

# SUSAN E. CLARK

## *Curriculum Vitae*

School of Natural Sciences  
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### APPOINTMENTS

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

### EDUCATION

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#### **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

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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 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

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First-author journal articles

5. **S.E. Clark**. *A new probe of line-of-sight magnetic field tangling*. 2018, ApJL 857, L10.
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](https://arxiv.org/abs/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](https://arxiv.org/abs/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

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48 presentations, 30 invited talks/colloquia

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| 48. Invited Talk & Panel, PICO Science Meeting, University of Minnesota             | May 2018   |
| 47. Colloquium, University of Rochester   | April 2018 |
| 46. Invited Talk, Princeton University Wednesday Lunch Talk, Princeton, New Jersey  | Feb. 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, 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. 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

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Guest Lecturer, Columbia University, upper-level undergraduate Galaxies course	2017
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

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Jessica Campbell, University of Toronto, PhD coadvisor 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

## PROFESSIONAL SERVICE

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Organizer, <a href="#">The Milky Way in the Age of Gaia</a> , Paris, 2018
Organizer, <a href="#">The Interstellar Medium Beyond 3D</a> , Paris, 2017
Organizer, Columbia University Weekly Astro-ph Discussion, 2016 – 2017
Referee, <i>The Astrophysical Journal</i> , <i>The Astrophysical Journal Letters</i> , <i>Astronomy &amp; Astrophysics</i>

## SELECTED OUTREACH AND SERVICE

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Instructor, <a href="#">Prison Teaching Initiative</a>	2018 – present
Volunteer, <a href="#">Reading Team Math Program</a> , Harlem, New York	2016 – 2017
Instructor, <a href="#">Rooftop Variables</a> , 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 <a href="#">Strive For College</a>	2009 – 2012

## OTHER PUBLICATIONS

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