

JENNIFER M. LOTZ

Space Telescope Science Institute
3700 San Martin Drive
Baltimore, MD 21218 USA

tel: (410) 338-4467
email: lotz@stsci.edu
web: jenlotz.github.io

EDUCATION

PH.D., ASTROPHYSICS 2003
Department of Physics and Astronomy, Johns Hopkins University, Baltimore, Maryland, USA
“The History of the Evolution of Dwarf Galaxies”

MASTERS OF ARTS, ASTROPHYSICS 1998
Department of Physics and Astronomy, Johns Hopkins University, Baltimore, Maryland, USA

A.B., WITH HONORS, PHYSICS & ASTRONOMY 1996
Bryn Mawr College, Bryn Mawr, Pennsylvania, USA

RESEARCH INTERESTS

GALAXY EVOLUTION, GALAXY MERGERS, OBSERVATIONAL COSMOLOGY

PROFESSIONAL APPOINTMENTS

ASSOCIATE ASTRONOMER with tenure 2016-present
Space Telescope Science Institute, Baltimore, Maryland, USA

ASSOCIATE ASTRONOMER 2013-2016
Space Telescope Science Institute, Baltimore, Maryland, USA

ASSOCIATE RESEARCH SCIENTIST 2012-present
Department of Physics and Astronomy, Johns Hopkins University, Baltimore, Maryland, USA

ASSISTANT ASTRONOMER 2010-2013
Space Telescope Science Institute, Baltimore, Maryland, USA

LEO GOLDBERG FELLOW 2005-2010
National Optical Astronomy Observatory, Tucson, Arizona, USA

POSTDOCTORAL FELLOW 2002-2005
Department of Physics & Lick Observatory, University of California, Santa Cruz, California, USA

GRADUATE RESEARCH FELLOW 1996-2002
Space Telescope Science Institute, Baltimore, Maryland, USA

RESEARCH ASSISTANT 1996
Centre for Gravitational Physics, University of Glasgow, U.K.

RESEARCH EXPERIENCE for UNDERGRADUATES INTERN 1995
Smithsonian Astrophysical Observatory, Harvard-Smithsonian Center for Astrophysics, Cambridge, Massachusetts, USA

RESEARCH EXPERIENCE for UNDERGRADUATES INTERN 1994
Maria Mitchell Observatory, Nantucket, Massachusetts, USA

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GRANTS AWARDED

NATIONAL SCIENCE FOUNDATION, Astronomy & Astrophysics <i>PI. J. Lotz; Tracking the Metamorphosis of Galaxy Structures</i>	2015-2018 total award: \$381,534
NASA, Hubble Space Telescope Cycle 23 <i>PI. C. Papovich, Co-I. J. Lotz; The CANDELS Lyman-alpha Emission At Reionization (CLEAR) Experiment</i>	2015-2018 Co-I award: \$130,832
NASA, Hubble Space Telescope Cycle 23 <i>PI. R. Livermore, Co-I. S. Finkelstein, M. Boylan-Kolchin, J. Lotz, M. Song Searching for faint high-z galaxies in the Hubble Frontier Fields</i>	2015-2018 Co-I award: --
NASA, Hubble Space Telescope Cycle 22 <i>PI. J. Lotz; Galaxy Mergers, AGN, and Quenching in $z > 1$ Proto-Clusters</i>	2015-2017 total award: \$121,592
NASA, Hubble Space Telescope Cycle 22 <i>PI: G. Snyder, Admin PI. J. Lotz; Observing the Origins of Galaxy Structure in the Illustris Simulations</i>	2015-2017 total award: \$126,767
STScI Director's Discretionary Funds <i>PI: J. Lotz; Constraining the Orbital Distribution of Galaxy Mergers with Tidal Tails</i>	2014 total award: \$8,000
STScI Director's Discretionary Funds <i>PI: J. Lotz; Tracking Galaxy Morphological Evolution with Unsupervised Machine Learning</i>	2014 total award: \$8,000
NASA, Hubble Space Telescope Cycle 20 <i>PI: J. Lotz; An Astrostatistical Approach to Distant Galaxy Morphology</i>	2013-2016 total award: \$318,408
NASA, Hubble Space Telescope Cycle 19 <i>PI: C. Papovich, Co-I. J. Lotz; Galaxy Assembly at High Densities</i>	2012-2013 Co-I award: \$35,651
STScI Director's Discretionary Funds <i>PI: J. Lotz; Constraining the Orbital Distribution of Galaxy Mergers with Tidal Tails</i>	2012-2014 total award: \$45,000
STScI Startup Funds <i>PI: J. Lotz</i>	2010-2014 total award: \$45,000
NASA, GALEX Space Telescope Cycle 6 <i>PI: J. Lotz; The Evolutionary Paths of Green Valley Galaxies</i>	2010-2012 total award: \$39,000
NASA, Hubble Space Telescope Cycle 15 <i>PI: J. Lotz; A Multi-Wavelength Study of Galaxy Mergers out to $z \sim 2$</i>	2005-2007 total award: \$99,970
NOAO/NSF, Leo Goldberg 5-year fellowship <i>PI: J. Lotz</i>	2005-2010 total award: ~\$500,000

RESOURCES AWARDED

XSEDE Research Grant; Open Science Grid: 408,743 SU <i>PI. G. Snyder; Co-I. J. Lotz; Testing and Applying Robust Automated Galaxy Morphology Diagnostics</i>	2016-2017
XSEDE Research Grant; Open Science Grid: 680,000 SU <i>PI. J. Lotz; Constraining the Initial Conditions of Major Galaxy Mergers Using IDENTIKIT</i>	2015-2016
XSEDE Startup Grant; Open Science Grid: 150,000 SU; SDSC Cluster 50,000 SU <i>PI. G. Snyder; Co-I. J. Lotz; Testing galaxy physics by modeling observations with simulations</i>	2015-2016

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SELECTED OBSERVING PROGRAMS

Hubble Space Telescope Cycle 21-23, Director's Discretionary Time, 840 orbits <i>PI. J. Lotz; Hubble Frontier Fields</i>	2013-2016
Hubble Space Telescope Cycle 23, GO program, 130 orbits <i>PI. C. Papovich; Co-I J. Lotz; The CANDELS Lyman-alpha Emission At Reionization (CLEAR) Experiment</i>	2015-2017
Large Millimeter Telescope; Early Science <i>PI. A. Pope; A New "Frontier" for the LMT: Dust-obscured Activity in Galaxies that Dominate the Cosmic Star Formation History</i>	2014
European Southern Observatory/Very Large Telescope VIMOS <i>PI. L. Pentericci & R. McLure; VANDELS -A deep VIMOS survey of the CANDELS UDS and CDFS fields</i>	2014
National Radio Astronomical Observatory/Very Large Array <i>PI. G. Rudnick Detecting CO[1-0] in the star-forming galaxies of a $z=1.62$ galaxy cluster</i>	2014
Hubble Space Telescope Cycle 20 GO Program, 24 orbits <i>PI. K.V. Tran, Co-I J. Lotz; At the Turn of the Tide: WFC3/IR Imaging and Spectroscopy of Two Galaxy Clusters at $z\sim 2$</i>	2012-2013
National Optical Astronomy Observatory/ WIYN SparsePak <i>PI. A. Mortazavi*, Co-I J. Lotz; SparsePak Kinematics of Tidally Interacting Galaxy Pairs</i>	2011B, 2012A; 2013A
Apache Point Observatory/ARC 3.5 m DIS <i>PI. A. Mortazavi*, Co-I J. Lotz; SparsePak Kinematics of Tidally Interacting Galaxy Pairs</i>	2011, 2012
Hubble Space Telescope Cycle 19, GO Program, 24 orbits <i>PI. M. Cooper, Co-I J. Lotz; Measuring the Star-Formation Efficiency of Galaxies at $z > 1$</i>	2011-2012
Hubble Space Telescope Multi-Cycle Treasury Program, 902 orbits <i>PI. S. Faber, H. Ferguson, Co-I J. Lotz, Cosmic Assembly Near-infrared Extragalactic Legacy Survey(CANDELS)</i>	2010-2014
National Optical Astronomy Observatory/ WIYN SparsePak <i>PI. J. Lotz, Galaxy Merger Kinematics, Star-formation, and Feedback</i>	2008A

(* = student-lead project)

AWARDS & HONORS

STSCI STAFF SERVICE AWARD <i>JWST Documentation Working Group Lead</i>	2017
ASSOCIATION OF UNIVERSITIES FOR RESEARCH IN ASTRONOMY TEAM AWARD <i>Hubble Frontier Fields team</i>	2016
STSCI STAFF SERVICE AWARD <i>JWST Parallel Study/JWST Efficiencies Working Group</i>	2015
DISTINGUISHED VISITOR <i>Haverford College, Haverford, Pennsylvania, USA</i>	2014
DISTINGUISHED VISITOR <i>Dark Cosmology Centre, University of Copenhagen, Copenhagen, Denmark</i>	2014
STSCI STAFF SERVICE AWARD <i>Frontier Fields Implementation Team Lead</i>	2014

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STSCI STAFF SERVICE AWARD
JWST NIRCAM Instrument Team 2014

LEO GOLDBERG FELLOWSHIP
National Optical Astronomy Observatory, Tucson, Arizona, USA, 2005

CONFERENCES ORGANIZED

Spectral Diagnostics to explore the Cosmic Dawn with JWST
SOC, STScI workshop, Baltimore, Maryland 8/2017

Probing the New Frontiers with Cluster Lenses
SOC, EWASS Symposium, Athens, Greece 7/2016

What Shapes Galaxies?
co-chair, STScI Spring Symposium, Baltimore, Maryland 4/2016

The Reionization Epoch: New Insights and Future Prospects
SOC, Aspen Center for Physics winter meeting, Aspen, Colorado 3/2016

SDSS-IV MaNGA Galaxy Mergers mini-workshop
SOC, ASIAA, Taipei, Taiwan 11/2015

Frontier Fields: Transforming our Understanding of Cluster and Galaxy Evolution,
SOC, IAU focus meeting, Honolulu, Hawaii 8/2015

Mocking the Universe,
SOC, STScI workshop, Baltimore, Maryland 7/2015

The Many Pathways to Galaxy Growth,
SOC, Prato, Italy 6/2015

Back at the Edge of the Universe: Latest results from the deepest astronomical surveys,
SOC, Sintra, Portugal 3/2015

Yale Frontier Fields Workshop,
SOC, Yale University, New Haven, Connecticut 11/2014

Thirty Meter Telescope Science Forum,
SOC, Tucson, Arizona 7/2014

Science Results from Pan-STARRS1,
SOC, STScI workshop, Baltimore, Maryland 6/2014

Galaxy Zoo: Evolutionary Paths in Galaxy Morphology,
SOC, Sydney, Australia, 9/2013

Cluster Lensing: Peering into the Past, Planning for the Future,
SOC, STScI workshop, Baltimore, Maryland 4/2013

CANDELS team $z \sim 2$ mini-workshop,
chair, STScI, Baltimore, Maryland 2/2011

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RECENT TALKS & COLLOQUIA (2012-2017)

Astronomy Colloquium University of California, Los Angeles, California	2/2017
invited talk at <i>A Symposium in Honor of Frank Cepollina: Extraordinary Science enabled by servicing the Hubble</i> STScI, Baltimore, Maryland	12/2016
invited talk at <i>In Situ View of Galaxy Formation</i> Schloss Ringberg, Bavaria, Germany	11/2016
contributed talks at <i>Exploring the Universe with JWST - II</i> Montreal, Canada	10/2016
conference summary, <i>What Shapes Galaxies?</i> STScI Spring Symposium, Baltimore, Maryland	4/2016
Astronomy Seminar Carnegie Mellon University, Pittsburgh, Pennsylvania	4/2016
invited talk at <i>The Reionization Epoch: New Insights and Future Prospects</i> Aspen Center for Physics winter meeting, Aspen, Colorado	3/2016
Large UV/Optical/Infrared Surveyor Seminar NASA-Goddard Space Flight Center, Greenbelt, Maryland (remote)	2/2016
invited talk at <i>Census, Evolution, Physics</i> Yale University, New Haven, Connecticut	11/2015
Astronomy Colloquium ASIAA, Taipei, Taiwan	11/2015
invited talk at MaNGA Galaxy Mergers mini-workshop ASIAA, Taipei, Taiwan	11/2015
invited talk at <i>Exploring the Universe with JWST</i> European Space Agency/ESTEC, Noordwijk, Netherlands	10/2015
invited talk at <i>Frontier Fields: Transforming our Understanding of Clusters and Galaxy Evolution</i> , IAU Focus meeting,, Honolulu, Hawaii	8/2015
contributed talk at <i>Galaxies at High Redshift and their Evolution over Cosmic Time</i> , IAU Symposium, Honolulu, Hawaii	8/2015
contributed talk at <i>The Many Pathways to Galaxy Growth</i> , Prato, Italy	6/2015
contributed talk at <i>Innovative Cosmological Simulations with Machine Learning and Statistics in the era of LSST</i> , Pittsburgh, Pennsylvania	6/2015
invited talk at <i>Hubble 2020</i> , STScI Spring Symposium, Baltimore, Maryland	4/2015
local talk for <i>CoolSci</i> , STScI, Baltimore, Maryland	1/2015

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RECENT TALKS & COLLOQUIA (2012-2017)

<i>HST</i> AAS Townhall presentation, AAS Winter 2015 meeting, Seattle, Washington	1/2015
Distinguished Visitor Colloquium, Department of Astronomy Haverford College, Haverford, Pennsylvania	12/2014
invited talk at <i>Yale Frontier Fields workshop</i> , Yale University, New Haven, Connecticut	11/2014
Astronomy Colloquium, University of Delaware, Newark, Delaware	9/2014
contributed talk at the Santa Cruz Galaxy workshop, University of California, Santa Cruz, California	8/2014
Astronomy Colloquium, NRAO/University of Virginia, Charlottesville, Virginia	5/2014
Astronomy Colloquium, University of Maryland, College Park, MD	5/2014
invited talk at <i>Science with the Hubble Space Telescope IV</i> , Rome, Italy	3/2014
Yale Center for Astronomy & Astrophysics Seminar, Yale University, New Haven, Connecticut	2/2014
invited talk at <i>Near Field-Deep Field Connection workshop</i> , University of California, Irvine, California	2/2014
Astronomy Colloquium, NASA-Goddard Space Flight Center, Greenbelt, MD	12/2013
Department of Physics & Astronomy colloquium, University of Kansas, Lawrence, Kansas	10/2013
invited talk at <i>Galaxy Zoo: Evolutionary Paths in Galaxy Morphology</i> , Sydney, Australia	9/2013
invited talk at <i>Thirty Meter Telescope Science Forum</i> , Waikoloa, Hawaii	7/2013
invited review at <i>Morphology in Era of Large Surveys</i> , Royal Astronomical Society, London, U.K.	5/2013
Department of Physics & Astronomy Colloquium, Tufts University, Boston, Massachusetts	4/2013
Department of Astronomy Colloquium, Penn State University, State College, Pennsylvania	3/2013
MPIE/MPA/ESO/Munich University Joint Astronomy Colloquium, Garching, Germany	1/2012

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COLLABORATIONS

Frontier Fields

Principal Investigator/Implementation Team Lead

Cosmic Assembly Near-infrared Extragalactic Deep Legacy Survey (*CANDELS*)

Galaxy Morphology Working Group lead (2010-2012); Executive Committee

Large Synoptic Survey Telescope (LSST)

contributor to LSST Science Book; Extra-galactic science team member; Galaxy morphology group lead

Pan-STARRS

STScI working group member

After-SDSS III / Mapping Nearby Galaxies at APO (*MaNGA*)

MaNGA Galaxy Mergers Working Group/external collaborator

Thirty Meter Telescope Early Universe Science Definition Team

contributor to TMT Science Case; TMT Community Science Meeting SOC

DEep Extragalactic Probe (*DEEP*) & *AEGIS* teams

HST data and galaxy morphology lead

PROFESSIONAL MEMBERSHIPS

American Astronomical Society; International Astronomy Union

COMMUNITY SERVICE

Thirty Meter Telescope Science Advisory Committee

2013-2016

US Thirty Meter Telescope Science Working Group

2013-

Hubble Deep Fields Initiative Science Working Group

2012

National Optical Astronomy Observatory Users Committee

2012

Hubble Fellow selection committee

National Optical Astronomy Observatory Goldberg Fellow search committee

National Science Foundation Astronomy & Astrophysics panel member

National Science Foundation Postdoctoral Fellow selection committee

Spitzer Space Telescope Extra-Galactic panel member

Hubble Space Telescope Extra-Galactic panel member

National Optical Astronomy Observatory Extra-Galactic TAC member

2008-2010

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STSCI APPOINTMENTS	Sabbatical (1 year)	2017-2018
	JWST Documentation Working Group lead	2015-2017
	Science Mission Office - JWST Policies group	2013-
	Science Mission Office - HST TAC Panel organizer	2013-2016
	HST Frontier Fields Implementation Team lead	2012-
	JWST NIRCcam Operations Lead	2012-2013
	JWST NIRCcam Proposal Planning System Lead	2010-2013
STSCI/AURA SERVICE	STScI Giacconi and Lasker postdoctoral fellowship search committee (chair)	2017
	AURA Report on the Future of UVOIR Space Astronomy red team reviewer	2015
	Advanced Technology Large Aperture Space Telescope Science Definition Team	2013
	STScI Colloquium committee	2015-2016
	Hubble Deep Fields Initiative Science Working Group	2012
	STScI Research Support Advisory Committee	2010-2013
	STScI Honors & Awards committee	2011-2015
	STScI Galaxy Journal Club faculty sponsor	2011-present
	STScI Giacconi Postdoctoral Fellowship search committee	2012
STUDENTS & POSTDOCS SUPERVISED	Rohan Kane, high school intern, Baltimore Polytechnic Institute, Ingenuity Program	2017-
	Vicente Rodriguez-Gomez, postdoctoral fellow, Johns Hopkins University	2016-
	Michael Peth, Ph.D. thesis student, Johns Hopkins University <i>Using Machine Learning to Study the Relationship between Galaxy Morphology and Evolution</i>	2011-2016
	Alireza Mortazavi, Ph.D. thesis student, Johns Hopkins University <i>Constraining the Initial Conditions of Galaxy Mergers</i>	2011-2016
	Greg Snyder, postdoctoral fellow, STScI	2013-2015
	Conor McPartland, summer undergraduate student, STScI	2013
	Erica Jones, Kitt Peak REU summer student, NOAO	2009
	Matthew Zagursky, Kitt Peak REU summer student, NOAO	2008
	Christina Pierce, Ph.D. thesis student with J. Primack, UCSC <i>Active Galactic Nuclei and Merging Galaxies at $z \sim 1$</i>	2004-2008

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	Seth Cottrell, undergraduate thesis student with J. Primack, UCSC	2005
	Tela Favaloro, undergraduate thesis student with J. Primack, UCSC	2004
	Laura White, summer student with H. Ferguson, STScI	2000
	Rosemary Telford, summer student with H. Ferguson, STScI	1999
THESIS COMMITTEES	Bingxiao Xu, PhD, Johns Hopkins University, Baltimore, Maryland,	2017
	Connor Bottrell, MSc, University of Victoria, B.C., Canada	2016
	Mohammad Safarzadeh, PhD, Johns Hopkins University, Baltimore, Maryland	2016
	Alison Mann, PhD, University of Copenhagen, Copenhagen, Denmark	2014
	Zheng Zheng, PhD, Johns Hopkins University, Baltimore, Maryland	2014
	Greg Snyder, PhD, Harvard University, Cambridge, Massachusetts,	2013
	Yun-Kyeong Sheen, PhD, Yonsei University, Seoul, Korea	2011
EDUCATION/OUTREACH	NASA-JPL Museum Alliance Universe of Learning Science Briefing (remote) <i>The Frontier Fields: NASA's Great Observatories Team Up to View the Distant Universe</i>	2016
	STScI Public Lecture, Baltimore, Maryland <i>The Frontier Fields: a Sneak Peek at the First Billion Years of the Universe</i>	2014
	Hubble 25th deep field video contribution; http://hubble25th.org/video/5	2015
	Hubble Science Briefing (remote) <i>The Frontier Fields</i>	2014
	Frontier Fields Google Hangouts	2013, 2014
	eBook "Reach for the Stars: Touch, Look, Listen, Learn" video contribution https://itunes.apple.com/us/book/reach-for-the-stars/id763516126?mt=11	2014
	STScI Public Lecture, Baltimore, Maryland <i>Collisions in the Cosmos</i>	2013
	Dixie State University, St. George, Utah <i>Collisions in the Cosmos</i>	2010
	Steward Observatory, Tucson, Arizona <i>Collisions in the Cosmos</i>	2006
	Co-instructor, <i>The Distant Universe</i> , Hartnell Community College, Salinas, CA	2004, 2005
	Project adviser for <i>Stars, Sight, and Science</i> California State Summer School for Mathematics & Science, Santa Cruz, CA	2005
	Center for Adaptive Optics Professional Development Workshop	2004

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MEDIA/PRESS

featured in Astronomy magazine, <i>Galaxy Clusters: The universe's Cosmic Lenses</i>	2/2017
interviewed for <i>National Geographic: Hubble's Amazing Universe</i>	2016
NASA Frontier Fields image release, television interviews for Star Trek's 50th anniversary	2016
Hubble 25th anniversary, HST Science Writer's workshop presentation	2015
AAS Winter 2015, HST Science Writer's workshop presentation	2015
AAS Winter 2014, press conference, Abell 2744 press release; >200 million views http://hubblesite.org/newscenter/archive/releases/survey/frontier-fields/2014/01/	2014
Frontier Fields announcement press release http://hubblesite.org/newscenter/archive/releases/survey/frontier-fields/2013/44/	2013
NASA/STScI press release, "Astronomers Pin Down Galaxy Collision Rate" http://www.nasa.gov/mission_pages/hubble/science/collision-rate.html	2011