Stacey Alberts **Curriculum Vitae**

CONTACT INFORMATION

Steward Observatory
University of Arizona
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Tucson, AZ 85721

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EDUCATION AND RESEARCH EXPERIENCE

University of Arizona, Tucson, AZ USA

Research Professor, Steward Observatory, January 2020 - current

My role at Steward Observatory is a combination of science and instrumentation, primarily focused on the Mid-Infrared Instrument (MIRI) and Near-Infrared Camera (NIRCam) on the upcoming James Webb Space Telescope (JWST). My science is broadly galaxy evolution and environment, both locally and at high redshift, including ongoing programs with existing data and development of Guaranteed Time Observations for early JWST cycles. For instrumentation, I work on MIRI instrument testing and detector characterization.

Senior Research Associate, Steward Observatory, September 2017 - January 2020

Postdoctoral Research Associate, Steward Observatory, September 2014 - 2017

University of Massachusetts - Amherst, Amherst, MA USA

Ph.D., Astronomy, August 2008 - August 2014

Thesis: *The Role of Environment in Dusty Star Formation*, May 2011 - August 2014
Advisor: Alexandra Pope, Assistant Professor
Research Project: *Counterpart Identification of Submillimeter Galaxies*, August 2009 - May 2011
Advisor: Grant Wilson, Professor
Research Project: *Star Formation in Extended Ultraviolet Disks*, August 2008 - August 2009
Advisor: Daniela Calzetti, Professor

University of Illinois - Champaign−Urbana

M.S., Astronomy, August 2007 - August 2008 (deferred for Ph.D. study)

Research Project: *Accurate Photometric Redshifts for Galaxies and Quasars*, August 2007 - August 2008
Advisors: Robert Brunner, Professor, and Nick Ball, Ph.D.

B.S., Astronomy and Physics (double major), May 2007 (received)

Undergraduate Research: *Accurate Photometric Redshifts for Galaxies and Quasars*, May 2006 - August 2007
Advisors: Robert Brunner, Professor, and Nick Ball, Ph.D.
Undergraduate Research: *The Properties of Cataclysmic Variable Stars*, May 2005 - December 2005
Advisor: Ronald Webbink, Professor

REFEREED JOURNAL PUBLICATIONS

S. Alberts, K-. S. Lee, A. Pope, et al., 2021, *Measuring the total infrared light from galaxy clusters at z = 0.5-1.6: connecting stellar populations to dusty star formation*, MNRAS, 501, 1970

A. Gaspar, G. H. Rieke, P. Guillard, D. Dicken, R. Gastaud, **S. Alberts**, et al., 2021, *The Quantum Efficiency and Diffractive Image Artifacts of Si:As IBC mid-IR Detector Arrays at 5-10 μm: Implications for the JWST/MIRI Detectors*, PASP, 133, 4504

S. Alberts, W. Rujoparkarn, G. H. Rieke, P. Jagannathan, K. Nyland, 2020, *Completing the Census of AGN in GOODS-S/HUDF: New Ultradeep Radio Imaging and Predictions for JWST*, ApJ, 901, 168

E. Moravec, A. H. Gonzalez, S. Dicker, **S. Alberts**, et al., 2020, *The Massive and Distant Clusters of WISE Survey. IX. High Radio Activity in a Merging Cluster*, ApJ, 898, 145

K. N. Hainline, R. E. Hviding, M. Rieke, I. Shivaei, R. Endsley, E. Curtis-Lake, R. Smit, C. C. Williams, **S. Alberts**, et al., 2020, *Simulating JWST/NIRCam Color Selection of High-redshift Galaxies*, ApJ, 892, 125

W. Rujopakarn, E. Daddi, G. H. Rieke, A., Puglisi, M. Schramm, P. G. Pérez-González, G. E. Magdis, **S. Alberts**, et al., 2019, *ALMA 200 pc Resolution Imaging of Smooth Cold Dusty Disks in Typical $z\sim 3$ Star-forming Galaxies*, ApJ, 882, 107

M. García Marín, G. H. Rieke, M. Ressler, D. Dicken, T. Greene, J. Morrison, S. Kendrew, **S. Alberts**, et al., 2018, *Observing recommendations for JWST MIRI users*, SPIE, 1-704, 1

C. C. Williams, E. Curtis-Lake, K. Hainline, J. Chevallard, B. E. Robertson, S. Charlot, R. Endsley, D. P. Stark, C. N. A. Willmer, **S. Alberts**, et al., 2018, *The JWST Extragalactic Mock Catalog: Modeling Galaxy Populations from the UV through the Near-IR over 13 Billion Years of History*, ApJS, 236, 33

A. Kirkpatrick, **S. Alberts**, A. Pope, et al. 2017, *The AGN-Star Formation Connection: Future Prospects with JWST*, ApJ, 849, 111

A. Pope, A. Montana, A. Battisti, M. Limousin, D. Marchesini, G. W. Wilson, **S. Alberts**, et al. 2016, *Early Science with the Large Millimeter Telescope: Detection of Dust Emission in Multiple Images of a Normal Galaxy at $z \sim 4$ Lensed by a Frontier Fields Cluster*, ApJ, 838, 137

C.-T Chen, R. C. Hickox, K. N. Hainline, **S. Alberts**, et al. 2016, *The X-ray and Mid-Infrared Luminosities in Luminous Type 1 Quasars*, ApJ, 837, 145

M. García Marín, C. N. A. Willmer, A. Labiano-Ortega, **S. Alberts**, G. H. Rieke, G. Wright, M. Rieke, 2016, *Optimizing Parallel Observations for the JWST/MIRI Instrument*, SPIE, 9910, 1

S. N. Bright, M. E. Ressler, **S. Alberts**, A. Noriega-Crespo, J. E. Morrison, M. Garcia-Marin, O. Fox, G. H. Rieke, A. C. Glasse, G. S. Wright, D. C. Hines, P. Bouchet, D. Dicken, 2016, *MIRI/JWST detector characterization*, SPIE, 9904, 41

S. Alberts, A. Pope, M. Brodwin, S. M. Chung, R. Cybulski, A. Dey, P. R. M. Eisenhardt, A. Galametz, A. H. Gonzalez, B. T. Jannuzi, S. A. Stanford, G. F. Snyder, D. Stern, G. R. Zeimann, 2016, *Star Formation and AGN Activity in Galaxy Clusters from z=1-2: a Multi-Wavelength Analysis Featuring Herschel/PACS*, ApJ, 825, 72

J. Lyu, G. H. Rieke, **S. Alberts**, 2016, *The Contribution of Host Galaxies to the Infrared Energy Output of z>5 Quasars*, ApJ, 816, 85

C.-T. J. Chen, R. C. Hickox, **S. Alberts**, et al., 2015, *A Connection between Obscuration and Star Formation in Luminous Quasars*, ApJ, 802, 50

C R. Wagner, M. Brodwin, G. F. Snyder, A. H. Gonzalez, S. A. Stanford, **S. Alberts**, et al., 2015, *Star Formation in High-Redshift Cluster Ellipticals*, ApJ, 800, 107

S. Alberts, A. Pope, M. Brodwin, D. W. Atlee, Y.-T. Lin, A. Dey, P. R. M. Eisenhardt, D. P. Gettings, A. H. Gonzalez, B. T. Jannuzi, C. L. Mancone, J. Moustakas, G. F. Snyder, S. A. Stanford, D. Stern, B. J. Weiner, G. R. Zeimann, 2014, *The Evolution of Dust-Obscured Star Formation Activity in Galaxy Clusters Relative to the Field Over the Last 9 Billion Years*, MNRAS, 437, 437

M. Brodwin, S. A. Stanford, A. Gonzalez, G. R. Zeimann, G. F. Snyder, C. L. Mancone, A. Pope, P. R. M. Eisenhardt, D. Stern, **S. Alberts**, et al. 2013, *The Era of Star Formation in Galaxy Clusters*, ApJ, 779, 138

C.-T. Chen, R. C. Hickox, **S. Alberts**, et al., 2013, *A Correlation between Star Formation Rate and Average Black Hole Accretion in Star-forming Galaxies*, ApJ, 773, 3

S. Alberts, G. Wilson, Y. Lu, S. Johnson, M. S. Yun, K. S. Scott, A. Pope, I. Aretxaga, H. Ezawa, D. H. Hughes, R. Kawabe, S. Kim, K. Kohno, T. Oshima, 2013, *Submm/mm Galaxy Counterpart Identification Using a Characteristic Density Distribution*, MNRAS, 431, 194

K.-S. Lee, **S. Alberts**, D. Atlee, A. Dey, A. Pope, B. T. Jannuzi, N. Reddy, M. J. I. Brown, 2012, *Herschel Detection of Dust Emission from UV-luminous Star-forming Galaxies at 3.3* $\lesssim z \lesssim$ *4.3*, ApJ, 758, 31

J. Wagg, A. Pope, **S. Alberts**, et al., 2012, *CO J=2-1 Line Emission in Cluster Galaxies at z*$\sim$*1: Fueling Star Formation in Dense Environments*, ApJ, 752, 91

J. Melbourne, B. T. Soifer, V. Desai, A. Pope, L. Armus, A. Dey, R. S. Bussman, B. T. Jannuzi, **S. Alberts**, 2012, AJ, 143, 125

I. Aretxaga, G. Wilson, E. Aguilar, **S. Alberts**, et al. 2011, *AzTEC Millimeter Survey of the COSMOS field - III. Source catalogue over 0.72 deg*^{2} *and Plausible Boosting by Large Scale Structure*, MNRAS, 415, 3831

S. Alberts, D. Calzetti, H. Dong, L. C. Johnson, D. A. Dale, L. Bianchi, R. Chandar, R., Kennicutt, G. Meurer, M. Regan, D. Thilker, 2011, *The Evolution of Stellar Populations in the Outer Disks of Spiral Galaxies*, ApJ, 731, 28

N. M. Ball, R. J. Brunner, A. D. Myers, N. E. Strand, **S. L. Alberts**, D. Tcheng, 2008, *Robust Machine Learning Applied to Astronomical Datasets III: Probabilistic Photometric Redshifts for Galaxies and Quasars in the SDSS and GALEX*, ApJ, 683, 12

N. M. Ball, R. J. Brunner, A. D. Myers, N. E. Strand, **S. L. Alberts**, D. Tcheng, X. Llora, 2007, *Robust Machine Learning Applied to Astronomical Datasets IIL Quantifying Photometric Redshifts for Quasars Using Instance-Based Learning*, ApJ, 663, 774

CONFERENCES, WORKSHOPS, AND TALKS

(†Contributed Talks, ‡Invited Talks)

‡**AstroFest Featured Speaker - University of Illinois**, April 23, 2021

‡**Colloquium - University of Illinois**, April 20, 2021

‡**Colloquium - Czech Academy of the Sciences**, March 4, 2021

‡**Infrared Science Interest Group Webinar**, *Measuring the Total Infrared Light in High Redshift Galaxy Clusters*, October 6, 2020

†**Steward Observatory Early Career Scientist Series**, *Measuring the Total Infrared Light in High Redshift Galaxy Clusters*, October 2, 2020

†**Steward Observatory Early Career Scientist Series**, *Completing the Census of AGN in GOODS-S/HUDF: New Ultra-Deep Radio Imaging and Predictions for JWST*, June 4, 2020

†**Uncovering early galaxy evolution in the ALMA and JWST era**, IAU Symposium 352, Viana do Castelo, Portugal, June 3-7, 2019

†**Past, Current and Future Galaxy Surveys - CANDELS and TolTEC Meetings**, Amherst, MA, October 22-27, 2018

‡**Yale Center for Astronomy and Astrophysics Seminar**, Yale University, December 12, 2017

Spectral Diagnostics to Explore the Cosmic Dawn with JWST, STScI, Baltimore, MD, July 31 - August 2, 2017

†**Mapping the Pathways of Galaxy Transformation Across Time and Space**, Catalina Island, CA, July 21-August 5, 2016

†**Space Drafts: Astronomy on Tap Public Talk**, *To Boldly Look Where No One Has Looked Before: The Science of James Webb Space Telescope*, Tucson, AZ, July 6, 2016

†**New Frontiers in Far-Infrared and Sub-millimeter Astronomy**, Aspen Center for Physics Summer Program, May 29 - June 12, 2016

†**Second JWST GTO Meeting**, Victoria, BC, May 17-19, 2016

Exploring the Universe with JWST, ESA-ESTEC, The Netherlands, October 12-16, 2015

2015 JWST Calibration Summit, STScI, September 2-4, 2015

†**Gas, Dust, and Star Formation in Galaxies from the Local to Far Universe**, Chania, Crete, May 25-29, 2015

†**American Astronomical Society, 223rd Meeting**, Washington D.C., January 5-9, 2014

†**Optical and Infrared Astronomy Lunch Talk**, Harvard Center for Astrophysics, November 20, 2013

†**Galaxy Evolution Over Five Decades**, Cavendish Astrophysics, University of Cambridge, England, September 3-6, 2013

Tracing Cosmic Evolution with Clusters of Galaxies, Sexten Center for Astrophysics, Italy, July 1-5, 2013

†**Growing Up at High Redshift: from Proto-clusters to Galaxy Clusters**, ESAC, Spain, September 10-13, 2012

†**2012 Boötes Team Cluster Workshop**, University of Missouri-Kansas City, May 17-18, 2012

†**Boötes Team Cluster Workshop and CSO Observations**, Observing Program 1588 B2, Mauna Kea, HI, April 2011

Introduction to Herschel Data Processing for New Users, Caltech, February 2-9, 2011

†**AzTEC Data Analysis and Projects Workshop**, Instituto Nacional de Astrofisica, Optica y Electronica, Mexico, May 2010

From Stars to Galaxies, University of Florida, April 6-11, 2010

OBSERVING AND ARCHIVAL PROGRAMS

PI: *Tracing Molecular Gas Across the Stages of Accretion onto a Galaxy Cluster*, ALMA (2021.1.00992.S), 9 hours, 2021

PI: *Tracing Molecular Gas Across the Stages of Accretion onto a Galaxy Cluster*, ALMA (2019.1.01010.S), 19 hours, 2019

Co-I: *An Extended Protocluster at z=1.75 Hosting a Massive Virialized Galaxy Cluster*, ALMA (2019.1.01169.S), 6 hours, 2019

Collaborator: *The Rise and Fall of Dusty Star Formation in Clusters and Protoclusters Measured by Herschel and WISE*, NASA Astrophysics Data Analysis Program, 18-ADAP18-0111

PI: *Exploring the Infrared-Radio Correlation in Massive Clusters at* $z = 1 - 2$, VLA (16B-292), 21 hours, 2016

PI: *Fueling Star Formation in Extreme Environments: Dust and Gas in Cluster Galaxies at* $z = 1 - 2$, ALMA (2015.1.00813.S), 8 hours, 2016

PI: *Exploring the Era of Star Formation in Massive Galaxy Clusters at High Redshift*, MMT/MMIRS, 2 nights, 2016

Co-I: *Radio-Active CoWS: Extended FIRST Sources in MadCoWS Clusters*, VLA (16B-289), 16 hours, 2016

Co-I: *A New Frontier for the LMT: Dust Obscured Activity in Galaxies that Dominate the Cosmic Star Formation History*, LMT Early Science 3, 46 hours, 2014

Co-I, *Tracing molecular gas in the highest redshift massive galaxy cluster*, VLA (13A-407), 4.5 hours, 2013

Co-I: *Dust Obscured Activity in the Highest Redshift Massive Galaxy Cluster*, JCMT, 2 nights, 2012

Co-I: *Tracing the Evolution of Star Formation Activity in High Redshifts Clusters*, Herschel Space Observatory, 55 hours, 2012

PI: *Hα Observations of Star Forming Regions in XUV Disks: Breaking the IMF-Age Degeneracy*, KPNO Mayall 4 m, 2 nights, 2009

Awards

Rodger Doxsey Travel Prize, Runner-up, American Astronomical Society, $200, 2013

FGSA Travel Award for Excellence in Graduate Research, APS Physics, $500, 2013

University Graduate School Fellowship, University of Massachusetts-Amherst, $17k, 2011-2012

Massachusetts Space Grant Consortium Fellowship, MSGC Fall Fellowship, $5k, 2010

Massachusetts Space Grant Consortium Fellowship, MSGC Summer Fellowship, $5k, 2009

Teachers Ranked as Excellent, Center for Teaching Excellence, University of Illinois, 2008

Teaching Experience

University of Massachusetts - Amherst

Instructor for Astron 103: Observational Astronomy August 2008 to May 2009

Responsible for 2 hour weekly lectures for 2 sections (per semester) of undergraduate students including night sky and telescope observations

University of Illinois - Champaign–Urbana

Discussion Leader for Astron 121: The Solar System August 2007 - May 2008

Responsible for 1 hour weekly discussions for 3 sections (per semester) of undergraduate students including lectures, quizzes, and projects

Technical and Professional Experience and Service, and Public Outreach

Infrared Science Interest Group Leadership Council, 2020 - present

Steward Observatory Optical/IR Time Allocation Committee, 2018 - 2020

Reviewer, NASA ROSES grant review, 2019, 2020 (panel chair)

Conference Co-Chair, *Dusting the Universe*, March 4-8, 2019, Tucson, AZ

Sponsored by the U. of Arizona, Steward Observatory; NOAO in association with AURA; NRAO in association with the NSF; and the Origins Space Telescope.

Organizer, Astronomy on Tap - Tucson (SpaceDrafts), 2017 - 2019

Organizer and host for a monthly public lecture series.

Steward Observatory Postdoc/Grad Mentoring Program, 2015-2019

Journal Referee, The Astrophysical Journal, 2017

Journal Referee, Monthly Notices of the Astronomical Society, 2016

MIRI Flight Performance Spare Test Run 8, Jet Propulsion Lab, March 2018

Test operator and data analyst for MIRI detector characterization testing.

MIRI Flight Performance Spare Test Run 7, Jet Propulsion Lab, March 2017

Test operator and data analyst for MIRI detector characterization testing.

JWST Integration Science Instrument Module (ISIM) Cryo-vac Testing 3, Goddard Space Flight Center, Dec 2015, Jan 2016

Data analyst for JWST MIRI cryogenic testing.

MIRI Flight Performance Spare Test Run 6, Jet Propulsion Lab, August 2016

Test operator and data analyst for MIRI detector characterization testing.

MIRI Flight Performance Spare Test Run 5, Jet Propulsion Lab, May 2015

Test operator and data analyst for MIRI detector characterization testing.

Events Host, Tucson Women in Astronomy, 2015

UMass Graduate/Undergraduate Mentoring and Preparation Program, 2013

Mentor for Rebekah Kovach (undergraduate at UMass).

Website Development, AzTEC Instrument Team, UMass, 2012

tutor.com, August 2005 - May 2008

Physics Tutor (Level 2) for high school through introductory college students.