Lauren M. Chambers

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EDUCATION

2013 – 2017 **Yale University,** New Haven, CT

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_3) Chemistry in Proto-Planetary Disks

PROFESSIONAL EXPERIENCE

American Civil Liberties Union of Massachusetts, Staff Technologist 2019 – Present

- Promotion from fellow to permanent staff technologist (first to hold role) for superior performance in first year
- 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

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_3/H_2O 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
Nov. 2020 **Boston Bar Association President's Award**, for advocacy supporting incarcerated folks amid COVID-19
Aug. 2018 **American Astronomical Society Education & Professional Development Grant** Awardee
May 2017 **Phi Beta Kappa,** Alpha chapter of Connecticut
May 2017 **George Beckwith Prize**, *"to the undergraduate most proficient in some branch of astronomy."*
May 2017 **William Pickens Prize**, *"for an outstanding senior essay in the field of African American Studies."*

2015 – 2017 **Edward A. Bouchet-Robertson Fellowship,** *"to increase the number of minority students and others with a demonstrated commitment to eradicating racial disparities, who will pursue PhDs"*
Jan. 2017 **Chambliss Outstanding Student Poster Presentation Award,** AAS Winter Conference 2017
Aug. 2015 **NASA Goddard John Mather Nobel Scholar**

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 (ongoing), 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 (ongoing), interactive dashboard

"Data show COVID-19 is hitting essential workers and people of color hardest," April 2020, blog

Selected Presentations

"Technology for Liberty: Advocating For (and With) Responsible Tech in Massachusetts," Davidson College Math & Computer Science Colloquium (recording), invited talk, September 2020

"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," 229th American Astronomical Society Winter Conference, poster, January 2017 (PDF)

MENTORSHIP & COMMUNITY INVOLVEMENT (SELECTED)

2020 – Pres. ***Police in Politics* Project Advisor**, Boston University Spark! Lab
2020 – Pres. **Coding it Forward Undergraduate Fellowship Mentor**
Dec. 2020 **Mentoring Roundtable**, 2020 NeurIPS Women in Machine Learning Workshop
Sept. 2020 **"How To Adult" Mentoring Circle**, 2020 Virtual Grace Hopper Conference
Nov. 2019 "**Drag v. AI" Workshop Organizer**, Boston Public Library
2018 – 2019 "**Know Your Power" Workshop Organizer**, 2019 Winter AAS Conference & STScI Summer REU
Jan. 2019 "**Using Python for Astronomical Data Analysis" Workshop Facilitator**, 2019 Winter AAS Conference
2018 – 2019 **Director's Diversity and Inclusion Working Group Member**, STScI
2016 – 2017 **First-year Counselor**, Yale College Dean's Office
2015 – 2016 **Science, Technology, and Research Scholars (STARS) Peer Mentor,** Yale College Dean's Office
2015 – 2017 **Yale Physics Department Climate & Diversity Committee**, 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:

- Spanish (intermediate speaking, reading, and writing; summer immersion program 2012)
- French (intermediate reading, basic speaking and writing; Paris study abroad summer 2014; intensive course 2015)