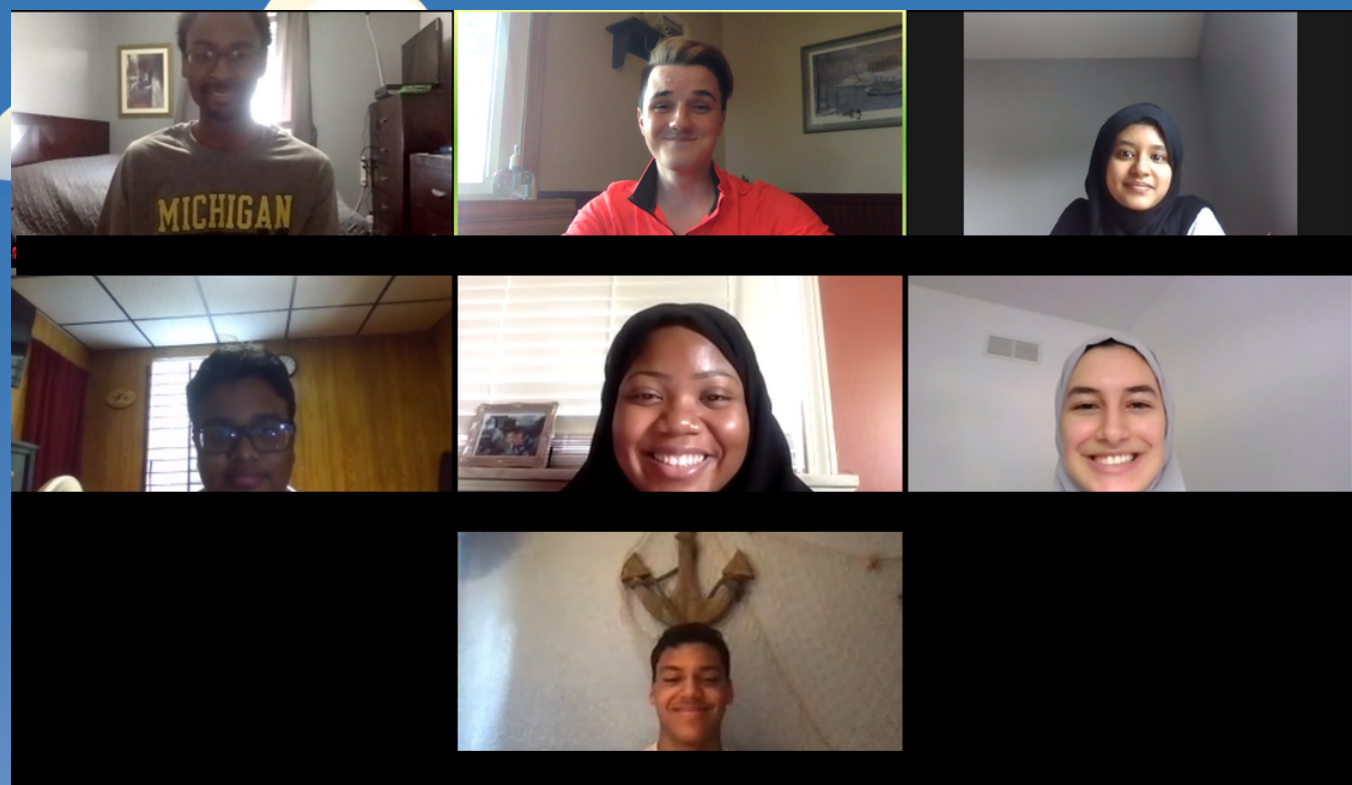
Richard Hage, Brown University, Recent graduate

Before attending college, Richard had already interned as a food chemist in an industrial bakery and worked in his high school's Chemical Analysis and Nanochemistry Research Lab. In college, he joined the Kim Research Group to focus on bioinorganic chemistry and he served as a TA as well. Richard won the ACS Undergraduate award in Inorganic Chemistry.

CAMP KAPPA

Sc
Scandium

Ti
Titanium



Murshed Ahmed
Juan Disla
Sintia Islam
Tyler Johnson
Shahad Nasir
Anijah Postell
Ridwan Sheikh-Omar
Ola Turkey

V
Vanadium



Joshua Clark
Rafael Cruz-Ferman
Ryann McMasters
Yousif Saleh

Taha Saleh
Ashley Smith
Jehlan White

Dalya Al Obaidi
Stephanie Chicas-Ramos
Bethlehem Gessesse
Asia Manigault
Lauren McIntyre
Danielle Mou
Evamelo Oleita
Anne Ombonga
Tina Wondimu

CAMP LAMBDA

CAMP MANAGERS



Richard Walker, University of Arkansas at Pine Bluff, Professor

Dr. Walker holds a Ph.D. in Medicinal Chemistry from the University of California at San Francisco. He taught for 36 years at the University of Arkansas at Pine Bluff where he mentored many students in research and published articles in scientific journals. His main teaching subjects are biochemistry and organic chemistry.

Grant Wangila, University of Arkansas at Pine Bluff, Professor

Dr. Wangila completed his doctoral studies in chemistry at the University of Alberta, Edmonton, Canada. Currently, he's chairperson of the Department of Chemistry and Physics and the coordinator/mentor of ACS Project SEED at University of Arkansas, Pine Bluff. His research involves synthesizing of antioxidant complexes that have the ability to alleviate side effects due to chemotherapy and rhabdomyolysis.

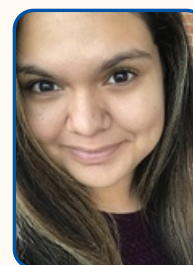


CABIN LEADERS: CHROMIUM



David Sabillon, University of Alabama at Birmingham, Rising sophomore

David is from Houston and is currently studying chemistry at UAB where his freshman project looking at the encapsulation efficiency and loading capacity of manganese carbonate particles won 3rd place at the Spring Undergraduate Research Expo. He also serves as a TA in chemistry and plans to work for a research lab on his way to earning a Ph.D.

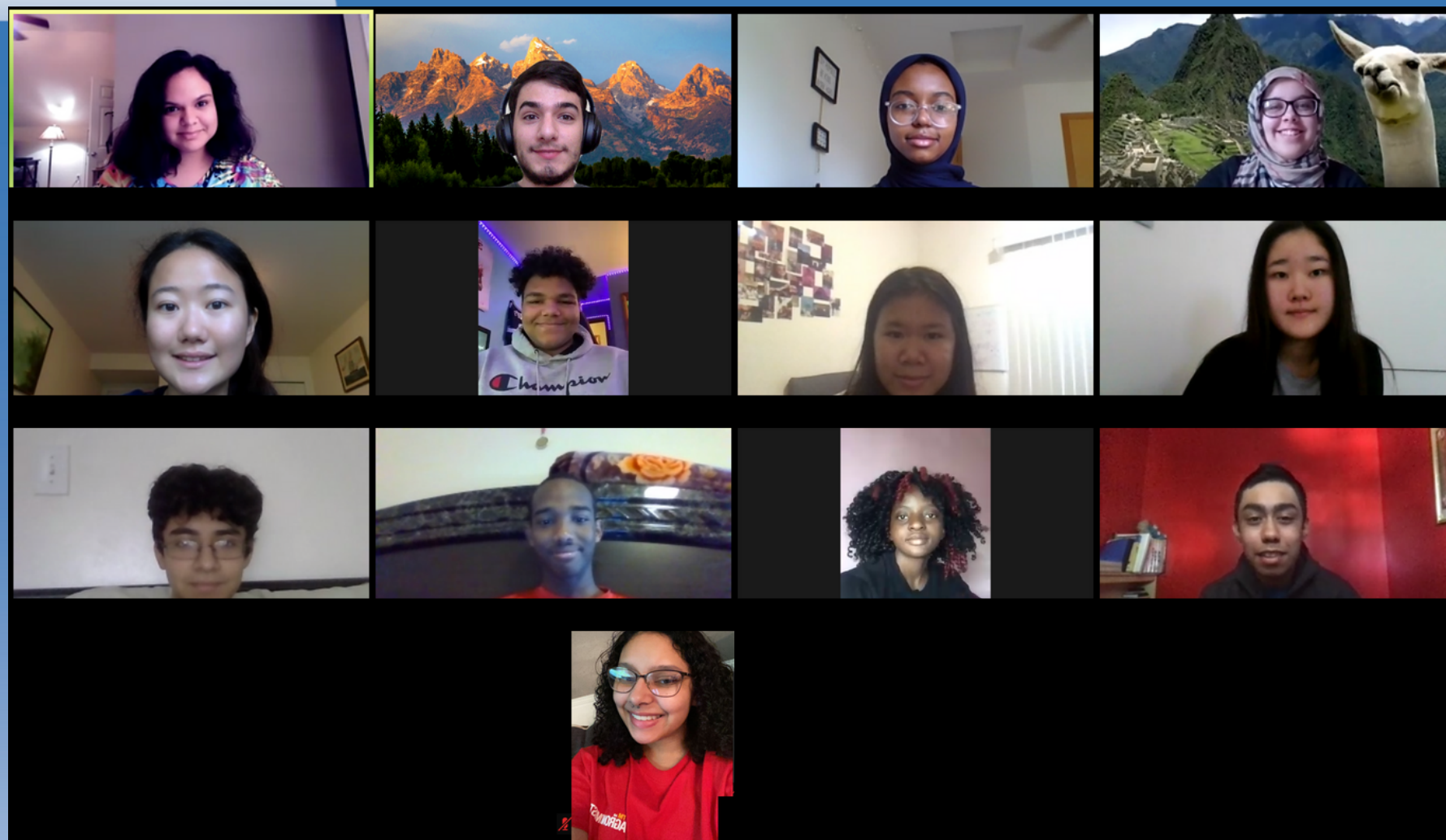


Melissa Rey, Wesleyan College, Recent graduate

Melissa is Cuban-Columbian, was born in Miami, and recently graduated with a BA in chemistry from Wesleyan where she served as a TA and a chemistry tutor. As an undergrad, she participated in two REUs, one at Boston College in a proteomics lab and the other at the University of Minnesota in the Frontiera lab, a stimulated Raman spectroscopy group. In the fall, she begins graduate school at the University of Minnesota.

CAMP LAMBDA

Cr
Chromium



Abdiabshir Ahmed
Ruba Ahmed-Abdelmutalab
Baraa Al-Jasim
Robert Berry
Seunghee Han
Estherine Ninkunda

Sebastian Pacheco
Freddy Rodriguez
Heyu Sun
Jada Turner
Mandy Zhang

CAMP MU

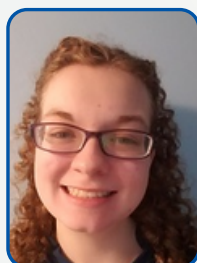
CAMP MANAGER



Errik Ejike, Creighton University, Program Supervisor

Errik holds an MPH from Armstrong Atlantic State University and currently lives and works in Omaha, Nebraska where he is the program supervisor for the Center for Promoting Health and Equity at Creighton University. Prior to Omaha, Errik worked in youth risk reduction of drugs and alcohol, public health promotion, and mental health emergency services for youth.

CABIN LEADERS: MANGANESE



Clara Ellis, University of Southern Mississippi, Rising senior

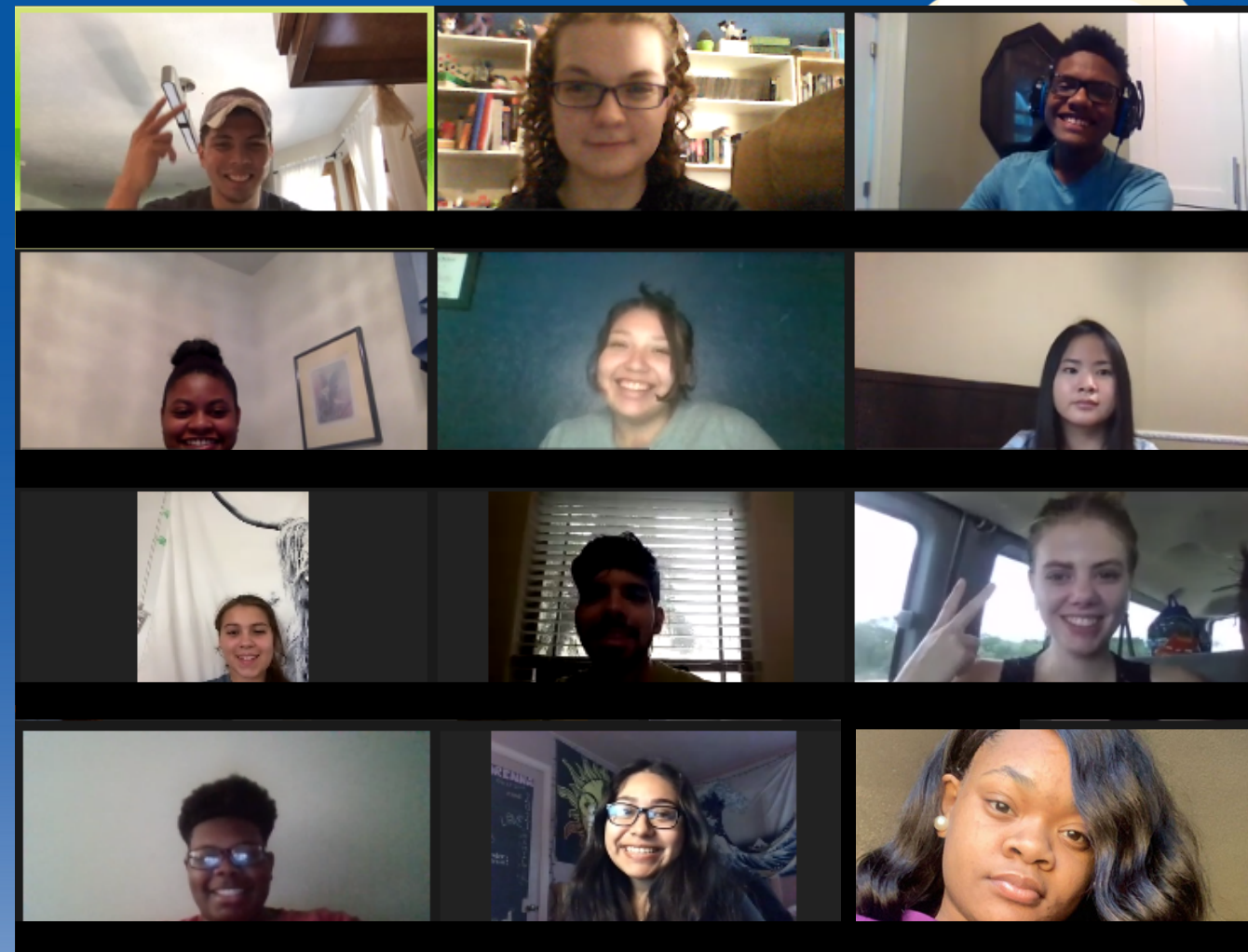
Clara's interest in chemistry began when she was an ACS SEED student in Dr. Song Guo's research lab at USM. As an undergrad, she is a learning assistant and works in Dr. Matthew Donahue's Organic Synthesis research lab, both experiences that she hopes will lead her to earn a Ph.D.



Irving Delgado-Arellanes, University of Notre Dame, Rising senior

Irving is originally from Mexico and currently studying Neuroscience and Behavior in the Honors program at Notre Dame where he is also a student athlete. In addition to his honors research, Irving is also a TA and soon will serve on the Senior Leadership Committee of Neuroscience.

Mn
Manganese

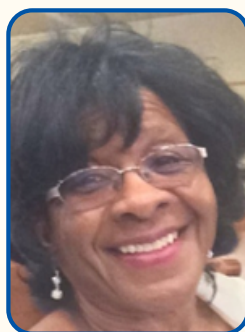


**Alyssa Blanchard
Jordhan Booth
Janeilya Davis
Kensey Eley
Lorenna Fuentes
Anastasia Guerra**

**Yasmeen Hamada
Samuel Hill
Benjamin Martinez
Anastasia Small
Kennedy Thrash**

CAMP NU

CAMP MANAGERS

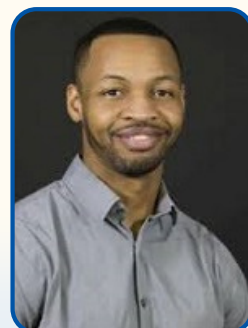


Carolyn Burnley, Project SEED, Coordinator

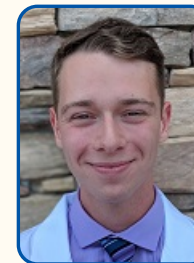
Carolyn retired in 2009 from Shell Oil as a Quality Assurance Analyst for surfactants, and it was through Shell's outreach program that led her to volunteering. For over 10 years, she has served as a coordinator for Project SEED for over 100 students. She's also won multiple awards for her volunteer service including the Stanley Israel Regional Award for Advancing Diversity and the E. Anne Nalley Regional Award for Volunteer Service.

Javoris Hollingsworth, University of St. Thomas, Assistant Professor

Dr. Hollingsworth is a former Project SEED scholar and a Gates Millennium Scholar, holding a master's and doctorate degree in Chemistry. Dr. Hollingsworth lived and conducted research in Beijing, China, before returning to the United States to teach in Texas.

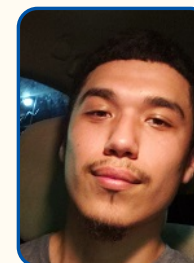


CABIN LEADERS: IRON



Cameron Goff, Baylor College of Medicine, Graduate student

Cameron graduated with a BS in biochemistry from UT Austin and is now finishing up his first year of medical school at Baylor. Currently researching abdominal transplant surgery outcomes and live-donor transplant program feasibility in Texas, his plan is to become a surgeon.



Gerardo Carreon, Texas A&M University, Rising senior

Gerardo is pursuing a degree in chemical engineering and recently participated in an REU program at Mississippi State working with the Department of Sustainable Bioproducts. The project focused on mitigating hazardous off-gassing of energy wood pellets, related to Gerardo's career path in the field of renewable and sustainable energies and technologies.

CABIN LEADERS: COBALT



Corrinne Cassel, University of Texas at Austin, Rising senior

Corrinne is a chemical engineering major and a leader on campus for organizations like the National Society of Black Engineers and the Cultural Awareness Committee. She took part in an REU at the University of Houston and worked last year at ConocoPhillips as an L48 Project Engineering intern.



Zainab Abolade Lawson, Texas A&M University, Rising sophomore

Zainab is a Project SEED alumna, current Project SEED and ACS Scholar, and a biochemistry major at Texas A&M, just finishing up her first year. Her research has been published in the ACS Applied Materials & Interfaces Journal, feeding her desire to pursue graduate school to work with bacteriophages.

CAMP NU

Fe
Iron

Co
Cobalt



Jose Alvarado
Michelle Chan
Jamecia Evans
Ernesto Flores
Cecilia Mai

Cassie Mai
Chinenye Nwokenaka
Avey Rodriguez
Ruhamah Temesgen
Tiara Ware



Feryal Azeem
Vanesa Cordero
Jair De La Rosa
Kaliyah Jackson
Nicolas Mason

Krystal Mireles
Jelisha Perera
Lizet Rodriguez
Luisa Rodriguez
Saamiya Syed

CAMP XI

CAMP MANAGERS



Don Warner, Boise State University, Professor

Dr. Warner grew up on a small farm outside of Salt Lake City. He earned his Ph.D. from the University of Michigan, Ann Arbor, before accepting a job in Idaho at Boise State where he has taught and conducted organic chemistry research for almost 20 years. Between his undergraduate and graduate education, Dr. Warner spent 2 years working as a volunteer in Service to America (VISA).

Terry Villarreal, Northern Arizona University, Lecturer

Dr. Villarreal is originally from Phoenix, Arizona, but attended the University of Washington for his undergraduate degree. Later, he earned his Ph.D. in organic and analytical chemistry from Purdue University in Indiana. Dr. Villarreal is also a talented musician who has played music all across the world.

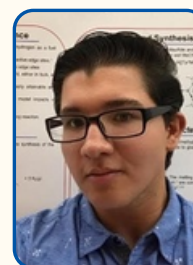


CABIN LEADERS: NICKEL



Andrea Nguyen, Pomona College, Rising senior

Andrea is a first-generation college student pursuing a bachelor's degree in chemistry at Pomona College. In high school, she spent her last few summers as a Project SEED scholar studying gold nanoparticles usages in therapeutics at Boise State University. Andrea was awarded the AMGEN Scholar Fellowship in college for her continuing scientific endeavors and is now preparing a literature review in preparation for her senior thesis.



Zek Kelly, Colorado School of Mines, Current student

Zek graduated in the top 10 of his high school class, received the Masonic Junior Achievement Award, and was accepted into both the ACS Project SEED I and II programs. A chemistry major in college, Zek believes chemistry can change the world, making the earth cleaner and the life on it happier and healthier. He finds chemistry genuinely fascinating because there is so much to learn and so many ways to help others.

CAMP XI

Ni
Nickel



Sara Alsaifi
Alexandra Harvey
Milton Katoney
Leshawn Klah
Aeliana Ricci

Tia Smallcanyon
Jacob Smith
Tamia Stos
Carrina Tran
Ying yin Zhu

CAMP OMICRON

CAMP MANAGERS



Elaine Yamaguchi, Chevron, Retired

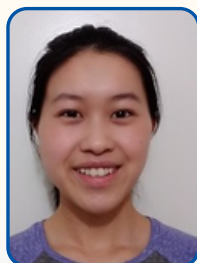
Dr. Yamaguchi was born and raised in Fresno, CA but went to the East Coast for school. She earned her B.A. in chemistry from Brandeis University and her Ph.D. in organic chemistry from Yale University before working for Chevron for 34 years inventing new lubricating oil additives that would prevent valve train wear.

Jessica Bell, University of San Diego, Associate Professor

Prof. Bell is a first-generation college student who grew up on a farm in Minnesota. After graduate school, she trained at the University of California, San Francisco and the National Institutes of Health in Maryland. Now she teaches undergrads and uses biochemistry and biophysics to understand host-pathogen interactions.



CABIN LEADERS: COPPER



Chui Yi Ho, University of California, Davis, Current student

Chui was a Project SEED summer I and II student, an experience that encouraged her to pursue biology and chemistry. This year, she joined the American Society for Biochemistry and Microbiology at UC Davis to learn more about biochemistry career paths, including earning her Ph.D.



Isobel Solano, Willamette University, Recent graduate

Isobel is a musician and athlete who recently earned her bachelor's in chemistry with a minor in Spanish. She studied abroad in Ecuador her junior year, leading her to apply to serve with the Peace Corps following graduation, after which she plans to pursue a graduate degree and travel a great deal more.

CABIN LEADERS: ZINC



Anisha Baktha, Brown University, Current student

Anisha is studying to become a physician as part of the 8-year program in Liberal Medical Education at Brown. She has participated in research projects at UC Santa Barbara, Stanford University, CU Boulder, and Brown, spanning wet lab research, clinical research, and statistical analysis.



Ihouma Ihejirika, University of California, Davis, Rising sophomore

Ihouma is majoring in Biochemistry and Molecular Biology, finding she is better able to understand how the world functions by analyzing molecular interactions. She was also a Project SEED participant, an experience that let her perform and present research, and earn a scholarship.

CABIN LEADERS: GALLIUM



Jennifer Franco, University of San Diego, Recent graduate

Jennifer is a first-generation Chicano, graduating Summa Cum Laude from USD this year. In the fall, she begins her Ph.D. program in chemistry with a concentration in chemical biology at NYU. In addition to her undergraduate research experience, she also was a teaching assistant, leading her to be even more passionate about a career in academia.



Vivian Yuen, Brown University, Rising junior

Vivian is a chemistry major and a researcher for the Zimmt Lab, which studies spontaneous organic monolayer assembly at the graphite-solution interface. She also serves as a TA and a volunteer academic advisor, supporting and mentoring students through their challenges and decisions in the college experience.

CAMP OMICRON

Cu
Copper

Zn
Zinc



Ernesto Baez
Neaam Dawood
Gabriel Gutierrez
Mariana Martin
Jasmine Ortigoza
Ana Plascencia

Jan Rossner
Eric Tran
Tina Tran
Genesis Valenzuela
Kiefer Villacruz

Gustavo Banda
Thomas Corrales
Lily Din
Qiumei Fan
Emily Guerrero
Jiaying Huang

Jamie Lin
Kristy Ly
Stefany Miranda
Tuyet Minh Pham
Denis Yabut

CAMP OMICRON

Ga
Gallium



Carrie Alfonso
Enrique Duran Del Cid
Daniel Favela
Maggie Louie
Mayra Martinez Rodriguez

Oreana Mendez
Katherine Meza
Tanraj Shergill
Ter Thao
Yeng Thao

Education Division

American Chemical Society

1155 Sixteenth Street NW

Washington, DC 20036

E: projectseed@acs.org

T: 202.872.4380



ACS Project SEED
Chemistry for Life[®]