"My Journey as a Physicist" Podcast

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Portraits of Physicists

Aim to Deconstruct Stereotypes

- Physicists come from all races, genders, backgrounds
  - Not what you usually see in the textbook or AI pictures

Questions from Students' Point of View

- How and why do people become physicists?
- What obstacles do they overcome on their way?
- Are they always certain about their career choice?
- What are physicists like outside work?
- What tips do they have for undergraduates and graduate students?

A team of physics *students* and faculty aim to answer these questions through the "My Journey as a Physicist" podcast.

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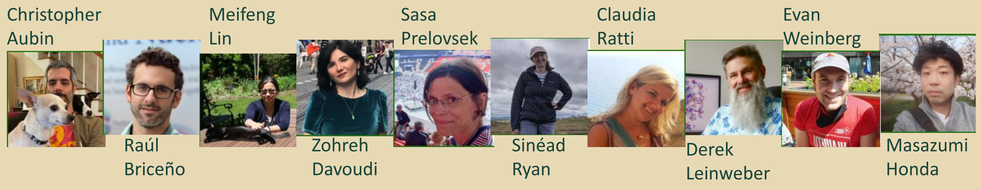
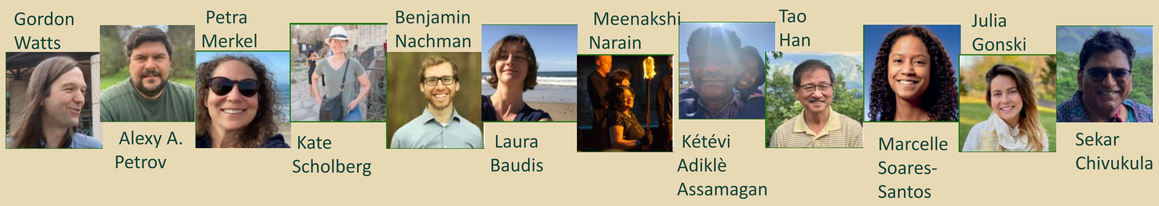
In each episode, a student host(s) interviews a professional physicist to learn about their professional journey, how they ended up where they are

3 Seasons So Far

- Season 1 features physicists involved with lattice QCD (LQCD), associated with the 2021 INT Summer School on "Problem Solving in lattice QCD", and more.



- Season 2 features physicists who play key roles in Snowmass, the US particle physics planning community.



- Latest Season 3 interviews those involved in the ongoing Nuclear Science Advisory Committee Long Range Plan (LRP)

The Path to Physics Career

There is no one straight path for everyone

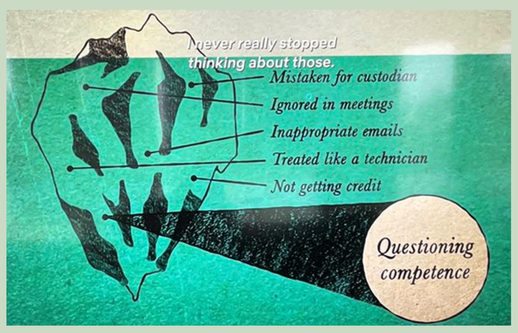
- Common path: math or science enthusiastic; elimination process to determine the physics path
- When decided to become a physicist (sample size 32):
  - High School: 34%, Undergraduate: 53%, Beyond: 13%
- Often interested in science and math in high school and make a choice between STEM majors in college
- Often make the decision either when reaching modern physics classes or doing research (high school or undergrad)
- Many start off in engineering majors and/or get engineering degrees before doing physics PhD
- Different ideas of what it means to be a physicist
  - "I'm actually not sure if I ever decided [to become a physicist]"
    — Bjoern Schenke S3E3
  - "If you do a PhD in physics, you are a physicist forever"
    — Xiaochao Zheng S3E2

Research and Career Paths

- Some start research as early as high school
- Majority did undergraduate research and see it as an important factor in their decision to do physics
- Most try different research fields before "falling in love"
- Many tried both theory and experiment in undergrad and/or grad. Most go through a couple of postdocs before getting a permanent position
  - One notable exception: Rebecca Surman S3E4 went to a small private 4-year institution after PhD and built a small research program before going to an R1

Obstacles Overcome

- Some fortunates did not experience/share obstacles
- For physicists coming outside US
  - Language barrier
  - (Academic) culture differences in different countrie
- Two-/many-body problems that also affect male physicists too
- Work/life balance



- Imposter Syndrome
- Harassment and discrimination as a woman in physics in the undergrad stage
- Adapting to new areas when traveling for work
- Limited education and/or resources
- Pressured to pursue things other than physics

What Do They Do Off Work?

- Common
  - Reading: novels, poetry, philosophy
  - Hiking, running, swimming, skiing
  - Painting (watercolor, oil, …), cooking, gardening
  - Playing some kind of instrument (piano, cello, …)
  - Meditation, yoga
- Surprising or unusual
  - Write poetry , make clothes, wooden furniture
  - Fixing things around the house
    "Opportunity to learn something new"
  - Making home roast coffee beans
  - Making synth music
  - Squirrel Watching

Advice for Students

Physics/Career Related

- Try different topics
- Attend summer schools and conferences
- Network with peers, postdocs and professors
- Have a strong group of mentors that you can easily talk to
- Many physicists ended up doing research in a different subfield than where they started
- Do as much as you can in undergraduate
- Read white papers
- Do research on something that you are interested in
- There is a stark difference between research fields in physics, so move around if you need to
- Practice organizational, team-management and time-management skills
- Soft skills like critical thinking and attention to detail are key for scientific research
- Get educated, take as many courses as you can, go talks and attend seminars
- Have a level of curiosity that motivates you to try again
- Be open to where you can live in the world

General

- During hard times look up your "yeah" folder (collections praise people gave you to remind yourself that you can do this!)
- "Interesting things are always hard!"
- Find something you are passionate about
- Don't be afraid of failures
- Follow your passion because no career path is easy
- Problem solving is hard; need that to help you get going
- Don't give up and it will all get better
- Define what success is to you and don't let other people define it for you
- Identify your tribe and be brave
- Have fun and make sure you are in a socially supportive research environment
- Take advantage of the opportunities that show up
- Do what you love and have fun
- Be a well-rounded human being
- Try new things, make good friends and take care of them

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