Susan E. Clark

Curriculum Vitae

School of Natural Sciences
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APPOINTMENTS

Hubble Fellow	2017 – present
Member, Institute for Advanced Study	2017 – present

EDUCATION

Columbia University

Ph.D., Astrophysics — 2017
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 – 2017
Columbia Dean's Fellowship	2012 – 2017
ASNY Graduate Student Paper Prize	2016
CCAPP Price 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

5. **S.E. Clark**. *A new probe of line-of-sight magnetic field tangling.* 2018, accepted to ApJL.
4. **S.E. Clark** & J.S. Oishi. *The weakly nonlinear magnetorotational instability in a global, cylindrical Taylor-Couette flow.* 2017, ApJ 841, 2. arXiv:1610.01603
3. **S.E. Clark** & J.S. Oishi. *The weakly nonlinear magnetorotational instability in a local geometry.* 2017, ApJ 841, 1. 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

5. J.E.G. Peek, B.L. Babler, Y. Zheng, **S.E. Clark**, K.A. Douglas, E.J. Korpela, M.E. Putman, S. Stanimirović, S.J. Gibson, C. Heiles. *The GALFA-HI Survey Data Release 2.* 2018, ApJS 234, 1.

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

2. **S.E. Clark**. *Galactic neutral hydrogen and the magnetic ISM foreground.* 2017, in Jelić & van der Hulst (Eds.) *Peering towards Cosmic Dawn*, Proceedings of the International Astronomical Union, Symposium No. 333, Dubrovnic, Croatia

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

46 presentations, 28 invited talks/colloquia

46.	Colloquium, University of Rochester	April 2018
45.	Invited Talk, UC Berkeley TAC Seminar, Berkeley, California	Dec. 2017
44.	Invited Talk, CMB Foregrounds Workshop, San Diego, California	Nov. 2017
43.	Colloquium, University of Wisconsin - Madison	Nov. 2017
42.	Invited Talk, GMIMS Collaboration Workshop, DRAO, Canada	Oct. 2017
41.	Invited Talk, CIERA/Northwestern Seminar, Evanston, Illinois	Oct. 2017
40.	Invited Talk, Magnetic Fields in the Universe VI, Natal, Brazil	Oct. 2017
39.	Invited Talk, IAU Symposium 333: Peering Toward Cosmic Dawn, Dubrovnik, Croatia	Oct. 2017
38.	Talk, IAS Seminar, Princeton, New Jersey	Sept. 2017
37.	Invited Talk, The Interstellar Medium Beyond Three Dimensions, Orsay, France	July 2017
36.	Invited Talk, Midwest Magnetic Fields Workshop, Madison, Wisconsin	May 2017
35.	Invited Talk, Rutgers Astrophysics Seminar, New Brunswick, New Jersey	Mar. 2017
34.	Colloquium, Bates College, 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, Massachussetts — 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. Colloquium, American Museum of Natural History, 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

Jessica Campbell, University of Toronto, PhD coadviser with Bryan Gaensler 2017 – present
Larry Li, Columbia University, undergraduate research 2016 – present
Garrison Grogan, Columbia University, undergraduate research 2016 – 2017
Lowell Schudel, Columbia University, undergraduate research 2014 – 2015

SELECTED OUTREACH AND SERVICE

Scientific Organizing Committee, The Interstellar Medium Beyond 3D, Paris 2017
Referee, *Astronomy & Astrophysics* 2016 – present
Volunteer, Reading Team Math Program, Harlem, New York 2016 – 2017
Organizer, Weekly Astro-ph Discussion 2016 – 2017
Instructor, Rooftop Variables, Curtis High School, Staten Island, New York 2012 – 2017
Outreach Volunteer, bi-weekly community stargazing, Columbia University 2012 – 2017
Public Lecture, *Our Magnetic Universe*, 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