

# LAUREN M. CHAMBERS

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## EDUCATION

2021 – Present **University of California, Berkeley**

Ph.D. in Information Management & Systems (School of Information)

*Advised by Prof. Deirdre Mulligan*

2013 – 2017 **Yale University**

B.S. in Astrophysics and African American Studies, *magna cum laude*, with distinction in both majors

Theses: *A Different Kind of Dark Energy: Placing Race and Gender in Physics*

*Understanding Gas-Phase Ammonia (NH<sub>3</sub>) Chemistry in Proto-Planetary Disks*

## PROFESSIONAL EXPERIENCE

**American Civil Liberties Union of Massachusetts**, Staff Technologist

2019 – 2021

- Supporting advocacy around civil rights through data analysis:
  - Consulting on and [writing](#) about how the latest technological research affects algorithmic governance
  - Developing [interactive web interfaces](#) for public data visualizations in R Shiny, HTML, CSS, & Javascript
  - Engaging the public in ACLU work and public interest technology through talks, [blogs](#), and [tweets](#)
- Updating and maintaining the Data for Justice server and website: [data.aclum.org](https://data.aclum.org)

**Space Telescope Science Institute**, Research and Instrument Analyst

2017 – 2019

- Supporting the James Webb Space Telescope mission in preparation for launch and commissioning in 2021:
  - Developing interactive software tools in Python using engineering best practices
  - Enhancing instrument [simulator software](#) to generate higher-fidelity commissioning images
- Deputy Technical Lead for [JWST Quicklook](#) (observatory performance trending and analysis application)

## RESEARCH EXPERIENCE (SELECTED)

2016 – 2017 **Harvard-Smithsonian Center for Astrophysics** and **Banneker Institute**, Cambridge, MA

*Advisors: Dr. Karin Öberg, Dr. Ilse Cleeves, and Dr. Hector Arce (Yale)*

Optimizing a numerical astrochemical model to investigate NH<sub>3</sub>/H<sub>2</sub>O ratios in proto-planetary disks

2016 – 2017 **Yale African American Studies Department**, New Haven, CT

*Advisor: Dr. Hazel Carby*

Analyzing physical and astronomical theory through the perspective of Black women in an effort to understand the effects of a racist-sexist society on scientific ways of knowing

2015 – 2016 **Yale Wright Laboratory**, New Haven, CT

*Mentor: Dr. Reina Maruyama*

Designing and constructing a cryogenic spectrometer for the DM-Ice South Pole dark matter study

## HONORS & AWARDS

2020 – Pres. **Harvard Berkman Klein Center for Internet & Society**, Affiliate

Aug. 2021 **Berkeley Fellowship**, “awarded to outstanding applicants to doctoral programs in all fields”

Aug. 2021 **I School Graduate Scholar Program**, for demonstrating “leadership in diversity, equity, and inclusion”

Nov. 2020 **Boston Bar Association President’s Award**, for advocacy supporting incarcerated folks amid COVID-19

May 2017 **Phi Beta Kappa**, Alpha chapter of Connecticut

May 2017	<b>George Beckwith Prize</b> , "to the undergraduate most proficient in some branch of astronomy."
May 2017	<b>William Pickens Prize</b> , "for an outstanding senior essay in the field of African American Studies."
2015 – 2017	<b>Edward A. Bouchet-Robertson Fellowship</b> , in support of minority students who will pursue PhDs
Jan. 2017	<b>Chambliss Outstanding Student Poster Presentation Award</b> , AAS Winter Conference 2017
Aug. 2015	<b>NASA Goddard John Mather Nobel Scholar</b>

## PUBLICATIONS & PRESENTATIONS

### Academic Journals

- "A Different Kind of Dark Energy: Evidence for Placing Race and Gender in Physics," **Lauren M. Chambers**, *Bulletin of the American Astronomical Society*, Vol. 51, Issue 7, id. 162 (2019), Bibcode: 2019BAAS...51g.162C
- "STEM Climate survey developed through student-faculty collaboration," Claudia De Grandi, ... **Lauren M. Chambers**, et al. (2019), *Teaching in Higher Education*, DOI: 10.1080/13562517.2019.1636219

### Selected Analytic Blogs and Websites

- "Police Violence Happens Here," September 2020, interactive [map](#)
- "Bias all the way down: Research shows domino effect when humans use face recognition algorithms," September 2020, [blog](#)
- "Unpacking the Boston Police budget," June 2020, [blog](#)
- "Tracking COVID-19 in Massachusetts Prisons and Jails," April 2020, interactive [dashboard](#)
- "Data show COVID-19 is hitting essential workers and people of color hardest," April 2020, [blog](#)
- "How to programmatically create dozens of Wordpress pages to catalogue thousands of documents," March 2021, [blog](#)

### Selected Presentations

- "Technology for Liberty: Advocating For (and With) Responsible Tech in Massachusetts," Davidson College Math & Computer Science Colloquium, invited talk, September 2020, [recording](#)
- "Unpacking the Boston Police Budget," Boston City Council Ways & Means FY21 Budget Hearing, oral testimony, June 2020, [recording](#)
- "A Different Kind of Dark Energy: Placing Race and Gender in Physics," .Astronomy X Conference, conference talk, September 2018, [recording](#)
- "Understanding Ammonia Chemistry in Protoplanetary Disks," 229<sup>th</sup> American Astronomical Society Winter Conference, poster, January 2017, [PDF](#)

## MENTORSHIP & COMMUNITY INVOLVEMENT (SELECTED)

2020 – Pres.	<b>Mentor</b> , Coding it Forward Civic Digital Fellowship
July 2021	<b>"Effective Data Visualization" Workshop Organizer</b> , Boston University Spark! Lab
Dec. 2020	<b>Mentoring Roundtable</b> , 2020 NeurIPS Women in Machine Learning Workshop
Sept. 2020	<b>"How To Adult" Mentoring Circle</b> , 2020 Virtual Grace Hopper Conference
Nov. 2019	<b>"Drag v. AI" Workshop Organizer</b> , Boston Public Library
Jan. 2019	<b>"Using Python for Astronomical Data Analysis" Workshop Facilitator</b> , 2019 Winter AAS Conference
2018 – 2019	<b>Director's Diversity and Inclusion Working Group Member</b> , STScl
2016 – 2017	<b>First-year Counselor</b> , Yale College Dean's Office
2015 – 2016	<b>Science, Technology, and Research Scholars (STARS) Peer Mentor</b> , Yale College Dean's Office
2015 – 2017	<b>Yale Physics Department Climate &amp; Diversity Committee</b> , Undergraduate Representative

## ADDITIONAL SKILLS

### Software Development & Data Analysis:

- Python (including pandas, matplotlib, Astropy, SciPy, PyQt, Django, scikit-learn, Jupyter notebooks; specific coursework in astrostatistics and data mining)
- R (including dplyr, ggplot, leaflet, shiny)
- git (GitHub & GitLab) and CI (Travis/Jenkins/GitLab)
- Unix/Bash
- Server management with Apache
- HTML, CSS, Javascript

**Language:** Intermediate Spanish, Intermediate French