ASTR/PHYS Professional Development

CAREERS IN STARTUPS

Come hear a panel of CU alums talk about adventures in small companies and startups. Free pizza, as always!

Wednesday, April 3
5:00-6:00pm
DUANE G130

FREE PIZZA

Careers in Industry & Aerospace
Wed April 3, 2024, 5-6pm

Opening remarks: Nick Schneider & Mike Dubson

Panelists

- Cameron Dotts, Embedded Software Engineer at PlanetiQ
- Maithreyi Gopalakrishnan, Founder/CEO of PrecisionTerra and LiquidiFi
- Mckenna Partridge, formerly Fabrication Engineer at ColdQuanta

APS/PHYS Professional Development

Nick.Schneider@lasp.colorado.edu, Michael.Dubson@colorado.edu

https://www.colorado.edu/aps/undergraduate-studies/professional-development

Astrophysical & Planetary Sciences
COLLEGE OF ARTS AND SCIENCES

Professional Development

APS/PHYS Professional Development is a resource for undergrads in fields related to physics and astronomy at CU Boulder. This website includes resources and information designed to help undergraduates in APS/Physics develop successful longterm careers. This website is designed to offer resources and advice that will help you succeed in your career after graduating CU Boulder. Navigate with the following main sections:

Events for Academic Year 2023-2024

9 October, Grad school: recording, slides, flyer

30 October, Getting involved in Physics research: recording, flyer

13 November, Careers in Heliophysics: recording, slides, flyer

5 December, Undergraduate Research Opportunities Symposium recording, slides, flyer

7 February, Careers in Telescopes, Optics and Observatories: recording, slides

Note: All recordings can also be found here

Upcoming ASTR/PHYS Professional Development Events

All in G130, 5-6pm, Wednesdays – with pizza!

- 17 April: Applying for Jobs

ASTR/PHYS students: read your weekly emails!
Everyone: check our departmental websites:
https://www.colorado.edu/aps
https://www.colorado.edu/physics

APS/PHYS Graduates - where are they now?

(Startups and Small Company positions)

- Tech Sector: Quantinuum, CARMA

Cameron Dotts, What I do…

- PlanetiQ Weather Data Company!
  - Working to build a constellation of weather satellites
  -
- GNOMES
  - **G**NSS **N**avigation and **O**ccultation **Me**asurement **S**atellites
  - Collect Radio Occultation atmospheric soundings.
  -
- Embedded Software Engineer
  - I primarily program the payload called Pyxis.
  - Work at subsystem scale, communications, health monitoring, etc.
  - Work C++, C, Python.

PlanetiQ GNOMES spacecraft rendering

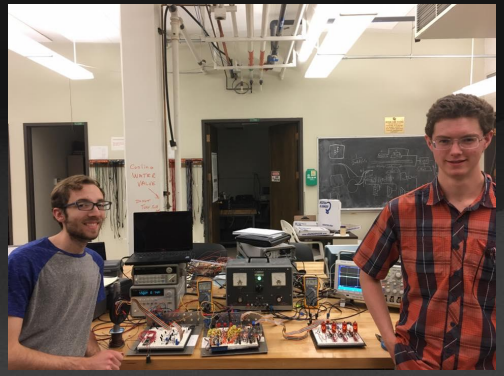
Cameron Dotts

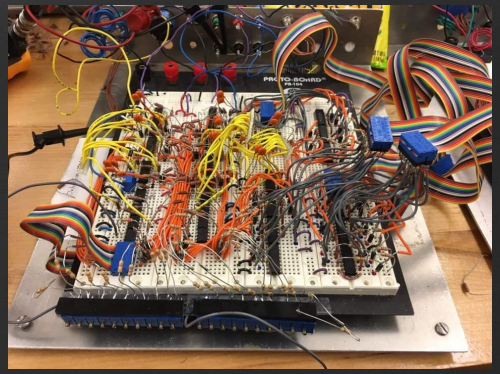
The path of the Undergrad. Lots of Opportunities, take them!

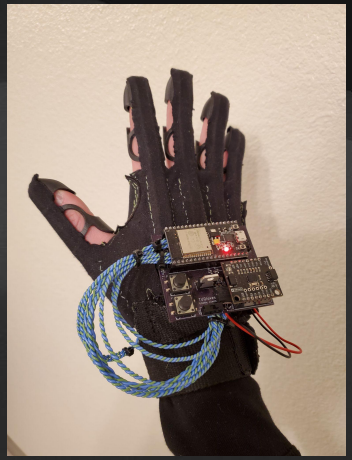
I studied Engineering Physics and minored in Electrical Engineering

Said Opportunities:

- JLab! The Physics Students Love/Hate Relationship.
- The Learning Assistant Program.
- Trades Teaching Lab, right here in Duane!
- NVC: New Venture Challenge, final showcase is April 17th.
- Take pride and decent pictures of your work, seriously!

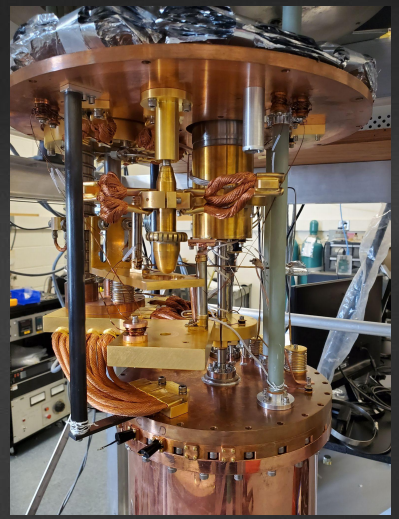






Cameron Dotts

Bridging the gap, Graduation to Career.



My specific situation:

- Worked as a Professional Research Assistant for Dan Dessau
- Covid hit…
- Briefly worked for a startup called ShipShape
- Finally found my current job.

Mckenna Partridge

A bit about me + my time at CU

- Majored in Applied Math and Engineering Physics
  (Almost minored in Russian Studies)
- Graduated Dec. 2021, started working at ColdQuanta June 2022
- Left ColdQuanta Feb. 2024
- Now in search of the next thing

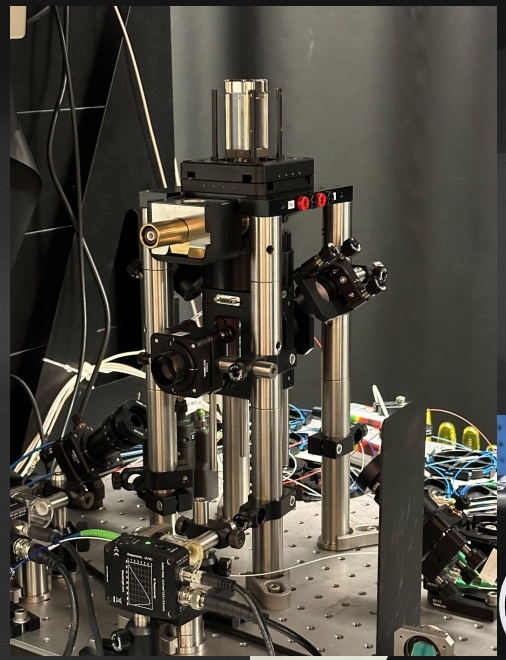
While in school:

- Joined the Learning Assistant program
- Started research with Prof. Betterton in computational biophysics but stopped during covid
- CA/TA'd for a wide range of courses over 5 semesters
- Took a couple summers off (taking time off can be really healthy!)

Mckenna Partridge

My experience working at ColdQuanta (now Infleqtion)

- I built the ‘cores’ of their quantum computer, though what I really learned was very low volume, complex manufacturing
- Small company with niche products = becoming a jack of all (niche) trades
- Used Python, SolidWorks, learned how to operate and troubleshoot new instrumentation, lots of hands on work with optics
- Did some management, got to go on a service visit to JPL



Mckenna Partridge

Advice and personal learnings:

- Socialize with your peers and your professors! You never know what doors people can help you get though (and later on, who you can help!). This is how I got hired at ColdQuanta
- The physics program taught me great methodology for how to work, think, and solve complex problems which has proven more important than the specifics of the material taught
- A job is different than going to school: and it's okay if your first job is hard! I did great in school, enjoyed research and grading, and still found the transition difficult. I can't think of a way to 'prepare' other than just doing it. Just be nice to yourself while you acclimate to the professional world
- Enjoy being a student!

Maithreyi Gopalakrishnan

About me and my CU experience

2011-2016

Engineering Physics M.S./B.S.
2 minors, 1 certificate
Started 1st company hybridizing rickshaws
President of CU Energy Club

PHYSICS
Boulder

The Kapteyn-Murnane Group
Frontiers of Coherent Ultrafast X-Ray Science

surya conversions

cuenergyclub

2017-2018

Process Engineer
Intel in Oregon

intel

2018-2020

M.S. Management Science & Engineering
Stanford

2019-2020

Head of Product
Quantum Thought

QUANTUM THOUGHT

Now

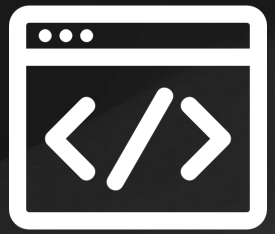
Founder, LiquidiFi
Founder, PrecisionTerra Consulting

liquidifi

PrecisionTerra

Maithreyi Gopalakrishnan

My Current Role(s) and day-to-day



Coding (A little less now!)

Sourcing, onboarding customers

Grant writing

Investor presentations

Meetings with potential customers, partners, advisors, etc.

Maithreyi Gopalakrishnan

Learnings

1. Actively seek out networking opportunities
2. Give first – Volunteer, be engaged in community to make connections
3. Use university (and your 20s!) to try different things, focus on learning
4. Set your priorities including family time, exercise, etc. and be intentional with prioritization of your time
5. Optimize for enjoyment of your work – life is too short to hate what you do!