Jessica (Jessie) Muir

Curriculum vitae

Oct 17, 2022

Work address:
Perimeter Institute for Theoretical Physics
31 Caroline St N
Waterloo, ON N2L 2Y5, Canada

jmuir@perimeterinstitute.ca
Website: www.jessiemuir.com
ORCID: 0000-0002-7579-770X

EMPLOYMENT

Starting Sept. 2021 - **Postdoctoral Fellow**, Perimeter Institute for Theoretical Physics.
Sept. 2018 - present. **Porat Fellow** - Institutional fellowship at KIPAC, Stanford University & SLAC.

EDUCATION

Ph.D. in Physics

Sept. 2013 - Aug. 2018. The University of Michigan, Ann Arbor, MI.
Advisor: Dragan Huterer
Thesis: “Towards precision cosmology on the largest observable scales.”

MPhil in Astronomy

Sept. 2012- Aug. 2013, Gonville and Caius College, the University of Cambridge. Cambridge, UK.
Advisor: Anne-Christine Davis, DAMTP.
Thesis: “Screened modified gravity around a Schwarzschild black hole.”

MASt in Applied Mathematics (Part III), awarded with distinction.

Sept. 2011 - Jul. 2012, Gonville and Caius College, the University of Cambridge. Cambridge, UK.

Graduate coursework

Aug. 2010- Aug. 2011, full time enrollment in physics Ph.D. program, Michigan State University.

B.S. in Physics and B.S. in Astrophysics, awarded with High Honors.

Aug. 2006- May 2010, Michigan State University.
Thesis: “Predicting neutrino mass constraints from galaxy cluster surveys." Advisor: Mark Voit.

HONORS AND AWARDS

2020 DES Builder, recognition of 2 yrs FTE work on collab. infrastructure, permanent data rights.
2020 Finalist for APS Cecilia Payne-Gaposchkin Doctoral Dissertation Award in Astrophysics.
2019 Rising Stars in Physics, nationally competitive workshop held at Stanford.

2019 Kent M. Terwilliger Memorial Thesis Prize, University of Michigan Department of Physics.
2018 Wirt & Mary Cornwell Prize, University of Michigan.
2018 Community Engagement Award, University of Michigan Department of Physics.
2017 Rackham Predoctoral Fellowship, University of Michigan - funding 2017-2018.
2015 Peter Franken Award, University of Michigan Department of Physics.
2013 Colegrove Fellowship, University of Michigan - funding 2013-2014.

2011 Rasmussen Graduate Fellowship, Michigan State University - funding 2010-2011.
2010 Marshall Scholarship, deferred until 2011, funded 2011-2013 at University of Cambridge.

2010 Thomas Osgood Award for Outstanding Senior in Physics or Astrophysics, MSU
2009 Barry Goldwater Scholarship
2009 Bruce VerWest Award for Outstanding Junior in Physics or Astrophysics, MSU
2009 Phi Beta Kappa
2009 Sigma Pi Sigma (Physics honors society)
2009 Hantel Endowed Fellowship for Undergraduate Research, MSU
2008 Hantel Endowed Fellowship for Undergraduate Research, MSU
2008 College of Natural Science Competitive Scholarship for Study Abroad, MSU
2006 Distinguished Freshman Scholarship (4 years full tuition), MSU

PRESENTATIONS

Invited Talks

Oct 2022 Seminar, Canadian Institute for Theoretical Astrophysics, Toronto [recording]
Sept 2022 HEP/Astro Seminar, University of Michigan Physics
Sept 2022 Astrophysics seminar, Waterloo Center for Astrophysics (virtual) [recording]
Aug 2022 COSMO 2022 plenary, Rio de Janeiro, Brazil
Aug 2022 Workshop on Classical Gravity & Applications, ICTP-SAIFR, São Paulo, Brazil
July 2022 Cosmology from Home plenary, with Agnès Ferté (virtual) [recording]
Jan 2022 Dutch Theoretical Cosmology meeting (virtual)
Dec 2021 Physics Colloquium, Boston University (virtual)

Feb 2021 Cosmology seminar, ETH Zurich (virtual)
Jan 2021 CCAPP Seminar, Ohio State University (virtual)
Dec 2020 Cosmology seminar, Perimeter Institute (virtual)
Aug 2020 HSC Weak Lensing group meeting, talk on DES blinding strategy (virtual)
July 2020 German Center for Cosmological Lensing (GCCL) seminar (virtual)
May 2020 SLACmass Neutrino group meeting, talk on neutrino cosmology, joint with Yuuki Omori
April 2020 APS April meeting Cecilia Payne-Gaposchkin dissertation award session (virtual)
Jan 2020 LSST-DESC Theory & Joint Probe telecon, talk on DES blinding strategy
Sept 2019 Intl. Symposium on Multi-particle Dynamics, Santa Fe (DES overview)
May 2019 Cahill Cosmology Journal Club, Caltech
May 2019 Astrophysics luncheon seminar, NASA JPL
March 2019 Cosmology seminar, Max Planck Institute for Astrophysics, Munich, Germany
March 2019 LSST-DESC Theory & Joint Probe telecon, contributor to discussion on blinding
Feb 2019 Friday Lunch Time Astrophysics Seminar, UC Santa Cruz

Feb 2018 Cosmology seminar, Perimeter Institute
Dec 2017 Cosmology seminar, Fermilab Center for Particle Astrophysics
Oct 2017 Astro lunch student seminar series, Case Western Reserve University
May 2017 Cosmology group meeting, NYU CCP
May 2017 Cosmology journal club, University of Pennsylvania

March 2017 INPA Seminar, Lawrence Berkeley National Laboratory
March 2017 Blind Analysis for High Stakes Survey Science workshop, SLAC

Contributed talks

Aug 2022 LSST DESC Collaboration meeting, Blinding topical team parallel session
May 2022 Plenary on beyond-LCDM results, DES Collaboration meeting, Duke University
May 2021 Plenary on testing beyond-LCDM theory, DES Collaboration meeting (virtual)
Oct 2019 Cosmic Controversies Conference, University of Chicago
Jan 2019 Testing Gravity 2019, Simon Fraser University, Vancouver, BC, Canada
Aug 2017 Physics Graduate Student Symposium, University of Michigan
Aug 2016 COSMO 2016, University of Michigan, Ann Arbor, Michigan
Jul 2016 Diving into the Dark, CAASTRO, Cairns, Australia

TEACHING & MENTORING

Teaching

April 2022 Guest lectures on cosmology with galaxy surveys for AST 201 (intro astronomy for non-majors) & 222 (intro astronomy for majors) at University of Toronto Mississauga
Summer 2021 Coordinator, Scientific computing bootcamp for KIPAC summer undergrad researchers.
July 2020 Guest lecturer, "The Origin and Development of the Cosmos," (Physics 16), Stanford
- Intro class for non-majors, taught one session of active-learning style online lectures

Fall 2017 Teaching Assistant, Intermediate Classical Mechanics (Physics 401), U. of Michigan.
- Developed Jupyter notebooks for computational assignments.
- Ran and developed activities for weekly discussion sessions.
- Guest lectured for two class sessions

Fall 2015 Instructor for Physics GRE prep courses at University of Michigan.
June 2015 Teaching assistant, Michigan Math and Science Scholars summer program
- "Mapping the Mysteries of the Universe" 2 week program for high school students.
- Prepared and presented interactive worksheets, labs, and demonstrations.
- Guest-lectured for one main class session.

Winter 2015 Grader, Quantum Field Theory II (Physics 523), University of Michigan.
Fall 2014 Grader, Quantum Field Theory I (Physics 513), University of Michigan.
June 2014 Teaching assistant, "Mapping the Mysteries of the Universe." (same as June 2015)

Research Mentoring

2022-present Paul Rogozenski, graduate student @ U of Arizona, DES Y3 sterile neutrino follow-up
2022-present Yi Wang, Dalhousie University bachelor's thesis, remote co-supervisor with Alan Coley
Summer 2022 Yi Wang, PSI START Internship, summer undergraduate research project
Feb 2022 Jordan Krywonos and Javiera Hernández Morales, Perimeter Scholars International Winter School, short masters-level project co-supervised with Matthew Johnson
Summer 2020 Parth Garg, Stanford Physics Undergraduate Summer Research Program

Other mentoring

Summer 2022 - present Supernova Foundation mentoring program for women in physics, 2 mentees
Fall 2021 - present Perimeter Institute postdoc-graduate student mentoring program, 2 mentees

SERVICE

Professional service

Journal referee for: MNRAS, ApJ, A&A

Grant reviewer for: NASA ATP (2 sessions), NASA FINESST

Service for collaborations

Oct 2018 - present	Co-lead of DES analysis team for Year 3 analysis of beyond-ΛCDM models.
June 2022-present	LSST DESC blinding topical team
Nov 2018	Observing shift for the Dark Energy Survey.
Aug 2017	Observing shift for the Dark Energy Survey.

Departmental Service

June 2022 - present	Co-chair of Perimeter Institute Women in Physics group
June - July 2021	Coordinated summer student computing bootcamp and lightning talk sessions
June 2020 - Aug 2021	Postdoc representative to KIPAC management committee.
Sept 2018 - Aug 2021	Stanford inclusive physics reading group. Led 3 discussions.
Jan 2019 - May 2020	KIPAC cosmology seminar organizer.
Dec - Jan 2019	Stanford astrophysics graduate admissions committee
May 2019	KIPAC hack day organizer
March 2019	Organizer of Stanford Physics lunch for International Women's Day

2013-2018 Michigan Society for Women in Physics (SWIP)

- Executive board 2015-2017, President 2017-2018.
- Managed budget and budget proposals 2015-2018.
- With other board members, oversaw project documenting the history of early alumnae of Michigan Physics, publishing findings on posters for department hallways. (2017-2019)
- With Society for Physics Students (SPS) Advocacy chair, established a new graduate-undergraduate peer mentoring program, 2016.
- Coordinated LGBTQ+ Allyship workshops for members of the physics department via the UM Spectrum center, in Feb 2015 and Dec 2016 with >50 attendees each.
- With other graduate students, met with department chair about initiatives related to diversity, equity, and inclusion (DEI), prompting creation of DEI committee. 2016.

Fall 2015	Michigan Cosmology journal club organizer
March 2015	Michigan Physics departmental poster session organizer.
2014 -2015	Physics graduate council, class representative. Established a peer mentoring program for incoming graduate students.
Summer 2014	Physics Graduate Student Symposium, organizer, webmaster.
March 2014	Michigan Physics departmental poster session organizer.

OUTREACH

Non-technical (outreach) talks

August 2022	Cosmology News Youtube series (interview recorded, to be released fall 2022)
March 2022	Conversations at Perimeter podcast (to be released in fall 2022)
July 2020	KIPAC public lecture series (online: https://youtu.be/FDKzkWo0ucQ)
Dec 2018	Astronomy on Tap, San Francisco
May 2018	Astronomy on Tap, Bryan, Texas
Oct 2017	Cleveland Astronomical Society Meeting, Independence, Ohio
Sept 2016	Science Saturdays, Cultivate Coffee and Taphouse, Ypsilanti, Michigan
April 2015	Saturday Morning Physics, U. of Michigan (recording: https://youtu.be/X5dwaToe1Q0)
May 2013	Departing Scholars Colloquium, Marshall Aid Commemoration Commission, London.
Dec 2012	Cafe Julienne Science Night, Cambridge, UK

Illustration

Proficient with Procreate, limited experience with Adobe Photoshop, Inkscape, GIMP.

July 2022	Created overview illustration for the Cosmic Frontier Snowmass report
June 2021	Designed icons for "green paper" on environmental sustainability in High Energy Physics, Cosmology and Astroparticle Physics.
Spring 2021	Coordinated and contributed 13 illustrations to #Darkbites social media campaign highlighting DES Y3 papers.
Sept 2020	Illustration of Mayall telescope for DESI high school outreach project.
Aug-Sept 2016	Contributed 2 illustrations to Darkbites social media campaign, and calendar, for DES.
Jan 2015	Designed buttons featuring pioneering women in physics for Conference for Undergraduate Women in Physics conference, with Veronica Policht.

Other outreach while at Perimeter

March 2022	KIPAC research blog guest entry on DES Y3 galaxy clustering and weak lensing analysis
March 2022	GoPhysics! Speed mentoring, talking about career with high school students
Nov 2021	GoPhysics! Speed mentoring

Other outreach while at Stanford

Aug 2021	Interview on the multiverse for Scholastic's Science World article by Jess Romeo
Oct 2019	SLAC Community day volunteer

Other outreach while at the University of Michigan

Jul 2017	Portal to the Public mini-fellowship at the Detroit Zoo, Spring and Summer 2017.
Oct 2016	Physics consultant for Michigan student production of play, "Constellations."
June 2016	Summers Knoll Demo day. Coordinated physics activities for ~30 students in grades 1-5.
March 2016	4-H Demo day on electricity and magnetism. Ann Arbor, Michigan.
Nov 2015	FEMMES outreach capstone event at the University of Michigan, for middle school girls from surrounding communities. Via SWIP, coordinated two physics activity stations.
May 2015	Michigan Physics Olympiad, judge for pasta bridge event, via SWIP.

Jan 2015	APS Conference for Undergraduate Women in Physics at U. of Michigan, LOC
Nov 2014	FEMMES outreach capstone event (same as Nov 2015).
May 2014	Michigan Physics Olympiad, judge for pasta bridge event, via SWIP.
Nov 2013	Girl Scout Physics day organizer, via SWIP.

Other outreach while at the University of Cambridge

March 2013	Created an after-school module at Castlehaven Community Association in London. Part of a class service project by 2011 Marshall Scholars.
Nov 2012	Cambridge Maths Circle open house volunteer.
Dec 2011	Cambridge Hands-On Science volunteer for event in Peterborough, UK.

Other outreach while at the Michigan State University

2006-2011 Michigan State University Science Theatre

- Active volunteer throughout undergrad, Assistant physics director 2009-2010
- Coordinated and performed science demonstrations at schools throughout Michigan.
- Directed and participated in >10 performances of a 45 minute show on quantum mechanics and nanotechnology. Led adaptation or existing script to make it accessible for younger audiences.

LANGUAGES

English (native speaker), French (conversational)

PUBLICATIONS

Summary from NASA ADS bibliography as of October 17, 2022:

Refereed:	46 papers,	6512 total citations,	h-index 23
All:	59 papers,	6702 total citations,	h-index 24

Note that there are three separate numbered sections below: Leading contributions (7 papers), Other contributions (31), and Credited as a DES builder or observer (21).

Leading contributions

7. DES Collaboration, "Dark Energy Survey Y3 results: Constraints on extensions ΛCDM with weak lensing and galaxy clustering." (2022), accepted to PRD, arXiv:2207.05766
   Co-led analysis and writing with Agnès Ferté.
6. **J. Muir**, E. Baxter, V. Miranda, C. Doux, A. Ferté, C. D. Leonard, D. Huterer, B. Jain, et al. [DES Collaboration], "DES Y1 results: Splitting growth and geometry to test ΛCDM." PRD 103, no. 2, 023528 (2021), doi:10.1103/PhysRevD.103.023528, arXiv:2010.05924.
   Led analysis and writing.
5. **J. Muir**, G. M. Bernstein, D. Huterer, et al. [DES Collaboration], "Blinding multi-probe cosmological experiments." MNRAS 494 (2020) 3, 4454-4470. doi:10.1093/mnras/staa965, arXiv:1911.05929.
   Led analysis and writing.
4. **J. Muir**, S. Adhikari, and D. Huterer, "Covariance of CMB anomalies." PRD 98 (2018) no. 2, 023521, doi:10.1103/PhysRevD.98.023521, arXiv:1806.02354.
   Led analysis and writing.
3. N. Weaverdyck, **J. Muir**, and D. Huterer. "Integrated Sachs-Wolfe map reconstruction in the presence of systematic errors." PRD. 97, no. 4, 043515 (2018), doi:10.1103/PhysRevD.97.043515, arXiv:1709.08661.
   Created software for simulation and analysis, contributed writing and mentoring for analysis.
2. **J. Muir** and D. Huterer. "Reconstructing the Integrated Sachs-Wolfe map with galaxy surveys." PRD. 94, no. 4, 045305 (2016) , doi:10.1103/PhysRevD.94.043503. arXiv:1603.06586.
   Created software for simulation and analysis, led writing and analysis.
1. A. C. Davis, R. Gregory, R. Jha, and **J. Muir**. "Astrophysical black holes in screened modified gravity." JCAP 1408, 033 (2014). doi:10.1088/1475-7516/2014/08/033. arXiv:1402.4737.
   Alphabetical author list. Led analytic calculations, observable test study, writing.

Other contributions

31. G. Giannini et al. [DES Collaboration], "Dark Energy Survey Year 3 Results: Redshift Calibration of the MagLim Lens Sample from the combination of SOMPZ and clustering and its impact on Cosmology." (2022) arXiv:2209.05853
30. A. Chen et al. [DES Collaboration], "Constraining the Baryonic Feedback with Cosmic Shear Using the DES Year-3 Small-Scale Measurements." (2022) arXiv:2206.08591
    Credited for contributions to broader DES Y3 analysis.
29. DES & SPT Collaborations. "Joint analysis of DES Year 3 data and CMB lensing from SPT and Planck III: Combined cosmological constraints." (2022) arXiv:2206.10824.
    Credited for contributions to broader DES Y3 analysis, assisted with blinding setup.

28. Y. Omori et al. [DES & SPT Collaborations], "Joint analysis of DES Year 3 data and CMB lensing from SPT and Planck I: Construction of CMB Lensing Maps and Modeling Choices." (2022) arXiv:2203.12439.
Credited for contributions to broader DES Y3 analysis, assisted with blinding setup.
27. C. Chang et al. [DES & SPT Collaborations], "Joint analysis of DES Year 3 data and CMB lensing from SPT and Planck II: Cross-correlation measurements and cosmological constraints." (2022) arXiv:2203.12440.
Credited for contributions to broader DES Y3 analysis, assisted with blinding setup.
26. C. Doux et al [DES Collaboration], "Dark Energy Survey Year 3 results: cosmological constraints from the analysis of cosmic shear in harmonic space." MNRAS 515 (2022) 2, 1942-1972. doi:10.1093/mnras/stac1826. arXiv:2203.07128.
Credited for contributions to broader DES Y3 analysis.
25. P. Lemos, N. Weaverdyck et al. [DES Collaboration], "Robust sampling for weak lensing and clustering analyses with the Dark Energy Survey." (2022) arXiv:2202.08233.
Contributed to initial conception & planning of project. Assisted with MCMC chains, writing.
24. D. Brout et al., "The Pantheon+ Analysis: Cosmological Constraints." (2022) arXiv:2202.04077.
Assisted with set-up of Planck and eBOSS BAO likelihoods for combined analyses.
23. D. Zürcher et al. [DES Collaboration], "Dark Energy Survey Year 3 results: Cosmology with peaks using an emulator approach." MNRAS 511 (2022) 3, 2075-2104. doi:10.1093/mnras/stac078. arXiv:2110.10135.
Credited for contributions to broader DES Y3 analysis.
22. M. Gatti et al. [DES Collaboration], "Dark Energy Survey Year 3 results: cosmology with moments of weak lensing mass maps." PRD 106 (2022) 8, 083509. doi:10.1103/PhysRevD.106.083509. arXiv:2110.10141.
Credited for contributions to broader DES Y3 analysis.
21. DES Collaboration, "Dark Energy Survey Year 3 Results: A 2.7% measurement of Baryon Acoustic Oscillation distance scale at redshift 0.835." PRD 105 (2022) no. 4, 043512. doi:10.1103/PhysRevD.105.043512. arXiv:2107.04646.
Contributed to modeling pipeline validation, gave early input on blinding strategy.
20. A. Carnero Rosell et al. [DES Collaboration], "Dark Energy Survey Year 3 Results: Galaxy Sample for BAO Measurement." MNRAS 509 (2022) 1, 778-799. doi:10.1093/mnras/stab2995. arXiv:2107.05477
Credited for assistance with BAO modeling pipeline, giving feedback on blinding strategy.
19. DES Collaboration, "Dark Energy Survey Year 3 Results: Cosmological Constraints from Galaxy Clustering and Weak Lensing." PRD 105 (2022) 2, 023520. doi:10.1103/PhysRevD.105.023520. arXiv:2105.13549.
Created and supported infrastructure for summary-statistic level blinding, validated massive neutrino modeling approach, ran MCMC chains, contributed to writing and plots.
18. E. Krause et al. [DES Collaboration], "Dark Energy Survey Year 3 Results: Multi-Probe Modeling Strategy and Validation" (2021) arXiv:2105.13548.
Credited for neutrino modeling validation, contributions to broader DES Y3 analysis.
17. M. Rodríguez-Monroy et al. [DES Collaboration], "Dark Energy Survey Year 3 Results: Galaxy clustering and systematics treatment for lens galaxy samples." MNRAS 511 (2022) no. 2, 2665-2687 doi:10.1093/mnras/stac104. arXiv:2105.13540.
Ran MCMC chains, credited for blinding infrastructure, contributions to broader DES Y3 analysis.

16. A. Porredon et al. [DES Collaboration], "Dark Energy Survey Year 3 results: Cosmological constraints from galaxy clustering and galaxy-galaxy lensing using the MagLim lens sample" (2021) arXiv:2105.13546.
Ran MCMC chains, credited for blinding infrastructure, contributions to broader DES Y3 analysis.
15. A. Amon et al. [DES Collaboration], "Dark Energy Survey Year 3 Results: Cosmology from Cosmic Shear and Robustness to Data Calibration" PRD 105 (2022) no. 2, 023514. doi:10.1103/PhysRevD.105.023514. arXiv:2105.13543.
Credited for blinding infrastructure, contributions to broader DES Y3 analysis.
14. L. Secco, S. Samuroff, et al. [DES Collaboration], "Dark Energy Survey Year 3 Results: Cosmology from Cosmic Shear and Robustness to Modeling Uncertainty" PRD 105 (2022) no. 2, 023515. doi:10.1103/PhysRevD.105.023515. arXiv:2105.13544.
Credited for blinding infrastructure, contributions to broader DES Y3 analysis.
13. J. Prat et al. [DES Collaboration], "Dark Energy Survey Year 3 Results: High-precision measurement and modeling of galaxy-galaxy lensing." PRD 105 (2022) 8, 083528. doi:10.1103/PhysRevD.105.083528. arXiv:2105.13541.
Credited for blinding infrastructure, contributions to the broader DES Y3 analysis.
12. C. Sánchez, J. Prat, et al. [DES Collaboration], "Dark Energy Survey Year 3 Results: Exploiting small-scale information with lensing shear ratios." PRD 105 (2022) 8, 083529. doi:10.1103/PhysRevD.105.083529. arXiv:2105.13542.
Credited for contributions to the broader DES Y3 analysis.
11. S. Pandey et al. [DES Collaboration], "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." PRD 106 (2022) 4, 043520. doi:PhysRevD.106.043520 arXiv:2105.13545.
Credited for contributions to the broader DES Y3 analysis.
10. N. Jeffrey, M. Gatti, et al. [DES Collaboration], "Dark Energy Survey Year 3 results: curved-sky weak lensing mass map reconstruction." MNRAS 505 (2021) 3, 4626-4645. doi:10.1093/mnras/stab1495. arXiv:2105.13539.
Credited for contributions to the broader DES Y3 analysis.
9. S. Lee et al. [DES Collaboration], "Probing gravity with the DES-CMASS sample and BOSS spectroscopy." MRNAS 509 (2021) no. 4, 4982-4996. doi:10.1093/mnras/stab3129. arXiv:2104.14515.
Credited for infrastructure contributions for DES Y1 extended model analysis.
8. P. Lemos, M. Raveri, et al. [DES Collaboration], "Assessing tension metrics with Dark Energy Survey and Planck data." MNRAS 505 (2021) 4, 6179-6194. doi:10.1093/mnras/stab1670, arXiv:2012.09554.
DES internal reviewer.
7. A. Chen et al. [DES Collaboration], "Constraints on dark matter to dark radiation conversion in the late universe with DES-Y1 and external data." PRD 103, no.12, 123528 (2021). doi:10.1103/PhysRevD.103.123528. arXiv:2011.04606.
Contributed mentoring for analysis through role as DES extended model Analysis Team leader.
6. DES Collaboration, "Cosmological Constraints from Multiple Probes in the Dark Energy Survey." PRL 122, 171301 (2019). doi:10.1103/PhysRevLett.122.171301. arXiv:1811.02375.
Credited for contributions to DES Y1 "[...]Galaxy Clustering and Weak Lensing" paper.

5. DES Collaboration, “Dark Energy Survey Year 1 Results: Constraints on Extended Cosmological Models from Galaxy Clustering and Weak Lensing.” PRD 99, no. 12, 123505 (2019). doi:10.1103/PhysRevD.99.123505. arXiv:1810.02499.
   Generated some figures, contributed to pipeline validation and re-analysis for referee response.
4. Y. Omori et al. [DES and SPT Collaborations], “Dark Energy Survey Year 1 Results: Tomographic cross-correlations between Dark Energy Survey galaxies and CMB lensing from South Pole Telescope+Planck.” PRD 100, no. 4, 043501 (2019). doi:10.1103/PhysRevD.100.043501. arXiv:1810.02342.
   DES internal reviewer.
3. DES and SPT Collaborations,“Dark Energy Survey Year 1 Results: Joint Analysis of Galaxy Clustering, Galaxy Lensing, and CMB Lensing Two-point Functions.” PRD 100, no. 2, 023541 (2019). doi:10.1103/PhysRevD.100.023541. arXiv:1810.02322.
   Credited for contributions to DES Y1 analysis, and as internal reviewer for Omori et al 2019.
2. X. Li et al. “The Quest for the Inflationary Spectral Runnings in the Presence of Systematic Errors.” Astrophys. J. 862 (2018) no. 2, 137. doi:10.3847/1538-4357/aacaf7, arXiv:1806.02515.
   Edited manuscript, wrote results summaries, contributed mentoring for analysis.
1. DES Collaboration, “Dark Energy Survey Year 1 Results: Cosmological Constraints from Galaxy Clustering and Weak Lensing.” PRD 98 (2018) no. 4, 043526, doi:10.1103/PhysRevD.98.043526, arXiv:1708.01530.
   Ran MCMC chains for final analysis, generated summary plots and tables for paper.

Credited as a DES builder or observer

Builder: recognizes 2 yrs FTE collaboration infrastructure work, allows sign-on to DES science papers.
Observer: credited for data taken during DES observing shifts.

21. J. Elvin-Poole, N. MacCrann et al [DES Collaboration], “Dark Energy Survey Year 3 results: Magnification modeling and impact on cosmological constraints from galaxy clustering and galaxy-galaxy lensing.” (2022) arXiv:2209.09782
20. E. Schiappucci et al. [DES Collaboration], “A measurement of the mean central optical depth of galaxy clusters via the pairwise kinematic Sunyaev-Zel'dovich effect with SPT-3G and DES.” (2022) arXiv:2207.11937.
19. A. Kovacs et al. [DES Collaboration], “Dark Energy Survey Year 3 results: imprints of cosmic voids and superclusters in the Planck CMB lensing map.” MNRAS 515 (2022) 3, 4417-4429. doi:10.1093/mnras/stac2011. arXiv:2203.11306.
18. A. Amon et al. “Consistent lensing and clustering in a low- S8 Universe with BOSS, DES Year 3, HSC Year 1 and KiDS-1000.” (2022) arXiv:2202.07440
17. L. Secco et al. “Dark Energy Survey Year 3 Results: Three-Point Shear Correlations and Mass Aperture Moments.” PRD 105 (2022) 19, 103537. doi:10.1103/PhysRevD.105.103537, arXiv:2201.05227
16. J. P. Cordero, I. Harrison et al. [DES Collaboration], “Dark Energy Survey Year 3 results: Marginalization over redshift distribution uncertainties using ranking of discrete realisations.” MNRAS 511 (2022) 2, 2170-2185. doi:10.1093/mnras/stac147. arXiv:2109.09636
15. A. Kovacs et al. [DES Collaboration], “The DES view of the Eridanus supervoid and the CMB cold spot.” MNRAS 510 (2021) 1, 216-229. doi:10.1093/mnras/stab3309. arXiv:2112.07699

14. I. Ferrero et al. [DES Collaboration], “Dark Energy Survey Year 3 Results: Galaxy mock catalogs for BAO analysis.” Astron. Astrophys. 656, A106 (2021) doi:10.1051/0004-6361/202141744. arXiv:2107.04602
13. G. Zacharegkas et al. [DES Collaboration], “Dark Energy Survey Year 3 results: Galaxy-halo connection from galaxy-galaxy lensing.” MNRAS 509 (2022) 3, 3119-3147. doi:10.1093/mnras/stab3155. arXiv:2106.08438
12. R. Cawthon et al. [DES Collaboration], “Dark Energy Survey Year 3 Results: Calibration of Lens Sample Redshift Distributions using Clustering Redshifts with BOSS/eBOSS.” MNRAS 513, (2022), 5517. doi:10.1093/mnras/stac1160. arXiv:2012.12826
11. S. Everett et al. [DES Collaboration], “Dark Energy Survey Year 3 Results: Measuring the Survey Transfer Function with Balrog.” Astrophys. J. Supp.. 258 (2022) 1, 15. doi:10.3847/1538-4365/ac26c1. arXiv:2012.12825
10. M. Gatti, G. Giannini, et al. [DES Collaboration], “Dark Energy Survey Year 3 Results: Clustering Redshifts -- Calibration of the Weak Lensing Source Redshift Distributions with redMaGiC and BOSS/eBOSS.” MNRAS 510 (2022) 1, 1223-1247. doi:10.1093/mnras/stab3311. arXiv:2012.08569
9. O. Friedrich et al. [DES Collaboration], “Dark Energy Survey Year 3 Results: Covariance Modelling and its Impact on Parameter Estimation and Quality of Fit.” MNRAS 508 (2021) 3, 3125-3165. doi:10.1093/mnras/stab2384. arXiv:/2012.08568
8. N. MacCrann et al. [DES Collaboration], “DES Y3 results: Blending shear and redshift biases in image simulations.” MNRAS 509 (2022) 3, 3371-3394. doi:10.1093/mnras/stab2870. arXiv:2012.08567
7. J. Myles, A. Alarcon, et al. [DES Collaboration], “Dark Energy Survey Year 3 Results: Redshift Calibration of the Weak Lensing Source Galaxies.” MNRAS 505 (2021) 3, 4249-4277. doi:10.1093/mnras/stab1515. arXiv:2012.08566
6. C. Doux et al. [DES Collaboration], “Dark Energy Survey internal consistency tests of the joint cosmological probes analysis with posterior predictive distributions.” MNRAS 503, no.2, 2688-2705 (2021). doi:10.1093/mnras/stab526. arXiv:2011.03410.
5. C. To et al. [DES Collaboration], “Dark Energy Survey Year 1 Results: Cosmological Constraints from Cluster Abundances, Weak Lensing, and Galaxy Correlations." PRL 126, 141301 (2021). doi:10.1103/PhysRevLett.126.141301. arXiv:2010.01138.
4. B. P. Abbott et al. [Ligo Scientific, Virgo, 1M2H, DECam GW-EM, DES, DLT40, Las Cumbres Observatory, VINROUGE, and MASTER Collaborations], “A gravitational-wave standard siren measurement of the Hubble constant.” Nature 551, no.7678, 85-88 (2017). doi:10.1038/nature24471. arXiv:1710.05835 *(observer)*
3. M. Soares-Santos et al. [DES and DECam GW-EMCollaborations], “The Electromagnetic Counterpart of the Binary Neutron Star Merger LIGO/Virgo GW170817. I. Discovery of the Optical Counterpart Using the Dark Energy Camera.” Astrophys. J. 848, no. 2, L16 (2017). doi:10.3847/2041-8213/aa9059. arXiv:1710.05459 *(observer)*
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