

Benjamin A. Cook

Curriculum Vitae

CONTACT INFORMATION

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EDUCATION

Harvard University , Cambridge, MA	2014 – Present
Ph.D. (<i>In progress</i>), Astronomy and Astrophysics	
M.A. (2016), Astronomy and Astrophysics	
Secondary Field, Computational Science and Engineering	
Princeton University , Princeton, NH	2010 – 2014
A.B. (2014), Astrophysical Sciences – Magna cum laude	
Thesis: <i>Keep Calm and Baryon: The Distribution of Baryons and Dark Matter in the Universe</i>	
Advisor: Prof. Neta Bahcall	

AWARDS AND HONORS

Certificate of Teaching Excellence, Derek Bok Center for Teaching and Learning (2016)
Awarded for Fall 2015 teaching of Harvard Astro 200
NSF Graduate Research Fellowship (2014 – Present)
Elected to Sigma Xi Science Honor Society (2014)
AAS Chambliss Medal (2014)
Awarded for Jan. 2014 poster presentation at AAS 223.

TEACHING EXPERIENCE

Teaching Fellow, Harvard Astro 200 (Fall 2015)
Teaching Fellow, Harvard Astro 16 (Spring 2014)
Instructor, *The Marvelous Universe*, Princeton Wintersession Course (Jan. 2014)
Teaching Assistant, Princeton AST 204 (Spring 2013)
Teaching Assistant, Princeton AST 205 (Fall 2012)

PROFESSIONAL AND OUTREACH ACTIVITIES

Mentor, Banneker Institute Summer Program (Summer 2016)
Coordinator, Harvard Astronomy prospective student visits (2016)
Local Organizing Committee, [ComSciCon](#) National Workshop (2014 – Present)
Co-Chair (2015 – Present)
Author/Peer-Editor, [Astrobites](#) astronomy blog (2014 – Present)
Volunteer math tutor, Princeton Prison Teaching Initiative (Spring 2014)
Attendee, AAS Astronomy Ambassador Training Workshop (Jan. 2014)
Volunteer, Peyton Observatory Public Observing Nights (2012 – 2014)
Junior Member, American Astronomical Society (2012 – Present)
Departmental Representative, Princeton Major Choices Advising (2012 – 2014)
Chapter President, Society of Physics Students (2012 – 2014)

PRESENTATIONS

Contributed Talks

228th Meeting of the AAS, #202.01 – June 2016, San Diego, CA

The Information Content of Stellar Halos: Accretion Histories and Stellar Population Gradients in Quiescent Illustris Galaxies

International Astronomy Union Symposium 317, #2246021 – August 2015, Honolulu, HI

Stellar Populations of Stellar Halos: Results from the Illustris Simulation

Outreach Talks

CfA Summer Colloquium Series – Summer 2016, Cambridge, MA

TBD

New Hampshire Astronomical Society Meeting – Summer 2016, Manchester, NH

TBD

Posters

3rd Annual GMT Community Science Meeting – October 2015, Pacific Grove, CA

Stellar Populations of Stellar Halos: Results from the Illustris Simulation

International Astronomy Union Symposium 317, #S317p.12 – August 2015, Honolulu, HI

Stellar Populations of Stellar Halos: Results from the Illustris Simulation

223rd Meeting of the AAS, #441.10 – January 2014, Washington, DC

Magnetic Dynamos and X-ray Activity in Ultracool Dwarfs: Constraining the Role of Rotation – **Chambliss Medal Winner**

The 4th Tri-State Astronomy Conference at CUNY – September 2013, New York

Magnetic Dynamos and X-ray Activity in Ultracool Dwarfs: Constraining the Role of Rotation

PUBLICATIONS

1. **Cook, B.A.**, Conroy, C., Pillepich, A., Hernquist, L. 2016, “Stellar populations of stellar halos: Results from the Illustris simulation”, *Proceedings of IAUS 317* [[arXiv:1509.05036](#)]
2. **Cook, B.A.**, Williams, P.K.G., Berger, E. 2014, “Trends in Ultracool Dwarf Magnetism. II. The Inverse Correlation between X-ray Activity and Rotation as Evidence for a Bimodal Dynamo”, *ApJ*, 785, 10 [[arXiv:1310.6758](#)]
3. Williams, P.K.G., **Cook, B.A.**, Berger, E. 2014, “Trends in Ultracool Dwarf Magnetism. I. X-ray Suppression and Radio Enhancement”, *ApJ*, 785, 9 [[arXiv:1310.6757](#)]
4. Pâris, I., Petitjean, P., Aubourg, É., et al. 2014, “The Sloan Digital Sky Survey quasar catalog: tenth data release”, *A&A*, 563, A54 [[arXiv:1311.4870](#)]

SELECTED RESEARCH EXPERIENCE

Research Exam Project (Harvard University)	Fall 2015 – present
Topic: Galactic accretion histories and stellar populations in hydrodynamical simulations.	
Advisor: Prof. Charlie Conroy	
Senior Thesis (Princeton University)	Fall 2013 – Spring 2014
Topic: The cosmic distributions of baryons and dark matter.	
Advisor: Prof. Neta Bahcall	
Astronomy REU (Harvard University)	Summer 2013
Topic: The X-ray activity/rotation relation in ultracool dwarfs	
Advisors: Drs. Edo Berger and Peter Williams	
Junior Research Paper (Princeton University)	Spring 2013
Topic: Type II quasars in the BOSS survey	
Advisor: Prof. Michael Strauss	

COMPUTING SKILLS

Languages

Python, C, Java, Wolfram (Mathematica)

Electronic Presentation

L^AT_EX, HTML, Jupyter (iPython) notebook

Other Development Tools

Bash, Git, Make, Python multiprocessing, SLURM cluster manager