APRIL 2022 NEWSLETTER

SISTERS

Success in Science and Technology: Engagement with Role-Models

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UC RIVERSIDE | College of Natural & Agricultural Sciences

SISTERS

Success in Science and Technology: Engagement with Role-models

Monthly Program Newsletter

Introductory Message:

By: Shloka Homa

Hello Readers!

My name is Shloka Homa and I am a 3rd year Cellular, Molecular, Developmental Biology student at University of California, Riverside. Myself and Swati Bhalla are the current co-leaders of the SISTERs project. SISTERs stands for Success in Science and Technology: Engagement with Role-Models and our mission is to provide mentoring and programming that encourages female middle school students within RUSD to pursue an education and a career in STEM.

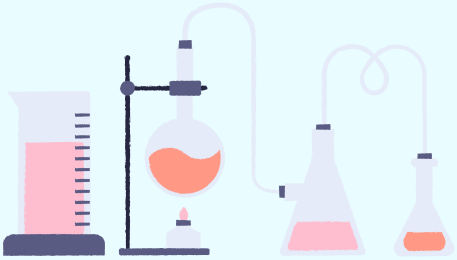
This year we will continue hosting online meetings which will be both exciting and engaging. We hope to showcase female leaders in various STEM fields ranging from Genetics to math-related fields! We strive to make the meetings as interactive as possible by having our speakers create presentations that incorporate fun hands-on activities related to the speakers' fields that the students can perform at the meetings. SISTERs is evolving and we hope to reach as many students as we can, to inspire them to pursue further education and careers in STEM. Through this monthly email, we encourage you to join us on our journey. Each newsletter will include letters from guests as well as stories written by UC Riverside Science Ambassadors and 7th and 8th grade students.

In future newsletters, we intend to add interviews with prominent female scientists and SISTERs graduates. The SISTERs team would like to thank Dean Nugent and our donors in particular for their time and support in ensuring SISTERs' continued success. Welcome aboard, new SISTERs students, and thank you for taking part in our program! We can't wait to see you blossom into remarkable women in STEM, and we are here to help support your journeys!

In this Issue:

MY HOME ON CAMPUS

By Isabelle Tran
Third-year Biochemistry major



At 8 am sharp, 'by the seaside' resounds throughout my small apartment, waking me up to get ready for a walk to campus. Stuffing all the things I need for the day into my heavy backpack, I rush out the door and arrive at campus at around 9. The first building I enter is always the chemical sciences building, because not only am I an undergraduate student, but I am also an undergraduate researcher at the Su Lab at UCR.

The reason I joined the Su Lab was because I found a passion for synthetic chemistry during my year in the organic chemistry series course offered at UCR. I took the course during my second year in university which was unfortunately during the COVID era. Although I was not able to do the associated lab classes with the course in person, I found some serious fun in learning chemistry while I was aggressively problem solving my way to make different organic molecules. It was challenging to dissect the language of organic chemistry and I took pride in being able to figure out different synthetic routes to the molecules our professor provoked us with. After finishing the courses, I decided that synthetic chemistry was something I wanted to explore more deeply and reached out to the Su Lab on campus. Since then, I've started working as an undergraduate researcher over the summer and haven't looked back since.

Over the summer, most of my time was spent training on how to do different wet lab procedures and connecting what I learned in organic chemistry with the inorganic chemistry we do in the lab. My research is based around inorganic synthesis of nanoscale silicon molecules – aka: cooking up small silicon pieces and studying how these pieces can be used in technology, medicine, energy storage, etc.

Something that I didn't learn in class was that running these reactions takes lots of time. Each step could take one to two days, and it could take over a month for just a grain-of-rice of material. Which is why most of my time on campus is spent at the lab. Setting up reactions, analyzing the things I make, and studying in between. It is definitely the first place I go to every morning, and the last place I leave every night. In a way, it's my home away from home. I even took the liberty of hanging up some pictures and decorations around my work desk. Although some days school can be exhausting, there's still a place on campus for me to return to where I can unwind and take a breath.

It's not something I imagined for myself as a first year, coming to this big university, but it is something I remind myself not to take for granted. Through the lab, I met some of the most interesting and clever individuals I can't imagine going through school without. Working with the graduate students and my principal investigator (the professor who runs the whole operation), I found mentors and role models who have, and are, helping me navigate through this demanding time in my life. Through research, I found presenting, networking, & career development opportunities. Most of all, the lab is the thing I will remember the most distinctly when I look back on my life as an undergraduate.

SO YOU WANT TO GO TO GRAD SCHOOL?

By Lisa Martinez
Third-year Neuroscience major

If you are considering grad school, it's important to explore different STEM subjects to have a solid area of interest when you apply. To do so, having a solid amount of research is critical. Here are some opportunities that you can join during high school and during your college years. Keep in mind most deadlines are in January - February, so you want to make sure you start applying around September at the earliest.

High School

Memorial Sloan Kettering Summer Student Program

Memorial Sloan Kettering (MSK) is one of the most well-known cancer centers in the world.
The Human Oncology and Pathogenesis Program (HOPP) at MSK hosts a Summer Student Program for students to conduct independent research projects while participating in extracurricular activities, training, and other opportunities.

Research Science Institute

The prestigious RSI takes place at Massachusetts Institute of Technology (MIT) annually, bringing together 80 top high school students from around the world. The free program blends on-campus coursework with off-campus science and technology research. Participants complete individual research projects while receiving mentorship from experienced scientists and researchers before presenting their findings through oral and written reports in a conference-style setting.

RISE Internship Track

In this six-week program, academically motivated rising seniors will conduct research for 40 hours per week under the guidance of a faculty member, postdoctoral fellow, or graduate student mentor.

Undergraduate

Amgen Scholars Program

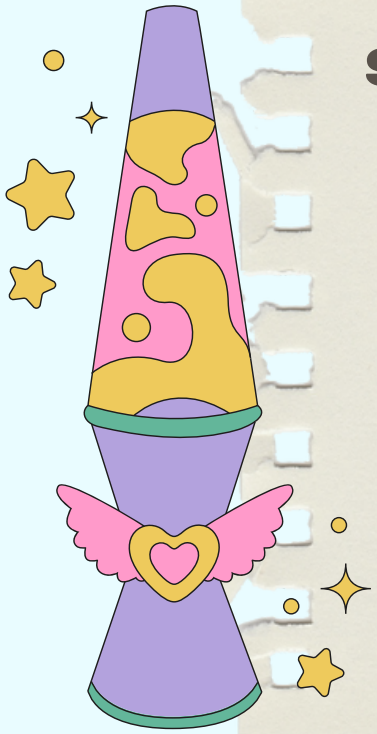
The Amgen Scholars Program is a national program to increase learning and networking opportunities for students committed to pursuing a career in science or engineering.

Bioscience Scholars Program

The Bioscience Scholars Program (formerly known as SPUR LABS) provides a rigorous eight or ten-week research training experience for undergraduates with interests in a broad range of bioscience disciplines– —from molecules to organisms and from basic to translational science.

TAKE-HOME ACTIVITY

Make Your Own Lava Lamp!



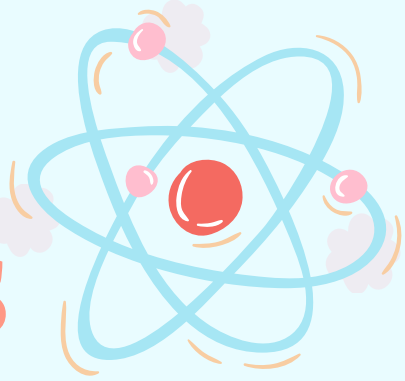
Supplies:

- One clean plastic bottle with the cap
- Vegetable Oil
- Alka-Seltzer Tablets (Use 1 tablet for a 16 oz bottle or 2 tablets for per liter bottle
- Food Coloring
- Water

Procedure:

1. Fill a plastic bottle three quarters of the way full with vegetable oil.
2. Add water to the neck of the bottle, leaving some space between the water and the top of the container.
3. Select the color you want for your lava lamp and add ten drops of food coloring to the bottle until a strong color is seen.
4. Break the Alka-Seltzer tablet(s) into smaller pieces (into eighths). Add one small piece at a time until all pieces have been used.
5. Wait until the bubbling stops and twist the cap back on
6. Congratulations! You have made your very own lava lamp. Make sure to tip and shake the bottle to see the reaction.

April EVENTS



DATE: WEDNESDAY, APR 13th

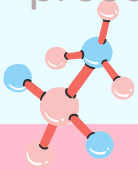
Introduction to the SISTERs Program w/ Leaders

Introduced the SISTERs program to the students and the new leaders as well as the leaders-in-training. We watched a day in the life of a SISTERs leader and female STEM student and did ice-breakers to learn about everyone's goals and career interests. We discussed different pathways in STEM and different programs that offer mentorship for the STEM.

DATE: WEDNESDAY, APR 27th

Guest Speaker: Sydney Ghoreishi, Ph.D. Genetics

Sydney Ghoreshi is a Ph.D. student in Genetics at Johns Hopkins University. She talked about her journey to graduate school and gave advice to those aspiring to pursue STEM careers. She ended the presentation by walking us through a gene sequencing activity. The activity included a technique where we learned how to insert a banana smell into bacterial DNA. We all learned so much from this engaging presentation!

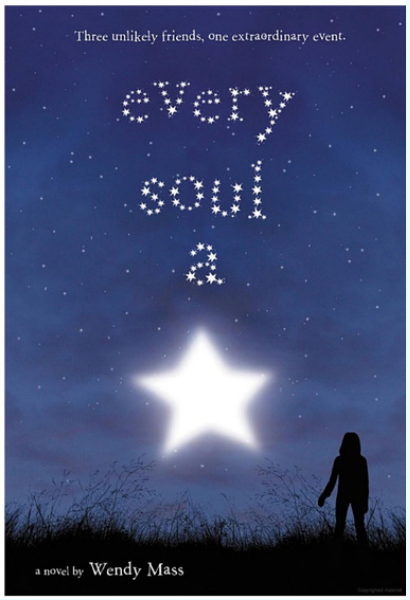


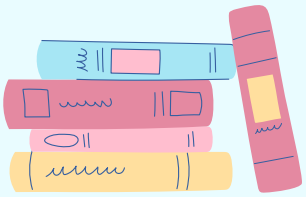
Check these Books Out!

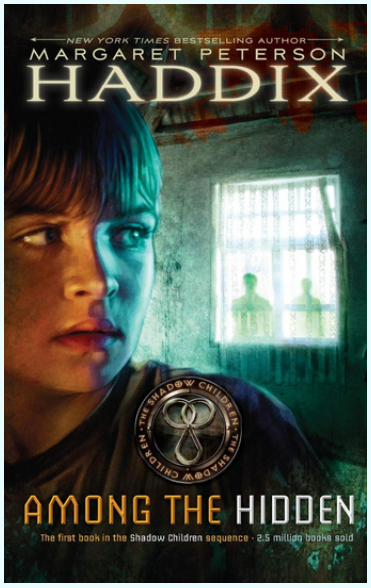
Every Soul a Star

By: Wendy Mass

A gorgeous novel about three very different teenagers coming together, unlikely friendships, and finding their place in the universe.



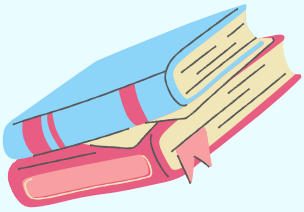




Among the Hidden

By: Margaret Peterson Haddix

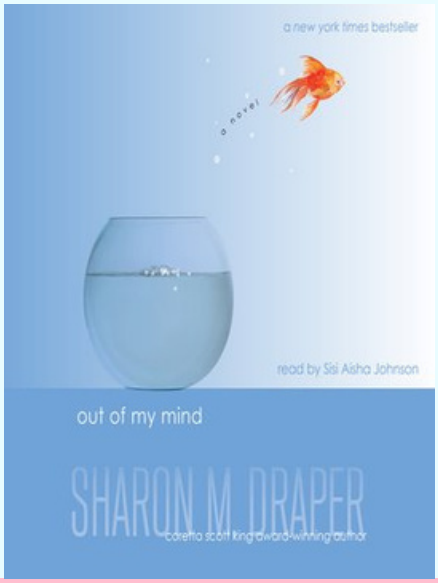
A boy named Luke Gardner is a third child in a world where only two children are allowed per family. He lives in hiding and befriends a neighboring third child, Jen Talbot.



Out of my Mind

By: Sharon M. Draper

Melody Brooks' parents have done everything they can to help her live a normal life, but life is often frustrating for Melody due to cerebral palsy. As a result, Melody has to fight to get her wishes.



Thank You!

OUR MOST SINCERE GRATITUDE TO OUR DONORS AND SUPPORTERS

Steve Clute

Allison Mackenzie, Babcock Labs

Kimberly Cobb

Society of Women Engineers

Dana Glenn, Kind Lab

Dr. Arthur Jia

Jeanette Westbrook

Dean Connie Nugent

Dean Kathryn Uhrich

UCR CNAS

AND A SPECIAL THANKS TO OUR PRESENTER...
SYDNEY GHOREISHI