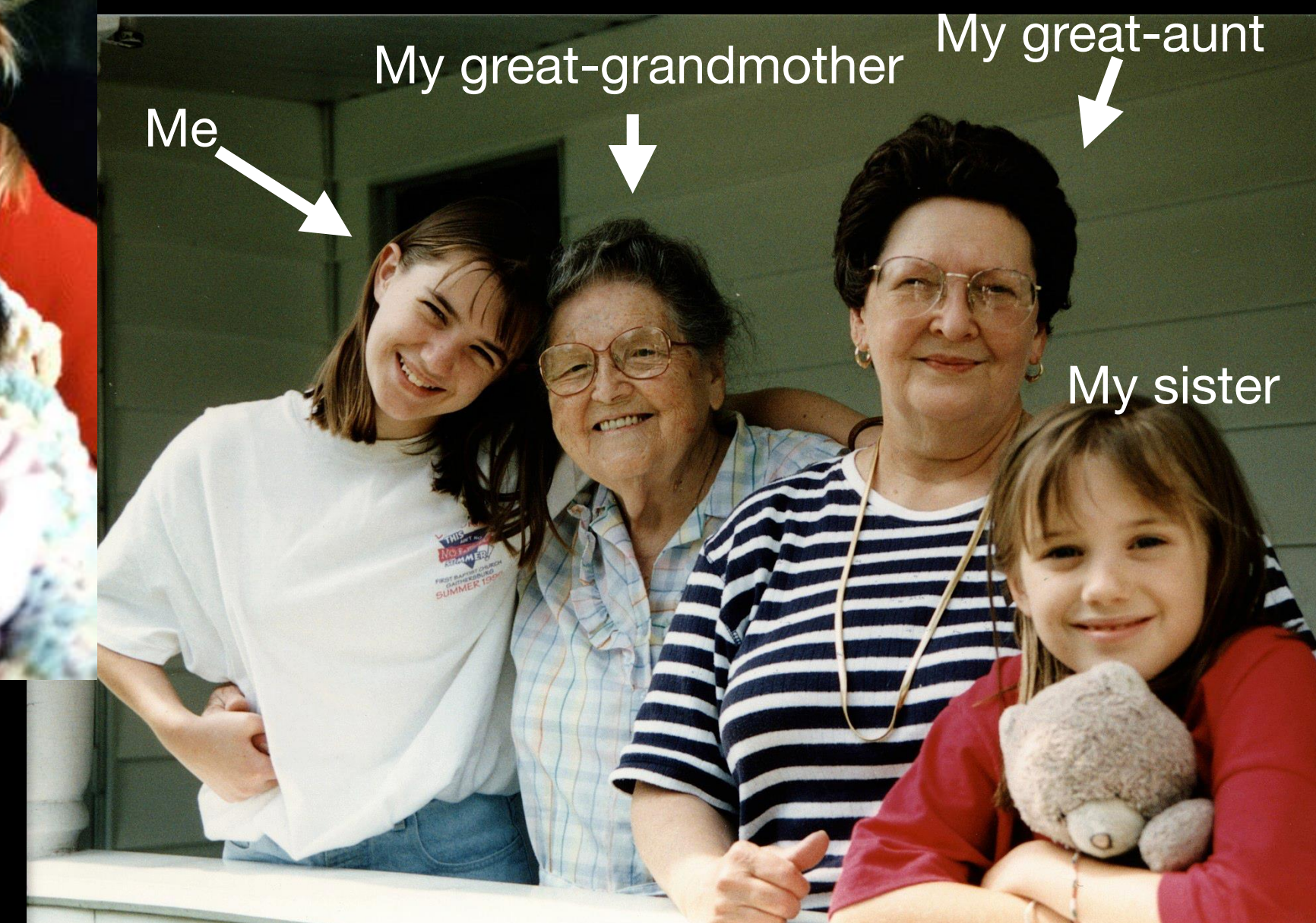


How did I get here?

- I grew up in Montgomery County, MD and went to public school.
- My dad manages real estate investments and my mom is an art teacher who quit her job to raise me and my sister.
- One grandfather was a civil servant, the other a nuclear engineer.
- I used to visit my great-grandmothers in Hazard, KY.
- I have 19 first cousins.



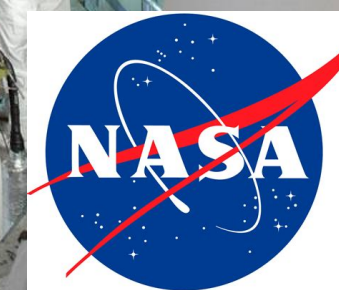
How did I get here?

- In grade school I went to specialized math and science programs starting in 7th grade. I had to apply to get in (like Masterman here in Philly).
- I had a long bus ride (about an hour each way) and in high school we had an extra class period at the end of the day.
- We learned to program computers, use the machine shop, and design experiments.
- A course on the “origins of science” when I was in 10th grade got me interested in physics.
- After I watched *Apollo 13*, I wanted to become an astronaut!
- In the summer between junior and senior year I worked at NASA Goddard Spaceflight Center, on what eventually became the Fermi Gamma-ray Space Telescope. One of my high school teachers set up the internship for me. My mom had to drive me there every day...about 3-4 hours in the car for her!
- I also played piano, sang, and did ballet and musical theater.



My high school

The first computer I learned to program
...and the second



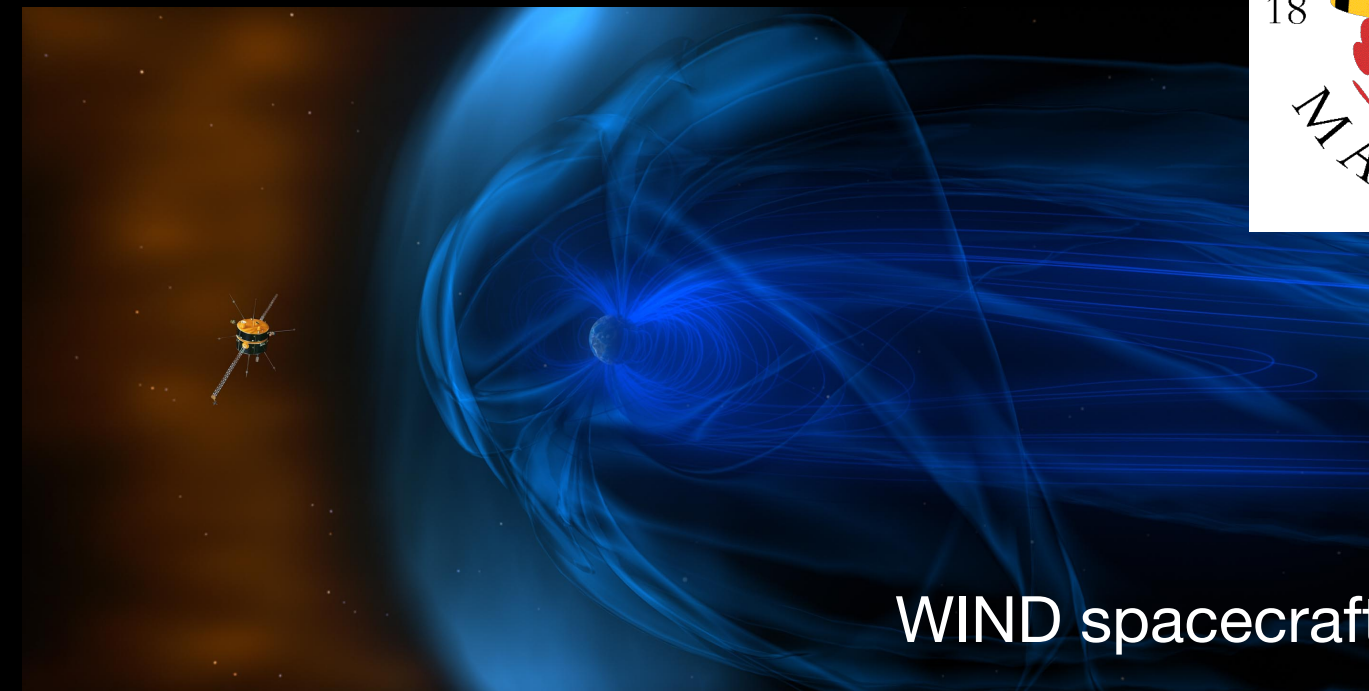
Fermi telescope (years later)

Awkward high school musical photo!!



How did I get here?

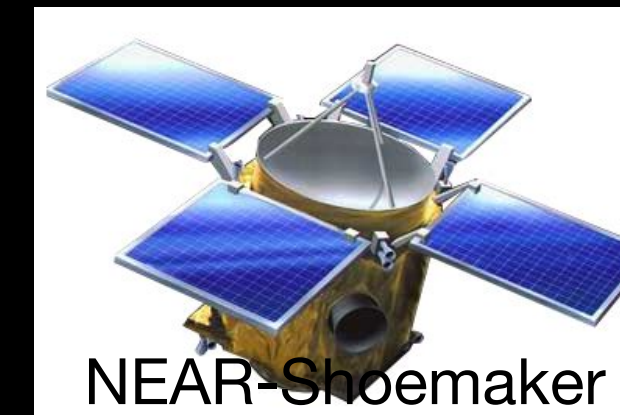
- I got a scholarship to go to University of Maryland, College Park.
- I got some credit for AP exams, most importantly Physics & Calculus.
- I double majored in physics and astronomy (most coursework overlaps).
- In the summers I worked on research projects—first with research scientists in solar physics, then at Goddard for an REU, then a senior thesis on planetary dynamics with an astronomy professor.
- I spent one semester of my junior year in France, during which I did no physics.
- My scholarship didn't cover my last semester in school, so I worked as a TA for intro astronomy and taught test prep for Kaplan to pay rent. My parents paid the ~\$3k tuition.
- I also minored in vocal performance, directed an a cappella group and sang in some college choirs.
- And I got certified as a NAUI scuba diver =)



WIND spacecraft



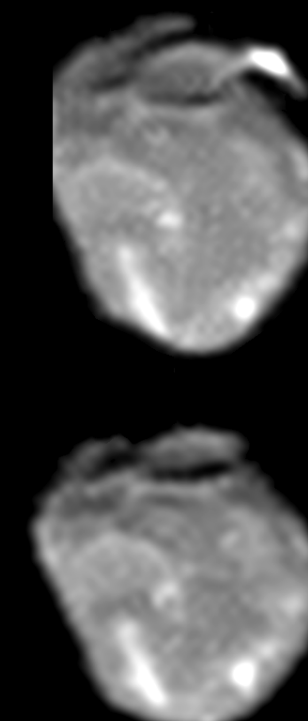
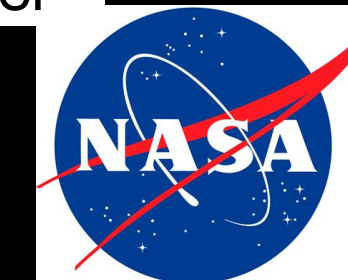
typical computer that I used in college



NEAR-Shoemaker



433 Eros



Amalthea

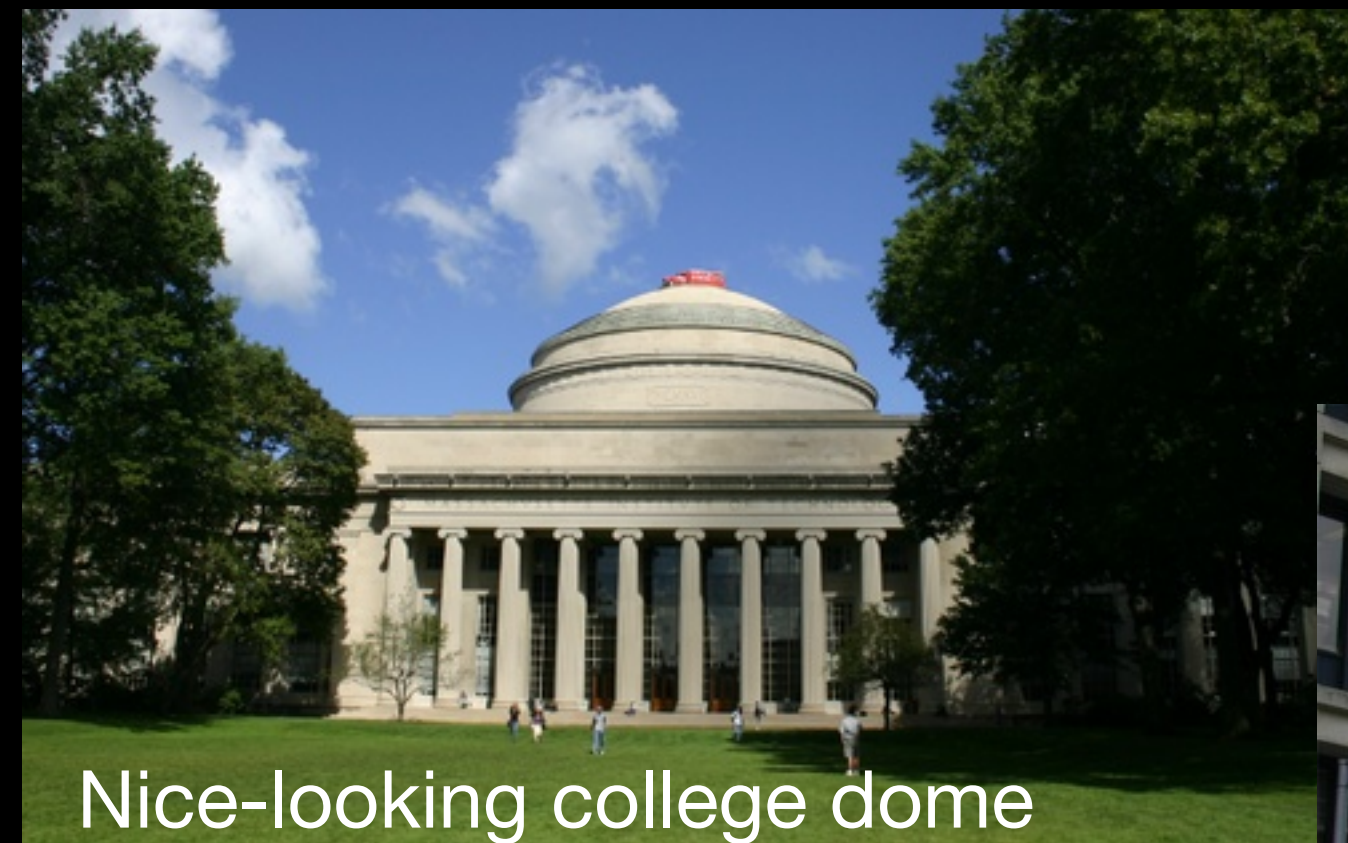


I graduated in Dec 2003



How did I get here?

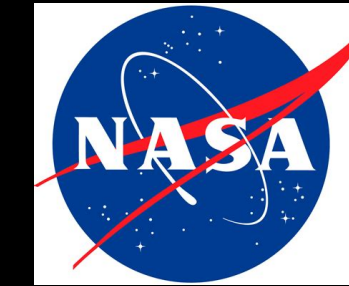
- I graduated from college mid-year, so I started grad school after 9 months out of school.
- During that time I lived at my parents' house some, house-sat for a friend's parents, worked in a summer opera chorus and at my church as an admin assistant.
- In August 2004 I moved to Cambridge, MA to start graduate school in Physics at MIT.
- I wouldn't have even applied to MIT (or several other schools) if one of my college professors hadn't told me he thought I could get in—I didn't think I could.
- My entering class had 40 students. 4 of us were women.
- We had to take three qualifying exams.
 - I failed the first one three times.
 - I failed the second one twice.
 - I passed the third one on the first try.
- I kept on singing in a local choir, which helped me handle the stress of grad school. A friend taught me to knit...that helped too.



Nice-looking college dome
(with fire truck hack)



Funders: George
Elbaum & Mimi Jensen



where I actually worked

(named for this guy)



the physics ice hockey team (D-league).
our team name is an obscure physics joke.

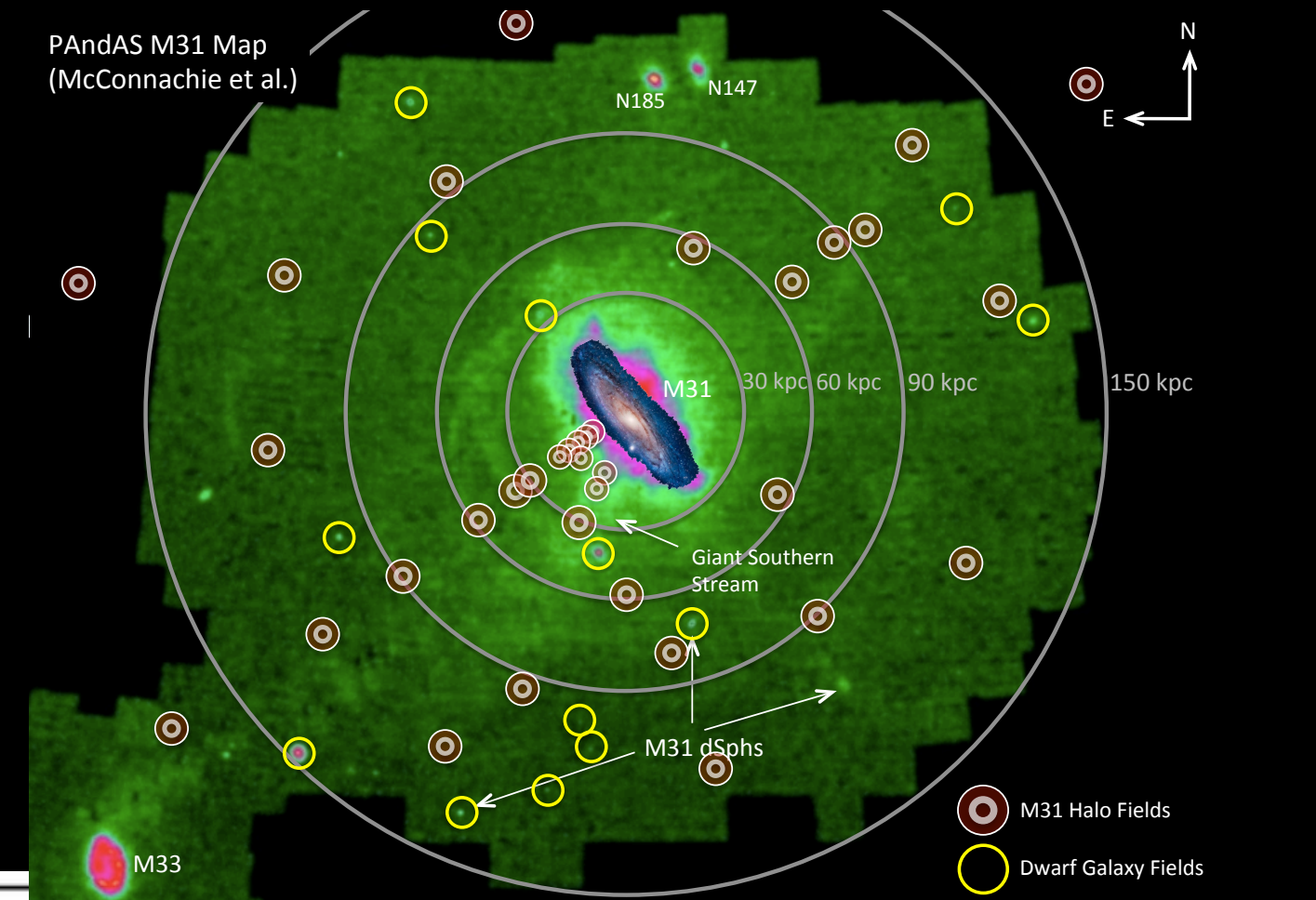


Ronald McNair
Ph.D. MIT 1976, second
African-American in space,
killed in Challenger explosion

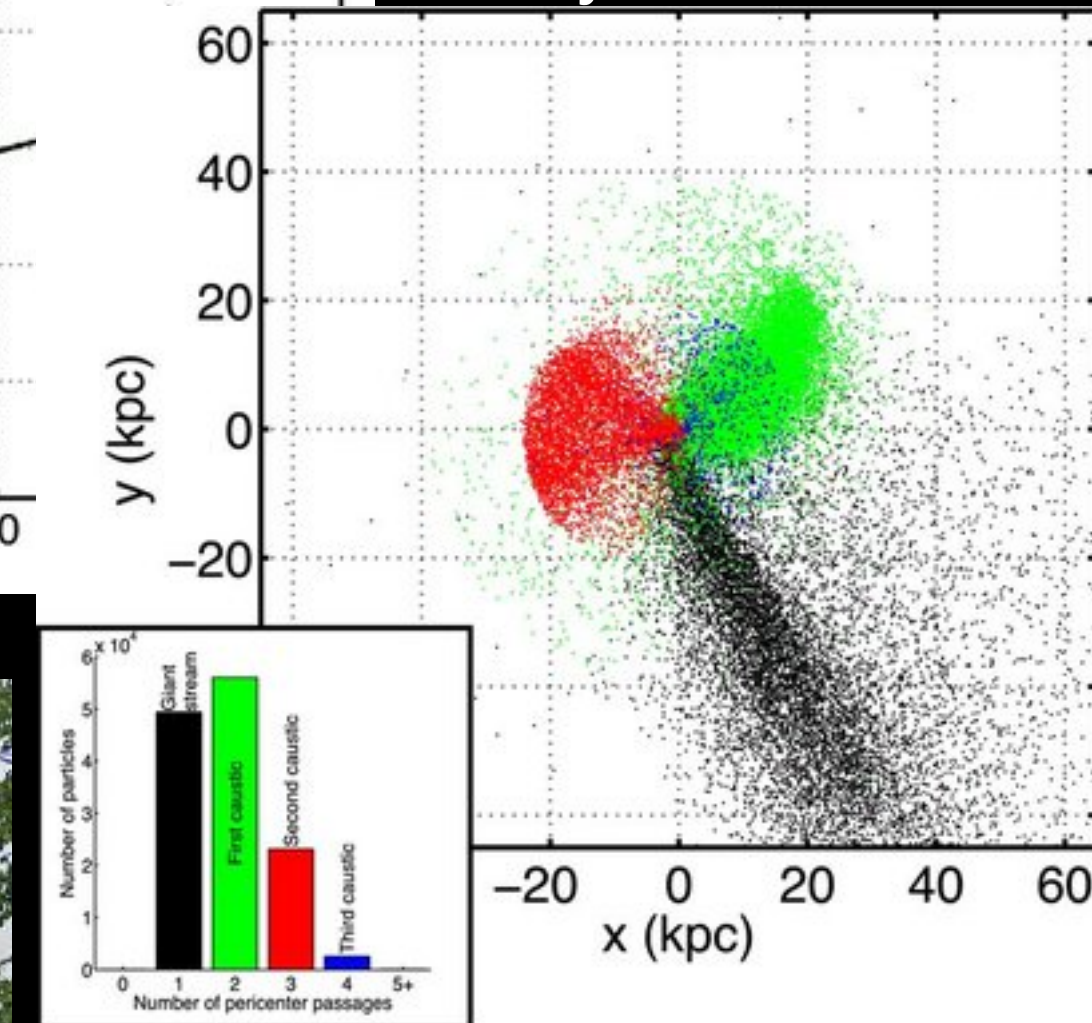
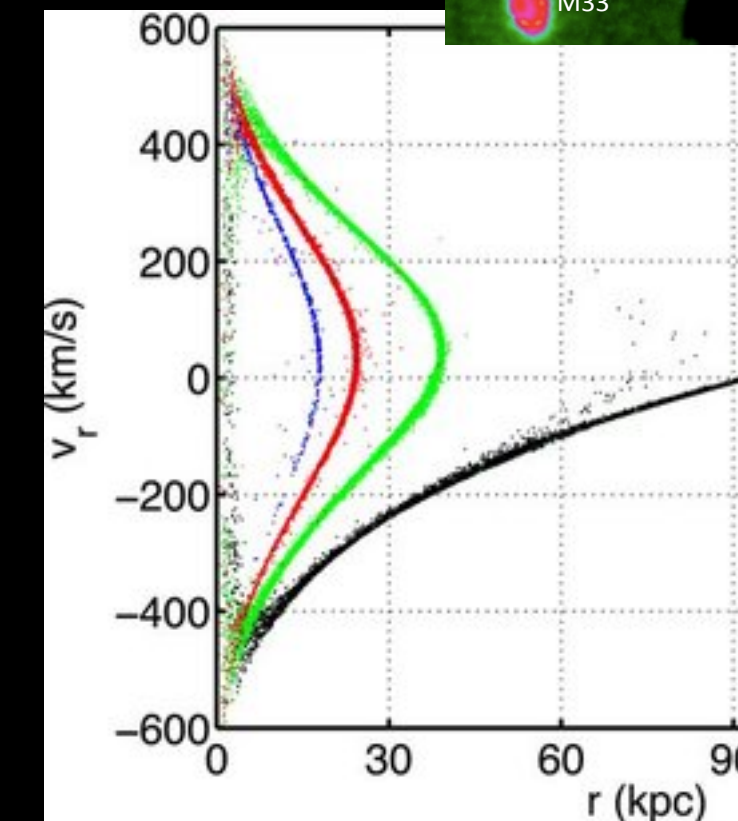
How did I get here?

- While in grad school I served on the physics graduate student council, and was president of Edgerton House (on-campus apartment building I lived in)
- I met my husband Andrew doing physics problem sets.
- We got married in Oct 2010, one month before Andrew's thesis defense...
- ...and I defended mine the month after that.
- I was in grad school for 6 1/2 years and finished in Jan 2011. When I graduated I didn't have a job lined up.
- The day after we turned in our revised dissertations, we got on a plane to move to Paris, where Andrew had a postdoc.
- Two weeks later I was offered my "dream job" — a postdoc with a professor in the Netherlands.

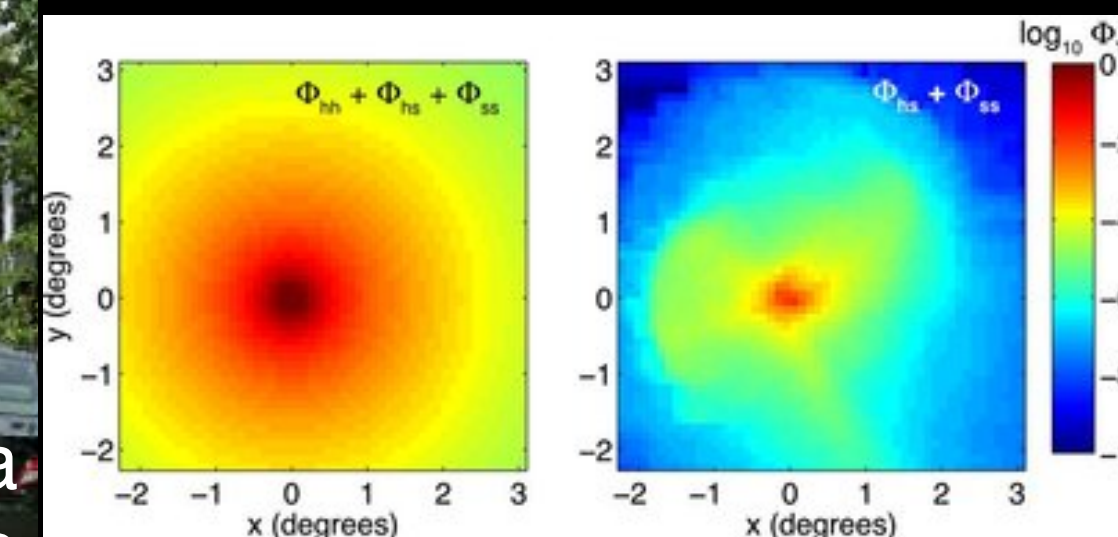
Grad apartments at MIT



Figures from my thesis

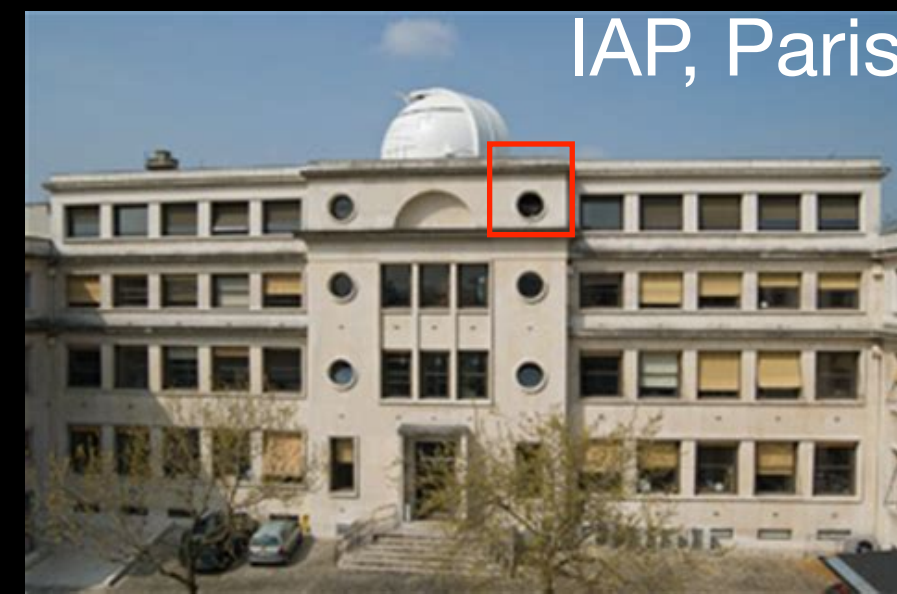


Our first apartment as a married couple



How did I get here?

- I worked as a visiting scientist at the Institut d'Astrophysique de Paris for 3 months. All that French came in very handy.
- Then I moved to the Netherlands to start a job at the Kapteyn Astronomical Institute. Andrew stayed in Paris. We saw each other every 2nd weekend.
- After 3 years Andrew found a temporary position in a lab at the university where I worked.
- In 2014 I was awarded an NSF Postdoctoral Fellowship. We moved to New York. I worked at Columbia University.
- As part of my fellowship I mentored students in Columbia's Bridge to Ph.D. Program.
- In 2015 Andrew was offered a job doing optical physics for Facebook. He moved to Los Angeles where they had a lab.
- I found a mentor at Caltech after being introduced to a potential collaborator at a conference by my mentor at Columbia. I alternated between NYC and LA every 2 weeks.
- In 2016 I moved to LA and transferred my fellowship full-time to Caltech.
- this whole time I was applying for faculty positions...



IAP, Paris



Our 350 square foot apartment

We were always on this train



Dutch rush hour



Bridge to Ph.D. participants



Andrew's new job



Pupin Hall, Columbia



Cahill Astronomy Building, Caltech

the "Manhattan Project" was started in the basement of this building

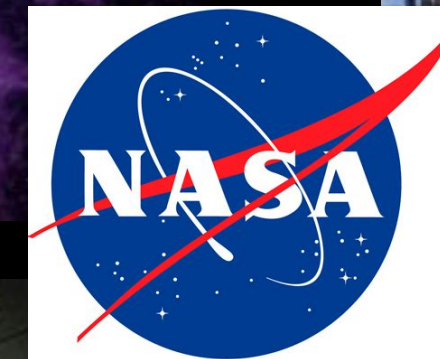
How did I get here?

- My fellowship funding ended in 2017. I didn't want to move for another postdoc.
- I thought about leaving academia. I talked with colleagues who had done it, and they were happy.
- My mentor at Caltech found funding to pay for me to keep working on my research.
- Many others did not want me to leave the field. They persuaded me to try applying for one more year.
- After applying for **37** different faculty positions over 5 years, and **9** in-person interviews, I got the job I have now.
- Andrew got a promotion at work that meant he could move to Facebook's NYC office.
- I have a second affiliation at a research institute in NYC. Before the pandemic we commuted together a few days a week.
- Now I have been a professor for 2 years.
- And it really is my dream job.

The physics building is always the ugliest one on campus!



The Roman Space Telescope
(now being built)



I take this train a lot now...or did till recently



The kind of computer I use now



Funders: Jim & Marilyn Simons

Themes

- **Perseverance**
- **Strong support system** - friends, family, mentors, colleagues
- You are not a brain on a stick
- You don't always know which skills are going to be important, so do things you love
- You're expected to go where the job is...but you learn to make a home in many places
- Taxpayers (through the government) have funded nearly all of my work
- Private donors also support a lot of science now
- Don't be afraid to reach for your dreams...
 - ...even if you think you're aiming too high...
 - ...because you don't know that unless you try!