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## Dylan Cromer

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**Research Interests:** Cosmology, inferring fundamental physics from cosmological observations, physics and mathematics education/pedagogy.

### Education

- PhD in Astronomy. *Cornell University* Expected May 2022
- B.S. in Physics, B.A. in Mathematics. *UNC-Asheville* May 2017  
(Manly Wright Valedictory Scholar, summa cum laude, distinction as research scholar)

### Honors and Awards

- Cornell Graduate Fellowship 2017–2018 academic year
- UNC Asheville Manly E. Wright Valedictorian Scholarship Award May 2017
- UNC Asheville Chancellor’s List Spring 2014–May 2017
- UNC Asheville Mathematics Department Parsons Scholarship 2016–2017 academic year
- North Carolina Space Grant Research Scholarship Summer 2015
- UNC-Asheville Physics Department research stipend Summer 2014
- North Carolina Space Grant Student Scholarship 2014–2015 academic year
- UNC Asheville Dean’s List Fall 2013

### Published Articles

Dylan Cromer, Nicholas Battaglia, and Mathew Madhavacheril. *Improving Constraints on Fundamental Physics Parameters with the Clustering of Sunyaev-Zeldovich Selected Galaxy Clusters*, Phys. Rev. D, published 09/2019. DOI: 10.1103/PhysRevD.100.063529. ArXiv: 1903.00976.

Dylan Cromer. *Surface Enhancement in Ferroelectric Lithographic Silver Nanowires*, National Conferences on Undergraduate Research 2016 Proceedings, 1055–1063.

### Presentations

*(Repeated presentations have been omitted)*

Presented talk "Improving Constraints on Fundamental Physics Parameters with the Clustering of Sunyaev-Zeldovich Selected Galaxy Clusters", 2019 Meeting of the Division of Particles and Fields of the American Physical Society, Northeastern University, Boston MA, July 2019.

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Presented talk "Fast Radio Bursts - Mysterious Flashes From Other Galaxies, or Our Own?", Sparks Lecture Series seminar, UNC-Asheville, Asheville, NC, February 2017.

Presented talk "Computational Modeling of Surface Enhancement in Ferroelectric Lithographic Nanowires", National Conferences on Undergraduate Research, UNC-Asheville, Asheville, NC, April 2016.

Presented poster "Computational Modeling of Surface Enhancement", UNC-Asheville Undergraduate Research Symposium, Asheville, NC, December 2016.

Presented poster "Comparing Fast Radio Burst Observations to a Stellar Flare Model", North Carolina Section of the American Association of Physics Teachers and Society of Physics Students Joint Meeting, UNC-Asheville, Asheville, NC, November 2016.

Presented poster "Modeling Surface-Enhanced Raman Spectroscopy via Computational Electrodynamics", 2016 Quadrennial Physics Congress, San Francisco, CA, November 2016.

Presented poster "First Steps in Comparing Analytical Surface Enhancement Models With Experimental Results", State of North Carolina Undergraduate Research and Creativity Symposium, High Point University, High Point, NC, November 2015.

Presented poster "Modeling Surface Enhancement due to Silver Nanowires", UNC-Asheville Undergraduate Research Symposium, Asheville, NC, April 2015.

Presented poster "Modeling Fast Radio Bursts in Stellar Coronae", UNC-Asheville Undergraduate Research Symposium, Asheville, NC, April 2015.

Presented poster "Spatially Variable Surface Enhancement of Ferroelectric Lithographic Nanowires", UNC-Asheville Undergraduate Research Symposium, Asheville, NC, December 2014.

Presented poster "Modeling Fast Radio Bursts in Stellar Coronae", State of North Carolina Undergraduate Research and Creativity Symposium, North Carolina State University, Raleigh, NC, November 2014.

### **Scientific Outreach**

Volunteer, Alien Worlds workshop, Cornell University Expanding Your Horizons program April 2019

Volunteer, "Museum In the Dark", Museum of the Earth, Ithaca NY October 2018

Volunteer, Alien Worlds workshop, Cornell University Expanding Your Horizons program April 2018

Volunteer, "Museum In the Dark", Museum of the Earth, Ithaca NY October 2017

STEM Outreach Intern at UNC-Asheville Department of Physics August 2016 – May 2017

Lookout Observatory Docent at UNC-Asheville August 2014 – May 2017

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Ran UNC-Asheville Society of Physics Students scientific outreach workshop	February 2017
Event leader, Junior Bulldog Program, UNC-Asheville	fall 2016
"Event Captain" volunteer, North Carolina Science Olympiad	February 2016
"Event Captain" volunteer, North Carolina Science Olympiad	February 2015
Volunteer, North Carolina Science Olympiad	February 2014
Volunteer, at Super Saturday program, UNC-Asheville	2013–2014

### Media

*Starry nights: Lookout Observatory welcomes students and residents*, The Blue Banner.  
[thebluebanner.net/starrynights-lookout-observatory-welcomes-students-and-residents](http://thebluebanner.net/starrynights-lookout-observatory-welcomes-students-and-residents)

### Academic Organizations

Society of Physics Students. Outreach coordinator for UNC-Asheville Chapter.

Sigma Pi Sigma, inducted member (physics honors society).

UNC-Asheville Honors Program.

### Teaching

Math Tutor at UNC-Asheville Math Assistance Center	September 2016 – May 2017
Tutored intro undergraduate mathematics and physics.	

Physics Peer Tutor at UNC-Asheville Peer Tutoring Program	July 2014 – May 2017
Tutored intro and upper-level physics.	