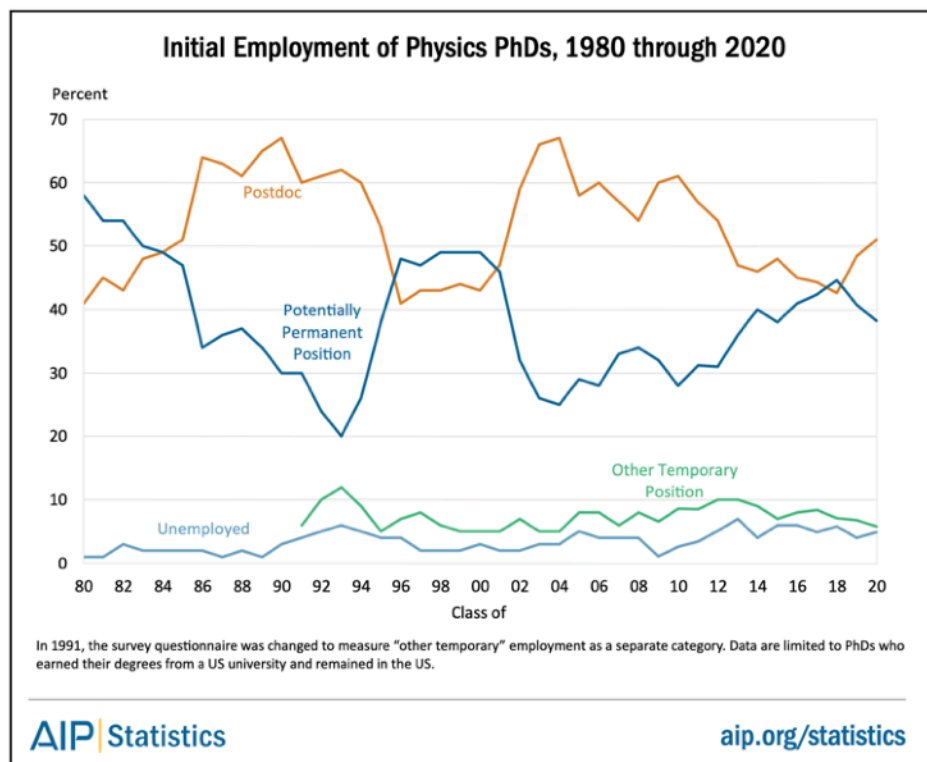


Career prospects in physics, and my experience

Sanghwa Park



A little about me: my professional journey

Undergraduate, Ph.D, South Korea

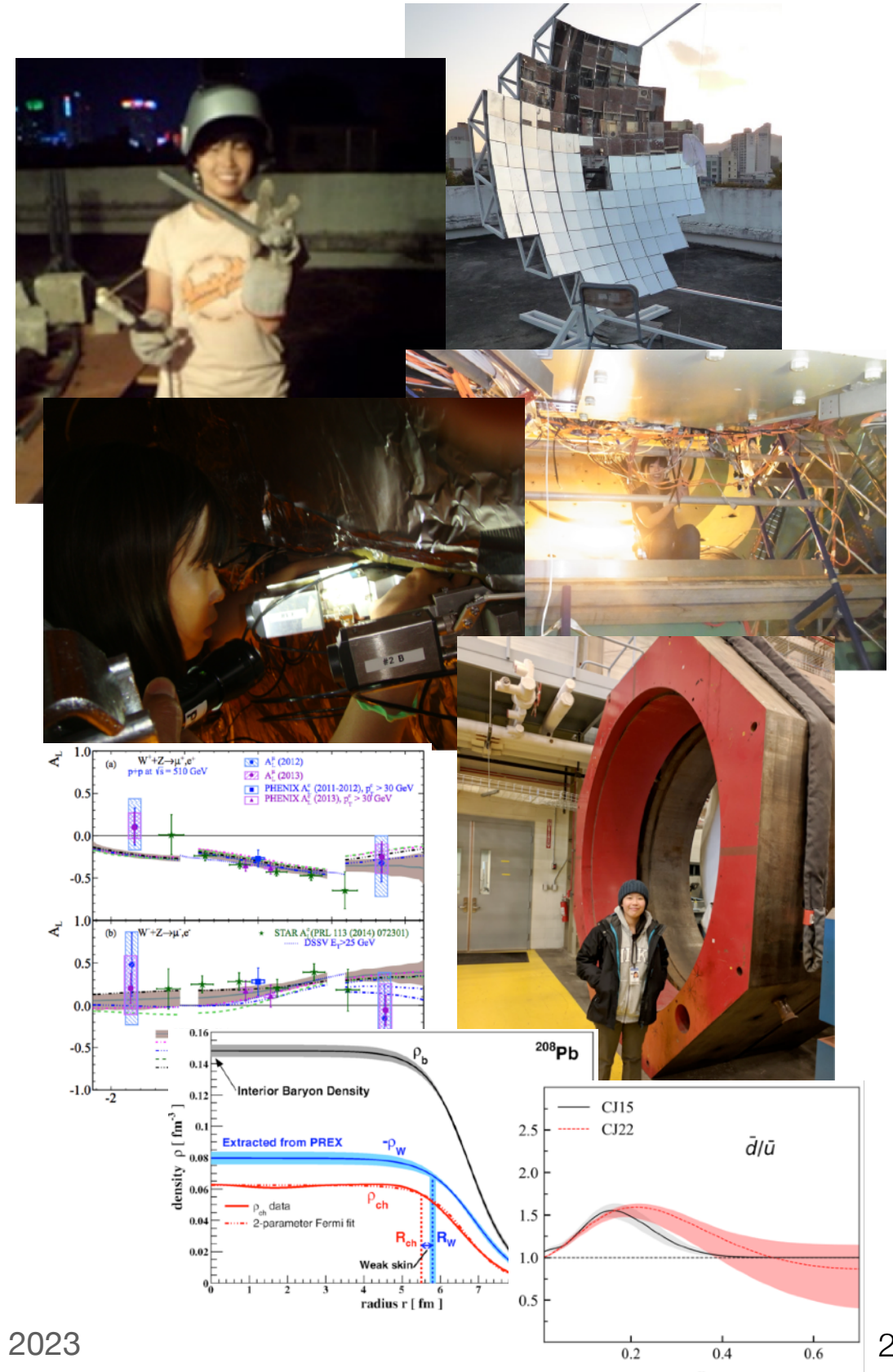
- Chungnam National University, 2006-2010
B.S. in physics, Science Education
Nuclear theory (senior thesis)
- Seoul National University, 2010-2015
PHENIX experiment at RHIC
Spin physics, muon detectors, polarimeter

Postdoc

- RIKEN FPR fellowship (2015)
PHENIX/sPHENIX
- Stony Brook University (2016-2021)
PHENIX, JLab, CTEQ-JLab, EIC R&D
CFNS seminar organizer in 2020-2021 :-)

Tenure-track/Scientific Staff position

- Assistant Professor, 2021 - 2023
Mississippi State University
- Staff Scientist, 2023 - Present
Jefferson Lab (Hall A/C)

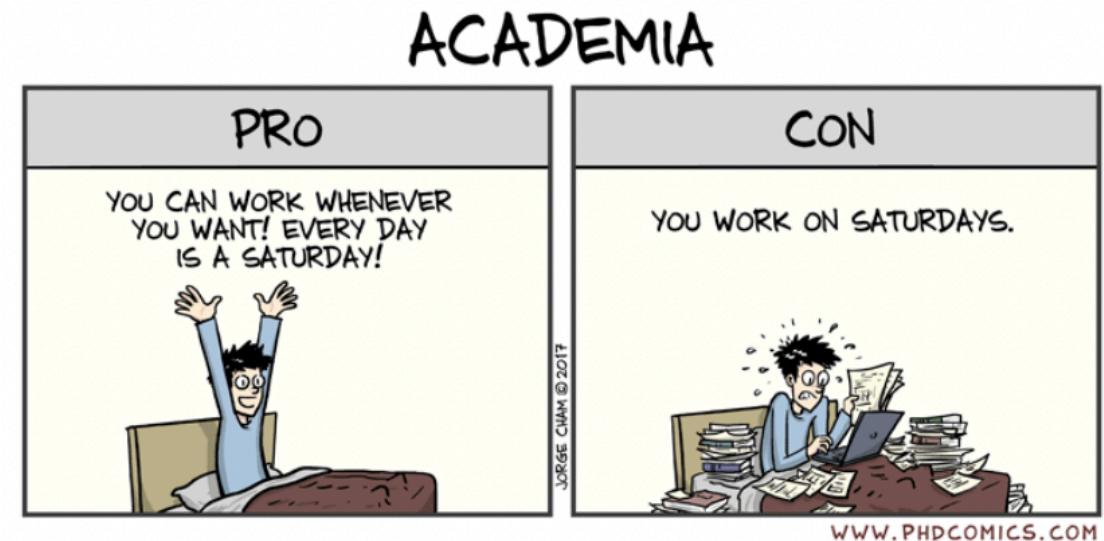


A little about me: my professional journey

- Started applying for a staff position at national lab
 - First application and interview in 2017, didn't go well
 - Initially thought I would want to focus more on research, and thought I would not enjoy teaching (I was wrong)
- Realized there are not many positions available at the lab, started applying to university positions
- Pandemic, searches canceled, remote interview!
Unexpected happens
Sometimes opportunities come to you with very short notice
Be prepared to submit your application anytime

Challenges and what motivated my decisions

- Wanted to remain in academia from when I was undergraduate student
- Two-body problem with a partner doing very similar research (and wants to stay in academia too)
 - Moved to SBU giving up a competitive 3y fellowship: motivated by a desire to do something new + improve the two-body problem
 - Moved from the university faculty position to staff at national lab

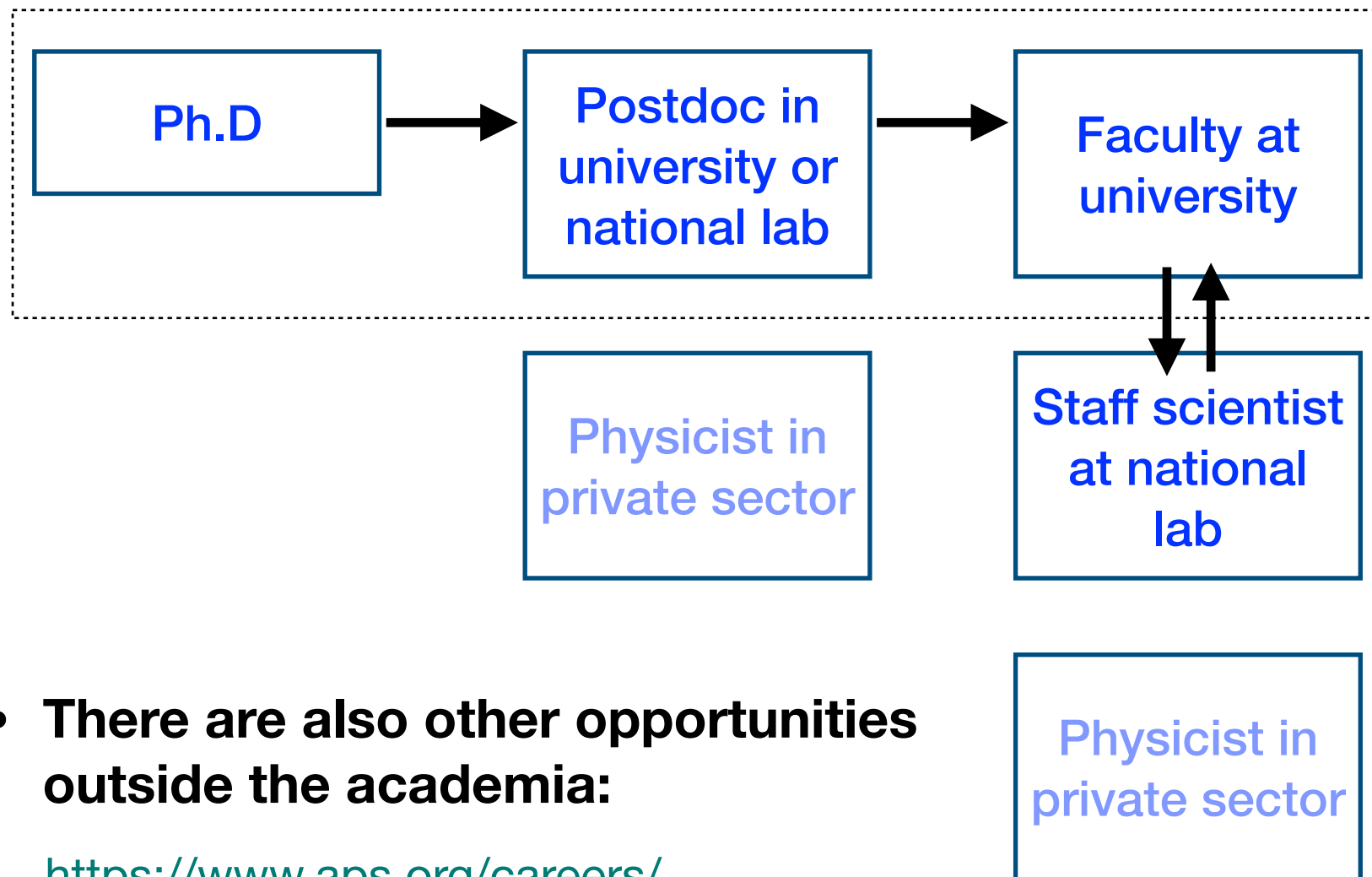


Challenges and what motivated my decisions

- Moving from RHIC to JLab
 - Changing experiments (from collider to fixed target, from hadron physics to parity-violating electron scattering) was challenging, especially at the beginning. But, I gained different experience and skills which became very valuable.
 - Being stationed at the lab provided opportunities for networking and new collaborations.
- Some thoughts on two-body problem
 - There are no definite answers that work for everyone
 - One of the spouses willing to get a job outside of academia — most common way to solve
 - Once you get the job, negotiate!

Often universities help to solve the two-body problem — a bit easier if you two are doing something different

Typical academic career paths in Physics



- **There are also other opportunities outside the academia:**

<https://www.aps.org/careers/physicists/prospects.cfm>

- Have your own research group mentoring students, postdocs
- Teaching
- Department service
- Teaching/Research dedicated faculty positions at some univ.

- Focus on research
- Possibility of teaching
- Postdoc/fellow at lab -> staff is a more common path

- R&D in private sector could involve a significant amount of research and collaboration with universities/labs

Working at University

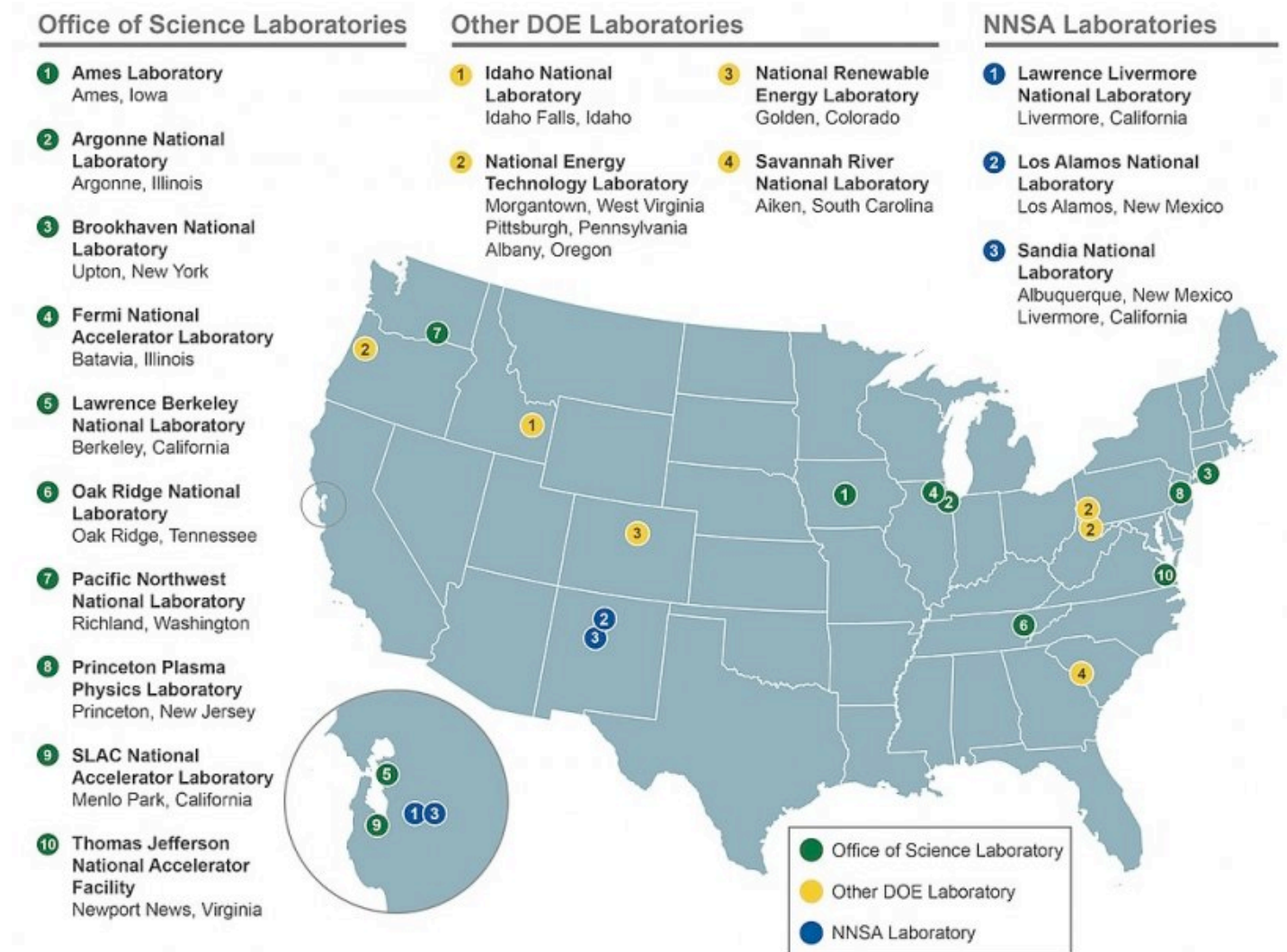
(from my limited experience as university faculty)

- Establish your own research group
 - Research freedom, more flexible than working at the lab
 - Mentoring undergraduate/graduate students
 - Writing grant proposals
- Teaching load can be heavy depending on universities, negotiate (at hiring and before/after semesters) with the department head
- Teaching courses is also an excellent way to recruit undergraduate/graduate students to your group
- Department service work
- Tenure review (research/teaching/service)
- These are also good questions to ask at your interview!
 - How many grad students in the department, # of applications per year?
 - Typical teaching load, reduced teaching load for the first few years and sabbatical (include as part of start-up package)
 - Tenure review process

Working at National Lab

(from even more limited experience as staff scientist)

- Staff responsibilities
- User facilities like BNL, JLab: support operation
- Develop physics program
- Some time to do research of your own interest
- Funding opportunities
- Working with many visiting scientists, postdocs, students
- Opportunities at different divisions within the lab



My



- Think about your research in near/far future
- Apply, apply, apply! and try applying early!
You don't want to have your first interview when your dream job pops up
Didn't get the job? Ask for feedback
Refine your application package



- Make yourself be known in the field, take a leadership role (but don't overwhelm yourself with service work)
- Sad news, my introvert friends, but networking is important
Talk to mentors/collaborators, point you to job openings, conference coffee break, ..
- Be open minded
 - Different research area, university/lab positions, ..
 - Application/interview process is stressful, but you always learn something
 - Applying/having a university job may end up giving you a better chance to get a job at the lab, or vice versa

- Questions, help, chat? Feel free to reach out (I meant it!):
sanghwa@jlab.org