

QuarkNet Center @ Colorado State University

FY 2022-2023 Annual Report

Faculty mentors: Dr. Bob Wilson, Physics Professor, Department of Physics, Colorado State University

Lead teachers: Cherie Bornhorst, Little Shop of Physics Teacher in Residence; Adam Pearlstein, Little Shop of Physics Assistant Director; and Zach Armstrong, Science Teacher at Greeley West High School



Quarknet@CSU Workshop:

The Colorado State Quarknet Center hit the road for a 3-day workshop in Lead, South Dakota. The center's mentor, Professor Bob Wilson, works on the DUNE project, so the group decided to visit the site of the future far detector. We toured the Sanford Underground Research Facility Visitors Center and learned a lot about the past and future experiments at SURF. We followed that up with meeting Chad Ronish from their Education and Outreach Department who gave us a tour of the Yates Hoistroom, the grounds of the lab, and promised to take us underground to the famous 4850 level (here Ray Davis' lab was) the next time we visit. Chad also ran us through some of the education activities they've developed and present in area schools. We talked a lot about how to do science outreach effectively; and it led to future plans to collaborate on the Native American reservations in South Dakota, as well as a visit to Fort Collins for our annual Little Shop of Physics Open House. While in South Dakota we also made time for our traditional Share-a-thon session, where we each bring our newest/best/brightest ideas to share. Lots of great ideas for labs and activities, book reading recommendations, worthwhile professional development opportunities, and tech resources were shared!



Participants in the summer workshop included:

- Shane Wood, Quarknet
- Cherie Bornhorst, Colorado State University
- Adam Pearlstein, Little Shop of Physics
- Zach Armstrong, Greeley West High School
- Taylor Plantt, McAuliffe STEM Academy
- Matt Leach, Douglas County High School
- Mark McConnell, Mountain Vista High School

Earlier this year, one of our QN teachers, Mark McConnell also had the opportunity to participate in Data Camp at Fermilab. He really enjoyed the tours most of all, but also enjoyed getting to work with teachers from all over the country.

Participant and lead teacher, Cherie Bornhorst, participated in Coding Camp I virtually at the beginning of summer. She hopes to be accepted into Coding Camp 2 next summer and expand her knowledge of coding with Google collabs even more!

Cherie also participated in the Quarknet Zoom meetings during the Spring. She bought extra copies of "Disordered Cosmos" with the generous book budget to share with her Colorado Quarknet teachers, and we look forward to discussing the book as a group at next summer's workshop.

The majority of teachers at our center also serve as board members of the CO/WY AAPT section, so we are looking for ways to share what we learned at SURF, and recruit more QN teachers, at our upcoming section meeting.