

Looking for opportunities to get involved in the community? Join CC Science Outreach!

CC Science Outreach is a club which develops labs for elementary-aged students. To adapt to COVID-19 restrictions, the club has created an open-source website with lab demonstrations, blog posts about CC science classes, and activities for 1-5<sup>th</sup> graders. Check out some of their work here:



Some labs have been packaged up into individual kits and delivered to Meadows Park, a local community center, in a COVID friendly way. The club encourages labs relevant to all STEM fields, whether it be environmental science, geology, or chemistry!



If you would like to join CC Science Outreach, please reach out to Jia Mei or Sriya Sharma for more information! ([j\\_mei@coloradocollege.edu](mailto:j_mei@coloradocollege.edu), [s\\_sharma@coloradocollege.edu](mailto:s_sharma@coloradocollege.edu))

2021  
Cc  
Block 5

# Chemistry



Photo credit: Jennifer Coombes

## Block 5 CC Chemistry Newsletter!

*What is a pirate's favorite amino acid? ...Arrrrginine*

With the start of the new semester, there is much to look forward to within the Chemistry and Biochemistry department. Keep an eye out for ways to participate in department activities and opportunities to meet your fellow classmates, faculty, and staff!

## Getting to Know Dr. Clayton

This block we are highlighting Dr. Clayton as he recently joined the department in the fall of 2020. We sat down for a quick Q+A and learned a bit about Dr. Clayton's research.



### Online learning hurdles you have overcome?

*"The biggest adaptation is coming up with ways to keep meaningful discussion going in a virtual setting. The most important thing I want students to know in my courses is that learning is a collaborative effort, and we support each other during that process. It has taken some creativity to replicate this environment in remote learning, but I continue to get closer each block."*

### Favorite part about CC and the department?

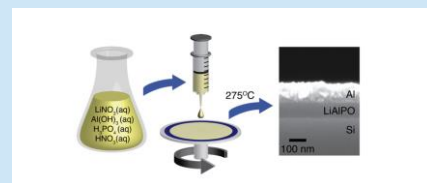
*"I have been really impressed with the sense of community both at CC and within the chemistry and biochemistry department. The level of support I have received from colleagues both within my own department and the broader CC community continues to motivate me to improve as an educator, researcher, and community member."*

### Advice for potential chemistry and biochemistry majors?

*"Talk to someone who has chosen to study chemistry. My own path to chemistry was unexpected and it was a causal conversation with a visiting professor that convinced me to take a chemistry course unrelated to my major. The main reason I took that class was to step out of my comfort zone and try something new and I am so happy I did."*

Outside of chemistry, Dr. Clayton enjoys painting, he would love to travel to Katmai National Park in Alaska and hopes to one day be on Shark Tank!

## Dr. Clayton's Research



The Clayton research group focuses on the electrical and chemical properties of solid-state materials as they pertain to energy storage. We investigate these materials as candidates for use in energy storage devices that include batteries, field-effect transistors, electrochromics, and supercapacitors. We also study the synthetic-structure relationships of these electronically and structurally diverse class of materials to understand function and target new compositions. Student projects integrate inorganic, materials, and sustainable chemistry centered on the development of scalable and inexpensive deposition techniques for the production of functional single-phase materials and multilayered structures.

Dr. Clayton is still looking for more students to join him in lab over the summer! If you are interested in learning more, please reach out to him at:

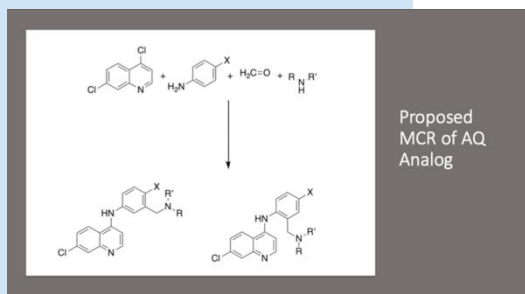
[dclayton@coloradocollege.edu](mailto:dclayton@coloradocollege.edu)

# Senior Thesis Projects

## Bryan Swanson

### *Fluorination of Antimalarial Drugs*

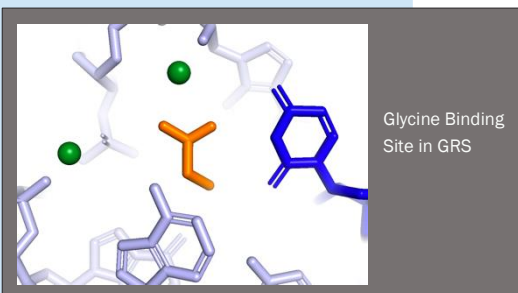
Over the summer, I worked on developing multicomponent reactions (MCR) utilizing green chemistry principles to fluorinate pre-existing antimalarials. The primary goal was to fluorinate amodiaquine (AQ) and subsequently reduce its toxicity. This well-known drug is very effective in treating malaria but is toxic to humans. The addition of fluorine could act as a protection mechanism against harmful metabolism of the original drug.



## Sriya Sharma

### *Thermodynamic Analysis of RNA*

For my senior research, I analyzed the thermodynamics of structure formation of a glycine riboswitch (GRS) construct. Riboswitches are an RNA structure which can regulate gene expression through metabolite binding, in this case glycine. The goal of my research was to examine if the RNA construct could bind glycine in the absence of the larger RNA and to determine the impact of magnesium on thermodynamic stability.



Stay tuned to learn more about the research of our fellow 2021 graduates!

