

SUSAN E. CLARK

Curriculum Vitae

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EDUCATION

Columbia University

Ph.D. Candidate, Astrophysics 2017 (expected)

Thesis Project: *Magnetic Fields in the Interstellar Medium*

Thesis Advisors: Mary E. Putman, Joshua E.G. Peek

M.A., M.Phil, Astrophysics 2014

The University of North Carolina at Chapel Hill

B.S., Physics 2012

Thomas Jefferson High School for Science & Technology 2008

HONORS, AWARDS AND GRANTS

Hubble Fellowship 2017 - 2020

Institute for Advanced Study School of Natural Sciences Fellowship 2020 - 2022

Einstein Fellowship declined

NSF Graduate Research Fellowship 2012 – present

Columbia Dean's Fellowship 2012 – present

ASNY Graduate Student Paper Prize 2016

CCAPP Prize Prize in Cosmology and AstroParticle Physics 2016

PI, VLA Observing Proposal 16A-133, 8 hours 2016

PRL Editors' Recommendation Paper 2015

Morehead-Cain Scholarship 2008 – 2012

[Full scholarship](#) to UNC-Chapel Hill

PUBLICATIONS

First-author journal articles

4. **S.E. Clark** & J.S. Oishi. *The weakly nonlinear magnetorotational instability in a global, cylindrical Taylor-Couette flow*. 2017, accepted to ApJ. [arXiv:1610.01603](#)
3. **S.E. Clark** & J.S. Oishi. *The weakly nonlinear magnetorotational instability in a local geometry*. 2017, accepted to ApJ. [arXiv:1610.01616](#)
2. **S.E. Clark**, J. Colin Hill, J.E.G. Peek, M.E. Putman, B.L. Babler. *Neutral hydrogen structures trace dust polarization angle: Implications for cosmic microwave background foregrounds*. 2015, PRL 115, 241302. Selected as PRL Editors' Recommendation. [arXiv:1508.07705](#).
1. **S.E. Clark**, J.E.G. Peek, M.E. Putman. *Magnetically aligned HI fibers and the Rolling Hough Transform*. 2014, ApJ 789, 82. [arXiv:1312.1338](#)

Other journal articles

4. F. Heitsch, B. Bartell, **S.E. Clark**, J.E.G. Peek, D. Cheng, M.E. Putman. *Three-dimensional orientation of compact high velocity clouds*. 2016, MNRAS Letters 462, L46. [arXiv:1606.06689](#).
3. J. Malinen, L. Montier, J. Montillaud, M. Juvela, I. Ristorcelli, **S.E. Clark**, O. Berné, J.-Ph. Bernard, V.-M. Pelkonen, D.C. Collins. *Matching dust emission structures and magnetic field in high-latitude cloud L1642: comparing Herschel and Planck maps*. 2016, MNRAS 460, 1934. [arXiv:1512.03775](#).
2. N.M. McClure-Griffiths, S. Stanimirović, [5 authors], **S.E. Clark**, [3 authors]. *Galactic and Magellanic evolution with the SKA*. 2015, from “Advancing Astrophysics with the Square Kilometre Array”, PoS. [arXiv:1501.01130](#)
1. W.-H. Hsu, M.E. Putman, F. Heitsch, S. Stanimirović, J.E.G. Peek, **S.E. Clark**. *Physical properties of Complex C halo clouds*. 2011, AJ 141, 57 [arXiv:1011.0011](#)

Conference proceedings

1. **S.E. Clark**, J.E.G. Peek, J. Colin Hill, M.E. Putman. *Quantifying the magnetic alignment of HI and dust in the diffuse ISM*. 2016, In P. Jablonka, Ph. André, F. van der Tak (Eds.) *From Interstellar Clouds to Star-forming Galaxies: Universal Processes?* Proceedings of the International Astronomical Union Symposia and Colloquia, IAU 315, Honolulu, Hawaii

SCIENTIFIC TALKS

36 presentations, 19 invited talks/colloquia

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| 36. Invited Talk, Midwest Magnetic Fields Workshop, Madison, Wisconsin | May 2017 |
| 35. Invited Talk, Rutgers Astrophysics Seminar, New Brunswick, New Jersey | Mar. 2017 |
| 34. Invited Talk, Bates College Colloquium, Lewiston, Maine | Feb. 2017 |
| 33. Invited Talk, AAS Special Session: New, Fundamental, Cutting-Edge Science from Arecibo Observatory, Grapevine, Texas | Jan. 2017 |
| 32. Talk, AAS dissertation talk, Dust and Magnetic Fields, Grapevine, Texas | Jan. 2017 |
| 31. Invited Talk, Cosmic Rays, Astrophysical Turbulence and Magnetic Reconnection, Natal, Brazil | Dec. 2016 |
| 30. Invited Talk, NRAO/UVA Seminar, Charlottesville, Virginia | Nov. 2016 |
| 29. Invited Talk, ASNY Prize Talk, Siena College, Albany, New York | Nov. 2016 |
| 28. Invited Talk, Star Formation/ISM Rendezvous Seminar, Princeton, New Jersey | Nov. 2016 |
| 27. Invited Talk, Simons Observatory Meeting, Princeton, New Jersey | Nov. 2016 |
| 26. Invited Talk, OSU CCAPP Price Prize Seminar, Columbus, Ohio | Sept. 2016 |
| 25. Invited Talk, Harvard-Smithsonian CfA Galaxies & Cosmology Seminar, Cambridge, Massachusetts | Sept. 2016 |
| 24. Invited Talk, CITA Seminar, Toronto, Canada | Aug. 2016 |
| 23. Talk, Star Formation, Magnetic Fields, and Diffuse Matter in the Galaxy, Madison, Wisconsin | May 2016 |
| 22. Invited Talk, JILA Seminar, Colorado University Boulder, Boulder, Colorado | Feb. 2016 |
| 21. Invited Talk, AMNH Colloquium, New York, New York | Jan. 2016 |
| 20. Invited Talk, Brown Astrophysics Seminar, Providence, Rhode Island | Nov. 2015 |
| 19. Invited Talk, IRAP ISM Seminar, Toulouse, France | Oct. 2015 |
| 18. Talk, Magnetic Fields in the Universe V, Corsica, France | Oct. 2015 |
| 17. Invited Talk, IAS, ENS, and CEA/Saclay Joint ISM Seminar, IAS, Orsay, France | Oct. 2015 |
| 16. Talk, Experimental CMB Journal Club, Columbia University, New York, NY | Sept. 2015 |
| 15. Talk, IAU Focus Meeting 5, The Legacy of Planck, Honolulu, Hawaii | Aug. 2015 |

14. Poster, IAU Symposium, From Interstellar Clouds to Star-Forming Galaxies: Universal Processes?, Honolulu, Hawaii	Aug. 2015
13. Talk, Pontifica Universidad Católica, Santiago, Chile	May 2015
12. Talk, Midwest Magnetic Fields Workshop, Madison, Wisconsin	May 2015
11. Invited Talk, PPPL Theory Seminar, Princeton, New Jersey	Dec. 2014
10. Poster, NSF Directorate for Mathematical & Physical Sciences, New York, New York	Oct. 2014
9. Poster, Filamentary Structure in Molecular Clouds, NRAO, Charlottesville, Virginia	Oct. 2014
8. Invited Talk, Non-Ideal MHD, Stability, and Dissipation in PPDs, Copenhagen, Denmark	Aug. 2014
7. Poster, Galactic Science with the SKA and its Pathfinders, Leiden, Netherlands	May 2014
6. Talk, Midwest Magnetic Fields Workshop, Madison, Wisconsin	April 2014
5. Talk, Phases of the ISM Conference, Heidelberg, Germany	July 2013
4. Talk, Senior Research Symposium, Chapel Hill, North Carolina	April 2012
3. Poster, AAS Winter Meeting, Austin, Texas	Jan. 2012
2. Talk, GALFA-HI Collaboration Meeting, Madison, Wisconsin	Aug. 2011
1. Talk, REU Symposium, Arecibo Observatory, Puerto Rico	Aug. 2011

TEACHING EXPERIENCE

Head Teaching Assistant, Columbia Department of Astronomy	2015 – 2016
Guest Lecturer, Hunter College, Unsolved Problems in Astrophysics	2016
Grader, Columbia University, Life in the Universe	2014
Instructor, Columbia University, Observational Astronomy Lab	2014
Instructor, Columbia University, Earth, Moon, & Planets Lab	2013
Grader, Columbia University, Life in the Universe	2013
Teaching Assistant, Columbia University, Galaxies & Cosmology	2013
Teaching Assistant, Columbia University, Stars & Atoms	2012
Instructor, UNC-Chapel Hill, Physics Help Center	2011 – 2012
Teaching Assistant, UNC-Chapel Hill, Calculus-Based Newtonian Mechanics	2011

STUDENTS ADVISED

Larry Li, Columbia University, undergraduate research	2016 – present
Garrison Grogan, Columbia University, undergraduate research	2016 – present
Lowell Schudel, Columbia University, undergraduate research	2014 – 2015

SELECTED OUTREACH AND SERVICE

Scientific Organizing Committee, The Interstellar Medium Beyond 3D , Paris	2017
Referee, <i>Astronomy & Astrophysics</i>	2016 – present
Volunteer, Reading Team Math Program , Harlem, New York	2016 – present
Organizer, Weekly Astro-ph Discussion	2016 – present
Instructor for Rooftop Variables , Curtis High School, Staten Island, New York	2012 – 2017
Outreach Volunteer, bi-weekly community stargazing, Columbia University	2012 – 2017
Public Lecture, <i>Our Magnetic Universe</i> , Columbia Astronomy Outreach Lecture Series	2015
Founder, President, UNC-Chapel Hill Women in Physics	2010 – 2012
Member, Social Chair, UNC-Chapel Hill Society of Physics Students	2010 – 2012
Chapter Director, Mentor, UNC-Chapel Hill Strive For College	2009 – 2012

OTHER PUBLICATIONS

Closing My Eyes, **S. E. Clark**, personal essay, The Washington Post Magazine, May 2009