

# Bárbara Cruvinel Santiago

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<b>Education</b>	<b>Columbia University</b> – New York, NY, USA Physics Ph.D. Student; M.A. in Physics (awarded in May 2020) <b>Yale University</b> – New Haven, CT, USA B.S. in Physics (Intensive Track), GPA: 3.68/4.0	Aug 2018 – Present Aug 2013 – May 2017
<b>Research Experience</b>	<b>Graduate Research at Columbia (Schiminovich Group)</b> – New York, NY, USA Work in Prof. Schiminovich group on the development of the the next generation of UV detectors for the study of intergalactic and circumgalactic media emission. <b>Post-Bacc Research at MIT-LIGO (Mavalvala Group)</b> – Cambridge, MA, USA Work in Prof. Nergis Mavalvala's LIGO group on a optomechanical light squeezing experiment. Focus on noise characterization and on the development of a light intensity stabilization servo. <b>Undergraduate Research at Yale (DeMille Group)</b> – New Haven, CT, USA Work in Prof. David DeMille's group on the development and upgrade of hardware for his atomic, molecular and optical physics experiments. <b>Undergraduate Research at CERN (Demers Group)</b> – Meyrin, Switzerland Work in Prof. Sarah Demers' particle physics group at the ATLAS Experiment in the search for W,Z associated Higgs production.	Jan 2019 – Present Jul 2017 – Jun 2018 Jun 2015 – May 2017 Jun 2014 – Aug 2014
<b>Most Important Honors and Awards</b>	<b>Future Investigators in NASA Earth and Space Science and Technology Fellowship</b> – USA NASA's 3-year graduate student fellowship awarded to student-designed research projects that contribute to NASA's exploration goals; formerly known as NESSF. <b>Yale College Dean's Research Fellowship in the Sciences</b> – New Haven, USA Summer award to do research at Yale and start senior thesis. <b>Pierson College Richter Summer Fellowship</b> – New Haven, USA Summer award to do research at Yale and start senior thesis. <b>Michele Dufault Memorial Scholarship for Yale Women in STEM</b> – New Haven, USA Academic year scholarship awarded to selected women pursuing STEM majors at Yale. <b>Tetelman Fellowship for International Research in the Sciences</b> – New Haven, USA Summer award to do research at CERN. <b>Science, Technology and Research Scholars Program I (STARS I)</b> – New Haven, USA Selective mentoring program for minority students interested in STEM at Yale in their freshman year. <b>Fundação Estudar Scholarship</b> – São Paulo, Brazil Merit-based scholarship awarded to 27 out of 11,000 applicants based on academic excellence and students' potential to lead and leave a positive legacy in Brazil. <b>25th International Young Physicists' Tournament (IYPT), Bronze Medal</b> – Germany IYPT is considered the Physics World Cup for high school students. Teams of 5 students selected in national competitions in each country work on open-ended problems and debate about them. <b>24th International Young Physicists' Tournament (IYPT), 15th place</b> – Iran IYPT is considered the Physics World Cup for high school students. Teams of 5 students selected in national competitions in each country work on open-ended problems and debate about them. <b>+ 11 other national (Brazilian), state and regional science competition awards</b>	2019 2016 and 2015 2016 and 2015 2016 2014 2014 2013 2012 2011
<b>Skills</b>	<i>Programming:</i> <b>Matlab, Mathematica, Python and C/C++.</b> <i>Languages:</i> <b>Portuguese (native), English (fluent), German (intermediate) and Spanish (read).</b>	
<b>Policy and Lobbying</b>	<b>NAGPS Legislative Action Days (LAD), Columbia Delegation Member</b> I was a part of Columbia's delegation to NAGPS's LAD and met with HR and Senate staff about issues and bills that affect grad students (online because of COVID-19). <b>Lobbying against ICE removal of SEVP exemption, Initiative Organizer</b> After ICE removed the exemption permitting international students to maintain their status taking online courses, I led a group of physics students who met (virtually) with House Reps. and congressional staff.	Mar 2020 Jul 2020

<b>Leadership Positions</b>	<b>SU(5) Peer Mentoring, <i>Founding Member</i></b> 2020-Present SU(5) provides a network and a mentor to incoming astronomy and physics graduate students nationwide.
	<b>Columbia Physics Grad Council, <i>President &amp; Diversity Liaison</i></b> – New York, USA 2019 – Present Served as President (2020-2021) and as Climate and Diversity Liaison (2019-2020). Addressed students' quality of life and academic issues alongside the dept.'s chair and committees, and other student groups.
	<b>Columbia Spectra, <i>Graduate Coordinator</i></b> – New York, USA 2018 – 2020 Formerly the Columbia Society for Women in Physics. I coordinated events targeting current and prospective grad students, and advised female and underrepresented undergrads in physics.
	<b>Yale Physics Climate and Diversity Committee, <i>Undergrad Rep.</i></b> – New Haven, USA 2015 – 2017 Represented the interest of Yale physics undergrads with respect to the climate of the department.
	<b>Yale Women in Physics, <i>Co-President &amp; Co-Coordinator</i></b> – New Haven, USA 2014 – 2016 Served as President (2015-2016) and as Conference Co-Coordinator (2014-2015). Responsible for organizing a national conference, panels and social events for the Yale physics community.
	<b>Brazil Club at Yale, <i>President &amp; Vice-President</i></b> – New Haven, USA 2014 – 2016 Served as President (2015-2016) and Vice-President (2014-2015). Responsible for organizing social events, talks and meals for people interested in Brazil at Yale.
<b>Teaching, Mentoring and Outreach</b>	<b>Introductory Physics Recitations and Labs, <i>TA</i></b> – Columbia University, New York, USA 2018-2020 Responsible for teaching introductory physics recitations and labs to over 140 undergrads over 2 years.
	<b>National Selection Tournament of US IYPT, <i>Juror</i></b> – New Haven, USA Spring 2018 Judged selection of high school team to represent the US at the International Young Physicists' Tournament.
	<b>New Haven Science Fair, <i>Mentor</i></b> – New Haven, USA Spring 2017 Mentored a New Haven public school 9th grader on a thermodynamics project. They won 2nd place.
	<b>Yale College Dean's Office, <i>STARS Peer Mentor</i></b> – New Haven, USA 2016 – 2017 Worked as Peer Mentor for incoming minority students interested in pursuing STEM majors at Yale.
	<b>Yale Girls Science Investigations, <i>Volunteer</i></b> – New Haven, USA Fall 2016 Volunteered to help GSI, which brings elementary school girls to Yale to do fun experiments for a day.
	<b>Yale Office of International Students and Scholars, <i>Peer Liaison</i></b> – New Haven, USA 2015 – 2016 Worked as a Peer Liaison to help incoming international freshmen adjusting to the Yale environment.
	<b>Splash at Yale, <i>Teacher</i></b> – New Haven, USA Spring 2015 Co-taught the course <i>The Physics of Interstellar</i> for high school students.
<b>Extra Coursework and Summer Schools</b>	<b>Dunlap Institute Introduction to Astronomical Instrumentation</b> – Toronto, Canada Aug 2016 Selective week-long theoretical/experimental summer school at the Dunlap Institute for Astronomy and Astrophysics at the University of Toronto for college seniors and graduate students.
	<b>IV Advanced School of Nuclear Energy (EAEN)</b> – São Paulo, Brazil Jul 2011 Selective week-long summer school for high school students at the Institute for Nuclear Energy Research at the University of São Paulo.
<b>Conferences and Presentations</b>	<b>I Congresso Nacional de Inovação e Popularização da Ciência</b> – Federal University of Minas Gerais (UFMG), Online, Oct. 2020, <i>Panel Speaker</i> , Panel: <i>Science, Innovation and Market after COVID-19</i> .
	<b>235<sup>th</sup> American Astronomical Society Meeting</b> – Honolulu, HI, USA, Jan. 2020, <i>Poster Presentation</i> . B. Cruvinel Santiago, N. Melso, H. R. Ong, B. Smiley, M. Rosenthal, M. Murillo, S. Graber, and D. Schiminovich, <i>Circumgalactic H-alpha Spectrograph: Initial Results from the First Engineering Runs</i> .
	<b>MIT Physics Exploration Day</b> – Cambridge, MA, USA, Apr. 2018, <i>Poster Presentation</i> . B. Cruvinel Santiago, and I. Phinney, <i>Overview of Advanced LIGO and future methods of noise reduction</i> .
	<b>Scientista Symposium</b> – New York, NY, USA, Apr. 2017, <i>Poster Presentation</i> . B. Cruvinel Santiago, and D. DeMille, <i>Evaluating and Upgrading a Fast Compact Laser Shutter Prototype</i> .
	<b>Pierson College Mellon Forum at Yale</b> – New Haven, CT, USA, Feb. 2017, <i>Oral Presentation</i> . B. Cruvinel Santiago, <i>Development of Hardware for Atomic Physics Experiments</i> .
<b>Literary Publications</b>	<b>APS Conference for Undergraduate Women in Physics (CUWiP) at Yale</b> – New Haven, USA, CT, Jan. 2015, <i>Conference Co-Coordinator</i> .
	You can find a list of links to articles that I wrote about science, women in STEM, Brazil and politics at <a href="https://barbaracrusan.github.io/press.html">https://barbaracrusan.github.io/press.html</a> .