

Nicole E. Cabrera Salazar



Profile Astronomy Ph.D. passionate about science equity seeking full-time position that will enable me to increase STEM access for people of minoritized identities.

Education Ph.D. in Astronomy, Georgia State University – Atlanta, GA Dec 2016
M.S. in Physics, Georgia State University – Atlanta, GA Aug 2014
B.S. in Physics, Georgia Institute of Technology – Atlanta, GA Dec 2010

Research Experience *Properties, Activity, and Planet-Hosting Potential of Young Suns Near Earth*
Doctoral Thesis, Georgia State University & Université Joseph Fourier 2010 - 2016

Obtained simultaneous NIR and optical spectra of young stars in the nearby moving groups AB Doradus, Beta Pictoris, and Tucana Horologium to search for young planets. We used CSHELL at the NASA IRTF (Hawaii) and SOPHIE at the Observatoire de Haute Provence (France) to obtain our data. Our goal is to characterize the stellar activity of our stars and compare the NIR and optical spectra to distinguish planets from stellar spots and to assess the feasibility of multi-wavelength spectroscopic planet search surveys.

Stellar Parameters of Eclipsing Binary Star System ES Librae 2008 - 2010

Undergraduate Research Project, Georgia Institute of Technology

Solved three light curves, radial velocities, and previously published data on ES Lib, using the Wilson-Devinney program to obtain stellar parameters and the system topology. Determined orbital elements and absolute dimensions including the masses, radii, and temperatures, and investigated period changes based on previously published times of minima.

Optimizing Filter Parameters for VBI 2009

NSF REU Research Project, National Solar Observatory

Developed an IDL raw data reduction pipeline for spectroscopic images taken at the Dunn Solar telescope. Used the reduced data to simulate various filter widths and positions in order to optimize the filter parameters for the Visible-Light Broadband Imager being built for the Advanced Technology Solar Telescope. Data verified the significance of including an H-beta detector on the instrument, to be used simultaneously with the originally proposed H-alpha detector.

Photometric Follow-Up of Transiting Exoplanet HAT-P7b 2008

NSF REU Research Project, University of Hawai'i at Manoa

Developed an IDL raw data reduction and photometry pipeline for images taken at the Nickel telescope at Lick Observatory. Also conducted observations of various transiting exoplanets both remotely and on-location, using the UH 2.2 meter telescope.

**Other
Experience**

Georgia State University Department of Physics and Astronomy – Atlanta, GA
Graduate Teaching Assistant Aug 2010 - Dec 2013

- Prepared and taught astronomy labs for undergraduate students, answered questions, graded lab reports, facilitated student observing nights

Center for Education Integrating Science, Engineering, and Computing – Atlanta, GA
Summer Program Assistant May - Aug 2010

- Hired graduate instructors for and assisted in conducting summer science seminars for professional development of Atlanta Public School teachers
- Designed science lab for middle school students integrating art, geology, history, and current events in concurrence with the Salvador Dali Exhibit at the High Museum of Art

**STEM
Initiatives**

Astronomy Peer Advising Leaders (AstroPAL) – Atlanta, GA
Founder, President, and Liaison Sep 2013 - Dec 2016

- Developed, launched program that provides mentoring relationships to grad students
- Oversee operations, manage team of volunteers, provide professional mentor training
- Foster relationships within university to maximize community impact, drive vision forward
- Regularly evaluate program to improve performance, strategize new initiatives
- Set direction of the organization, establishing monthly, quarterly, and yearly goals

Latinx Grad Student Lunch – Atlanta, GA
Creator and Facilitator Aug 2015 - May 2016

- Organized bi-weekly lunch meet-up for Latinx Grad Students at Georgia State University, who are normally isolated and spread out over many different departments

Imposter Syndrome Workshop – Atlanta, GA
Creator and Facilitator Jan 2016

- Developed and led an interactive workshop on Imposter Syndrome for about 40 women, guiding them through educational and empathy-building activities

Creative Lessons in Astronomy and Space Science (CLASS) – Atlanta, GA
Creator and Facilitator Dec 2014 - May 2015

- Designed, organized, and implemented a science field trip on a limited budget for 50 students from Cristo Rey, a private school serving low income families of Metro Atlanta
- Recruited astronomers to conduct hands-on astronomy activities, ordered materials, partnered with teachers to plan logistics, and supervised graduate student volunteers

Summer Research Internship Workshop – Atlanta, GA
Co-Founder and Workshop Leader Feb 2014 - May 2015

- Helped undergraduate students apply for prestigious NSF research internships, guiding them through the process of writing essays and obtaining letters of recommendation

Scientific
Publications

AstroPAL: A Mentoring Program for Grad Students 2016
Cabrera, N.E.
American Astronomical Society Meeting #227, Poster 446.04

The SOPHIE Search for Northern Extrasolar Planets. VII. A Warm Neptune Orbiting HD 164595 2015

Courcol, B.; Bouchy, F.; Pepe, F.; Santerne, A.; Delfosse, X.; Arnold, L.; Astudillo-Defru, N.; Boisse, I.; Bonfils, X.; Borgniet, S.; Bourrier, V.; **Cabrera, N.**; Deleuil, M.; Demangeon, O.; Díaz, R. F.; Ehrenreich, D.; Forveille, T.; Hébrard, G.; Lagrange, A. M.; Montagnier, G.; Moutou, C.; Rey, J.; Santos, N. C.; Ségransan, D.; Udry, S.; Wilson, P. A. (*A&A*, 531, 38)

Young Nearby Suns and Stellar Jitter Dependence on Age 2015
Cabrera, N.E.; White, R.; Delfosse, X.; Quinn, S.; Latham, D.
American Astronomical Society Meeting #225, Poster 257.40

A Prograde, Low-Inclination Orbit for the Very Hot Jupiter WASP-3b 2010
Tripathi, A.; Winn, J.; Johnson, J.; Howard, A.; Halverson, S.; Marcy, G.; Holman, M.; de Kleer, K.; Carter, J.; Esquerdo, G.; Everett, M.; **Cabrera, N.E.** (*ApJ*, 715, 421)

A Smaller Radius for the Transiting Exoplanet WASP-10b 2009
Johnson, J.A., Winn, J.N.; **Cabrera, N.E.**; Carter, J.A. (*ApJ*, 692, 100)

Photometric Follow-Up of the Transiting Exoplanet HAT-P-7b 2009
Cabrera, N.E.; Johnson, J.A.; Williams, P.K.G.
American Astronomical Society Meeting #213, Poster 402.13

Online
Publications

The Surprising Lessons Depression Taught Me May 2016
AAS Women in Astronomy Blog

Taking a Mental Health Break from My Dissertation Dec 2015
AAS Women in Astronomy Blog

Unreported Sexual Harassment at AAS Meetings: An Example Jul 2015
AAS Women in Astronomy Blog

Most Days in the Life of an Astronomer Aren't Spent at Telescopes May 2015
The Conversation, Scientists at Work Column

Invited
Panels

American Astronomical Society Town Hall on Racism Jan 2017
229th Meeting of the American Astronomical Society, Grapevine, TX

#DistractinglySexy: How to Fight Science Sexism Online Mar 2016
South by Southwest Conference (SXSW), Austin, TX

Race in Physics Roundtable Discussion Jan 2016
Conference for Undergraduate Women in Physics, Atlanta, GA

Selected Talks	<i>The AstroPAL Starter Pack: How to Create A Grad Mentoring Program</i>	Jan 2017
	229th Meeting of the American Astronomical Society, Grapevine, TX	
	<i>The Future of STEM Depends on Diversity</i>	Apr 2015
	TEDx Georgia State University, Atlanta, GA	
	<i>Exoplanets and the Science of "Interstellar"</i>	Apr 2015
	Atlanta Science Tavern, Atlanta, GA	
	<i>Young Solar Systems in Our Own Backyard</i>	Feb 2014
	European Science Cafe, French Consulate Atlanta	
	<i>A Search for Planets Around Nearby Young Suns</i>	Dec 2013
	Center for Exoplanets and Habitable Worlds Seminar, Penn State University	
Public Interviews	<i>Sexism and Science Communication</i>	Mar 2016
	Stuff Mom Never Told You Podcast, Austin, TX	
	<i>#FailingInSTEM</i>	Oct 2015
	Vanguard: Conversations with Women of Color in STEM	
	<i>Sarah B. Interviews Nicole Cabrera</i>	Sep 2015
	Self-Care with Drs. Sarah Podcast	
Honors & Awards	<i>FAMOUS Award</i>	2017
	American Astronomical Society	
	<i>Chateaubriand Science Research Fellowship</i>	2012
	Embassy of France in the United States	
	<i>Graduate Research Fellowship</i>	2012
	National Science Foundation	
	<i>President's Undergraduate Research Award</i>	2009
	Georgia Institute of Technology	
Professional Activities	<i>AAS Committee on the Status of Minorities</i>	2016 - Present
	<i>Mentor & Affiliate, Harvard University Banneker & Aztlán Institutes</i>	2015 - Present
	<i>Social Media Director, GSU Department of Physics & Astronomy</i>	2013 - 2016
	<i>AAS Astronomy Ambassadors</i>	2015
	<i>AAS Congressional Visits Day</i>	2014
Academic Societies	SACNAS	2015 - Present
	American Astronomical Society	2008 - Present
Languages	Spanish (Native Speaker); French (Professional Proficiency)	