

JUDD D. BOWMAN
CURRICULUM VITAE

Associate Professor
Arizona State University
School of Earth and Space Exploration
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EDUCATION

2007 Massachusetts Institute of Technology, Ph.D. Physics
1998 Washington University in St. Louis, B.S. Physics
1998 Washington University in St. Louis, B.S. Electrical Engineering

PROFESSIONAL EXPERIENCE

2014-present Associate Professor, School of Earth and Space Exploration, Arizona State University
2014-present Project Scientist, Hydrogen Epoch of Reionization Array (HERA)
2010-present Co-Director, ASU Cosmology Initiative
2010-2015 Project Scientist, Murchison Widefield Array (MWA)
2010-2014 Assistant Professor, School of Earth and Space Exploration, Arizona State University
2007-2010 Hubble Fellow, California Institute of Technology
2002-2007 Research Assistant, Massachusetts Institute of Technology
2001-2002 Task Lead, 3D Visualization and Surface Reconstruction, QSS Group, Inc.
2000-2002 Computer Scientist III, QSS Group, Inc. (NASA Ames Research Center)
1998-2000 Systems Analyst, Earth & Planetary Sciences, Washington University in St. Louis

HONORS AND AWARDS

2014 Top 10 Most Influential Papers of *Advances in Space Research*, Burns et al. 2012
2014 Outstanding Faculty Nominee, College of Liberal Arts and Sciences Residential
 Life/University Housing, ASU
2012 Nancy Grace Roman Early-Career Technology Fellowship, NASA
2010 Jansky Postdoctoral Fellowship, NRAO (*declined*)
2007 Hubble Postdoctoral Fellowship, NASA/STScI
 International Research Fellowship, National Science Foundation (*declined*)
 Millikan Prize Fellowship, California Institute of Technology (*declined*)
 Townes Prize Fellowship, University of California, Berkeley (*declined*)
 Jansky Postdoctoral Fellowship, NRAO (*declined*)
2005 Software Release Award, NASA Inventions and Contributions Board
2004 Administrator's Award, NASA
 Honor Award, NASA
 Group Achievement Award, NASA
 Software Release Award, NASA Inventions and Contributions Board
 First Place, Graduate Student Poster Contest (MIT Physics Dept.)
2003 Honor Award, NASA Ames Research Center

The following symbols are used to designate ASU students and postdocs in the sections below:

- * denotes ASU undergraduate student
- ** denotes ASU graduate student
- † denotes ASU postdoc

SELECTED SPONSORED RESEARCH AWARDS

19. HERA: Unveiling the Cosmic Dawn, NSF AST-1836019 (MSIP), 2018-2022, Co-I
18. The Dawn of Hydrogen Cosmology: First Stars, Dark Matter, and the Thermal History of the Early Universe, NSF AST-1813850 (AAG), 2018-2021, PI
17. Monitoring the High-Energy Radiation Environment of Exoplanets around Low-Mass Stars with SPARCS (Star-Planet Activity Research CubeSat), NASA NNH16ZDA001N (APRA), 2017-2022, Co-I
16. Network for Exploration and Space Science (NESS), NASA 80ARC017M0006 (SSERVI), 2017-2021, Co-I
15. Precision Beam Mapping for 21cm Cosmology, NSF AST-1711179 (ATI), 2017-2021, Co-PI (PI: Daniel C. Jacobs†)
14. Collaborative Research: First Deployment of a Novel Imaging Correlator for Radio Astronomy with the Long Wavelength Array, NSF AST-1710719 (ATI), 2017-2020, Co-PI (PIs: Nithya Thyagarajan† and Adam P. Beardsley†)
13. Hydrogen Epoch of Reionization Array (HERA), NSF AST-1440343 (MSIP), 2014-2016, Co-I
12. Collaborative Research: Observing the Epoch of Reionization with the Murchison Widefield Array, NSF AST-1410719 (AAG), 2014-2017, Co-PI (Co-PI: Daniel C. Jacobs†)
11. Facilitating Museum Evaluation with Real-Time Data Mining, NSF DGE-1438825 (PRIME), 2014-2017, PI
10. An External Calibrator for HI Observatories, NSF AST-1407646 (ATI), 2013-2015, PI (Co-PI: Daniel C. Jacobs†)
8. EDGES-2: Detecting First Light and Reionization through the Global 21 cm Signature, NSF AST-1207761 (ATI), 2012-2015, PI
7. An Ultra-Efficient Radio Correlator Architecture, NSF AST-1206552 (ATI), 2012-2015, Co-I
6. A Precision Wideband Radio Spectrometer to Explore Cosmic Dawn, NASA-NNX12AI17G (RTF), 2012-2013, PI
5. JPL Strategic University Research Partnership, 2012-2013, Co-PI
4. Collaborative Research: Optimal Statistics for Redshifted 21 cm Observations of the Reionization Epoch, NSF AST-1109257 (AAG), 2011-2014, PI
3. Collaborative Research: Observing Cosmic Dawn with the Long Wavelength Array, NSF AST-1109865 (AAG), 2011-2013, PI
2. Lunar University Node for Astrophysics Research (LUNAR): Exploring the Cosmos from the Moon NASA- NNA09DB30A (NLSI), 2010-2015, Co-I
1. EDGES: An Ultra-clean Spectrometer for Fundamental Measurements of Cosmological Reionization and the Dark Ages, NSF AST-0905990 (ATI), 2009-2012, PI

OBSERVING TIME AWARDS

22. Beardsley†, **A. P.**, **Bowman, J. D.**, Jacobs, D. C., Trott C. M., Wayth, R. B., Kriele, M., Line, J. L. B., Lynch, C. R., *m-mode Observations with the MWA*, Murchison Widefield Array (MWA), 2018B, 50 hours
21. Oberoi, D.; Cairns, I.; Lonsdale, C.; Benkevitch, L.; **Bowman, J.**; Herne, D.; Kennewell, J.; McCauley, P.; Mondal, S.; Mohan, A.; Morgan, J.; Rahaman, M.; Tingay, S.; Tremblay, S., *MWA Observations of Solar Radio Bursts and the Quiet Sun*, Murchison Widefield Array (MWA), 2018B, 100 hours

20. Oberoi, D.; Cairns, I.; Lonsdale, C.; Benkevitch, L.; **Bowman, J.**; Herne, D.; Kennewell, J.; Morgan, J.; Tingay, S.; Tremblay, S., *MWA Observations of Solar Radio Bursts and the Quiet Sun*, Murchison Widefield Array (MWA), 2018A, 150 hours
19. McKinley, B.; Wayth, R.; Webster, R.; Briggs, F.; Bowman, J.; Bernardi, G.; Hurley-Walker, N.; Lenc, E.; Line, J.; Pindor, B.; Tingay, S.; Trott, C., *Using the Moon to detect the global EoR signal*, Murchison Widefield Array (MWA), 2017B, 88 hours
18. Oberoi, D.; Cairns, I.; Lonsdale, C.; Benkevitch, L.; **Bowman, J.**; Herne, D.; Kasper, J.; Kennewell, J.; Matthews, L.; Morgan, J.; Pankratius, V.; Roger, A.; Tingay, S.; Tremblay, S., *MWA Observations of Solar Radio Bursts and the Quiet Sun*, Murchison Widefield Array (MWA), 2017B, 100 hours
17. Cairns, I.; Oberoi, D.; Morgan, J.; Bastian, T.; Bhatnagar, S.; Bisi, M.; Benkevitch, L.; **Bowman, J.**; Donea, A.; Giersch, O.; Jackson, B.; Chat, G. L.; Golub, L.; Hariharan, K.; Herne, D.; Kasper, J.; Kennewell, J.; Lonsdale, C.; Lobzin, V.; Matthews, L.; Mohan, A.; Padmanabhan, J.; Pankratius, V.; Pick, M.; Subramanian, P.; Ramesh, R.; Raymond, J.; Reeves, K.; Rogers, A.; Sharma, R.; Tingay, S.; Tremblay, S.; Tripathi, D.; Webb, D.; White, S.; Abidin, Z. B. Z., *MWA Observations of Solar Radio Bursts and the Quiet Sun*, Murchison Widefield Array (MWA), 2017A, 100 hours
16. Barry, N.; Beardsley†, A.; **Bowman, J.**; Briggs, F.; Byrne, R.; Carroll, P.; Hazelton, B.; Jacobs†, D.; Jordan, C.; Kittiwisit, P.; Lanman, A.; Lenc, E.; Li, W.; Line, J.; McKinley, B.; Mitchell, D.; Morales, M.; Murray, S.; Paul, S.; Pindor, B.; Pober, J.; Rahimi, M.; Riding, J.; Sethi, S.; Shankar, U.; Subrahmanyam, R.; Sullivan, I.; Takahashi, K.; Thyagarajan†, N.; Tingay, S.; Trott, C.; Wayth, R.; Webster, R.; Wyithe, S., *Epoch of Reionisation*, Murchison Widefield Array (MWA), 2017A
15. Barry, N.; Beardsley†, A.; **Bowman, J.**; Briggs, F.; Byrne, R.; Carroll, P.; Hazelton, B.; Jacobs†, D.; Jordan, C.; Kittiwisit, P.; Lanman, A.; Lenc, E.; Li, W.; Line, J.; McKinley, B.; Mitchell, D.; Morales, M.; Murray, S.; Paul, S.; Pindor, B.; Pober, J.; Rahimi, M.; Riding, J.; Sethi, S.; Shankar, U.; Subrahmanyam, R.; Sullivan, I.; Takahashi, K.; Thyagarajan†, N.; Tingay, S.; Trott, C.; Wayth, R.; Webster, R.; Wyithe, S., *Epoch of Reionisation*, Murchison Widefield Array (MWA), 2016B, 730 hours
14. Cairns, I.; Oberoi, D.; Morgan, J.; Bastian, T.; Bhatnagar, S.; Bisi, M.; Benkevitch, L.; **Bowman, J.**; Donea, A.; Giersch, O.; Jackson, B.; Chat, G. L.; Golub, L.; Hariharan, K.; Herne, D.; Kasper, J.; Kennewell, J.; Lonsdale, C.; Lobzin, V.; Matthews, L.; Mohan, A.; Padmanabhan, J.; Pankratius, V.; Pick, M.; Subramanian, P.; Ramesh, R.; Raymond, J.; Reeves, K.; Rogers, A.; Sharma, R.; Tingay, S.; Tremblay, S.; Tripathi, D.; Webb, D.; White, S.; Abidin, Z. B. Z., *MWA Observations of Solar Radio Bursts and the Quiet Sun*, Murchison Widefield Array (MWA), 2016A, 100 hours awarded
13. Nicole Barry, Adam Beardsley†, **Judd D. Bowman**, Frank Briggs, Patti Carroll, Josh Dillon, Aaron Ewall-Wice, Lu Feng, Steve Furlanetto, Bryan Gaensler, Robert Goeke, Lincoln Greenhill, Bryna Hazelton, Lars Herquist, Jackie Hewitt, Daniel C. Jacobs†, Chris Jordan, Emil Lenc, Al Levine, Adrian Liu, Avi Loeb, Ben MicKinley, Daniel Mitchell, Miguel Morales, Ed Morgan, Abraham Neben, Sourabh Paul, Bart Pindor, Pietro Procopio, Mahsa Rahimi, Ron Remillard, Jenny Riding, Shiv Sethi, Udaya Shankar, Ravi Subrahmanyam, Ian Sullivan, Max Tegmark, Nithyanandan Thyagarajan†, Steven Tingay, Cath Trott, Randall Wayth, Rachel Webster, Stuart Wyithe, *Epoch of Reionisation*, Murchison Widefield Array (MWA), 2016A, 350 hours
12. Monkiewicz**, J., **Bowman, J. D.**, & Scannapieco, E., *The Radio/Star-Forming Relation in Ultra-Low-Metallicity Galaxies*, Jansky Very Large Array, 2015B
11. Oberoi, D.; Cairns, I.; Morgan, J.; Bastian, T.; Bhatnagar, S.; Bisi, M.; Benkevitch, L.; **Bowman, J.**; Donea, A.; Giersch, O.; Jackson, B.; Chat, G. L.; Golub, L.; Herne, D.; Kasper, J.; Kennewell, J.; Lonsdale, C.; Lobzin, V.; Matthews, L.; Padmanabhan, J.; Pankratius, V.; Pick, M.; Subramanian, P.; Ramesh, R.; Raymond, J.; Reeves, K.; Rogers, A.; Sharma, R.; Tingay, S.; Tremblay, S.; Tripathi, D.; Webb, D.; White, S.; Abidin, Z. B. Z., *MWA Observations of Solar Radio Bursts and the Quiet Sun*, Murchison Widefield Array (MWA), 2015A, 100 hours
10. Webster, R.; Adam Beardsley, Gianni Bernardi, **Judd D. Bowman**, Frank Briggs, Josh Dillon, Aaron Ewall-Wice, Lu Feng, Steve Furlanetto, Bryan Gaensler, Robert Goeke, Lincoln Greenhill, Bryna Hazelton, Lars Herquist, Jackie Hewitt, Daniel C. Jacobs†, Emil Lenc, Al Levine, Adrian Liu, Avi

- Loeb, Colin Lonsdale, Ben McKinley, Daniel Mitchell, Miguel Morales, Ed Morgan, Abraham Neben, André Offringa, Sourabh Paul, Bart Pindor, Pietro Procopio, Ron Remillard, Jenny Riding, Shiv Sethi, Udaya Shankar, Ravi Subrahmanyam, Ian Sullivan, Max Tegmark, Nithyanandan Thyagarajan†, Steven Tingay, Cath Trott, Randall Wayth, Chris Williams, Stuart Wyithe, *Epoch of Reionisation*, Murchison Widefield Array (MWA), 2015A, 180 hours
9. Oberoi, D.; Cairns, I.; Morgan, J.; Sharma, R.; Bastian, T.; Bhatnagar, S.; Bisi, M.; Benkevitch, L.; **Bowman, J.**; Donea, A.; Giersch, O.; Jackson, B.; Chat, G. L.; Golub, L.; Herne, D.; Kasper, J.; Kennewell, J.; Lonsdale, C.; Lobzin, V.; Matthews, L.; Padmanabhan, J.; Subramanian, P.; Ramesh, R.; Raymond, J.; Reeves, K.; Rogers, A.; Tingay, S.; Tremblay, S.; Tripathi, D.; Webb, D.; White, S.; Abidin, Z. B. Z., *MWA Observations of Solar Radio Bursts and the Quiet Sun*, Murchison Widefield Array (MWA), 2014B, 70 hours
 8. Webster, R.; Adam Beardsley, Gianni Bernardi, **Judd D. Bowman**, Frank Briggs, Josh Dillon, Aaron Ewall-Wice, Lu Feng, Steve Furlanetto, Bryan Gaensler, Robert Goetze, Lincoln Greenhill, Bryna Hazelton, Lars Herquist, Jackie Hewitt, Daniel C. Jacobs†, Emil Lenc, Al Levine, Adrian Liu, Avi Loeb, Colin Lonsdale, Ben McKinley, Daniel Mitchell, Miguel Morales, Ed Morgan, Abraham Neben, André Offringa, Sourabh Paul, Bart Pindor, Pietro Procopio, Ron Remillard, Jenny Riding, Shiv Sethi, Udaya Shankar, Ravi Subrahmanyam, Ian Sullivan, Max Tegmark, Nithyanandan Thyagarajan†, Steven Tingay, Cath Trott, Randall Wayth, Chris Williams, Stuart Wyithe, *Epoch of Reionisation*, Murchison Widefield Array (MWA), 2014B, 989 hours
 7. Kittiwisit**., Piyanat; Jacobs†, Daniel C.; **Bowman, Judd D.**; *Foreground Spectra for 21 cm Epoch of Reionization Observation*, Very Large Array, 2014B, 10 hours
 6. Oberoi, D.; Cairns, I.; Morgan, J.; Bastian, T.; Bhatnagar, S.; Bisi, M.; Benkevitch, L.; **Bowman, J.**; Donea, A.; Giersch, O.; Jackson, B.; Chat, G. L.; Golub, L.; Kasper, J.; Kennewell, J.; Lonsdale, C.; Lobzin, V.; Matthews, L.; Padmanabhan, J.; Subramanian, P.; Ramesh, R.; Raymond, J.; Reeves, K.; Rogers, A.; Tingay, S.; Tremblay, S.; Tripathi, D.; Webb, D.; White, S.; Abidin, Z. B. Z., *MWA Observations of Solar Radio Bursts and the Quiet Sun*, Murchison Widefield Array (MWA), 2014A, 30 hours
 5. Webster, R.; Adam Beardsley, Gianni Bernardi, **Judd D. Bowman**, Frank Briggs, Josh Dillon, Aaron Ewall-Wice, Lu Feng, Steve Furlanetto, Bryan Gaensler, Robert Goetze, Lincoln Greenhill, Bryna Hazelton, Lars Herquist, Jackie Hewitt, Daniel C. Jacobs†, Emil Lenc, Al Levine, Adrian Liu, Avi Loeb, Colin Lonsdale, Ben McKinley, Daniel Mitchell, Miguel Morales, Ed Morgan, Abraham Neben, André Offringa, Sourabh Paul, Bart Pindor, Pietro Procopio, Ron Remillard, Jenny Riding, Shiv Sethi, Udaya Shankar, Ravi Subrahmanyam, Ian Sullivan, Max Tegmark, Nithyanandan Thyagarajan†, Steven Tingay, Cath Trott, Randall Wayth, Chris Williams, Stuart Wyithe, *Epoch of Reionisation*, Murchison Widefield Array (MWA), 2014A, 350 hours
 4. Cairns, I.; Oberoi, D.; Bastian, T.; Benkevitch, L.; **Bowman, J.**; Donea, A.; Giersch, O.; Jackson, B.; Chat, G. L.; Golub, L.; Kasper, J.; Kennewell, J.; Lonsdale, C.; Lobzin, V.; Matthews, L.; Morgan, J.; Padmanabhan, J.; Subramanian, P.; Ramesh, R.; Raymond, J.; Reeves, K.; Rogers, A.; Tingay, S.; Tremblay, S.; Tripathi, D.; Webb, D.; White, S., *MWA Observations of Solar Radio Bursts and the Quiet Sun*, Murchison Widefield Array (MWA), 2013B, 30 hours
 3. Webster, R.; Adam Beardsley, Gianni Bernardi, **Judd D. Bowman**, Frank Briggs, Josh Dillon, Aaron Ewall-Wice, Lu Feng, Steve Furlanetto, Bryan Gaensler, Robert Goetze, Lincoln Greenhill, Bryna Hazelton, Lars Herquist, Jackie Hewitt, Daniel C. Jacobs†, Emil Lenc, Al Levine, Adrian Liu, Avi Loeb, Colin Lonsdale, Ben McKinley, Daniel Mitchell, Miguel Morales, Ed Morgan, Abraham Neben, André Offringa, Sourabh Paul, Bart Pindor (Melbourne), Pietro Procopio, Ron Remillard, Jenny Riding, Shiv Sethi, Udaya Shankar, Ravi Subrahmanyam, Ian Sullivan, Max Tegmark, Steven Tingay, Cath Trott, Randall Wayth, Chris Williams, Stuart Wyithe, *Epoch of Reionisation*, Murchison Widefield Array (MWA), 2013B, 353 hours

2. Monkiewicz**, Jacqueline, *The outflowing wind of the ultra-low metallicity dwarf galaxy Sextans A*, Very Large Array, 2013A, 7.0 hours
1. Boyce, E.; **Bowman, J. D.**; Bolton, A.; Hewitt, J. N.; Burles, S.; *Galaxy-Galaxy Gravitational Lenses from the Sloan Digital Sky Survey*, Very Large Array, 2004, 8.5 hours

REFEREED JOURNAL ARTICLES

- Published articles listed below can be found on <http://adsabs.harvard.edu>
 - 4770 citations, H-factor of 35
113. McKinley, B.; Bernardi, G.; Trott, C. M.; Line, J. L. B.; Wayth, R. B.; Offringa, A. R.; Pindor, B.; Jordan, C. H.; Sokolowski, M.; Tingay, S. J.; Lenc, E.; Hurley-Walker, N.; **Bowman, J. D.**; Briggs, F.; Webster, R. L., *Measuring the global 21-cm signal with the MWA-I: improved measurements of the Galactic synchrotron background using lunar occultation*, Monthly Notices of the Royal Astronomical Society, Volume 481, Issue 4, p.5034-5045, 2018
 112. For, B.-Q.; Staveley-Smith, L.; Hurley-Walker, N.; Franzen, T.; Kapińska, A. D.; Filipović, M. D.; Collier, J. D.; Wu, C.; Grieve, K.; Callingham, J. R.; Bell, M. E.; Bernardi, G.; **Bowman, J. D.**; Briggs, F.; Cappallo, R. J.; Deshpande, A. A.; Dwarakanath, K. S.; Gaensler, B. M.; Greenhill, L. J.; Hancock, P.; Hazelton, B. J.; Hindson, L.; Johnston-Hollitt, M.; Kaplan, D. L.; Lenc, E.; Lonsdale, C. J.; McKinley, B.; McWhirter, S. R.; Mitchell, D. A.; Morales, M. F.; Morgan, E.; Morgan, J.; Oberoi, D.; Offringa, A.; Ord, S. M.; Prabu, T.; Procopio, P.; Shankar, N. Udaya; Srivani, K. S.; Subrahmanyan, R.; Tingay, S. J.; Wayth, R. B.; Webster, R. L.; Williams, A.; Williams, C. L.; Zheng, Q., *A multifrequency radio continuum study of the Magellanic Clouds - I. Overall structure and star formation rates*, Monthly Notices of the Royal Astronomical Society, Volume 480, Issue 2, p.2743-2756, 2018
 111. Li, W.; Pober, J. C.; Hazelton, B. J.; Barry, N.; Morales, M. F.; Sullivan, I.; Parsons, A. R.; Ali, Z. S.; Dillon, J. S.; Beardsley, A. P.; **Bowman, J. D.**; Briggs, F.; Byrne, R.; Carroll, P.; Crosse, B.; Emrich, D.; Ewall-Wice, A.; Feng, L.; Franzen, T. M. O.; Hewitt, J. N.; Horsley, L.; Jacobs, D. C.; Johnston-Hollitt, M.; Jordan, C.; Joseph, R. C.; Kaplan, D. L.; Kenney, D.; Kim, H.; Kittiwisit, P.; Lanman, A.; Line, J.; McKinley, B.; Mitchell, D. A.; Murray, S.; Neben, A.; Offringa, A. R.; Pallot, D.; Paul, S.; Pindor, B.; Procopio, P.; Rahimi, M.; Riding, J.; Sethi, S. K.; Udaya Shankar, N.; Steele, K.; Subrahmanian, R.; Tegmark, M.; Thyagarajan, N.; Tingay, S. J.; Trott, C.; Walker, M.; Wayth, R. B.; Webster, R. L.; Williams, A.; Wu, C.; Wyithe, S., *Comparing Redundant and Sky-model-based Interferometric Calibration: A First Look with Phase II of the MWA*, The Astrophysical Journal, Volume 863, Issue 2, article id. 170, 16 pp., 2018
 110. Monsalve, Raul A.; Greig, Bradley; **Bowman, Judd D.**; Mesinger, Andrei; Rogers, Alan E. E.; Mozdzen**, Thomas J.; Kern, Nicholas S.; Mahesh**, Nivedita, *Results from EDGES High-band. II. Constraints on Parameters of Early Galaxies*, The Astrophysical Journal, Volume 863, Issue 1, article id. 11, 11 pp., 2018
 109. Scowen, Paul A.; Shkolnik, Evgenya L.; Ardila, David; Berman, Travis; Beasley, Matthew; **Bowman, Judd**; Fitzgerald, Michael; Gorjian, Varoujan; Jacobs, Daniel C.; Jewell, April; Llama, Joe; Meadows, Victoria; Nikzad, Shouleh; Spittler, Constance; Swain, Mark; Zellem, Robert, *Monitoring the high-energy radiation environment of exoplanets around low-mass stars with SPARCS (Star-Planet Activity Research CubeSat)*, Proceedings of the SPIE, Volume 10699, id. 106990F 12 pp., 2018
 108. Patra, Nipanjana; Parsons, Aaron R.; DeBoer, David R.; Thyagarajan†, Nithyanandan; Ewall-Wice, Aaron; Hsyu, Gilbert; Leung, Tsz Kuk; Day, Cherie K.; de Lera Acedo, Eloy; Aguirre, James E.; Alexander, Paul; Ali, Zaki S.; Beardsley†, Adam P.; **Bowman, Judd D.**; Bradley, Richard F.; Carilli, Chris L.; Cheng, Carina; Dillon, Joshua S.; Fadana, Gcobisa; Fagnoni, Nicolas; Fritz,

- Randall; Furlanetto, Steve R.; Glendenning, Brian; Greig, Bradley; Grobbelaar, Jasper; Hazelton, Bryna J.; Jacobs†, Daniel C.; Julius, Austin; Kariseb, MacCalvin; Kohn, Saul A.; Lebedeva, Anna; Lekalake, Telalo; Liu, Adrian; Loots, Anita; MacMahon, David; Malan, Lourence; Malgas, Cresshim; Maree, Matthys; Martinot, Zachary; Mathison, Nathan; Matsetela, Eunice; Mesinger, Andrei; Morales, Miguel F.; Neben, Abraham R.; Pieterse, Samantha; Pober, Jonathan C.; Razavi-Ghods, Nima; Ringuette, Jon; Robnett, James; Rosie, Kathryn; Sell, Raddwine; Smith, Craig; Syce, Angelo; Tegmark, Max; Williams, Peter K. G.; Zheng, Haoxuan, *The hydrogen epoch of reionization array dish III: measuring chromaticity of prototype element with reflectometry*, *Experimental Astronomy*, Volume 45, Issue 2, pp.177-199, 2018
107. **Bowman, J. D.**; Rogers, A. E. E.; Monsalve, R. A.; Mozdzen**, T. J.; Mahesh**, N., *An absorption profile centred at 78 megahertz in the sky-averaged spectrum*, *Nature*, Volume 555, Issue 7694, pp. 67-70, 2018
106. Kittiwisit**, Piyanat; **Bowman, Judd D.**; Jacobs†, Daniel C.; Beardsley†, Adam P.; Thyagarajan†, Nithyanandan, *Sensitivity of the Hydrogen Epoch of Reionization Array and its build-out stages to one-point statistics from redshifted 21 cm observations*, *Monthly Notices of the Royal Astronomical Society*, Volume 474, Issue 4, p.4487-4499, 2018
105. Kolopanis**, Matthew; Mauskopf, Philip; **Bowman, Judd**, *Detectability of Galactic Faraday Rotation in multiwavelength CMB observations*, *Monthly Notices of the Royal Astronomical Society*, Volume 473, Issue 4, p.4795-4804, 2018
104. Cairns, I. H.; Lobzin, V. V.; Donea, A.; Tingay, S. J.; McCauley, P. I.; Oberoi, D.; Duffin, R. T.; Reiner, M. J.; Hurley-Walker, N.; Kudryavtseva, N. A.; Melrose, D. B.; Harding, J. C.; Bernardi, G.; **Bowman, J. D.**; Cappallo, R. J.; Corey, B. E.; Deshpande, A.; Emrich, D.; Goeke, R.; Hazelton, B. J.; Johnston-Hollitt, M.; Kaplan, D. L.; Kasper, J. C.; Kratzenberg, E.; Lonsdale, C. J.; Lynch, M. J.; McWhirter, S. R.; Mitchell, D. A.; Morales, M. F.; Morgan, E.; Ord, S. M.; Prabu, T.; Roshi, A.; Shankar, N. Udaya; Srivani, K. S.; Subrahmanyam, R.; Wayth, R. B.; Waterson, M.; Webster, R. L.; Whitney, A. R.; Williams, A.; Williams, C. L., *Low Altitude Solar Magnetic Reconnection, Type III Solar Radio Bursts, and X-ray Emissions*, *Nature Scientific Reports*, Volume 8, id. 1676, 2018
103. Nelson, B., Bowman, C., & **Bowman, J.**, *Designing for Data with Dr. Discovery: Design Approaches for Facilitating Museum Evaluation through a Casual Game*. *Technology, Knowledge, and Learning Journal*, 22(3), 427–442, 2017
102. Beardsley†, Adam P.; Thyagarajan†, Nithyanandan; **Bowman, Judd D.**; Morales, Miguel F., *An efficient feedback calibration algorithm for direct imaging radio telescopes*, *Monthly Notices of the Royal Astronomical Society*, Volume 470, Issue 4, p.4720-4731, 2017
101. Lenc, E.; Anderson, C. S.; Barry, N.; **Bowman, J. D.**; Cairns, I. H.; Farnes, J. S.; Gaensler, B. M.; Heald, G.; Johnston-Hollitt, M.; Kaplan, D. L.; Lynch, C. R.; McCauley, P. I.; Mitchell, D. A.; Morgan, J.; Morales, M. F.; Murphy, Tara; Offringa, A. R.; Ord, S. M.; Pindor, B.; Riseley, C.; Sadler, E. M.; Sobey, C.; Sokolowski, M.; Sullivan, I. S.; O'Sullivan, S. P.; Sun, X. H.; Tremblay, S. E.; Trott, C. M.; Wayth, R. B., *The Challenges of Low-Frequency Radio Polarimetry: Lessons from the Murchison Widefield Array*, *Publications of the Astronomical Society of Australia*, Volume 34, id.e040 17 pp., 2017
100. Monsalve, Raul A.; Rogers, Alan E. E.; **Bowman, Judd D.**; Mozdzen**, Thomas J., *Results from EDGES High-band. I. Constraints on Phenomenological Models for the Global 21 cm Signal*, *The Astrophysical Journal*, Volume 847, Issue 1, article id. 64, 12 pp., 2017
99. Burns, Jack O.; Bradley, Richard; Tauscher, Keith; Furlanetto, Steven; Mirocha, Jordan; Monsalve, Raul; Rapetti, David; Purcell, William; Newell, David; Draper, David; MacDowall, Robert; **Bowman, Judd**; Nhan, Bang; Wollack, Edward J.; Fialkov, Anastasia; Jones, Dayton; Kasper, Justin C.; Loeb, Abraham; Datta, Abhirup; Pritchard, Jonathan; Switzer, Eric; Bica, Michael, *A Space-based Observational Strategy for Characterizing the First Stars and Galaxies Using the Redshifted 21 cm Global Spectrum*, *The Astrophysical Journal*, Volume 844, Issue 1, article id. 33, 11 pp., 2017

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16. Burns, J. O. Lazio, J., **Bowman, J.**, Bradley, R., Carilli, C., Furlanetto, S., Harker, G., Loeb, A., Pritchard, J., *The Dark Ages Radio Explorer (DARE)*, Abstract #107.09, Special Session on Hydrogen Epoch of Reionization Arrays (HERA), 217th Annual Meeting of the American Astronomical Society, January 9-14, 2011, Seattle, WA
15. Corey, B. E., **Bowman, J. D.**, Burns, S., Kratzenberg, E., Rogers, A. E. E., Wayth, R., Williams, C., *Antenna Tiles for the Murchison Widefield Array*, 213th Annual Meeting of the American Astronomical Society, January 4-8, 2009, Long Beach, CA
14. **Bowman, J. D.**, *Observing Neutral Hydrogen Above Redshift 6: The "Global" Perspective*, The Evolution of Galaxies through the Neutral Hydrogen Window, February 1-3, 2008, Arecibo, Puerto Rico
13. **Bowman, J. D.**, *Mapping Reionization: The Science and Technology of Redshifted 21 cm Tomography with Upcoming Low-Frequency Arrays*, Astrophysics in the Next Decade: JWST and Concurrent Facilities, September 24-27, 2007, Tucson, Arizona
12. **Bowman, J. D.**, Morales, M. F., Hewitt, J. N., *Revealing the Epoch of Reionization: The Effects of Foregrounds*, XXIII Texas Symposium on Relativistic Astrophysics, December 11-15, 2006, Melbourne, Australia
11. **Bowman, J. D.**, Morales, M. F., Hewitt, J. N., *Isolating the Background: The Effects of Foregrounds in EOR Observations*, October Astrophysics Conference in Maryland, Radiation Backgrounds from the First Stars, Galaxies and Black Holes, October 9-11, 2006, College Park, Maryland
10. **Bowman, J. D.**, Morales, M. F., Hewitt, J. N., *Probing the Epoch of Reionization with Power Spectrum Measurements by the First Generation of Low Frequency Radio Arrays*, 207th Annual Meeting of the American Astronomical Society, January 8-12, 2006, Washington, D. C., abstract 33.03
9. Morales, M. F., **Bowman, J. D.**, Hewitt, J. N., *Improving Foreground Subtraction in EOR Power Spectrum Observations*, 207th Annual Meeting of the American Astronomical Society, January 8-12, 2006, Washington, D. C., abstract 33.04
8. **Bowman, J. D.**, *Dynamically Updating Screen Savers Bring NASA Missions to the Desktop*, Building Community: The Emerging EPO Profession, Astronomical Society of the Pacific's 117th Annual Meeting, September 14-16, 2005, Tucson, Arizona, abstract PF15
7. Morales, M. F., **Bowman, J. D.**, Hewitt, J. N., *Statistical EOR Detection and Foreground Subtraction: Recent Results and the Implications for Array Design*, Reionizing the Universe, The Epoch of Reionization and the Physics of the IGM, June 27-July1, 2005, Groningen, Neatherlands.
6. **Bowman, J. D.**, *Prospects for Observing Gravitational Lensing by Supermassive Black Holes in Galaxy Cores*, Joint New England Sections of the American Physical Society and the American Association of Physics Teachers Spring Meeting, April 1-2, 2005, Cambridge, Massachusetts
5. Seelos, F. P., IV, Guinness, E. A., **Bowman, J. D.**, Shepard, M. K., Snider, N. O., Arvidson, R. E., *Recovery and Analysis of Digital Elevation Data from Viking Lander Camera Observations*, 33rd Annual Lunar and Planetary Science Conference, March 11-15, 2002, Houston, Texas, abstract no. 1945
4. Arvidson, R. E., **Bowman, J. D.**, Dunham, C. D., Anderson, R. C., Backes, P., Baumgartner, E. T., Bell, J., Dworetzky, S. C., Klug, S., Peck, N., Sherman, D., Squyres, S. W., Tuttle, D., Waldron, A. M., *Student Participation in Mars Sample Return Rover Field Tests, Silver Lake, California*, 31st

- Annual Lunar and Planetary Science Conference, March 13-17, 2000, Houston, Texas, abstract no. 1049
3. Arvidson, R. E., Acton, C., Blaney, D., **Bowman, J.**, Kim, S., Klingelhofer, G., Marshall, J., Niebur, C. S., Plescia, J., Saunders, R. S., Ulmer, C. T., *Lessons Learned from Rocky 7 Rover Deployment and One-Kilometer Traverse over Basalt Flows, Playa, and Alluvial Fan Surface, Mojave Desert, CA*, 29th Annual Lunar and Planetary Science Conference, March 16-20, 1998, Houston, TX, abstract no. 1306.
 2. Niebur, C. S., Arvidson, R. E., **Bowman, J. D.**, *A Mission Model for the 2001 Mars Rover/Athena Payload*, 29th Annual Lunar and Planetary Science Conference, March 16-20, 1998, Houston, TX, abstract no. 1304
 1. Arvidson, R. E., **Bowman, J.**, Blaney, D., Farmer, J., Hayati, S., Klingelhofer, G., Niebur, C. S., Plescia, J., Saunders, R. S., *Rocky 7 Prototype Mars Rover: Field Experiments in the Mojave Desert, California*, 28th Annual Lunar and Planetary Science Conference, March 17-21, 1997, Houston, TX, p. 59

ACCEPTED INVITED TALKS AND REVIEWS

44. *EDGES and the Development of Absolute Calibration for Wideband Radio Receivers for 21cm Cosmology*, American Astronomical Society, AAS Meeting #232, id.#310.01, June 2018
43. *Toward a Cosmic Dawn Mapper*, American Astronomical Society, AAS Meeting #232, id.#312.05, June 2018
42. *The Dawn of 21cm Cosmology with EDGES*, URSI AT-RASC Gran Canaria, May 28-June 1, 2018
41. *The Dawn of 21cm Cosmology with EDGES*, ASU, Physics Dept. Colloquium, April 26, 2018
40. *The Dawn of 21cm Cosmology with EDGES*, Caltech, Astronomy Dept. Colloquium, April 11, 2018
39. *Latest Results from EDGES*, USNC-URSI National Radio Science Meeting, id.#J6-4, January 4-7, 2018, Boulder, CO
38. *Global Signal HI Experiments*, U.S. Radio/Millimeter/Submillimeter Science Futures III, August 2-4, 2017, Berkeley, CA
37. *Searching for the fingerprints of the first stars and black holes*, Feb. 27, 2017, Brown University
36. *Searching for the fingerprints of the first stars and black holes*, Feb. 10, 2017, U. New Mexico
35. *Murchison Widefield Array (MWA) – Status and Science Highlights*, SKA Splinter Session, 225th Annual Meeting of the American Astronomical Society, January 5-8, 2015, Seattle, WA
34. *Reionization and the Murchison Widefield Array*, University of Toronto, May 30, 2014
33. *Murchison Widefield Array (MWA)*, U.S. Low-frequency Meeting, Washington, D.C., August 27-28, 2013
32. *Reionization with the Murchison Widefield Array*, Reionization in the Red Centre, Uluru, Australia, July 15-18, 2013
31. *Reionization and Galactic Science with the Murchison Widefield Array*, STScI, April 3, 2013
30. *EDGES*, SKA1-Low Science Assessment Workshop, Manchester, U.K., March 26-28, 2013
29. *MWA Status and New Science*, The Path to SKA-low Workshop, Perth, Australia, Sept. 6-9, 2011 (session chair)
28. *Overview of 21m Observables*, Conference on Novel Telescopes for 21 cm Cosmology, Penticton, Canada, June 14, 2011 (invited review)
27. *EDGES*, Conference on Foregrounds for CMB and 21 cm, Zadar, Croatia, May 23-27, 2011 (session chair)
26. *Experiment to Detect the Global EoR Signature: Overview and Early Science*, Hydrogen Cosmology Workshop, Harvard, May 18-19, 2011 (session chair)
25. *Results from EDGES*, Abstract #107.08, Special Session on Hydrogen Epoch of Reionization Arrays (HERA), 217th Annual Meeting of the American Astronomical Society, January 9-14, 2011, Seattle, WA

24. *Hydrogen Epoch of Reionization Array (HERA)*, URSI-USNC, Special Session on Large-N Radio Arrays: Issues and Algorithms, Boulder, CO, January 5-8, 2011
23. *Data and Results! Redshifted 21 cm Cosmology has Begun*, Gravity group seminar, Princeton University, November 5, 2010
22. *The Dawn of 21 cm Cosmology*, Physics colloquium, Embry Riddle Aeronautical University, October 19, 2010
21. *Lessons from EDGES: Ground-based constraints on the global 21 cm signal and implications for lunar observations*, Robotic Science From the Moon Workshop, LUNAR, Boulder, CO, October 6, 2010 (invited)
20. *21 cm Experiments: MWA, EDGES, and more*, The First Galaxies Quasars and Gamma Ray Bursts, Pennsylvania State University, June 10, 2010 (invited)
19. *21 cm Cosmology*, School of Earth and Space Exploration colloquium, Arizona State University, February 26, 2010 (invited)
18. *21 cm Cosmology*, Physics Dept. colloquium, Carnegie Mellon University, February 23, 2010 (invited)
17. *The Dawn of 21 cm Cosmology*, LUNAR webinar, U. Colorado, February, 4, 2010 (invited)
16. *Are Radio Telescopes the Future of Dark Energy?*, Astro-HEP seminar, U. Michigan, December 14, 2009 (invited)
15. *The Dawn of 21cm Cosmology*, NRAO colloquium, Socorro, New Mexico, December 4, 2009 (invited)
14. *The Dawn of 21cm Cosmology*, SSL Seminar, UC Berkeley, October 23, 2009 (invited)
13. *The Dawn of 21cm Cosmology*, ACKS Seminar, Stanford University, October 22, 2009 (invited)
12. *Cosmological Acceleration and Radio Pulsar Experiment (CARPE) Concept*, Science with Fast Radio Telescopes, Fermilab, October 10, 2009 (invited)
11. *EDGES: On the Doorstep of Reionization*, Curtin University, Perth, Western Australia, Astronomy Colloquium, August 27, 2009 (invited)
10. *On the Doorstep of Reionization*, Carnegie Observatories, Pasadena, Friday Seminar, May 22, 2009 (invited)
9. *21 cm Cosmology and Astrophysics: The Road to Reionization*, Caltech, Astronomy Dept. Colloquium, April 1, 2009 (invited)
8. *21 cm Cosmology: The "Global" Perspective*, UCSB, Astronomy Dept. Friday Seminar, December 5, 2008 (invited)
7. *Foreground Subtraction and Off-line Processing*, Low-Frequency Software Workshop, The XXIX General Assembly of the International Union of Radio Science (URSI), Chicago, Illinois, August 7-16, 2008 (invited)
6. *Experiment to Detect the Global EOR Signature: Status Update*, Low-Frequency Software Workshop, The XXIX General Assembly of the International Union of Radio Science (URSI), Chicago, Illinois, August 7-16, 2008 (invited)
5. *Foregrounds and Redshifted 21 cm Observations*, CMB Component Separation and the Physics of Foregrounds, Pasadena, California, July 14 – 18, 2008 (invited review)
4. *Measuring the 21 cm Global (Mean) Brightness Temperature*, 21 cm Cosmology: The Fifth Harvard-Smithsonian Conference on Theoretical Astrophysics, Harvard University, May 12-15, 2008 (invited)
3. *"First Light" From New Probes of the Dark Ages and Reionization*, Institute of Geophysics and Physics, Lawrence Livermore National Laboratory, February 29, 2008, Lawrence, California (invited)
2. *"First Light" From New Probes of the Dark Ages and Reionization*, Astronomy Department Colloquium, UC Berkeley, February 28, 2008, Berkeley, California (invited)
1. *The Mileura Widefield Array (MWA)*, URSI CNC/USNC North American Radio Science Meeting, July 22-26, 2007, Ottawa, ON, Canada, abstract J2-13.URSI406 (invited)

CONTRIBUTED TALKS

30. *Lunar Farside Radio Array Pathfinder Enabled by the Deep Space Gateway*, Deep Space Gateway Concept Science Workshop, Denver, Colorado, LPI Contribution No. 2063, id.3129, February 27-March 1, 2018
29. *EDGES*, Cosmological Signals from Cosmic Dawn to the Present, Aspen Center for Physics, February, 2018
28. *Constraints on Reionization from EDGES High-Band*, IAU Symposium #333, Peering Towards Cosmic Dawn, October 2-6, 2017
27. *EDGES-2: Experiment to Detect the Global EoR Signature*, The Olympian Symposium 2015: Cosmology and the Epoch of Reionization, Paralia Katerini's, Mount Olympus, Greece, 18-22 May 2015
26. *Murchison Widefield Array (MWA) - 1st Year Science Results*, Abstract #301.07, 225th Annual Meeting of the American Astronomical Society, January 5-8, 2015, Seattle, WA
25. *VHF-Band RFI in Geographically Remote Areas*, RFI2010, Groningen, NL, March 31, 2010
24. *21 cm Cosmology with a micro-SKA*, SKA2010, Manchester, UK, March 25, 2010
23. *The Dawn of 21 cm Cosmology with EDGES*, Hubble Fellows Symposium, Space Telescope Science Institute, March 8, 2010
22. *Was Reionization Instantaneous? The First Redshifted 21 cm Science Results*, Aspen Winter Conference on The High Redshift Universe: A Multi-wavelength View, Aspen Center for Physics, February 12, 2010 (co-organizer)
21. *The End of the Beginning: The Dawn of 21cm Cosmology with EDGES*, 215th Meeting of the American Astronomical Society, January 4-7, 2010, Washington, D.C., abstract 325.01
20. *Hydrogen Epoch of Reionization Arrays (HERA)*, US SKA Consortium Meeting, Caltech, October 15, 2009
19. *EDGES: On the Doorstep of Reionization*, Arizona State University, September 29, 2009
18. *21 cm Cosmology, The global signal: Earth-based constraints and implications for lunar observations*, National Lunar Science Institute, NASA Ames Research Center, July 22, 2009
17. *On the Doorstep of Reionization*, Hubble Fellows Symposium, Space Telescope Science Institute, March 9-11, 2009, Baltimore, Maryland
16. *"First Light" From New 21 cm Probes of the Dark Ages and Reionization*, Astronomy Tea Talk, California Institute of Technology, April 21, 2008
15. *Revealing Reionization through 21 cm Emission*, Pasadena Postdoc Retreat, April 14-16, 2008, Lake Arrowhead, California
14. *21 cm Cosmology*, Observational Cosmology Seminar Series hosted by Andrew Lange, California Institute of Technology, February 14, 2008
13. *HI and Cosmology: What We Need to Know*, The Evolution of Galaxies through the Neutral Hydrogen Window, February 1-3, 2008, Arecibo, Puerto Rico
12. *First Constraints on the Global Redshifted 21 cm Background During the Epoch of Reionization*, 211th Annual Meeting of the American Astronomical Society, January 7-11, 2008, Austin, Texas, abstract 119.06
11. *EDGES*, TAPIR Tuesday Journal Club hosted by Marc Kamionkowski, California Institute of Technology, November 27, 2007
10. *Measuring the Redshifted 21 cm Background*, Observational Cosmology Seminar Series hosted by Andrew Lange, California Institute of Technology, November 1, 2007
9. *Low Frequency Radio Arrays: Back to the Future*, Microwave Seminar Series hosted by Sandy Weinreb, California Institute of Technology, October 24, 2007
8. *"First Light" From New Probes of the Dark Ages and Reionization*, Hubble Fellows Symposium, Space Telescope Science Institute, March 10-12, 2008, Baltimore, Maryland
7. *Observing the Epoch of Reionization*, Cosmology Group Seminar Series, Jet Propulsion Laboratory, January 23, 2007

6. *Revealing the Epoch of Reionization with Redshifted 21 cm Measurements*, 209th Annual Meeting of the American Astronomical Society, January 5-10, 2007, Seattle, Washington, abstract 224.02D
5. *Revealing the Epoch of Reionization: The Effects of Foregrounds*, XXIII Texas Symposium on Relativistic Astrophysics, Melbourne, Australia, December 11-15, 2006
4. *Observing the Epoch of Reionization*, Visiting Committee, MIT Haystack Observatory, June 16, 2006
3. *Prospects for Observing Gravitational Lensing by Supermassive Black Holes in Galaxy Cores*, MIT Haystack Observatory, 2005
2. *Viz: Design and Implementation*, NASA Ames Research Center, Code IC, 2002
1. *Field Trials of Prototype Mars Rover in Mojave Desert*, Geological Society of America, Fall Meeting, Salt Lake City, UT, abstract no. 50104, 1997

PRESS AND OUTREACH

- 2018 Spirit of the Senses Science Salon (informal question and answer session, 30 participants), Tempe, AZ, April 24
- 2018 *The Dawn of a New Era in Cosmology*, New Discovery Lecture Series, ASU, March 22
- 2018 Media coverage of publication of EDGES 21cm absorption profile (top 1% of research outputs tracked by Altmetric)
- 2018 *ASU astronomers to build space telescope to explore nearby stars*, ASU, January 10
- 2016 *ASU astronomers to explore the ‘cosmic dawn’ of the universe*, ASU, September 15
- 2016 *Move over, Pokemon Go*, ASU, July 14
- 2016 *Our Research Impact – Ask Dr. Discovery*, ASU CLAS Magazine, Vol. 5, No. 1, Spring/Summer
- 2016 *Arizona State University students to explore local effects on climate*, KTAR, May 11
- 2016 *NASA selects ASU undergraduate “CubeSat” project to measure Phoenix urban heat islands*, ASU, May 6, 2016
- 2015 *ASU-developed app gives museum visitors an astronaut in the palm of their hands*, ASU, April 14, 2015
- 2014 *ASU joins pathbreaking radio telescope project to study early universe*, ASU, November 24, 2014
- 2014 *A Glimpse of Cosmic Dawn*, Science, Nov. 7
- 2014 *Early universe heated slower than thought*, ABC Science Online, Feb. 6
- 2014 *Our universe was slower to warm up than previously thought, say scientists*, Space.com and Christian Science Monitor, Feb. 5/6
- 2013 *Writing the history of the Cosmic Dark Ages*, Research Matters, ASU, August 29
- 2013 *ASU cosmologist awarded a NASA fellowship in astrophysics*, Research Matters, ASU, March 15
- 2012 *Far side of the moon offers quiet place for telescopes*, New Scientist, July 3
- 2012 Mars Curiosity Rover Screen Saver
- 2012 *Max Goes to the Moon* (presentation of children’s video, 55 participants), ISTB4 Marston Exploration Theater, ASU, Tempe, AZ, with Prof. Jack Burns (U. Colorado), October 2
- 2012 Spirit of the Senses Science Salon (informal question and answer session, 25 participants), Tempe, AZ, July 28
- 2012 *A One Night Stand* (informal question and answer session with public, 20 participants), Tempe, AZ, April 18
- 2011 Recorded television interview at Murchison Radio Astronomy Observatory, *Landlines*, Australian Broadcasting Corporation
- 2010 10+ popular press pieces on EDGES experiment, including US News, New Scientist, Space.com; MIT and ASU press releases; and ASU homepage feature

- 2010 *Cosmology: Hydrogen was not ionized abruptly*, Pritchard, J. & Loeb, A., News and Views, Nature, 468, 7325, pp. 772-773, 2010
- 2010 Physics café (informal question and answer session with public, 50 participants), Wheeler Opera House, Aspen, CO, with Prof. Rennan Barkana, February 10
- 2009 *Exotic Telescopes Prepare to Probe Era of First Stars and Galaxies*, Science Magazine
- 2009 *Mystery Cosmic Static May Cast Light on Formation of First Stars*, Scientific American
- 2008 Mars Phoenix Lander Screen Saver, distributed by University of Arizona
- 2008 Outreach talk (Washington University Pathfinder program at Cal State Desert Studies Center in Mojave National Preserve), Astrophysics and the Night Sky
- 2006 Mars Reconnaissance Orbiter Screen Saver, distributed by NASA
- 2006 *How the Stars Were Born*, Time Magazine
- 2006 *Flat telescope to offer view to stars' origins*, ABC News Online
- 2005 Cassini-Huygens Photojournal Screen Saver, distributed by NASA
- 2004 Mars Exploration Rovers Screen Saver (over 100,000 downloads), distributed by NASA
- 2002 Outreach talk (Robotics Education Project), 3D Visualization and the Mars Exploration Rovers
- 1999 Outreach talk (Boeing), Prototype Mars Rover Development
- 1999 Live television interview (Good Morning St. Louis), Washington University Hosts Mission Control for Solo Spirit Balloon Flight
- 1998 Outreach talk (elementary school), Rocky 7 and the Science of Mars
- 1998 Outreach talk (St. Louis Astronomical Society), Solo Spirit Balloon Flight: Test of the Aerobot Mission Concept

PROFESSIONAL SERVICE

- 2018 Science organizing committee, *Science at Low Frequencies (SALF) V*, December 4-6, Nagoya, Japan
- 2018 Local organizing committee, *Walking the Line*, March 14-16, Tempe, AZ
- 2017-2018 Co-organizer, *Low Radio Frequency Observations from Space*, Meeting-in-a-meeting, 232nd AAS Meeting, June 3-7, Denver, Colorado
- 2017-2018 Co-organizer, 2018 Winter Conference, Aspen Center for Physics, “*Cosmological Signals from Cosmic Dawn to the Present*”
- 2016-2017 Science Organizing Committee, *Peering towards Cosmic Dawn*, IAU Symposium 333, 2nd-6th October 2017, Dubrovnik, Croatia
- 2016 Session co-chair, *Cosmic Dawn and the Epoch of Reionization*, Science at Low Frequencies III, Pasadena, CA, December 7-9
- 2015-2017 Executive Board, Murchison Widefield Array (MWA)
- 2015-present Executive Board, Hydrogen Epoch of Reionization Array (HERA)
- 2014 Organizer, Tempe2014: Early Science from Low-frequency Radio Telescopes, Tempe, AZ (100 international participants, co-hosted with MWA collaboration)
- 2014-present Project Scientist, Hydrogen Epoch of Reionization Array (HERA)
- 2013-2014 Co-chair, Special Session on *Radio Astronomy in Space*, USNC-URSI National Radio Science Meeting, Boulder, Colorado
- 2013 Chair, Science Organizing Committee, MWA Science Meeting, Wellington, NZ
- 2012-2013 Organizer, Special Session on *Early Results from Hydrogen Epoch of Reionization Arrays (HERA)*, 221st Annual Meeting of the AAS, Long Beach, CA
- 2011-2012 Co-chair, Special Session on *EoR and the Dark Ages*, USNC-URSI National Radio Science Meeting, Boulder, Colorado
- 2011-2015 Executive Steering Committee, Lunar University Network for Astrophysics Research (LUNAR)
- 2011 Science Organizing Committee, Path to the SKA-low Workshop, Perth, Australia

2011 Science Organizing Committee, Foregrounds for CMB and 21 cm, Zadar, Croatia
 2011-2017 Editorial Board, *Scientific Reports*, Nature Publishing Group
 2010-2015 Project Scientist, Murchison Widefield Array (MWA)
 2010-2015 HERA Coordination Group (<http://reionization.org>)
 2010 Local organizer, MWA Project Meeting, Tempe, AZ
 2010 U.S. SKA Strategic Redefinition Working Group
 2010-2011 Lead organizer, Keck Institute for Space Studies (KISS) Study Program, Caltech, "*The First Billion Years*"
 2009-2012 Judge, Chambliss Student Award, AAS Annual Meetings
 2009-present MRO Coordination Committee (MROCC)
 2009-2010 Executive representative (Caltech), U.S. SKA Consortium
 2009-2010 Elected representative, MWA Science Council
 2009-2010 Co-organizer, 2010 Summer Workshop, Aspen Center for Physics, "*Astrophysics and Cosmology with the 21-cm Background*"
 2009-2010 Co-organizer, 2010 Winter Conference, Aspen Center for Physics, "*The High Redshift Universe: A Multi-wavelength View*"
 2008-present External proposal reviewer: NSF, NWO
 2007-present Journal referee: AA, AJ, ApJ, ApJL, TAP, JOAA, MNRAS, Nature, Radio Science
 2006-2008 Admission committee, NASA Robotics Academy

UNIVERSITY SERVICE

2018-2019 Faculty hiring committee, Astrophysics, ASU
 2017-present Astronomy online degree committee, School of Earth and Space Exploration, ASU
 2017-present Performance evaluation committee, School of Earth and Space Exploration, ASU
 2016-2017 Curriculum committee, School of Earth and Space Exploration, ASU
 2015-present Faculty advisor, Phoenix Cubesat undergraduate team (~100 students)
 2014-2017 Representative, Murchison Widefield Array (MWA) U.S. Consortium
 2014-2015 First Year Forward, CLAS, ASU
 2014-present Chair, Exploration postdoctoral fellowship committee, SESE, ASU
 2014-2017 Undergraduate education committee, School of Earth and Space Exploration, ASU
 2013-present Faculty co-advisor, Earth and Space Open House at ASU (student organization)
 2013 Informatics Ph.D. degree definition committee, CIDSE, ASU
 2012-2014 Exploration postdoctoral fellowship committee, SESE, ASU
 2011-2014 Graduate oversight committee, SESE, ASU
 2010-present Co-Director, ASU Cosmology Initiative
 2010-2011 Faculty hiring committee, Experimental cosmology, ASU
 2010-2011 Faculty hiring committee, Observational cosmology, ASU
 2006 Research supervisor, Research Science Institute, MIT
 2004-2006 Graduate coordinator, MKI/Astrophysics Colloquia, MIT
 2004-2005 Graduate Student Council, MIT

TEACHING

2018 Fall AST 422: Astrophysics II
 SES 191: Exploring SESE (Co-Instructor)
 2018 Spring SES 494: Cubesat Lab
 SES 494: Dr. Discovery Data Analysis
 SES 493: Honors thesis
 AST 494: Senior thesis
 Course Development, BS Astronomy online degree

- 2017 Fall SES 191: Exploring SESE (Co-Instructor)
 SES 492: Honors directed study
 SES 499: Individualized instruction
 Course Development: BS Astronomy online degree
- 2016 Spring: AST 322, Introduction to Extragalactic Astrophysics
- 2015 Fall: AST 111 online: Introduction to Astronomy: The Solar System
 AST 113 online: Astronomy Laboratory I
- 2014 Fall: AST 111 online: Introduction to Astronomy: The Solar System
 AST 113 online: Astronomy Laboratory I
- 2014 Spring: AST 322: Introduction to Extragalactic Astrophysics
 AST 499/590 Individualized Instruction–LOFAR seminar
 AST 493: Honors Thesis
- 2013 Fall: AST 531: Galaxies and Cosmology I
 AST 493: Honors Thesis
- 2013 Spring: AST 322: Introduction to Extragalactic Astrophysics
- 2012 Fall: AST 111: Introduction to Astronomy: The Solar System
- 2012 Spring: AST 322: Introduction to Extragalactic Astrophysics
- 2011 Fall: GLG 591: Faculty Research Seminar
- 2011 Fall: AST 494/591: Astrophysics Journal Club

ADVISING AND MENTORING

Postdoctoral Scholars:

- 2018-present Dr. Steven Murray, Ph.D. in 2015 from U. Western Australia
- 2018-present Dr. Thomas Mozdzen, Ph.D. in 2017 from ASU
- 2015-present Dr. Adam Beardsley, Ph.D. in 2015 from Univ. of Washington
 2017-present NSF Astronomy & Astrophysics Postdoctoral Fellowship at ASU
- 2013-2017 Dr. Nithyanandan Thyagarajan, Ph.D. in 2011 from Columbia University
- 2012-2016 Dr. Raul Monsalve, Ph.D. in 2012 from Univ. of Miami (FL)
- 2011-2017 Dr. Daniel C. Jacobs, Ph.D. in 2011 from Univ. of Pennsylvania
 2014-2017 NSF Astronomy & Astrophysics Postdoctoral Fellowship at ASU

Graduate Students – Ph.D. Thesis Advisor:

- 2016-present Ms. Nivedita Mahesh (expected Ph.D. 2021)
- 2016-2018 Mr. Matthew Kolopanis (co-chair; Ph.D. 2018)
- 2011-present Ms. Jacqueline Monkiewicz (expected Ph.D. 2018)
- 2011-present Mr. Piyanat “Boom” Kittiwisit (expected Ph.D. 2019)
- 2011-2017 Mr. Thomas Mozdzen (Ph.D. 2017)

Undergraduates and Research Assistants: 40 students advised since 2010

Undergraduate Honors Thesis Advisor:

- 2017-2018 Mr. Justin Wofford (mechanical engineering), *Modeling and Verification of a Cubesat Attitude Determination and Control System*
- 2016 Mr. Ivan Fernandez (biology), *An Analysis of Museum Visitor Feedback via the Ask Dr. Discovery Project*
- 2013-2014 Mr. Eric Tolley (mechanical engineering), *Versatile Small Radio Telescope*

Undergraduate Senior Thesis Advisor:

- 2017-2018 Mr. Kevin McNulty Millsap (SESE), *Early Imaging & Beam Analysis with the Hydrogen Epoch of Reionization Array (HERA)*

2015-2016 Mr. Michael Busch (SESE), *Enabling a New Window on the Earliest Astrophysical Structures from the Dark Ages, First Light, and Reionization*

PROFESSIONAL MEMBERSHIPS

2014-present Member, Institute of Electrical and Electronics Engineers (IEEE)

2012-present Member, International Union of Radio Science (URSI)

2009-present Member, American Association for the Advancement of Science (AAAS)

2005-present Member, American Astronomical Society (AAS)