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 Austin, Texas 78712-1205

EDUCATION

2012 - present Ph.D. Astronomy **University of Texas at Austin**

Thesis Title: *The Lyman α signature of the first galaxies*

Advisor: Professor Volker Bromm

2006 - 2012 B.S. Physics; B.S. Mathematics; Cum Laude **Brigham Young University**

Thesis Title: *How cosmological flatness affects neutrino properties*

Advisor: Professor Eric Hirschmann

RESEARCH INTERESTS

Computational Astrophysics • Theoretical and Observational Cosmology
Galaxy Formation and Evolution • Cosmic Lyman- α Transport code (COLT)

AWARDS & GRANTS

2017 Fred T. Goetting, Jr. Memorial Endowed Presidential Fellowship
2015 NSF Graduate Research Internship Program (GRIP)
 with Prof. Avi Loeb at the Harvard-Smithsonian Center for Astrophysics
2014 - 2017 NSF Graduate Research Fellowship Program (GRFP)
2014 - 2017 Graduate Dean's Prestigious Fellowship Supplement
2013 McDonald Observatory and Dept. of Astronomy's Board of Visitors Scholarship
2012 - 2013 College of Natural Sciences Dean's Excellence Award
2011 Visiting researcher with Prof. Asantha Cooray at UC Irvine & Caltech
2010 - 2012 IMPACT Research Fellowship
2009 - 2012 Multiple scholarships: Edwin S. Hincley, Robert C. Byrd, James W. Huish
2007 NSF REU in Computational Finance

INVITED TALKS

Aug 2017 Astronomy Tea Talks, Caltech, 'The Lyman α signature of the first galaxies'
Jul 2016 Board of Visitors Meeting, McDonald Observatory,
 'Radiation from the dawn of time: Detecting the first galaxies'
Jun 2016 Zheng & Dawson Group Meeting, University of Utah
Jul 2015 Hernquist Group Meeting, Harvard-Smithsonian Center for Astrophysics
Aug 2014 Theory Division Seminar, Los Alamos National Laboratory

CONTRIBUTED TALKS

Mar 2017 Snowbird Cosmic Lyman-Alpha Workshop (SnowCLAW), Snowbird Ski Resort,
 'Lyman α radiation pressure'
Jan 2017 American Astronomical Society Meeting Abstracts, **229**, #306.05,
 'Lyman α radiation hydrodynamics of galactic winds before cosmic reionization'
Mar 2016 The Reionization Epoch: New Insights and Future Prospects, Aspen Center
 for Physics, 'Evidence for a direct collapse black hole in the Lyman α source CR7'
Apr 2013 StarBench: A Workshop for the Benchmarking of Star Formation Codes,
 University of Exeter, 'Monte Carlo Radiative Transfer'

INVITED REVIEWS

Smith, A., Bromm, V., Loeb, A., 2017, *Astronomy & Geophysics (RAS)*, **58**, 3.22:
'The first supermassive black holes'

PEER-REVIEWED PUBLICATIONS

Smith, A., Tsang, B. T.-H., Bromm, V., Milosavljević, M., 2017, *MNRAS*, submitted:
'Discrete diffusion Lyman α radiative transfer' (arXiv:1709.10187)

Smith, A., Becerra, F., Bromm, V., Hernquist, L., 2017, *MNRAS*, **472**, 205:
'Radiative effects during the assembly of direct collapse black holes'

Smith, A., Bromm, V., Loeb, A., 2017, *MNRAS*, **464**, 2963:
'Lyman α radiation hydrodynamics of galactic winds before cosmic reionization'

Smith, A., Bromm, V., Loeb, A., 2016, *MNRAS*, **460**, 3143:
'Evidence for a direct collapse black hole in the Lyman α source CR7'

Smith, A., Safranek-Shrader, C., Bromm, V., Milosavljević, M., 2015, *MNRAS*, **449**, 4336:
'The Lyman α signature of the first galaxies'

Smith, A., Archidiacono, M., Cooray, A., De Bernardis, F., Melchiorri, A., Smidt, J., 2012, *Phys. Rev. D*, **85**, 123521: 'Impact of assuming flatness in the determination of neutrino properties from cosmological data'

POSTERS & CONFERENCE PROCEEDINGS

Smith, A., Bromm, V., Loeb, A., 2016, *First Stars V*:
'Lyman α radiation hydrodynamics of galactic winds before cosmic reionization'

Smith, A., Safranek-Shrader, C., Bromm, V., Milosavljević, M., 2015,
South by High Redshift: 'The Lyman α signature of the first galaxies'

Smith, A., Archidiacono, M., Cooray, A., et al., 2012, *American Astronomical Society Meeting Abstracts*, **219**, #143.03: 'How cosmological flatness affects neutrino properties'

Smidt, J., Arai, T., Battle, J., Bock, J. J., Cooray, A., et al., 2012, *AAS*, **219**, #312.02: 'Fluctuations in the cosmic infrared background using the Cosmic Infrared Background Experiment (CIBER)'

PROFESSIONAL ACTIVITIES

Referee for *Monthly Notices of the Royal Astronomy Society*

OUTREACH & MENTORING

2017 Primary research mentor for a visiting senior undergraduate student (Jianrong Tan)
2016 Institute for Scientist & Engineer Educators (ISEE)
Professional Development Program (PDP) in Santa Cruz, CA
2015 - 2017 Astronomy merit badge counselor for the Boy Scouts of America (BSA)

PRESS COVERAGE

Jan 2017 Contributed the central image for an article in *Science Magazine*:
"Observations hint at a new recipe for giant black holes"
Jul 2016 Press release about evidence for a direct collapse black hole in the Ly α source CR7:
"A New Kind of Black Hole, Once a Theory, Now Firmly within Observers' Sight"
UT Austin, CfA, RAS, CBS, Forbes, Harvard Gazette, Science News, space.com

TEACHING
EXPERIENCE

Responsible for conducting weekly recitations, grading homework, holding office hours, and overseeing course communication for the following classes:

University of Texas at Austin

AST 376: Cosmology	Spring 2014, Fall 2017
AST 301: Introductory Astronomy	Fall 2013, Spring 2014
AST 353: Astrophysics	Spring 2013
AST 309R: Galaxies, Quasars, & the Universe	Fall 2012

Brigham Young University

PHYS 318: Partial Differential Equations	Spring 2010
MATH 113H: Calculus II Honors	Fall 2009