

Dr. Amy Reines

Professor of Physics, Montana State University

Curriculum Vitae

ADDRESS AND CONTACT INFORMATION

Department of Physics, Montana State University (MSU)
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EDUCATION

The University of Virginia, Charlottesville, VA, USA	
Ph.D. Astronomy	2011
M.S. Astronomy	2007
San Francisco State University, San Francisco, CA, USA	
M.S. Physics	2002
The University of Maryland, College Park, MD, USA	
B.S. Astronomy	1998

RESEARCH POSITIONS

Full Professor, Department of Physics, Montana State University	2026 - present
Associate Professor, Department of Physics, Montana State University	2023 - 2026
Assistant Professor, Department of Physics, Montana State University	2017-2023
Hubble Fellow, University of Michigan / National Optical Astronomy Observatory	2014-2017
Einstein Fellow, National Radio Astronomy Observatory	2011-2014
NASA Earth and Space Science Fellow, University of Virginia	2009-2011
Graduate Research Associate, University of Virginia	2005-2009
Graduate Research Associate, San Francisco State University	1998-2001

AWARDS AND HONORS

NSF CAREER Award	2023
IOP Publishing North America Top Cited Paper Award for Reines et al. (2020)	2023
NASA EPSCoR Research Award	2020
Outstanding Faculty Colleague Award, Department of Physics, Montana State University	2019
NASA Hubble Postdoctoral Fellowship	2014-2017
University of Michigan Society of Fellows offer (8 offers, 1027 applications)	2014
NSF Astronomy & Astrophysics Postdoctoral Fellowship offer	2014

NASA Einstein Postdoctoral Fellowship	2011-2014
Graduate NASA Earth and Space Science Fellowship	2009-2011
Z Society Edgar F. Shannon Award for the most accomplished graduate student in the College of Arts and Sciences, University of Virginia	2011
Allan T. Gwathmey Memorial Award for the best graduate student paper written on a fundamental problem in the physical sciences. Won 2 years in a row for Reines et al. 2010 and Reines et al. 2011. University of Virginia	2010-2011
1st Place, Huskey Graduate Student Research Expedition, University of Virginia	2011
Dissertation Acceleration Fellowship, University of Virginia	2010
Governor's Graduate Fellowship, University of Virginia	2006, 2008
Virginia Space Grant Consortium Aerospace Graduate Fellowship	2006-2008
Burbank Scholarship, San Francisco State University	1998-2000
Graduate Equity Fellowship, San Francisco State University	1999-2000
Dr. Yvonne Cagle, Alumna of the Year Scholarship, San Francisco State University	1999
University Scholarship, San Francisco State University	1999-2000
Dean's List, University of Maryland	1995-1998
College Park Scholar Award, University of Maryland	1996

RESEARCH INTERESTS

Supermassive black holes in dwarf galaxies and the origin of black hole seeds
 The evolution of galaxies and supermassive black holes
 Active galactic nuclei, impact on their host galaxies and star formation
 Dwarf starburst galaxies, super star clusters and the formation of globular clusters

CURRENT RESEARCH GROUP AT MONTANA STATE UNIVERSITY (MSU)

Mr. Stellan Bechtold 4th year graduate student

PREVIOUS MENTEES AT MSU

Dr. John Michael Eberhard	Ph.D., M.S., Physics MSU, 2026
Dr. Sheyda Salehirad	Ph.D., M.S., Physics MSU, 2025
Dr. Megan Sturm	Ph.D., M.S., Physics MSU, 2025
Ms. Mahpara Tasnim	B.S., Physics MSU, 2025
Dr. Hansung Gim	Postdoc at MSU, 2021-2024
Ms. Bayli Hayes	B.S. Physics, MSU 2024
Dr. Seth Kimbrell	Ph.D., M.S., Physics MSU, 2023
Mr. Adonis Sanchez	M.S. Physics MSU, 2023
Dr. Mallory Molina	Postdoc/Ford Fellow at MSU, 2019-2022

Dr. Lilikoi Latimer	Ph.D., M.S., Physics MSU, 2022
Dr. Zachary Schutte	Ph.D., M.S., Physics MSU, 2022
Ms. Erin Kimbro	B.S. Physics MSU, 2020
Ms. Deanta Kelly	B.S. Physics MSU, 2019

PUBLICATIONS AND SCIENTIFIC IMPACT (AS OF 9/8/2026)

Total Publications	72
Total Publications (lead author)	14
Total Publications (led by students and postdocs mentored by Dr. Reines)	30
Citations	5,403
Citations (lead author)	2,672
H-index	35
H-index (lead author)	13

[View my publications on NASA ADS.](#)

CONFERENCES - INVITED TALKS

<i>"Galaxy Nuclei - Diversity, Dynamics, and Hidden Mass in Galactic Centers"</i> , Santiago, Chile	Nov 2026
<i>"Unsolved Problems in Astrophysics and Cosmology"</i> , Budapest, Hungary	Jul 2026
Plenary Talk: <i>"American Physical Society Northwest Meeting"</i> , Calgary, Canada	Jun 2025
<i>"Frontiers of Astrophysical Black Holes"</i> , Sexten Center for Astrophysics, Italy	Mar 2025
<i>"The Formation and Early Evolution of Supermassive Black Holes"</i> Joint Space-Science Institute, Baltimore, MD	Nov 2024
<i>"Intermediate-Mass Black Holes: The Dawn of a Revolutionary Era"</i> San Pedro, Belize	Dec 2023
Review Talk: <i>"Breaking down the AGN frontiers - Light and sound from early black holes"</i> , European Astronomical Society Annual Meeting, Krakow, Poland	July 2023
<i>"Origin, growth and feedback of black holes in dwarf galaxies"</i> San Sebastian, Spain	Sept 2022
<i>"Black Holes at All Scales"</i> , Giant magellan Telescope Community Science Meeting, Sedona, AZ	Sept 2022
<i>"Black Hole Initiative Conference 2022"</i> , Harvard University (missed; family emergency)	May 2022
<i>"Supermassive Black Holes: Formation, growth and evolution"</i> , Chile	Dec 2020
Press Conference: <i>"Wandering Massive Black Holes in Dwarf Galaxies"</i> , American Astronomical Society Meeting, Honolulu, HI	Jan 2020
<i>"The Scientific Quest for High Angular Resolution"</i> , American Astronomical Society Meeting, Honolulu, HI	Jan 2020

"Black Hole Initiative Conference 2019", Harvard University	May 2019
"The Accretion Signatures of the Earliest Black Holes in the Universe", Princeton Center for Theoretical Science, Princeton, NJ	Apr 2019
"Science with HabEx: UV to Near-IR Space Astronomy in the 2030s", Flatiron Institute, Center for Computational Astrophysics, NY	Oct 2018
"Unsolved Problems in Astrophysics and Cosmology", Budapest, Hungary	Jul 2018
"The Early Growth of Supermassive Black Holes", Sexten, Italy	Jul 2018
"Massive Black Holes in Evolving Galaxies", IAP, Paris, France	Jun 2018
"Annual Meeting of the American Physical Society Northwest Section", Tacoma, WA	Jun 2018
"Multi Messenger Observations of IMBHs with LISA", American Astronomical Society Meeting, Washington, D.C.	Jan 2018
"AGN in Dwarf Galaxies", American Astronomical Society High Energy Astrophysics Division Meeting, Sun Valley, ID	Aug 2017
"Elusive AGN in the Next Era", George Mason University	Jun 2017
"Breakthrough Discuss", Stanford University	Apr 2016
"Supermassive Black Hole Formation and Feedback", Annapolis, MD	Oct 2015
Review Talk: "First Stars, Galaxies and Black Holes", Groningen, Netherlands	Jun 2015
"The Growth of the First Supermassive Black Holes", Tenerife, Spain	Jun 2015
"Unveiling the AGN/Galaxy Evolution Connection", Puerto Varas, Chile	Mar 2015
Press Conference: "Giant Black Holes Found in Dwarf Galaxies", American Astronomical Society Meeting, Washington D.C.	Jan 2014
"Astronomy Fellows at the Frontiers of Science", Northwestern University	Sep 2011
Press Conference: "A Supermassive Black Hole in the Dwarf Starburst Galaxy Henize 2-10", American Astronomical Society Meeting, Seattle, WA	Jan 2011

CONFERENCES - CONTRIBUTED TALKS

"Massive Black Holes in the First Billion Years", Kinsale, Ireland	Apr 2024
"Shining from the Heart of Darkness: Black Hole Accretion and Jets", Kathmandu	Oct 2016
"Cosmic Dawn of Galaxy Formation", IAP, Paris, France	Jun 2016
"Hubble Fellows Symposium", Baltimore, MD	May 2016
"AGN vs. Star Formation: The Fate of the Gas in Galaxies", Durham, UK	Jul 2014
"The X-ray Universe 2014", Dublin, Ireland	Jun 2014
"Multiwavelength AGN Surveys and Studies", Byurakan, Armenia	Oct 2013
"Black Hole (g)Astronomy - Exploring the Different Flavors of Accretion", Italy	Sep 2013
"Massive Black Holes: Birth, Growth and Impact", KITP, Santa Barbara	Aug 2013
"Black Hole Fingerprints: Dynamics, Disruptions and Demographics", Utah	Mar 2013
"Black Holes by the Black Sea", Istanbul, Turkey	Jun 2012

<i>"Near-Field Cosmology as a Probe of Early Universe, Dark Matter and Gravity"</i> , MD	Nov 2011
<i>"Single and Double Black Holes in Galaxies"</i> , University of Michigan	Aug 2011
<i>"National Radio Astronomy Observatory Postdoc Symposium"</i> , NRAO	2012, 2013, 2014
<i>"Einstein Fellows Symposium"</i> , Harvard Center for Astrophysics	2011, 2012, 2013
<i>"American Astronomical Society Winter Meeting"</i> , various locations	2011-2023

INVITED COLLOQUIA AND SEMINARS

Goddard Space Flight Center	Oct 2024
Northwestern University	Apr 2023
University of Florida	Nov 2022
West Virginia University (remote)	Nov 2022
University of Idaho (remote)	Oct 2022
Institute of Astrophysics of Andalusia (remote)	Sep 2022
University of Nevada, Reno	Apr 2022
University of Kentucky (remote)	Feb 2022
Washington State University (remote)	Oct 2021
University of Sheffield (remote)	May 2021
Idaho State University (remote)	Oct 2020
University of Arizona (remote)	Oct 2020
University of Connecticut (remote)	Oct 2020
Texas A&M	Feb 2020
Leibniz Institute for Astrophysics Potsdam, Germany	May 2019
Louisiana State University	May 2019
University of Utah	Mar 2019
University of Arkansas	Feb 2019
Northwestern University	Mar 2018
University of Colorado, Boulder	Oct 2017
University of Maryland, College Park	Mar 2017
Montana State University	Mar 2017
University of Toledo	Feb 2017
Space Telescope Science Institute, Baltimore, MD	Feb 2017
University of Victoria	Jan 2017
University of California, Santa Cruz	Mar 2016
Steward Observatory	Nov 2015
University of Illinois Urbana-Champaign	Dec 2014
California Institute of Technology	Nov 2014

Johns Hopkins University	Oct 2014
University of Wisconsin, Madison	Sep 2014
University of California, Los Angeles	Apr 2014
Georgia Institute of Technology	Feb 2014
Michigan State University	Jan 2013
University of Michigan	Jan 2013
Princeton University	Oct 2012
University of Texas at Austin	Sep 2011
Yale University	May 2011

OTHER INVITED TALKS

Guest Speaker: Charting Our Stars, Artemis, Nye, MT	Aug 2026
Guest Speaker: Conference for Undergraduate Women in Physics, MSU	Jan 2024
Guest Speaker: Spanish Peaks Mountain Club, Big Sky, MT	Feb 2023, 2024
Public Talk: Science Inquiry Series, Museum of the Rockies, Bozeman, MT	May 2021
Public Talk: NASA's Universe of Learning Science Briefing from the AAS Meeting	Jan 2020
Guest Speaker: Honors College Freshman Research Symposium, MSU	Sep 2019
Guest Speaker: Honors College Freshman Research Symposium, MSU	Oct 2018
Public Talk: Rising Stars in the College of Letters and Science, Bozeman, MT	Apr 2018
Public Talk: Astronomy on Tap, Bozeman, MT	Feb 2018
Guest Speaker: Women in Science and Engineering Seminar Series, MSU	Dec 2017
Guest Speaker: Honors College Freshman Research Symposium, MSU	Oct 2017

GRANTS FUNDED AS PRINCIPLE INVESTIGATOR (~\$3.3 MILLION TOTAL)

21. "A New Sample of Dwarf Galaxies with Broad-line AGN" James Webb Space Telescope, Cycle 3	\$50,000 2024
20. "A New Sample of Dwarf Galaxies with Broad-line AGN" Chandra X-ray Observatory, Cycle 26	\$48,000 2024
19. " CAREER : Massive Black Holes in Dwarf Galaxies" NSF Research Award	\$749,885 2023
18. "Dwarf Galaxies with Radio-Selected (and Sometimes Wandering) Massive Black Holes" Hubble Space Telescope, Cycle 29	\$97,297 2022
17. "Dwarf Galaxies with Radio-Selected Massive Black Holes" Hubble Space Telescope, Cycle 29	\$79,751 2022

16. <i>"Dwarf Irregular Galaxies with Candidate AGN"</i> Chandra X-ray Observatory, Cycle 23	\$75,659 2022
15. <i>"Dwarf Galaxies with Radio-Selected (and Sometimes Wandering) Massive Black Holes"</i> Chandra X-ray Observatory, Cycle 23	\$93,050 2022
14. <i>"The Origin of Supermassive Black Holes"</i> NASA EPSCoR Research Award	\$750,000 2020
13. <i>"Testing mid-IR AGN Selection in Dwarf Galaxies with Chandra and HST"</i> Hubble Space Telescope, Cycle 26	\$104,856 2019
12. <i>"Testing mid-IR AGN Selection in Dwarf Galaxies with Chandra and HST"</i> Chandra X-ray Observatory, Cycle 20	\$103,460 2019
11. <i>"The Origin of Supermassive Black Holes"</i> NASA Hubble Postdoctoral Fellowship	\$383,394 2014-2017
10. <i>"The Structures of Dwarf Galaxies Hosting Massive Black Holes"</i> Hubble Space Telescope, Cycle 23	\$86,391 2016
9. <i>"Probing the Growth of Massive Black Holes in Dwarf Galaxies with Chandra and HST"</i> Hubble Space Telescope, Cycle 22	\$57,013 2016
8. <i>"AGN-Triggered Star Formation in the Dwarf Galaxy Henize 2-10?"</i> Chandra X-ray Observatory, Cycle 15	\$70,912 2015
7. <i>"Probing the Growth of Massive Black Holes in Dwarf Galaxies with Chandra and HST"</i> Chandra X-ray Observatory, Cycle 16	\$62,963 2015
6. <i>"Confirming the AGN in a Low-Metallicity Dwarf Galaxy with the HSA and HST"</i> Hubble Space Telescope, Cycle 22	\$11,625 2015
5. <i>"Probing the Early Evolution of Galaxies and Massive Black Holes with Nearby Star-Forming Dwarfs"</i> NASA Einstein Postdoctoral Fellowship	\$309,754 2011-2014
4. <i>"Confirming the First Supermassive Black Hole in a Dwarf Starburst Galaxy"</i> Hubble Space Telescope, Cycle 19	\$36,526 2013
3. <i>"Probing the Early Evolution of Galaxies and Massive Black Holes with Nearby Star-Forming Dwarfs"</i> Chandra X-ray Observatory, Cycle 13	\$52,611 2011

2. <i>"The Birth of Super Star Clusters"</i>	\$60,000
NASA Earth and Space Science Graduate Fellowship	2009-2011

1. <i>"Unveiling the Early Evolution of Super Star Clusters through Multi-wavelength Observations of Starburst Galaxies"</i>	\$15,000
Virginia Space Grant Graduate Fellowship	2006-2008

GRANTS FUNDED AS CO-INVESTIGATOR (~\$75,000 TOTAL)

2. <i>"X-ray Ionized Nebulae in Nearby Dwarf Galaxies"</i>	\$40,219
Chandra X-ray Observatory, Cycle 19	2018

1. <i>"Searching for Intermediate-Mass Black Holes in Extremely Metal-Poor Galaxies"</i>	\$34,460
Chandra X-ray Observatory, Cycle 18	2017

STUDENT/POSTDOC-LED GRANTS FUNDED AS FACULTY ADVISOR (~\$150,000 TOTAL)

11. <i>"Radio AGNs in Dwarf Galaxies with VLASS"</i> , John Michael Eberhard (grad)	\$9,000
Montana Space Grant Consortium Graduate Fellowship	2022

10. <i>"The First Wandering Black Holes"</i> , Mallory Molina (postdoc)	\$50,000
Ford Foundation Postdoctoral Fellowship	2021

9. <i>"Searching for Massive Black Holes in Dwarf Galaxies"</i> , Lilikoi Latimer (grad)	\$9,000
Montana Space Grant Consortium Graduate Fellowship	2020

8. <i>"Variable Sources in Dwarf Galaxies"</i> , Erin Kimbro (post-bac.)	\$6,000
Montana Space Grant Consortium Summer Internship	2021

7. <i>"A Statistical Approach to Star Formation and Quenching in the Local Universe"</i>	\$40,000
Mallory Molina (postdoc), NASA's Swift Observatory, Cycle 16	2020

6. <i>"The Structures of Dwarf Galaxies Hosting AGNs"</i> , Seth Kimbrell (grad)	\$9,000
Montana Space Grant Consortium Graduate Fellowship	2020

5. <i>"Hubble Space Telescope Observations of Mrk 709"</i> , Erin Kimbro (undergrad)	\$6,000
Montana Space Grant Consortium Summer Internship	2020

4. <i>"The Origin and Evolution of Supermassive Black Holes"</i> , Zachary Schutte (grad)	\$9,000
Montana Space Grant Consortium Graduate Fellowship	2019

3. <i>"Hubble Space Telescope Observations of Mrk 709"</i> , Erin Kimbro (undergrad)	\$7,300
Montana Space Grant Consortium Summer Internship	2019

2. <i>"A Survey of AGNs in the NSC Using Optical Variability"</i> , Erin Kimbro (undergrad)	\$1,800
MSU Undergraduate Scholars Program Scholarship	2018

1. MSU Women in Physics Grant, Madian Nelson and Demi St John (grads)	\$400
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American Physical Society 2018

SELECTED PRESS

Hubble Finds a Black Hole Igniting Star Formation in a Dwarf Galaxy 2022

NASA (includes video): <https://www.nasa.gov/feature/goddard/2022/hubble-finds-a-black-hole-igniting-star-formation-in-a-dwarf-galaxy>

Montana State University researchers uncover black hole creating stars 2022

Bozeman Daily Chronicle: https://www.bozemandailychronicle.com/news/education/montana-state-university-researchers-uncover-black-hole-creating-stars/article_dedd3f8b-085a-5e10-84f2-f78c7c64304a.html

A black hole fueling star birth has scientists doing a double-take 2022

CNN: <https://www.cnn.com/2022/01/21/world/hubble-black-hole-star-formation-scn/index.html>

A black hole is giving birth to stars, NASA finds 2022

Independent: <https://www.independent.co.uk/space/nasa-black-hole-stars-henize-b1996473.html>

NASA telescope finds black hole contributing to star formation 2022

The Hill: <https://thehill.com/changing-america/enrichment/education/590811-nasa-telescope-finds-black-hole-contributing-to-star/>

Hubble Finds a Black Hole Igniting Star Formation in a Dwarf Galaxy 2022

Hubblesite: <https://hubblesite.org/contents/news-releases/2022/news-2022-002>

Tiny Galaxies Reveal Secrets of Supermassive Black Holes 2022

Quanta Magazine: <https://www.quantamagazine.org/tiny-galaxies-reveal-secrets-of-supermassive-black-holes-20220314/>

Dwarf Galaxies Shed Light on Black Hole Origins 2022

Sky & Telescope: <https://skyandtelescope.org/astronomy-news/dwarf-galaxies-shed-light-on-black-hole-origins/>

Wandering Black Holes Found in Dwarf Galaxies Less Than Billion Light Years from Earth 2020

Newsweek: <https://www.newsweek.com/wandering-black-holes-found-dwarf-galaxies-billion-light-years-earth-1480523>

More big black holes found in small galaxies 2020

Sky & Telescope: <https://skyandtelescope.org/astronomy-news/more-big-black-holes-found-in-small-galaxies/>

The Smallest Galaxies Have Off-Kilter Black Holes, But Astronomers Know Why 2020

Forbes: <https://www.forbes.com/sites/startswithabang/2020/01/06/the-smallest-galaxies-have-off-kilter-black-holes-but-astronomers-know-why/#18541fa54d2c>

Astronomers discover dwarf galaxies with massive black holes 2020

The Week: <https://www.theweek.in/news/sci-tech/2020/01/08/Astronomers-discover-dwarf-galaxies-with-massive-black-holes.html>

Astronomers Find Wandering Massive Black Holes in Dwarf Galaxies 2020

National Radio Astronomy Observatory: <https://public.nrao.edu/news/wandering-black-holes-dwarf-galaxies/>

Big black holes can settle in the outskirts of small galaxies 2019

Science News: <https://www.sciencenews.org/article/big-black-holes-can-settle-outskirts-small-galaxies>

Not all Black Holes that Wander are Lost 2019

Astrobites: <https://astrobites.org/2019/10/24/not-all-black-holes-that-wander-are-lost/>

Astronomers find 'teeny supermassive black hole' 2015

The Telegraph: <https://www.telegraph.co.uk/news/science/space/11797938/Astronomers-find-teeny-supermassive-black-hole.html>

Oxymoronic Black Hole Provides Clues to Growth 2015

NASA: <https://www.nasa.gov/press-release/oxymoronic-black-hole-provides-clues-to-growth>

Astronomers find a teeny-tiny supermassive black hole 2015

Washington Post: <https://www.washingtonpost.com/news/speaking-of-science/wp/2015/08/11/astronomers-find-a-teeny-tiny-supermassive-black-hole/>

What are Dwarf Galaxies Teaching us about Black Holes? May 2014

Astronomy Magazine, print edition

Dwarf Galaxies Give Clues to Origin of Supermassive Black Holes 2014

National Radio Astronomy Observatory: <https://public.nrao.edu/news/dwarf-galaxies-give-clues-to-black-hole-origins/>

Galactic Runts Carry Beefy Black Holes 2014

Sky & Telescope: <https://www.skyandtelescope.com/astronomy-news/galactic-runts-carry-beefy-black-holes/>

'Missing link' black holes could be hiding in dwarf galaxies 2014

Christian Science Monitor: <https://www.csmonitor.com/Science/2014/0108/Missing-link-black-holes-could-be-hiding-in-dwarf-galaxies>

Hole's on First? New Evidence Shows Black Hole Growth Preceding Galactic Formation 2011

Scientific American: <https://www.scientificamerican.com/article/dwarf-galaxy-black-hole/>

Huge Black Hole Found in Dwarf Galaxy 2011

National Geographic: <https://news.nationalgeographic.com/news/2011/01/110110-dwarf-galaxy-black-holes-universe-science-space/>

Surprise: Dwarf Galaxy Harbors Supermassive Black Hole 2011

Chandra X-ray Observatory: http://chandra.harvard.edu/press/11_releases/press_011011.html

Astrophysics: Big black hole found in tiny galaxy 2011
Nature News & Views: <https://www.nature.com/articles/470045a>

MONTANA STATE UNIVERSITY NEWS STORIES

Montana State astrophysicist's paper wins award for frequency of citations Nov 2023
<https://www.montana.edu/news/23306>

Montana State astrophysicist awarded prestigious National Science Foundation CAREER award Mar 2023
<https://www.montana.edu/news/22726>

Montana State graduate student discovers hundreds of small galaxies with supermassive black holes Sept 2022
<https://www.montana.edu/news/22283/>

Montana State research shows creative side of massive black holes Jan 2022
<https://www.montana.edu/news/21798/montana-state-research-shows-creative-side-of-massive-black-holes>

Ford Fellow Mallory Molina pioneering method to search for black holes Jan 2022
<https://www.montana.edu/news/21763/ford-fellow-mallory-molina-pioneering-method-to-search-for-black-holes>

Mallory Molina awarded Ford Fellowship for astrophysics research, diversity efforts July 2021
<https://www.montana.edu/news/21323/mallory-molina-awarded-ford-fellowship-for-astrophysics-research-diversity-efforts>

Staring into the abyss May 2021
<https://www.montana.edu/news/mountainsandminds/21172/staring-into-the-abyss>

Physics Nobel announcement inspires black hole researchers at MSU Oct 2020
<https://www.montana.edu/news/20500>

Montana State receives NASA grant to aid search for origin of supermassive black holes
<https://www.montana.edu/news/20457/montana-state-receives-nasa-grant-to-aid-search-for-origin-of-supermassive-black-holes> Sept 2020

Montana State astrophysicist finds massive black holes wandering around dwarf galaxies
<https://www.montana.edu/news/19511/montana-state-astrophysicist-finds-massive-black-holes-wandering-around-dwarf-galaxies> Jan 2020

COMPETITIVE TELESCOPE USAGE

James Webb Space Telescope (NASA)	JWST
Hubble Space Telescope (NASA)	HST
Chandra X-ray Observatory (NASA)	CXO

Very Large Array (NSF)	VLA
Atacama Large Millimeter/submillimeter Array (NSF)	ALMA
Very Long Baseline Array (NSF)	VLBA
Long Baseline Array	LBA
Spitzer Space Telescope (NASA)	Spitzer
Gemini Observatory	Gemini
Apache Point Observatory	APO

ACCEPTED TELESCOPE PROPOSALS AS PRINCIPLE INVESTIGATOR

A New Sample of Dwarf Galaxies with Broad-line AGN	CXO/JWST
Dwarf Galaxies with Radio-Selected Massive Black Holes	HST
The Structures of Dwarf Galaxies Hosting Massive Black Holes	HST
Confirming the First Supermassive Black Hole in a Dwarf Starburst Galaxy	HST
Dwarf Galaxies with Radio-Selected (& Sometimes Wandering) Massive Black Holes	CXO/HST
Testing Mid-Infrared AGN Selection in Dwarf Galaxies with Chandra & HST	CXO/HST
Probing the Growth of Massive Black Holes in Dwarf Galaxies with Chandra & HST	CXO/HST
Dwarf Irregular Galaxies with Candidate AGN	CXO
AGN-Triggered Star Formation in the Dwarf Galaxy Henize 2-10?	CXO
Probing the Early Evolution of Galaxies and Massive Black Holes	CXO/VLA
A Radio Search for Massive Black Holes in Dwarf Galaxies	VLA
Supermassive Black Holes in Dwarf Galaxies	VLA
Feeding the Massive Black Hole in the Dwarf Starburst Galaxy Henize 2-10	ALMA
Confirming the AGN in a Low-Metallicity Dwarf Galaxy with the HSA and HST	VLBA/HST
Probing the Enigmatic Nuclear Source in the Dwarf Galaxy He 2-10 with the LBA	LBA
Emerging Massive Star Clusters in NGC 4449	APO

ACCEPTED TELESCOPE PROPOSALS AS CO-INVESTIGATOR

Revealing Low Luminosity Active Galactic Nuclei (ReveaLLAGN)	JWST
Studying the nuclear morphology of a dwarf galaxy with a 50,000 solar mass black hole	HST
Probing the Birth of Super Star Clusters with NICMOS	HST
Multiwavelength Characterization of Candidate Black Holes in Dwarf Galaxies	CXO/HST/VLA
Searching for intermediate-mass black holes in extremely metal-poor galaxies	CXO
A candidate 30,000 solar mass black hole	CXO
Radio Clarification of a Double X-ray Source in a Metal-poor dwarf galaxy	VLA/CXO
Water maser emission and positive black hole feedback in the dwarf galaxy He 2-10	VLA
Searching for radio emission in variability-selected AGN in low-mass galaxies	VLA

Very Small AGN and the Fundamental Plane of Black Hole Activity	VLA
The Physical Environment of Nascent Super Star Clusters	ALMA
A Statistical Approach to Star Formation and Quenching in the Local Universe	Swift
The Formation and Early Evolution of Star Clusters	Spitzer
Confirming the First Sample of Wandering Black Holes in Dwarf Galaxies	Gemini
The Search for Low-Mass Black Holes	APO

TEACHING ACTIVITIES

Astronomy 373: Extragalactic Astronomy, MSU	Fall 2024, 2022, Spring 2026
Astronomy 371: Solar System Astronomy, MSU	Fall 2018-2021, 2025
Astronomy 561: Astrophysics of Galaxies, MSU	Spring 2025
Physics 560: Astrophysics, Montana State University	Fall 2023
Astronomy 110: Mysteries of the Sky, MSU	Spring 2023
Physics 435: Astrophysics, MSU	Spring 2018-2022
Center for Astronomy Education Teaching Excellence Workshop (participant)	2015
Teaching Assistant, astronomy night labs, University of Virginia	2005-2006
Math Advantage Tutoring, owner and tutor, Washington DC area	2003-2005
English Teacher in Hungary and Austria	2002-2003
Physics 122: Electricity and Magnetism Lab, San Francisco State University	1998
Astronomy 116: Astronomy Lab, San Francisco State University	1998

UNIVERSITY AND DEPARTMENTAL SERVICE (MONTANA STATE UNIVERSITY, DEPARTMENT OF PHYSICS)

University Graduate Council , VP and CLS Science Faculty Rep.	Fall 2022-Spring 2026
Prior Awardee panelist for MSU's NSF CAREER event	Spring 2025
Search Committee for Dean of the College of Letters and Science (CLS)	Fall 2024
Graduate Curriculum Committee, Chair	Fall 2022- Spring 2024
Awards Committee, Chair	2024-2025
Policy and Personnel Committee (Elected Member)	2023-2024
Graduate Curriculum Committee	2018-2019, 2020-2021, 2024-2025
Graduate Admissions Committee	2019-2021, 2025-2026
Colloquium Committee	2018-2021, 2025-2026
Committee on Environment and Inclusion	2020-2024
Gravity Faculty Search Committee	2019-2020, 2021-2022
Graduate Recruiting Committee	2020-2022
Virtual Graduate School Recruitment Fair (presenter for MSU Physics)	2020-2022
Physics Virtual Visit Day for prospective graduate students	2022

Ran MSU booth at the American Astronomical Society Graduate School Fair	2019, 2020
Astronomy Option Committee	2018-2021, 2025
Art of Physics and Physics of Art, Faculty Mentor	2018-2019
Graduate Committee Member (dozens of students)	2017-present

DIVERSITY, EQUITY AND INCLUSION EFFORTS AND ACTIVITIES

Towards a More Inclusive Astronomy, MSU chapter, faculty advisor	2020-2024
Member of the Committee on Environment and Inclusion, Physics, MSU	2020-2024
Plenary Talk: Conference for Undergraduate Women in Physics, MSU	2024
Women+ in Physics Group, Creator and Organizer, Montana State University	2017-2023
Inclusive Pedagogy Series Workshop 2, Universal Design for Learning, MSU (participant)	2021
Public Talk, Science Inquiry Series, Museum of the Rockies, Bozeman, MT	2021
Equity in Graduate Admissions Workshop at Montana State University (participant)	2020
Discussion with Gender Minorities at Steward (GEMS) group at Steward Observatory	2020
Brought in Dr. Alison Coil (UCSD) to give a talk at MSU on unconscious bias	2019
Astronomy on Tap, Guest Speaker, Bozeman, MT	2018
Made "Beyond Curie" Poster Exhibit featuring notable women in physics, astronomy and engineering; displayed near large physics lecture room (Barnard 103) at MSU.	2018
Women in Science and Engineering Seminar Series, Guest Speaker, MSU	2017
Career Day at Irving Elementary School in Bozeman, Guest Speaker	2017
"How the Universe Works", Featured scientist on TV show (season 3, episode 7)	2014
"Beyond the Visible: The Story of the Very Large Array", Featured scientist in film shown at the visitor center and online (narrated by Jodie Foster)	2013

PROFESSIONAL SERVICE AND ACTIVITIES

Discussion Panelist for James Webb Space Telescope Cycle 5 Proposals	2025-2026
External Appraiser/Examiner for Yuyang Chen's Ph.D. Examination, U. Toronto	2025
External Reviewer for James Webb Space Telescope Large Proposals	2021
External Reviewer/Examiner for Sonja Jonic's Ph.D. Examination, University of Potsdam	2021
Reviewer for North Carolina Space Grant Proposals	2020
Organizing Committee, "James Webb Space Telescope Master Class", MSU	2020
Scientific Organizing Committee, "Accretion Signatures onto the Earliest Black Holes in the Universe", Workshop at Princeton University	2019
Scientific Organizing Committee for Special Session, "Dwarf Galaxies Near and Far", European Week of Astronomy & Space Science Meeting, Lyon, France	2019
Reviewer of Astro2020 Science White Paper, "Where are the Intermediate Mass Black Holes", Bellovary et al.	2019

External Reviewer for Hubble Space Telescope Large Proposals	2018
Proposal Reviewer for Gemini Observatory	2017
Program Organizer for Special Session on "AGN in Dwarf Galaxies", American Astronomical Society High Energy Astrophysics Division Meeting	2017
Member of the Hubble Fellowship Selection Committee	2016
Reviewer for the NASA Earth and Space Science Fellowship	2015
Science Review Panel Member for the National Radio Astronomy Observatory	2015-2016
Professional Skills Development Workshop, American Physical Society (participant)	2015
Aspen Center for Physics Program, "Dwarf Galaxies as Cosmological Probes"	2014
Peer Review Panel Member for the Chandra X-ray Observatory	2013
Kavli Institute for Theoretical Physics Program, "A Universe of Black Holes"	2013
Local Organizing Committee, "Transformational Science with ALMA: The Birth and Feedback of Massive Stars, Within and Beyond the Galaxy", NRAO	2008
Referee for various journals including <i>Nature</i> , <i>The Astrophysical Journal</i> , <i>The Astrophysical Journal Letters</i> , <i>Monthly Notices of the Royal Astronomical Society</i>	ongoing