

Curriculum Vitae
ALEX DRLICA-WAGNER
(MAY 2023)

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APPOINTMENTS

2023–present Associate Professor (Part-Time), Astronomy & Astrophysics, University of Chicago
2021–present Scientist, Particle Physics Division, Fermi National Accelerator Laboratory
2018–present Senior Member, Kavli Institute of Cosmological Physics, University of Chicago
2018–2023 Assistant Professor (Part-Time), Astronomy & Astrophysics, University of Chicago
2018–2021 Wilson Fellow (Associate Scientist), Fermi National Accelerator Laboratory
2013–2018 Schramm Fellow (Postdoctoral Researcher), Fermi National Accelerator Laboratory

EDUCATION

2013 Stanford University: *Ph.D., Physics*
2008 Washington University in St. Louis: *B.A., Physics (summa cum laude)*

HONORS AND AWARDS

2018 *Wilson Fellow*, Fermilab
2018 *Evans Visiting Scholar in Astrophysics*, University of California, Irvine
2016 *Tollestrup Award for Outstanding Postdoctoral Research*, Fermilab
2014 *KICP Associate Fellow*, University of Chicago
2013 *Schramm Postdoctoral Fellow*, Fermilab
2012 *Paul Giddings Graduate Fellow*, Department of Physics, Stanford University
2012 *Joachim Herz Stiftung Fellow*, 62nd Lindau Meeting of Nobel Laureates
2010 *Office of Science Graduate Fellow*, United States Department of Energy
2008 *Senior Physics Prize*, Department of Physics, Washington University in St. Louis
2007 *Greg Delos Fellow*, Department of Physics, Washington University in St. Louis

SCIENTIFIC COLLABORATIONS

2019–present DECam Local Volume Exploration Survey (DELVE) [<https://delve-survey.github.io>]
Principal Investigator: DELVE is the third largest DECam survey to date (126 nights) and hosts an international collaboration of ~ 85 members. DELVE seeks to improve our understanding of the small-scale structure of dark matter by (1) performing a census of ultra-faint satellite galaxies around the Milky Way, (2) studying the satellite population and outer halo structure of the Magellanic Clouds, and (3) searching for faint satellites of isolated low-mass dwarf galaxies in the Local Volume. DELVE is establishing contiguous imaging of the southern extragalactic sky by combining new observations with $>300,000$ public DECam exposures. I lead survey operations, image

reduction, catalog creation, and ultra-faint galaxy searches. As PI, I am responsible for collaboration management, project funding, and proposal organization.

- 2015–2019 Magellanic Satellites Survey (MagLiteS)
Deputy PI: MagLiteS was a 24-night DECam community survey that performed an unbiased search for ultra-faint galaxies around the Magellanic Clouds. I led survey operations, image reduction, object catalog creation, and dwarf galaxy searches. As Deputy PI, I was responsible for writing observing proposals, seeking funding to support operations, and establishing collaboration policies. MagLiteS had ~ 60 members.
- 2014–present LSST Dark Energy Science Collaboration (DESC) [<https://lsstdesc.org>]
Co-Convener, Dark Matter Working Group: The dark matter working group seeks to use LSST to understand the fundamental nature of dark matter. It interfaces with other working groups in LSST DESC and other LSST Science Collaborations. The dark matter working group has ~ 40 active members.
Co-Convener, Survey Simulations Working Group: The survey simulations working group was a technical working group focused on improving and validating simulations for the LSST DESC data challenges. The survey simulations working group had ~ 25 active members.
- 2012–present Dark Energy Survey (DES) [<https://www.darkenergysurvey.org>]
Co-Coordinator, Milky Way Working Group: The Milky Way working group is one of the twelve DES science working groups. Topics of study include near-field cosmology, Galactic archaeology, stellar astrophysics, and the Local Group. As co-coordinator, I guided the scientific direction of the group, organized scientific analyses, and coordinated the resulting publications. The Milky Way working group has ~ 50 members.
Coordinator, Science Release Working Group: The Science Release working group is one of the twelve DES science working groups. It is responsible for validating, documenting, and curating the data products used for DES cosmology analyses. As founding coordinator, I set the scope and mission of the group and coordinated the production of the data set used for DES Year-1 cosmology. The Science Release working group has ~ 70 members.
- 2009–present *Fermi* Large Area Telescope (LAT) [<https://glast.sites.stanford.edu>]
Affiliated Member: I led the program to search for signatures of dark matter annihilation in combined observations of Milky Way satellite galaxies. These analyses established the strongest and most robust constraints on dark matter annihilation by excluding the natural thermal relic cross section for dark matter particles with mass < 100 GeV.

RESEARCH GRANTS

Research awards that I have led as PI or Co-PI. Total funding through grants: \$3.0M.

- 2022 “Development of Skipper CCDs for Robust Single- Photon Measurements in Future NASA Missions,” NASA APRA Award (PI: A. Drlica-Wagner)
- 2022 “On-sky Demonstration of Skipper CCDs for Cosmology,” Fermilab LDRD Award (PI: A. Drlica-Wagner)
- 2021 “Cosmic Shear on Extremely Large Scales with the Dark Energy Camera,” NSF AAG Award (Co-PI: C. Chang & A. Drlica-Wagner)
- 2020 “Tests of dark matter and galaxy evolution physics with isolated and satellite dwarf galaxies in the Dark Energy Survey,” NSF AAG Award (Co-PI: A. Drlica-Wagner & A. Peter)
- 2019 “Pixel-Configurable Skipper CCDs for Cosmological Applications,” Fermilab LDRD Award (PI: A. Drlica-Wagner)
- 2019 “LSST Data Science Internships for Undergraduates at Fermilab,” LSSTC Enabling Science Grant (PI: B. Nord, Co-I: A. Drlica-Wagner)

- 2019 *“LSST Stack Club,”*
LSSTC Enabling Science Grant (PI: A. Drlica-Wagner)
- 2018 *“Mapping Dark Matter with the Faintest Galaxies,”*
Strategic Collaborative Initiative Seed Grant (Co-PI: A. Drlica-Wagner & C. Chang)
- 2017 *“Dark Matter and Satellite Galaxies in the Era of LSST,”*
France and Chicago Collaborating in the Sciences Grant (PI: A. Drlica-Wagner)
- 2017 *“LSST: The Dark Matter Telescope,”*
LSST Enabling Science Grant (PI: A. Drlica-Wagner)
- 2016 *“Search for Dark Matter Annihilation in Newly Discovered Milky Way Satellite Galaxies,”*
Fermi Cycle-9 Guest Investigator Program (PI: A. Drlica-Wagner)

OBSERVING PROPOSALS

Successful observing proposals that I have led. I have supervised students and postdocs who have led dozens of other proposals using DECam, HST, VLT, Gemini, Magellan, and SOAR.

- 2023 *Searching for Ultra-Faint Satellites of the Milky Way with DECam*
Blanco Telescope 2023A (10 nights; PI: A. Drlica-Wagner)
- 2022 *Surface Brightness Fluctuation Distances to Local Volume Satellite Dwarf Galaxy Candidates*
Magellan Clay Telescope 2022B (1 night; PI: A. Drlica-Wagner)
- 2019 *DECam Local Volume Exploration (DELVE) Survey*
Blanco Telescope 2019A (126 nights; PI: A. Drlica-Wagner)
- 2019 *The stellar populations of ultra-diffuse galaxies in Fornax cluster*
Magellan Baade Telescope 2019A (2 nights; PI: A. Drlica-Wagner)
- 2018 *Magellanic Satellites Survey: The Search for Hierarchical Structures within the Local Group*
Blanco Telescope 2018A (11 nights; PI: K. Bechtol; Deputy PI: A. Drlica-Wagner)
- 2018 *PALS: Paralensing Survey of Intermediate Mass Black Holes*
Blanco Telescope 2018A (32 nights; PI: W. Dawson; Co-I: A. Drlica-Wagner)
- 2017 *Blanco Imaging of the Southern Sky (BLISS)*
Blanco Telescope 2017A (11.5 nights; Co-PIs: M. Soares-Santos & A. Drlica-Wagner)
- 2016 *Cetus II - The Least Luminous Galaxy?*
Magellan Baade Telescope 2016B (2 nights; PI: A. Drlica-Wagner)
- 2016 *Magellanic Satellites Survey: The Search for Hierarchical Structures within the Local Group*
Blanco Telescope 2016A (12 nights; PI: K. Bechtol; Deputy PI: A. Drlica-Wagner)
- 2016 *A Group of Milky Way Satellites in the Constellation Tucana*
Magellan Baade Telescope 2016A (2 nights; Author: A. Drlica-Wagner; PI: J. Frieman)
- 2015 *Spectroscopic Confirmation of Milky Way Satellite Galaxy Candidate DES J0335.7–5403*
Gemini South 2015A Director’s Discretionary Time (10 hours; PI: A. Drlica-Wagner)

PROFESSIONAL SERVICE AND LEADERSHIP

- 2023–present Member, DES Publication Board
- 2022–present Member, Fermilab Science Priorities Working Group
- 2022–present Chair, Margaret Burbidge Prize Fellowship Committee, University of Chicago
- 2022–present Member, Fermilab Scientific Advisory Committee
- 2021–2022 Member, KICP Colloquium Committee
- 2021–present Deputy Manager, LSST DESC Publication Board

2020–present	Member, LSST DESC Operations Committee
2020–2022	Co-Convener, Snowmass CF3 “Dark Matter: Cosmic Probes”
2020–2021	Member, Brinson Prize Fellowship Committee, University of Chicago
2019–2022	Cosmic Frontier Working Group Lead, Fermilab
2019–2022	Chair, Schramm Experimental Fellowship Committee, Fermilab
2019–present	Organizer, Fermilab Cosmic Physics Center
2019–present	Principle Investigator, DECam Local Volume Exploration Survey
2019–2021	Chair, A&A Graduate Admissions Committee, University of Chicago
2019–2021	Co-Convener, LSST DESC Dark Matter Working Group
2019–2021	Member, A&A Education and Outreach Committee, University of Chicago
2019–2021	Member, KICP Fellows Mentoring and Climate Committee, University of Chicago
2019–2021	Co-Convener, LSST DESC Survey Simulation Working Group
2018–present	Chair, Cosmic Surveys Postdoc Hiring Committee, Fermilab
2018–2022	Member, A&A Graduate Admissions Committee, University of Chicago
2018–2022	Organizer, LSST Data Management Stack Club
2018	Member, Fermilab Cosmic Frontier Strategy Group
2018	Member, DES External Collaborator Committee
2017–present	Member, Mentor, & Supervisor, Fermilab SIST Committee (summer internship targeting underrepresented groups)
2017	Review Panelist, <i>Fermi</i> Cycle-10 Guest Investigator Program
2016–2018	Member, Fermilab Computational Science Strategy Group
2016	Community Study Author, “ <i>Maximizing Science in the Era of LSST</i> ”
2015–present	Reviewer for <i>Science</i> , <i>Physical Review Letters</i> , <i>Physical Review D</i> , <i>Astrophysical Journal</i> , <i>Astrophysical Journal Letters</i> , and <i>Journal of Cosmology and Astroparticle Physics</i>
2015–2018	Co-Convener, DES Milky Way Science Working Group
2015–2018	Member, DES Science Committee (coordination of science working groups)
2015–2016	Member, DES Executive Committee (oversight of survey and camera operation)
2015	Member, Fermilab Congressional Delegation
2013–2018	Journal Club Organizer for the Fermilab Center for Particle Astrophysics
2012–present	Internal reviewer, <i>Fermi</i> -LAT, DES, and LSST DESC Collaborations
2012–2015	Executive officer of student and postdoc organizations at Stanford, SLAC , and Fermilab

CONFERENCES AND WORKSHOPS ORGANIZED

2022	DELVE Collaboration Meeting, Tucson, AZ
2022	LSST DESC Collaboration Meeting, Chicago, IL
2021	Chicagoland Survey Science Meeting, Chicago, IL
2020	DELVE Collaboration Meeting, Virtual
2020	Rubin Observatory Stack Club Course , Virtual
2019	DELVE Collaboration Meeting, Tucson, AZ

- 2019 [KICP LSST Dark Matter Workshop](#), Chicago, IL
- 2018 [Probing the Nature of Dark Matter with LSST](#), Livermore, CA
- 2018 [Near-Field Cosmology with DECam](#), Chicago, IL
- 2018 [Probing the Nature of Dark Matter with LSST](#), Pittsburgh, PA
- 2017 [Dark Matter Complementarity Workshop at TeVPA 2017](#), Columbus, OH
- 2017 [Searching for Dwarf Companions of the Milky Way and Beyond](#), Tucson, AZ
- 2017 [DES Collaboration Meeting](#), Chicago, IL
- 2017 [LSST Dark Energy Science Collaboration Hack Week](#), Batavia, IL
- 2017 [DES Chicagoland Workshop](#), Batavia, IL
- 2015 [DES Chicagoland Workshop](#), Batavia, IL

TEACHING EXPERIENCE

- 2023 *ASTR28500: Science with Large Astronomical Surveys*, University of Chicago
- 2022 *ASTR28500: Science with Large Astronomical Surveys*, University of Chicago
- 2022 *ASTR29900: Honors Thesis*, University of Chicago
- 2021 *ASTR28500: Science with Large Astronomical Surveys*, University of Chicago
- 2021 *ASTR29900: Honors Thesis*, University of Chicago
- 2020 *ASTR39900: Reading and Research*, University of Chicago
- 2020 *ASTR12710: Galaxies*, University of Chicago
- 2019 *ASTR28500: Science with Large Astronomical Surveys*, University of Chicago

RESEARCH MENTORSHIP

Postdoctoral Scholars:

- 2022–present Gabriela Marques – Postdoctoral research associate at Fermilab. Cosmological constraints from cross correlation of cosmic microwave background measurements and galaxy surveys.
- 2021–present Ani Chiti – Brinson & KICP Postdoctoral Fellow at the University of Chicago. Metal poor stars and Milky Way satellite galaxies.
- 2020–2022 Burçin Mutlu-Pakdil – NSF & KICP Postdoctoral Fellow at the University of Chicago. Dwarf galaxies and near-field cosmology. Dr. Mutlu-Pakdil is now an Assistant Professor at Dartmouth University.
- 2020–2022 Aleksandra Ćiprijanović – Postdoctoral research associate at Fermilab. Machine learning for low-surface-brightness science. Dr. Ćiprijanović is now a Wilson Fellow at Fermilab.
- 2019–2022 Javier Sánchez López – Postdoctoral research associate at Fermilab. Large scale structure, image simulations, and cosmology with LSST DESC and DES. Dr. Sánchez is now a Scientist at Space Telescope Science Institute.
- 2016–2019 Ting Li – Lederman Fellow at Fermilab. Near-field cosmology with dwarf galaxies and stellar streams. Dr. Li went on to be a Hubble Fellow and Carnegie-Princeton Fellow at Carnegie Observatories, and she is now an Assistant Professor at the University of Toronto.

Graduate Students:

- 2020–present Chin Yi Tan (primary Ph.D. advisor) – Ph.D. student in Physics at University of Chicago. Photometric calibration and ultra-faint dwarf galaxy science with DELVE. Modeling of galaxy-galaxy strong lensing systems.
- 2020–present Edgar Marrufo Villalpando (primary Ph.D. advisor) – Ph.D. student in Physics at the University of Chicago. Development of Skipper CCDs for cosmology. Mr. Marrufo Villalpando was a DOE SCGSR Fellow at Fermilab and received the DOE Graduate Instrumentation Research Award (GIRA).
- 2020–present Charles Mudd – M.S. student in Science Analytics at the University of Chicago. Analysis of Starlink satellites in DECam data. Mr. Mudd is a lawyer specializing in outer space and internet law.
- 2020–2021 Peter Ferguson – Ph.D. student in Physics & Astronomy at Texas A&M University. Dr. Ferguson was a Fermilab URA Visiting Scholar working on characterizations of stellar streams using data from DELVE. Dr. Ferguson is now a postdoc at University of Wisconsin, Madison.
- 2019–2022 Dimitrios Tanoglidis (primary Ph.D. advisor) – Ph.D. student in Astronomy & Astrophysics at the University of Chicago. Machine learning applications for the detection of low-surface-brightness galaxies in DES.
- 2019–2020 Katelyn Stringer – Ph.D. student in Physics & Astronomy at Texas A&M University. Dr. Stringer was a Fermilab URA Visiting Scholar working on the detection of RR Lyrae in DES. She is now a Data Scientist at Capital One.
- 2018–2019 Kuang Wei – M.S. student in Physics at the University of Chicago. Detection of low-surface-brightness galaxies in DES and LSST. Galaxy-halo connection for ultra-diffuse galaxies. Mr. Wei is now a data scientist at Facebook.
- 2017–2021 Nora Shipp (primary Ph.D. advisor) – Ph.D. student in Astronomy & Astrophysics at the University of Chicago. Detection, measurement, and modeling of stellar streams using DES, *Gaia*, and *S⁵*. Dr. Shipp was a DOE SCGSR Fellow, LSST Data Science Fellow, and Harper Dissertation Award winner. She is now a postdoc at MIT.

Undergraduate Students:

- 2022–present Kai Herron – DOE VFP and SULI intern at Fermilab; physics major at Purdue Northwest. Large-scale structure measurements with DELVE; detecting low-surface brightness galaxies with DES.
- 2022–present Finian Ashmead (co-supervised with Tom Diehl) – SULI intern at Fermilab; astrophysics major at University of Chicago. Identifying and characterizing strong lens systems with DELVE; tilting spine fiber positioner R&D.
- 2022–present Kabelo Tsiane – Astrophysics major at the University of Chicago. Estimating the sensitivity of LSST for the discovery of ultra-faint dwarf galaxies.
- 2022 Anthony Brown – SIST intern at Fermilab; computer engineering major at Wilberforce College. Designing a calibration system for anisotropic organic crystals for directional dark matter detection.
- 2021–present Jonah Medoff (co-supervised with Burçin Mutlu-Pakdil) – SULI intern at Fermilab; astrophysics major at the University of Chicago. Searching for ultra-faint dwarf galaxies in DELVE.
- 2021–2022 Aidan Cloonan (co-supervised with Anowar Shajib) – Astrophysics major at the University of Chicago. Modeling strong lensing from RedMaPPer galaxies.
- 2021 Caleb Levy (co-supervised with Aleksandra Čiprijanović) – SIST intern at Fermilab; physics major at Colgate University. Detecting low-surface-brightness galaxies with Mask R-CNNs.

- 2020–2021 Louise Gagnon (co-supervised with Burçin Mutlu-Pakdil) – Astrophysics major at the University of Chicago. Measuring the globular cluster populations of low-surface-brightness galaxies with DES.
- 2020–2021 Erik Zaborowski – Graduate student-at-large in the Graham School of Continuing Liberal and Professional Studies at the University of Chicago. Searches for galaxy–galaxy strong lenses using convolutional neural networks. Mr. Zaborowski is currently a Ph.D. student in Physics at the Ohio State University.
- 2019–2022 William Cerny – SULI intern at Fermilab; astrophysics major at the University of Chicago. Discovery of ultra-faint dwarf galaxies and star clusters in DELVE. Mr. Cerny is currently a Ph.D. student in Astronomy at Yale University.
- 2019–2021 Kiyang Tavangar – Astrophysics major and Provost Scholar at the University of Chicago. Searches for dwarf galaxies and stellar streams in DES and DECaLS. Mr. Tavangar is currently Ph.D. student in Astronomy at Columbia University.
- 2019–2020 Judah O’Neil – SIST intern and undergraduate research assistant at Fermilab; physics major at North Central College. Skipper CCD development for cosmological applications. Mr. O’Neil is currently an Accelerator Operator at Fermilab.
- 2019–2020 Praveen Balaji (co-supervised with Brian Nord) – LSST Data Science intern at Fermilab; physics major at the University of Chicago. Searches for stellar streams using convolutional neural networks. Mr. Balaji is currently a Ph.D. student in Physics at the University of Illinois, Urbana-Champaign.
- 2017–2020 Sidney Mau – Physics major and Provost Scholar at the University of Chicago. Searches for dwarf galaxies using DES, MagLiteS, BLISS and DELVE. Mr. Mau is currently a Ph.D. student in Physics and NSF Graduate Fellow at Stanford University.
- 2017 Karen Perez Sarmiento – SIST intern at Fermilab; physics major at Macalester College. R-process elements and neutron star mergers in dwarf galaxies. Ms. Perez Sarmiento is currently a Ph.D. student in Astronomy at the University of Pennsylvania.
- 2016 Brandon Buncher – SULI intern at Fermilab; physics major at the College of William and Mary. Characterization of the dwarf galaxy Tucana III. Mr. Buncher is now a Ph.D. student in Physics and NSF Graduate Fellow at the University of Illinois, Urbana-Champaign.
- 2014 Oscar Meza Aldama – Summer intern at Fermilab from Benemerita Universidad. Developing machine-learning algorithms for star–galaxy separation in DES.
- 2012 Andrea Klein – Physics major at Stanford University. Undergraduate thesis on Milky Way dark matter subhalo abundances. Ms. Klein is now Senior Engineering Manager of the machine learning group at Apple.

EQUITY, DIVERSITY, AND INCLUSION

- 2020–present Collaborator and Research Support, [Change–Now](#) call to action at Fermilab
- 2020–2021 Member, Fermilab Particle Physics Division Diversity & Inclusion Action Team
- 2020–2021 Member, Astronomy & Astrophysics admissions working group, University of Chicago
- 2020 Co-Organizer of activities at Fermilab and University of Chicago centered around the call to [#Strike4BlackLives](#)
- 2017–present Committee member, mentor, and supervisor, [Fermilab SIST internship program](#) for students from groups that are historically underrepresented in STEM.
- 2014 Supervisor, [Fermilab TARGET high school internship program](#) for students from groups that are historically underrepresented in STEM.

PUBLIC OUTREACH

- 2022 Organizer, [Dark Matter Day](#), Fermilab
- 2021 “*The Dark Side of the Universe*” Sonora Astronomical Society, Green Valley, AZ
- 2021 “*Dark Matter: A Play in Seven Acts*” Fermilab [Dark Matter Day](#), Batavia, IL
- 2020 “*The Dark Side of the Universe*” Northwest Suburban Astronomers, Arlington Heights, IL
- 2020 “*What is Dark Matter and Why Does it Matter?*” Fermilab [Dark Matter Day](#), Batavia, IL
- 2019–present Member, Fermilab Public Press Editorial Committee
- 2018 “*Dark Matter and Tiny Galaxies*” UC Irvine Evans Lecture, Irvine, CA
- 2018 “*Small Galaxies, Big Science*” Friends of KITP Chalk Talk, Santa Barbara, CA
- 2018 [International Stellar Stream Naming Competition](#)
- 2017 [Adler After Dark](#), Adler Planetarium
- 2016 “*The Mystery of Missing Mass*” Laser Safety Officer Workshop, Batavia, IL
- 2016 Participant, DOE Laboratory Internship Networking, National Society of Black Physicists
- 2015 Contributing Author to the [DES DArchive](#) (DES Results in a Nutshell)
- 2014–2018 Public Tour Guide, [Fermilab Saturday Morning Physics](#)
- 2013–2015 Contributing Author, [Dark Energy Detectives](#)
- 2012–2013 [Public Tour Guide](#), SLAC National Accelerator Laboratory
- 2012–2013 [Visualization Laboratory Operator](#), Kavli Institute for Particle Astrophysics and Cosmology
- 2010 [SLAC Kids’ Day Volunteer](#)
- 2009 “*The Mystery of Missing Mass*” Public Health Research Institute, Newark, NJ
- 2005–2008 Public Observatory Operator, [Crow Observatory](#), Washington University in St. Louis
- 2005 [Public Tour Guide](#), American Museum of Natural History

PUBLIC PRESS

Articles in the public press that feature my work.

- 2019 “[Dwarf galaxies pose new questions about dark matter and the early universe that models are struggling to answer](#)” – *Proceedings of the National Academy of Sciences*
- 2019 “[Missing Galaxies? Now There’s Too Many](#)” – *Quanta Magazine*
- 2018 “[Sky Rivers](#)” – *Science Magazine*
- 2018 “[What’s the Universe Made Of?](#)” – *Nova*
- 2018 “[The Dark Energy Survey Revealed New Origins of Stars in Our Galaxy](#)” – *Seeker*
- 2018 “[New stellar streams confirm ‘melting pot’ history of the galaxy](#)” – *Science Daily*
- 2018 “[Rivers in the Sky](#)” – *Symmetry Magazine*
- 2018 “[New Stellar Streams Confirm ‘Melting Pot’ History of the Galaxy](#)” - *NOAO Press Release*
- 2018 “[Dark Energy Survey publicly releases first three years of data](#)” – *Fermilab Press Release*
- 2017 “[Seeing the Beginning of Time](#)” – *Documentary by Thomas Lucas Productions*
- 2016 “[Our Galactic Neighborhood](#)” – *Symmetry Magazine*
- 2016 “[The Booming Science of Dwarf Galaxies](#)” – *Symmetry Magazine*
- 2015 “[Gamma Rays May Be Clue on Dark Matter](#)” – *The New York Times*

- 2015 [“New Dwarf Galaxies Near Milky Way”](#) – *Sky & Telescope*
- 2015 [“Have Astronomers Finally Found Dark Matter?”](#) – *National Geographic*
- 2015 [“Dwarf Galaxies Loom Large in the Quest for Dark Matter”](#) – *Kavli Science Spotlight*
- 2015 [“Deciphering Gamma Rays from a Dwarf Galaxy”](#) – *APS Physics Viewpoint*
- 2015 [“DECam Pinpoints Asteroid”](#) – *Symmetry Magazine*

SCIENTIFIC SOCIETY MEMBERSHIP

- 2015–present Member, American Astronomical Society (AAS)
- 2011–present Member, American Physical Society (APS)
- 2008 (inducted) Sigma Xi, Scientific Research Society
- 2008 (inducted) National Scholars, Honor Society

COLLOQUIA AND SYMPOSIA

- 2023 (scheduled) *“Galactic Dynamics with Resolved Stars”*
Aaronson Symposium, University of Arizona, Tucson, AZ
- 2023 *“Exploring the Universe with Cosmic Surveys”*
Fermilab Colloquium, Batavia, IL
- 2022 *“Fundamental Physics from Observations of Faint Galaxies”*
KICP Colloquium at the University of Chicago, Chicago, IL
- 2022 *“Small Galaxies, Big Science: Probing Fundamental Physics with Dwarf Galaxies”*
Astronomy Colloquium at Yale University, New Haven, CT
- 2022 *“Small Galaxies, Big Science: Probing Fundamental Physics with Dwarf Galaxies”*
Steward Observatory/NOIRLab Colloquium at the University of Arizona, Tucson, AZ
- 2021 *“Small Galaxies, Big Science: Probing Fundamental Physics with Dwarf Galaxies”*
Physics & Astronomy Colloquium at UC Riverside, Riverside, CA
- 2020 *“Small Galaxies, Big Science: Probing Fundamental Physics with Dwarf Galaxies”*
Physics Colloquium at University of Michigan, Ann Arbor, MI
- 2019 *“Small Galaxies, Big Science: Probing Fundamental Physics with Dwarf Galaxies”*
Physics & Astronomy Colloquium at Texas A&M, College Station, TX
- 2018 *“Small Galaxies, Big Science”*
KICP Colloquium at University of Chicago, Chicago, IL
- 2018 *“Small Galaxies, Big Science: The Booming Industry of Milky Way Satellite Galaxies”*
Colloquium at the Institute for Astronomy, Manoa, HI
- 2018 *“Small Galaxies, Big Science: Using Cosmic Surveys to Study the Fundamental Nature of Dark Matter”* Physics and Astronomy Colloquium at the University of Hawaii, Manoa, HI
- 2018 *“Small Galaxies, Big Science: Using Cosmic Surveys to Study the Fundamental Nature of Dark Matter”* Physics Colloquium at the University of New Mexico, Albuquerque, NM
- 2018 *“Small Galaxies, Big Science: Using Cosmic Surveys to Study the Fundamental Nature of Dark Matter”* Physics Colloquium at University of Pittsburgh, Pittsburgh, PA
- 2017 *“Astrophysics at Fermilab”*
Fermilab 50th Anniversary Symposium, Batavia, IL
- 2017 *“Searching for the Darkest Galaxies”*
Physics Colloquium at Indiana University, Bloomington, IN

- 2017 *“The Milky Way’s Dark Companions”*
KICP Colloquium at University of Chicago, Chicago, IL
- 2016 *“Searching for the Darkest Galaxies”*
Physics Colloquium at University of Illinois at Chicago, Chicago, IL

RECENT INVITED SEMINARS

- 2020 *“Small Galaxies, Big Science: Probing Fundamental Physics with Dwarf Galaxies”*
HEPAP Seminar at Pennsylvania State University, State College, PA
- 2019 *“Small Galaxies, Big Science: Fundamental Physics from Near Field Cosmology”*
LUPM Seminar at University of Montpellier, Montpellier, FR
- 2018 *“Small Galaxies, Big Science: Using Cosmic Surveys to Study the Fundamental Nature of Dark Matter”*
Panofsky Seminar at SLAC National Accelerator Laboratory, Menlo Park, CA
- 2018 *“Using Cosmic Surveys to Understand the Fundamental Nature of Dark Matter”*
Cosmology Seminar at the University of Pittsburgh, Pittsburgh, PA
- 2018 *“Small Galaxies, Big Science: Using Cosmic Surveys to Study the Fundamental Nature of Dark Matter”*
Astronomy Seminar at Michigan State University, East Lansing, MI
- 2018 *“Using Cosmic Surveys to Understand the Fundamental Nature of Dark Matter”*
Research Progress Meeting at Lawrence Berkeley National Laboratory, Berkeley, CA
- 2018 *“Small Galaxies, Big Science: The Booming Industry of Milky Way Satellite Galaxies”*
Berkeley Cosmology Seminar, Berkeley, CA
- 2018 *“Using Cosmic Surveys to Understand the Fundamental Nature of Dark Matter”*
Physics Seminar at Indiana University, Bloomington, IN
- 2017 *“Probing Dark Matter with Dwarf Galaxies”*
Physics Seminar at Lawrence Livermore National Laboratory, Livermore, CA
- 2017 *“Searching for the Milky Way’s Dark Companions”*
HEP Seminar at Brookhaven National Lab, Brookhaven, NY
- 2016 *“Fundamental Physics with the Smallest Galaxies”*
CCAPP Seminar at the Ohio State University, Columbus, OH
- 2015 *“Searching for Dwarf Galaxies in Optical and Gamma Rays”*
Cosmology Seminar at Carnegie Mellon University, Pittsburgh, PA
- 2015 *“Searching for Milky Way Satellites with the Dark Energy Survey”*
Fermilab Wine & Cheese Seminar, Batavia, IL
- 2015 *“Searching for Dark Matter in Galactic Substructure”*
Fermilab Wine & Cheese Seminar, Batavia, IL

RECENT INVITED CONFERENCE TALKS

- 2023 *“Studying dark matter with observations of small-scale structure”*
Astrophysical Signatures of Dark Matter, University of Michigan, Ann Arbor, MI
- 2023 *“Studying dark matter with observations of small-scale structure”*
Invited Plenary Talk at “What is dark matter?” at Kavli IPMU, Tokyo, Japan
- 2022 *“Cosmic Probes of Dark Matter Physics”*
Invited Talk at “Snowmass Summer Study” at University of Washington, Seattle, WA
- 2021 *“Gravitational Probes of Dark Matter”*
Special Session at April APS Meeting, Virtual
- 2021 *“Science with the Dark Energy Survey at NSF’s NOIRLab”*
Special Session at 237th AAS Meeting, Virtual

- 2020 *“Small Galaxies, Big Science: Fundamental Physics from the Faintest Galaxies”*
Latin American Workshop on Observational Cosmology, Virtual
- 2019 *“Astrophysical Probes of Fundamental Dark Matter Physics”*
Invited Plenary Talk at the APS DPF Meeting, Boston, MA
- 2018 *“Searching for Magellanic Satellites with DECam”*
Invited talk at DECam Near-Field Cosmology Workshop, Chicago, IL
- 2018 *“Milky Way Science with the Dark Energy Survey”*
Special Session at 231st AAS Meeting, Washington, D.C.
- 2017 *“Searching for Milky Way Satellite Galaxies”*
Plenary talk at Barolo Astroparticle Meeting, Barolo, Italy
- 2017 *“Searching for Dark Matter in Dwarf Galaxies”*
Plenary talk at Aspen Winter Conference, Aspen, CO
- 2016 *“Dark Matter Results from Fermi”*
Overview talk at the Bloom Symposium, Menlo Park, CA
- 2016 *“DES and Fermi results on Dwarf Galaxies”*
Plenary talk at the 12th UCLA Dark Matter Conference, Los Angeles, CA
- 2015 *“Searching for Dwarf Spheroidal Galaxies with DES and the Fermi-LAT”*
Plenary talk at the 6th Fermi Symposium, Washington, DC
- 2015 *“Searching for Dwarf Spheroidal Galaxies”*
Plenary talk at the GMT Community Science Meeting, Monterey, CA
- 2015 *“Searching for Dwarf Spheroidal Galaxies”*
Mitchell Workshop on Collider and Dark Matter Physics, College Station, TX
- 2015 *“Searching for Milky Way Satellites with the Dark Energy Survey”*
“Hot Topics in Astrophysics” talk at the April APS Meeting, Baltimore, MD

RECENT CONTRIBUTED TALKS

- 2022 *“The DECam Local Volume Exploration Survey (DELVE)”*
“DECam at 10 years — Looking Back, Looking Forward” at NOIRLab, Tucson, AZ
- 2021 *“Deep Imaging of the Southern Sky with DECam”*
Streams21: Constraints on Dark Matter, Virtual
- 2020 *“Studies of the Galactic Halo with DES, MagLiteS, and DELVE”*
STScI Spring Symposium on the Local Group: Assembly and Evolution, Virtual
- 2020 *“Milky Way Satellite Census: Constraining Galaxy Formation and Dark Matter”*
American Physical Society April Meeting, Virtual
- 2019 *“Skipper CCDs for Cosmological Applications”*
CPAD Instrumentation Frontiers Workshop, Madison, WI
- 2019 *“Overview of LSST Dark Matter Science”*
LSST DESC Collaboration Meeting, Berkeley, CA
- 2018 *“Detecting Low-Surface-Brightness Galaxies with the LSST Stack”*
LSST Project Community Workshop, Tucson, AZ
- 2017 *“Searching for Dwarf Spheroidal Galaxies with DES and the Fermi-LAT”*
TeV Particle Astrophysics (TeVPA), Columbus, OH
- 2017 *“Searching for the Darkest Galaxies: Covering the Entire Southern Sky with DECam”*
TeV Particle Astrophysics (TeVPA), Columbus, OH
- 2017 *“Searching for Milky Way Satellite Galaxies with DECam”*
American Physical Society DPF2017, Batavia, IL

- 2017 *“The Magellanic Satellites Survey (MagLiteS)”*
American Physical Society April Meeting, Washington D.C.
- 2016 *“Searching for Dwarf Spheroidal Galaxies with DES and the Fermi-LAT”*
38th International Conference on High Energy Physics (ICHEP), Chicago, IL
- 2016 *“Using LSST to Probe the Fundamental Nature of Dark Matter”*
LSST Cross-Correlation Workshop, Brookhaven, NY
- 2015 *“DES and Fermi-LAT Observations of Milky Way Satellite Galaxies”*
KIPAC Tea Talk Seminar, Stanford CA
- 2015 *“Recent Results on Indirect Dark Matter Searches with Dwarf Galaxies”*
LHC Physics Center seminar at Fermilab, Batavia, IL

Publication List

I have authored >220 publications, which have received >29,000 citations (h-index of 83). I am an active member of the DES, LSST DESC, and Fermi-LAT Collaborations, and this results in many papers with long author lists. Each collaboration has several classes of papers, some of which have alphabetized author lists (see the associated [Fermi-LAT Publication Policy](#), [DES Publication Policy](#), and [LSST DESC Publication Policy](#) for details). For clarity, I have highlighted publications in which I led the scientific design, analysis, and/or writing.

Journal Abbreviations – PhRvL: *Physical Review Letters*; PhRvD: *Physical Review D*; JCAP: *Journal of Cosmology and Astroparticle Physics* ApJ: *The Astrophysical Journal*, MNRAS: *Monthly Notices of the Royal Astronomical Society*; AJ: *The Astronomical Journal*; PASP: *Publications of the Astronomical Society of the Pacific*

* – Indicates students and postdocs who I supervised on specific analyses.

PRIMARY CONTRIBUTOR

Publications where I was a primary contributor to the scientific design, analysis, and/or writing.

1. E. Maruffo Villalpando*, **A. Drlica-Wagner**, M. Bonati, et al., “Design of a Skipper CCD Focal Plane for the SOAR Integral Field Spectrograph”, *Proc. SPIE Int. Soc. Opt. Eng.* **12190**, 12190U (2022), [[arXiv:2210.03665](#)].
2. E. Zaborowski*, **A. Drlica-Wagner**, F. Ashmead*, et al., “Identification of Galaxy-Galaxy Strong Lens Candidates in the DECam Local Volume Exploration Survey Using Machine Learning”, *Submitted to AAS Journals* (2022), [[arXiv:2210.10802](#)]. **DELVE Collaboration**.
3. W. Cerny*, C. E. Martínez-Vázquez, **A. Drlica-Wagner**, et al., “Six More Ultra-Faint Milky Way Companions Discovered in the DECam Local Volume Exploration Survey”, *Submitted to AAS Journals* arXiv:2209.12422 (2022), [[arXiv:2209.12422](#)]. **DELVE Collaboration**.
4. **A. Drlica-Wagner**, P. S. Ferguson*, et al., “The DECam Local Volume Exploration Survey Data Release 2”, *ApJS* **261**, 38 (2022), [[arXiv:2203.16565](#)]. **DELVE Collaboration**.
5. W. Cerny*, J. D. Simon, T. S. Li, **A. Drlica-Wagner**, et al., “Pegasus IV: Discovery and Spectroscopic Confirmation of an Ultra-Faint Dwarf Galaxy in the Constellation Pegasus”, *Accepted to AAS Journals* arXiv:2203.11788 (2022), [[arXiv:2203.11788](#)]. **DELVE Collaboration**.
6. S. Mau*, E. O. Nadler, R. H. Wechsler, **A. Drlica-Wagner**, et al., “Milky Way Satellite Census. IV. Constraints on Decaying Dark Matter from Observations of Milky Way Satellite Galaxies”, *ApJ* **932**, 128 (2022), [[arXiv:2201.11740](#)]. **DES Collaboration**.
7. D. Tanoglidis*, A. Ćiprijanović*, **A. Drlica-Wagner**, et al., “DeepGhostBusters: Using Mask R-CNN to Detect and Mask Ghosting and Scattered-Light Artifacts from Optical Survey Images”, *Astron. Comput.* **39**, 100580 (2021), [[arXiv:2109.08246](#)].
8. K. Tavangar*, P. Ferguson*, N. Shipp*, and **A. Drlica-Wagner**, “From the Fire: A Deeper Look at the Phoenix Stream”, *ApJ* **925**, 118 (2022), [[arXiv:2110.03703](#)]. **DES Collaboration**.
9. P. Ferguson*, N. Shipp*, **A. Drlica-Wagner**, et al., “DELVE-ing into the Jet: a thin stellar stream on a retrograde orbit at 30 kpc”, *AJ* **163**, 18 (2022), [[arXiv:2104.11755](#)]. **DELVE Collaboration**.
10. N. Shipp*, D. Erkal, **A. Drlica-Wagner**, et al., “Measuring the Mass of the Large Magellanic Cloud with Stellar Streams Observed by S^5 ”, *ApJ* **923**, (2021), [[arXiv:2107.13004](#)]. **S⁵ Collaboration**.
11. B. Mutlu-Pakdil*, D. Sand, D. Crnojević, **A. Drlica-Wagner**, et al., “Resolved Dwarf Galaxy Searches within 5 Mpc with the Vera Rubin Observatory and Subaru Hyper Suprime-Cam”, *ApJ* **918**, (2021), [[arXiv:2105.01658](#)].

12. W. Cerny*, A. B. Pace, **A. Drlica-Wagner**, et al., “Eridanus IV: an Ultra-faint Dwarf Galaxy Candidate Discovered in the DECam Local Volume Exploration Survey”, *ApJ* **920**, L44 (2021), [[arXiv:2107.09080](#)]. **DELVE Collaboration**.
13. C. E. Martínez-Vázquez, W. Cerny*, A. K. Vivas, **A. Drlica-Wagner**, et al., “RR Lyrae Stars in the Newly Discovered Ultra-faint Dwarf Galaxy Centaurus I”, *AJ* **162**, 253 (2021), [[arXiv:2107.05688](#)]. **DELVE Collaboration**.
14. **A. Drlica-Wagner**, J. L. Carlin, D. L. Nidever, et al., “The DECam Local Volume Exploration Survey: Overview and First Data Release”, *ApJS* **256**, 2 (2021), [[arXiv:2103.07476](#)]. **DELVE Collaboration**.
15. **DES Collaboration**: T. M. C. Abbott et al., “The Dark Energy Survey Data Release 2”, *ApJS* **255**, 20 (2021), [[arXiv:2101.05765](#)]. **Analysis Contributions; Paper Writing and Figures**.
16. C. Chang, **A. Drlica-Wagner**, S. M. Kent, et al., “A Machine Learning Approach to the Detection of Ghosting and Scattered Light Artifacts in Dark Energy Survey Images”, *Astron. Comput.* **36**, 100474 (2021), [[arXiv:2105.10524](#)].
17. J. D. Simon, T. M. Brown, **A. Drlica-Wagner**, et al., “Eridanus II: A Fossil from Reionization with an Off-Center Star Cluster”, *ApJ* **908**, 18 (2021), [[arXiv:2012.00043](#)].
18. K. M. Stringer*, **A. Drlica-Wagner**, et al., “Identifying RR Lyrae Variable Stars in Six Years of the Dark Energy Survey”, *ApJ* **911**, 109 (2021), [[arXiv:2011.13930](#)]. **Corresponding author; DES Collaboration**.
19. D. Tanoglidis*, A. Čiprijanović*, and **A. Drlica-Wagner**, “DeepShadows: Separating Low Surface Brightness Galaxies from Artifacts using Deep Learning”, *Astron. Comput.* **35**, 100469 (2021), [[arXiv:2011.12437](#)].
20. W. Cerny*, A. B. Pace, **A. Drlica-Wagner**, et al., “Discovery of an Ultra-Faint Stellar System near the Magellanic Clouds with the DECam Local Volume Exploration (DELVE) Survey”, *ApJ* **910**, 18 (2021), [[arXiv:2009.08550](#)]. **DELVE Collaboration**.
21. D. Tanoglidis*, **A. Drlica-Wagner**, K. Wei*, et al., “Shadows in the Dark: Low-Surface-Brightness Galaxies Discovered in the Dark Energy Survey”, *ApJS* **252**, 18 (2021), [[arXiv:2006.04294](#)]. **DES Collaboration**.
22. E. O. Nadler*, **A. Drlica-Wagner**, K. Bechtol, et al., “Milky Way Satellite Census. III. Constraints on Dark Matter Properties from Observations of Milky Way Satellite Galaxies”, *PhRvL* **126**, 091101 (2021), [[arXiv:2008.00022](#)]. **DES Collaboration; PRL editors’ choice**.
23. **A. Drlica-Wagner**, E. Marrufo Villalpando*, J. O’Neil*, et al., “Characterization of skipper CCDs for cosmological applications”, *Proc. SPIE Int. Soc. Opt. Eng.* **11454**, 114541A (2020), [[arXiv:2103.07527](#)].
24. N. Shipp*, A. M. Price-Whelan, K. Tavangar*, C. Mateu, and **A. Drlica-Wagner**, “Discovery of Extended Tidal Tails around the Globular Cluster Palomar 13”, *AJ* **160**, 244 (2020), [[arXiv:2006.12501](#)].
25. S. Mau*, W. Cerny*, A. B. Pace, Y. Choi, **A. Drlica-Wagner**, et al., “Two Ultra-Faint Milky Way Stellar Systems Discovered in Early Data from the DECam Local Volume Exploration Survey”, *ApJ* **890**, 136 (2020), [[arXiv:1912.03301](#)]. **DELVE Collaboration**.
26. E. O. Nadler, R. H. Wechsler, K. Bechtol, et al., “Milky Way Satellite Census. II. Galaxy-Halo Connection Constraints Including the Impact of the Large Magellanic Cloud”, *ApJ* **893**, 48 (2020), [[arXiv:1912.03303](#)]. **DES Collaboration**.
27. **A. Drlica-Wagner**, K. Bechtol, S. Mau*, et al., “Milky Way Satellite Census. I. The Observational Selection Function for Milky Way Satellites in DES Y3 and Pan-STARRS DR1”, *ApJ* **893**, 1 (2020), [[arXiv:1912.03302](#)]. **DES Collaboration**.
28. **A. Drlica-Wagner**, Y.-Y. Mao, et al., “Probing the Fundamental Nature of Dark Matter with the Large Synoptic Survey Telescope”, [arXiv:1902.01055](#). **LSST Dark Matter Group**.

29. N. Shipp*, T. S. Li*, A. B. Pace, D. Erkal, **A. Drlica-Wagner**, et al., “Proper Motions of Stellar Streams Discovered in the Dark Energy Survey”, *ApJ* **885**, 3 (2019), [[arXiv:1907.09488](#)]. **S⁵ Collaboration**.
30. S. Mau*, **A. Drlica-Wagner**, et al., “A faint halo star cluster discovered in the Blanco Imaging of the Southern Sky Survey”, *ApJ* **875**, 154 (2019), [[arXiv:1812.06318](#)]. **BLISS Collaboration**.
31. M. Carrasco Kind, **A. Drlica-Wagner**, A. M. G. Koziol, et al., “easyaccess: Enhanced SQL command line interpreter for astronomical surveys”, *JOSS* **4**, 1022 (2019), [[arXiv:1810.02721](#)]. **Core Developer; DES Collaboration**.
32. N. Shipp*, **A. Drlica-Wagner**, E. Balbinot, et al., “Stellar Streams Discovered in the Dark Energy Survey”, *ApJ* **862**, 114 (2018), [[arXiv:1801.03097](#)]. **Corresponding Author; DES Collaboration**.
33. **DES Collaboration**: T. M. C. Abbott et al., “The Dark Energy Survey Data Release 1”, *ApJS* **239**, 18 (2018), [[arXiv:1801.03181](#)]. **Analysis Contributions; Paper Writing and Figures**.
34. **DES Collaboration**: E. Morganson et al., “The Dark Energy Survey Image Processing Pipeline”, *PASP* **130**, 074501 (2018), [[arXiv:1801.03177](#)]. **Analysis Contributions; Paper Writing and Figures**.
35. **A. Drlica-Wagner**, I. Sevilla-Noarbe, E. S. Rykoff, et al., “Dark Energy Survey Year 1 Results: Photometric Data Set for Cosmology”, *ApJS* **235**, 33 (2018), [[arXiv:1708.01531](#)]. **Corresponding Author; Analysis Lead; DES Collaboration**.
36. J. Tiffenberg, M. Sofo-Haro, **A. Drlica-Wagner**, et al., “Single-Electron and Single-Photon Sensitivity with a Silicon Skipper CCD”, *PhRvL* **119**, 131802 (2017), [[arXiv:1706.00028](#)]. **Data Analysis; Astrophysical Applications**.
37. T. S. Li*, J. D. Simon, **A. Drlica-Wagner**, et al., “Farthest Neighbor: The Distant Milky Way Satellite Eridanus II”, *ApJ* **838**, 8 (2017), [[arXiv:1611.05052](#)]. **Analysis Contributions; Paper Writing; DES Collaboration**.
38. J. D. Simon, T. S. Li*, **A. Drlica-Wagner**, et al., “Nearest Neighbor: The Low-Mass Milky Way Satellite Tucana III”, *ApJ* **838**, 11 (2017), [[arXiv:1610.05301](#)]. **Analysis Contributions; Paper Writing; DES Collaboration**.
39. A. Albert, K. Bechtol, **A. Drlica-Wagner**, et al., “Searching for Dark Matter Annihilation in Recently Discovered Milky Way Satellites with Fermi-LAT”, *ApJ* **834**, 110 (2017), [[arXiv:1611.03184](#)]. **Corresponding Author; Analysis Lead; LAT Category II Paper; DES Collaboration**.
40. **A. Drlica-Wagner**, K. Bechtol, S. Allam, et al., “An Ultra-Faint Galaxy Candidate Discovered in Early Data from the Magellanic Satellites Survey”, *ApJ* **833**, L5 (2016), [[arXiv:1609.02148](#)]. **Corresponding Author; Analysis Lead; MagLiteS Collaboration**.
41. **DES Collaboration**: T. Abbott et al., “The Dark Energy Survey: More Than Dark Energy - An Overview”, *MNRAS* **460**, 1270–1299 (2016), [[arXiv:1601.00329](#)]. **Milky Way Section Author**.
42. P. Melchior, E. Sheldon, **A. Drlica-Wagner**, E. S. Rykoff, et al., “Crowdsourcing Quality Control for Dark Energy Survey Images”, *Astron. Comput.* 99–108 (2016), [[arXiv:1511.03391](#)]. **Software development and paper writing; DES Collaboration**.
43. **A. Drlica-Wagner**, K. Bechtol, E. S. Rykoff, et al., “Eight Ultra-faint Galaxy Candidates Discovered in Year Two of the Dark Energy Survey”, *ApJ* **813**, 109 (2015), [[arXiv:1508.03622](#)]. **Corresponding Author; Analysis Lead; DES Collaboration**.
44. J. D. Simon, **A. Drlica-Wagner**, T. S. Li*, et al., “Stellar Kinematics and Metallicities in the Ultra-Faint Dwarf Galaxy Reticulum II”, *ApJ* **808**, 95 (2015), [[arXiv:1504.02889](#)]. **DES photometry and targeting; Paper writing; DES Collaboration**.
45. **A. Drlica-Wagner**, A. Albert, K. Bechtol, et al., “Search for Gamma-Ray Emission from DES Dwarf Spheroidal Galaxy Candidates with Fermi-LAT Data”, *ApJ* **809**, L4 (2015), [[arXiv:1503.02632](#)]. **Corresponding Author; Analysis Lead; LAT Category II Paper; DES Collaboration**.

46. K. Bechtol, **A. Drlica-Wagner**, E. Balbinot, et al., “Eight New Milky Way Companions Discovered in First-Year Dark Energy Survey Data”, *ApJ* **807**, 50 (2015), [[arXiv:1503.02584](#)]. **Corresponding Author; Analysis Lead; DES Collaboration.**
47. **Fermi-LAT Collaboration**: M. Ackermann et al., “Searching for Dark Matter Annihilation from Milky Way Dwarf Spheroidal Galaxies with Six Years of Fermi Large Area Telescope Data”, *PhRvL* **115**, 231301 (2015), [[arXiv:1503.02641](#)]. **Corresponding Author; Analysis Lead; LAT Category I Paper.**
48. M. R. Buckley, E. Charles, J. M. Gaskins, A. M. Brooks, **A. Drlica-Wagner**, et al., “Search for Gamma-ray Emission from Dark Matter Annihilation in the Large Magellanic Cloud with the Fermi Large Area Telescope”, *PhRv* **D91**, 102001 (2015), [[arXiv:1502.01020](#)]. **Analysis Framework Development; LAT Category II Paper.**
49. M. Cahill-Rowley, R. Cotta, **A. Drlica-Wagner**, et al., “Complementarity of Dark Matter Searches in the Phenomenological MSSM”, *PhRv* **D91**, 055011 (2015), [[arXiv:1405.6716](#)]. **LAT Data Analysis; LAT Category II Paper.**
50. **A. Drlica-Wagner**, G. A. Gomez-Vargas, J. W. Hewitt, T. Linden, and L. Tibaldo, “Searching for Dark Matter Annihilation in the Smith High-Velocity Cloud”, *ApJ* **790**, 24 (2014), [[arXiv:1405.1030](#)]. **Corresponding Author; Analysis Lead; LAT Category II Paper.**
51. **Fermi-LAT Collaboration**: M. Ackermann et al., “Dark Matter Constraints from Observations of 25 Milky Way Satellite Galaxies with the Fermi Large Area Telescope”, *PhRv* **D89**, 042001 (2014), [[arXiv:1310.0828](#)]. **Corresponding Author; Analysis Lead; LAT Category I Paper.**
52. **Fermi-LAT Collaboration**: M. Ackermann et al., “Search for Dark Matter Satellites using the Fermi-LAT”, *ApJ* **747**, 121 (2012), [[arXiv:1201.2691](#)]. **Corresponding Author; Analysis Lead; LAT Category I Paper.**
53. R. Cotta, **A. Drlica-Wagner**, S. Murgia, et al., “Constraints on the pMSSM from LAT Observations of Dwarf Spheroidal Galaxies”, *JCAP* **1204**, 016 (2012), [[arXiv:1111.2604](#)]. **Corresponding Author; LAT Data Analysis; LAT Category II Paper.**
54. **Fermi-LAT Collaboration**: M. Ackermann et al., “Constraining Dark Matter Models from a Combined Analysis of Milky Way Satellites with the Fermi Large Area Telescope”, *PhRvL* **107**, 241302 (2011), [[arXiv:1108.3546](#)]. **Analysis Lead; LAT Category I Paper.**

DES MILKY WAY WORKING GROUP

Publications that I facilitated as co-coordinator of the DES Milky Way working group.

1. **DES Collaboration**: S. A. Cantu et al., “A Deeper Look at DES Dwarf Galaxy Candidates: Grus I and Indus II”, *ApJ* **916**, 81 (2021), [[arXiv:2005.06478](#)].
2. **MagLiteS Collaboration**: A. Ji, T. S. Li*, J. D. Simon, et al., “Detailed Abundances in the Ultra-faint Magellanic Satellites Carina II and III”, *ApJ* **889**, 27 (2020), [[arXiv:1912.04963](#)].
3. **DES Collaboration**: J. D. Simon et al., “Birds of a Feather? Magellan/IMACS Spectroscopy of the Ultra-Faint Satellites Grus II, Tucana IV, and Tucana V”, *ApJ* **892**, 137 (2020), [[arXiv:1911.08493](#)].
4. **DES Collaboration**: A. Pieres et al., “Modelling the Milky Way – I. Method and first results fitting the thick disc and halo with DES-Y3 data”, *MNRAS* **497**, 1547–1562 (2020), [[arXiv:1904.04350](#)]. **Internal Reviewer.**
5. **DES Collaboration**: C. E. Martínez-Vázquez et al., “Search for RR Lyrae Stars in DES Ultra-Faint Systems: Grus I, Kim 2, Phoenix II, and Grus II”, *MNRAS* **490**, 2183–2199 (2019), [[arXiv:1909.06308](#)].
6. **DES Collaboration**: A. Carnero Rosell et al., “Brown dwarf census with the Dark Energy Survey year 3 data and the thin disc scale height of early L types”, *MNRAS* **489**, 5301–5325 (2019), [[arXiv:1903.10806](#)].

7. **DES Collaboration:** K. M. Stringer et al., “Identification of RR Lyrae stars in multiband, sparsely-sampled data from the Dark Energy Survey using template fitting and Random Forest classification”, *AJ* **158**, 16 (2019), [[arXiv:1905.00428](#)].
8. **DES Collaboration:** M. Y. Wang et al., “Rediscovery of the Sixth Star Cluster in the Fornax Dwarf Spheroidal Galaxy”, *ApJ* **875**, L13 (2019), [[arXiv:1902.04589](#)]. **Internal Reviewer.**
9. **DES Collaboration:** M. Wang et al., “The morphology and structure of stellar populations in the Fornax dwarf spheroidal galaxy from Dark Energy Survey Data”, *ApJ* **881**, 118 (2019), [[arXiv:1809.07801](#)].
10. **DES Collaboration:** D. Erkal et al., “Modelling the Tucana III stream – a close passage with the LMC”, *MNRAS* **481**, 3148–3159 (2018), [[arXiv:1804.07762](#)]. **Internal Reviewer.**
11. **DES Collaboration:** T. S. Li* et al., “The First Tidally Disrupted Ultra-faint Dwarf Galaxy?: A Spectroscopic Analysis of the Tucana III Stream”, *ApJ* **866**, 22 (2018), [[arXiv:1804.07761](#)].
12. **MagLiteS Collaboration:** T. S. Li*, J. D. Simon, A. B. Pace, et al., “Ships Passing in the Night: Spectroscopic Analysis of Two Ultra-faint Satellites in the Constellation Carina”, *ApJ* **857**, 145 (2018), [[arXiv:1802.06810](#)].
13. **MagLiteS Collaboration:** G. Torrealba et al., “Discovery of two neighbouring satellites in the Carina constellation with MagLiteS”, *MNRAS* **475**, 5085–5097 (2018), [[arXiv:1801.07279](#)].
14. **DES Collaboration:** E. Luque et al., “Deep SOAR follow-up photometry of two Milky Way outer-halo companions discovered with Dark Energy Survey”, *MNRAS* **478**, 2006–2018 (2018), [[arXiv:1709.05689](#)].
15. **DES Collaboration:** D. Q. Nagasawa et al., “Chemical Abundance Analysis of Three α -Poor, Metal-Poor Stars in the Ultra-Faint Dwarf Galaxy Horologium I”, *ApJ* **852**, 99 (2018), [[arXiv:1708.02290](#)].
16. **DES Collaboration:** T. T. Hansen et al., “An r -process Enhanced Star in the Dwarf Galaxy Tucana III”, *ApJ* **838**, 44 (2017), [[arXiv:1702.07430](#)].
17. **DES & MagLiteS Collaborations:** A. Pieres et al., “A Stellar Overdensity Associated with the Small Magellanic Cloud”, *MNRAS* **468**, 1349–1360 (2017), [[arXiv:1612.03938](#)]. **Internal Reviewer.**
18. **DES Collaboration:** E. Luque et al., “The Dark Energy Survey view of the Sagittarius stream: Discovery of two faint stellar system candidates”, *MNRAS* **468**, 97–108 (2017), [[arXiv:1608.04033](#)].
19. **DES Collaboration:** A. Pieres et al., “Physical Properties of Star Clusters in the Outer LMC as Observed by the Dark Energy Survey”, *MNRAS* **461**, 519–541 (2016), [[arXiv:1512.01032](#)]. **Internal Reviewer.**
20. **DES Collaboration:** T. S. Li* et al., “Discovery of a Stellar Overdensity in Eridanus-Phoenix in the Dark Energy Survey”, *ApJ* **817**, 135 (2016), [[arXiv:1509.04296](#)].
21. **DES Collaboration:** E. Luque et al., “Digging Deeper into the Southern Skies: a Compact Milky-Way Companion Discovered in First-Year Dark Energy Survey data”, *MNRAS* **458**, 603–612 (2015), [[arXiv:1508.02381](#)].

CO-AUTHOR DES COLLABORATION

Publications that I have contributed to as a member of the DES Collaboration. First-tier authorship denotes significant contributions to paper writing, scientific analysis, and/or scientific validation.

1. **DES Collaboration:** C. Zhou et al., “The Intrinsic Alignment of Red Galaxies in DES Y1 redMaPPer Galaxy Clusters”, [arXiv:2302.12325](#).
2. **DES Collaboration:** S. Samuroff et al., “The Dark Energy Survey Year 3 and eBOSS: constraining galaxy intrinsic alignments across luminosity and colour space”, [arXiv:2212.11319](#).

3. **DES:** J. Prat et al., “Non-local contribution from small scales in galaxy-galaxy lensing: Comparison of mitigation schemes”, [arXiv:2212.03734](https://arxiv.org/abs/2212.03734).
4. **DES:** J. D. Simon et al., “Timing the r-process Enrichment of the Ultra-faint Dwarf Galaxy Reticulum II”, *Astrophys. J.* **944**, 43 (2023), [[arXiv:2212.00810](https://arxiv.org/abs/2212.00810)].
5. **DES & SPT Collaborations:** J. Sánchez* et al., “Mapping gas around massive galaxies: cross-correlation of DES Y3 galaxies and Compton- y -maps from SPT and Planck”, [arXiv:2210.08633](https://arxiv.org/abs/2210.08633). **First-Tier Author; Internal Reviewer.**
6. **DES Collaboration:** L. F. Secco et al., “Dark Energy Survey Year 3 Results: Three-Point Shear Correlations and Mass Aperture Moments”, [arXiv:2201.05227](https://arxiv.org/abs/2201.05227).
7. **DES Collaboration:** A. Kovács et al., “The DES view of the Eridanus supervoid and the CMB Cold Spot”, *MNRAS* **510**, 216–229 (2022), [[arXiv:2112.07699](https://arxiv.org/abs/2112.07699)].
8. **DES Collaboration:** M. Gatti et al., “Dark Energy Survey Year 3 results: cosmology with moments of weak lensing mass maps”, [arXiv:2110.10141](https://arxiv.org/abs/2110.10141).
9. **DES Collaboration:** D. Tucker et al., “SOAR/Goodman Spectroscopic Assessment of Candidate Counterparts of the LIGO–Virgo Event GW190814”, [arXiv:2109.13351](https://arxiv.org/abs/2109.13351).
10. **DES Collaboration:** T.-Y. Cheng et al., “Galaxy morphological classification catalogue of the Dark Energy Survey Year 3 data with convolutional neural networks”, *MNRAS* **507**, 4425–4444 (2021), [[arXiv:2107.10210](https://arxiv.org/abs/2107.10210)].
11. **DES Collaboration:** A. Carnero Rosell et al., “Dark Energy Survey Year 3 results: galaxy sample for BAO measurement”, *MNRAS* **509**, 778–799 (2021), [[arXiv:2107.05477](https://arxiv.org/abs/2107.05477)].
12. **DES Collaboration:** I. Ferrero et al., “Dark Energy Survey Year 3 Results: Galaxy mock catalogs for BAO analysis”, *A&A* **656**, A106 (2021), [[arXiv:2107.04602](https://arxiv.org/abs/2107.04602)].
13. **DES Collaboration:** J. B. Golden-Marx et al., “The Observed Evolution of the Stellar Mass - Halo Mass Relation for Brightest Central Galaxies”, [arXiv:2107.02197](https://arxiv.org/abs/2107.02197).
14. **DES Collaboration:** G. Zacharegkas et al., “Dark Energy Survey Year 3 results: Galaxy-halo connection from galaxy-galaxy lensing”, *MNRAS* **509**, 3119–3147 (2021), [[arXiv:2106.08438](https://arxiv.org/abs/2106.08438)].
15. **DES Collaboration:** S. Pandey et al., “Dark Energy Survey Year 3 Results: Constraints on cosmological parameters and galaxy bias models from galaxy clustering and galaxy-galaxy lensing using the redMaGiC sample”, [arXiv:2105.13545](https://arxiv.org/abs/2105.13545).
16. **DES Collaboration:** C. Sánchez et al., “Dark Energy Survey Year 3 Results: Exploiting small-scale information with lensing shear ratios”, [arXiv:2105.13542](https://arxiv.org/abs/2105.13542).
17. **DES Collaboration:** A. Amon et al., “Dark Energy Survey Year 3 results: Cosmology from cosmic shear and robustness to data calibration”, *PhRvD* **105**, 023514 (2022), [[arXiv:2105.13543](https://arxiv.org/abs/2105.13543)]. **First-Tier Author; Internal Reviewer.**
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CO-AUTHOR LSST DESC

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