

**Joshua Simon Bloom**  
*Professor of Astronomy*

**Professional Preparation**

Harvard College Cambridge, Massachusetts, USA	<i>Astronomy and Astrophysics and Physics</i>	A.B. 1996 Magna Cum Laude
Cambridge University Cambridge, England	<i>Astronomy</i>	M.Phil 1997
California Institute of Technology Pasadena, California	<i>Astronomy</i>	Ph.D. 2002
Harvard University Cambridge, Massachusetts, USA	<i>Astrophysics</i>	2002-2005 Harvard Society of Fellows (JF)

**Appointments & Awards**

Professor of Astronomy, University of California, Berkeley (2013-present)  
Co-Founder, CTO, wise.io, Inc. (2012-present)  
Associate Professor of Astronomy, University of California, Berkeley (2008-2013)  
Physics Faculty Scientist, Lawrence Berkeley National Laboratory, Berkeley, CA (2011-present)  
Sofia and Tycho Brahe Professorship, Copenhagen University, Denmark (2010-2014)  
Newton Lacy Pierce Prize, American Astronomical Society (2009)  
Sloan Foundation Fellow (2006-2010)  
Assistant Professor of Astronomy, University of California, Berkeley (2005-2008)  
Junior Fellow, Harvard Society of Fellows, Harvard University (2002-2005)  
Hertz Foundation Fellow, California Institute of Technology (1999-2002)  
Herschel Smith Harvard Fellow, Cambridge University (Emmanuel College) (1996-1997)

**Related Publications**

**J. S. Bloom**, J. W. Richards “*Data Mining and Machine-Learning in Time-Domain Discovery & Classification*” chapter in “Advances in Machine Learning and Data Mining for Astronomy,” eds. Michael Way, Jeff Scargle, Kamal Ali, Ashok Srivastava, CRC Press (2012) <http://arxiv.org/abs/1104.3142>

**J. S. Bloom**, J. W. Richards, P. E. Nugent, R. M. Quimby, M. M. Kasliwal, D. L. Starr, D. Poznanski, E. O. Ofek, S. B. Cenko, N. R. Butler, S. R. Kulkarni, A. Gal-Yam, N. Law “Automating *Discovery and Classification of Transients and Variable Stars in the Synoptic Survey Era*,” **Publications of the Astronomical Society of the Pacific**, 124, 1175 (2012) <http://arxiv.org/abs/1106.5491>

Joseph W. Richards, Dan L. Starr, Adam A. Miller, **J. S. Bloom**, Nathaniel R. Butler, Henrik Brink, Arien Crellin-Quick “*Construction of a Calibrated Probabilistic Classification Catalog: Application to 50k Variable Sources in the All-Sky Automated Survey*,” **Astrophysical Journal Supplement**, 203, 2, 27 (2012) <http://arxiv.org/abs/1204.4180>

**Significant Publications**

W. Li, **J. S. Bloom**, et al. “*Constraints on the Progenitor System of the Type Ia Supernova SN 2011fe/PTF11kly*”, **Nature** 480, 7377, 348 (2011) <http://arxiv.org/abs/1109.1593>

**J. S. Bloom** et al. “*A Possible Relativistic Jetted Outburst from a Massive Black Hole Fed by a Tidally Disrupted Star*” **Science** v333, 203 (2011) <http://adsabs.harvard.edu/abs/2011Sci...333..203B>

**J. S. Bloom**, et al. “Closing in on a Short-Hard Burst Progenitor: Constraints from Early-Time Optical Imaging and Spectroscopy of a Possible Host Galaxy of GRB 050509b” *Astrophysical Journal*, v638, pp. 354–368 (2006) <http://adsabs.harvard.edu/abs/2006ApJ...638..354B>

**J. S. Bloom** “*What are Gamma-Ray Bursts?*” Princeton University Press, 280 pp., ISBN: 9781400837007 (2011)

## Synergistic Activities

- Teaching/Training: Creator/Lecturer “Python Bootcamp” at Berkeley (2010-present, <http://pythonbootcamp.info>); Creator/Professor “Python for Data Science” (2010-present; <https://github.com/profjsb/python-seminar>); invited lecture, “Training Students to Extract Value from Big Data” (National Academy of Sciences, April 2014); invited keynote, “Data Science at Berkeley” (PyData, May 2014)
- Service: Elected Member, *AURA Management Council for the Large Synoptic Survey Telescope* (AMCL); Executive Committee member, *High-Energy Astrophysics Division of the American Astronomical Society*; Former member of the Observatories Council, an AURA/NSF oversight and advocacy group for the National Optical Astronomy Observatories (NOAO); Former Co-Chair: Transient and Variable Star Science Working group of LSST; Former member of the Advisory Board of Las Cumbres Observatory Global Telescope Network (LCOGTN); Former chair, Keck Observatory Time Domain Working Group and Chair, NASA/EXIST GRB Working Group
- co-PI Moore/Sloan “Data Science Environments” (Berkeley); co-PI NSF/BIGDATA “Classification Platform for Novel Scientific Insight on Time-Series Data”; co-PI NSF/CDI “Real-Time Classification of Massive Time-Series Data Streams”; co-PI of NSF Dynamic Data Driven Applications Systems-TMRP (“Real-Time Astronomy with a Rapid- Response Telescope Grid”) (2005-2008). Bloom was the creator behind the newly adopted international standard for real-time transients communications protocols (VOEvent).
- First on-line probabilistic classification catalog of variable stars using modern machine learning techniques (<http://bigmacc.info>; ~6000 views). Built the real-time discovery and classification pipeline for the Palomar Transient Factory, leading to over 50+ refereed publications.

## Collaborators & Other Affiliations

A. Adams (MIT), C. Bailyn (Yale University), A. Barth (UC Irvine), S. Barthlemy (GSFC), C. H. Blake (Harvard/CfA), N. R. Butler (UC Berkeley), H-W Chen (University of Chicago), B. S. Gaudi (Ohio State Univ.), Andrea Ghez (UCLA), E. Falco (Harvard/CfA), E. Fenimore (Los Alamos National Laboratory), A. Filippenko (UC Berkeley), R. Foley (UC Berkeley), D. Frail (NRAO), J. Fynbo (Copenhagen), N. Gehrels (GSFC), J. Granot (Stanford University), J. Hjorth (Copenhagen), K. Hurley (UC Berkeley), S. Jha (Rutgers), D. Kocevski (UC Berkeley), S. R. Kulkarni (Caltech), Weidong Li (UC Berkeley), L. Lubin (UC Davis), P. Mazalli (Max Planck), Peter Nugent (Lawrence Berkeley Laboratory), D. Perley (UC Berkeley), S. Perlmutter (Lawrence Berkeley Laboratory), D. Pooley (UC Berkeley), J. X. Prochaska (UC Santa Cruz), E. Ramirez-Ruiz (UC Santa Cruz), A. Rau (Caltech), A. G. Riess (JHU), S. Sigurdsson (Penn State University), M. Skrutskie (U. Virginia), G. Squires (JPL), D. L. Starr (UC Berkeley/LCOGT), D. S. Stern (JPL), A. Szentgyorgyi (Smithsonian Center for Astrophysics), P. van Dokkum (Yale University), R. Williams (Caltech), L. Walkowicz (UC Berkeley), S. Woosley (UC Santa Cruz)

Graduate advisors	Martin J. Rees (Cambridge University) & Shrinivas R. Kulkarni (Caltech)
Postdoctoral Sponsors	N/A (the Society of Fellows is a research appointment)
Graduate Advisor of	Andrew Friedman, Cullen Blake (Harvard), Daniel Perley, Adam Miller, Chris Klein, Adam Morgan, Isaac Shivers (Berkeley)
Postdoc sponsor of	Nathaniel R. Butler, Daniel Kocevski, Dov Poznanski, Bethany Cobb, Joey Richards, Berian James