Benjamin A. Cook - *Curriculum Vitae*

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EDUCATION

Princeton University, Princeton, NJ — A.B. June 2014
Astrophysical Sciences
G.P.A. (as of Spring 2013) - 3.86/4.0 departmental, 3.67/4.0 overall

Astrophysics Courses
General Relativity
Cosmology
Stars and Star Formation
Modeling and Observing the Universe
Seminar in Theoretical Astrophysics
Seminar in Observational Astrophysics
*Introduction to Theoretical Cosmology

Selected Other Courses
Introduction to Programming Systems
Thermal Physics
Advanced Electromagnetism
Principles of Quantum Mechanics
Mechanics and Waves

**Indicates intended Spring 2014 course*

PUBLICATIONS

Cook, B. A., Williams, P. K. G., Berger, E. 2013, ApJ in press; arXiv:1310.6758
Trends in Ultracool Dwarf Magnetism. II. The Inverse Correlation between X-ray Activity and Rotation as Evidence for a Bimodal Dynamo

Williams, P. K. G., **Cook, B. A.**, Berger, E. 2013, ApJ in press; arXiv:1310.6757
Trends in Ultracool Dwarf Magnetism. I. X-ray Suppression and Radio Enhancement

Pâris, I., Petitjean, P., Aubourg, É., et al. 2013, A&A in press; arXiv:1311.4870
The Sloan Digital Sky Survey quasar catalog: tenth data release

POSTERS

"Magnetic Dynamos and X-ray Activity in Ultracool Dwarfs (UCDs): Constraining the Role of Rotation"
223rd Meeting of the American Astronomical Society, January 2014, Washington, DC

"Magnetic Dynamos and X-ray Activity in Ultracool Dwarfs (UCDs): Constraining the Role of Rotation"
The Fourth Tri-State Astronomy Conference at CUNY, September 2013, New York

EXPERIENCE

Research

Senior Research Thesis (Princeton University) — Fall 2013 – Spring 2014
Topic: The distributions of dark matter and baryons in the universe.
Adviser: Prof. Neta Bahcall

Astronomy REU (Harvard University) — Summer 2013
Topic: The X-ray activity/rotation relation in ultracool dwarfs
Advisers: Drs. Edo Berger and Peter Williams

Junior Research Paper (Princeton University) — Spring 2013
Topic: Type II quasars in the BOSS survey
Adviser: Prof. Michael Strauss

Junior Research Paper (Princeton University) Fall 2012
Topic: Photometric analysis of asteroids with the HATNet survey
Adviser: Prof. Gáspár Bakos

Undergraduate Summer Research Program (Princeton University) Summer 2012
Topic: Galactic luminosity and mass functions from simulations
Adviser: Dr. Renyue Cen

Teaching

Teaching Assistant to Prof. Neta Bahcall Spring 2013
AST 204 - *Topics in Modern Astronomy*

Teaching Assistant to Prof. Gáspár Bakos Fall 2012
AST 205 - *Planets in the Universe*

SKILLS

Computing

- Python, Java, C, Mathematica, LaTeX, *Chandra* CIAO, Linux, GIT, and FITS standard.

Leadership

- Princeton University Ticketing Manager: Fall 2010 - Present
  Trained and supervised other students in daily ticketing office operations
- President of Princeton Society of Physics Students: Spring 2012 - Present
  Organized colloquia and group activities; authored club constitution

Communication and Outreach

- Volunteer presenter at *Mars and Beyond* exhibit, Boston Museum of Science (August 2013)
- Volunteer math tutor, Prison Teaching Initiative (Spring 2014)
- Volunteer host for Peyton Observatory public observing nights (2012-present).
- Volunteer proctor for Princeton University Mathematics Competition (PUMaC, 2010-present).
- Delivered numerous academic presentations for courses and research internships.
- Proficient in written and verbal communication.
- Peer Major-Choices Adviser
- Campus Tour Guide