Joseph DeRose

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EMPLOYMENT DETAILS

Tenure Track Assistant Staff Scientist 2024-present
Brookhaven National Laboratory
Chamberlain Fellow 2021-2024
Lawrence Berkeley National Laboratory
Postdoctoral Scholar 2019-2021
University of California, Santa Cruz & University of California, Berkeley

EDUCATION

PhD Physics 2014-2019
Stanford University
Thesis advisor: Risa Wechsler

BA Physics and Mathematics 2009-2013
University of California, Berkeley
Magna Cum Laude with honors in physics and mathematics.

FELLOWSHIPS AND AWARDS

- Chamberlain Prize Fellowship (5yr position), Lawrence Berkeley National Laboratory
- Paul Giddings Fellow, Kavli Institute for Particle Astrophysics and Cosmology

RESEARCH INTERESTS

- Weak lensing data analysis
- Large scale structure and CMB probes of dark energy, dark matter, inflation and light relics
- Analytic and simulation based models of galaxy clustering, weak lensing, and the CMB
- High performance computing, machine learning, statistical inference

SCIENTIFIC COLLABORATIONS

- Dark Energy Survey: Builder 2014-present
- Rubin Observatory Dark Energy Science Collaboration: Member 2015-present
- Dark Energy Spectroscopic Instrument: Member 2015-present
- CMB S4: Member 2023-2025

LEADERSHIP POSITIONS

- Dark Energy Survey Small Scales Analysis Team Convener 2017-2022
- Dark Energy Spectroscopic Instrument: Clusters, Cross-Correlations, and Small-scale Clustering Working Group Co-chair 2022-2024
- Dark Energy Spectroscopic Instrument: Level 2 Manager – Cross Analysis Infrastructure Working Group 2024-present
- Rubin Observatory LSST Dark Energy Science Collaboration (DESC): DESC-DESI-II Coordination Task Force Convener 2023-present

PUBLICATIONS

Statistics – number of papers: 191, total citations: 16,000+, h-index: 64

Selected Publications (First Author Equivalent)

1. **J. DeRose** et al., *The Lensing Counter Narrative: An Effective Description of Small-Scale Clustering in Weak Lensing Power Spectra* (2025). *arXiv preprint arXiv:2510.18981*.
2. S. Chen, **J. DeRose** et al., *Analysis of DESI×DES-Y3 using the Lagrangian effective theory of LSS* (2024). *Physical Review D*, 110(10), p. 103518. [42 citations]
3. **J. DeRose** et al., *Aemulus ν: precise predictions for matter and biased tracer power spectra in the presence of neutrinos* (2023). *Journal of Cosmology and Astroparticle Physics*, 2023(07), p. 054. [44 citations]
4. **J. DeRose** et al., *Precision redshift-space galaxy power spectra using Zel'dovich control variates* (2023). *Journal of Cosmology and Astroparticle Physics*, 2023(02), p. 008. [31 citations]
5. S. Pandey, E. Krause, **J. DeRose** 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* (2022). *Physical Review D*, 106(4), p. 043520. [120 citations]
6. R. H. Wechsler, **J. DeRose** et al., *ADDGALS: Simulated sky catalogs for wide field galaxy surveys* (2022). *The Astrophysical Journal*, 931(2), p. 145. [56 citations]
7. **J. DeRose** et al., *Dark Energy Survey Year 3 results: Cosmology from combined galaxy clustering and lensing validation on cosmological simulations* (2022). *Physical Review D*, 105(12), p. 123520. [55 citations]
8. **J. DeRose** et al., *Neural network acceleration of large-scale structure theory calculations* (2022). *Journal of Cosmology and Astroparticle Physics*, 2022(04), p. 056. [30 citations]
9. **J. DeRose** et al., *Modeling redshift-space clustering with abundance matching* (2022). *The Astrophysical Journal*, 940(1), p. 13. [21 citations]
10. N. Kokron, **J. DeRose** et al., *The cosmology dependence of galaxy clustering and lensing from a hybrid N-body–perturbation theory model* (2021). *Monthly Notices of the Royal Astronomical Society*, 505(1), pp. 1422-1440. [103 citations]
11. **J. DeRose** et al., *The Aemulus project. I. Numerical simulations for precision cosmology* (2019). *The Astrophysical Journal*, 875(1), p. 69. [186 citations]
12. **J. DeRose** et al., *The buzzard flock: Dark energy survey synthetic sky catalogs* (2019). *arXiv preprint arXiv:1901.02401*. [135 citations]

13. N. MacCrann, **J. DeRose** et al., *DES Y1 Results: validating cosmological parameter estimation using simulated Dark Energy Surveys* (2018). *Monthly Notices of the Royal Astronomical Society*, 480(4), pp. 4614-4635. [49 citations]

Major Contributions / Mentored First Author

1. N. Sailer, **J. DeRose** et al., *Evolution of structure growth during dark energy domination: Insights from the cross-correlation of DESI galaxies with CMB lensing and galaxy magnification* (2025). *Physical Review D*, 111(10), p. 103540. [13 citations]
2. A. E. Bayer, Y. Zhong, Z. Li, **J. DeRose** et al., *The HalfDome multi-survey cosmological simulations: N-body simulations* (2025). *Journal of Cosmology and Astroparticle Physics*, 2025(05), p. 016. [2 citations]
3. D. Shen, N. Kokron, **J. DeRose** et al., *Aemulus ν: precision halo mass functions in $w\nu$CDM cosmologies* (2025). *Journal of Cosmology and Astroparticle Physics*, 2025(03), p. 056. [2 citations]
4. A. Bartlett, **J. DeRose** et al., *Simulation budgeting for hybrid effective field theories* (2025). *arXiv preprint arXiv:2510.13962*.
5. N. Emas, A. Porredon, C. Blake, **J. DeRose** et al., *Validation of the DESI-DR1 3x2-pt analysis: scale cut and shear ratio tests* (2025). *arXiv preprint arXiv:2510.05539*.
6. S. Heydenreich, A. Leauthaud, **J. DeRose**. *Can dynamic dark energy explain the tension, the 'lensing is low' effect, or strong baryon feedback?* (2025). *arXiv preprint arXiv:2508.05746*.
7. E. Fernández-García, F. Prada, A. Smith, **J. DeRose** et al., *DESI DR2 reference mocks: clustering results from Uchuu-BGS and LRG* (2025). *arXiv preprint arXiv:2507.01593*.
8. N. Sailer et al., *Cosmological constraints from the cross-correlation of DESI Luminous Red Galaxies with CMB lensing from Planck PR4 and ACT DR6* (2025). *Journal of Cosmology and Astroparticle Physics*, 2025(06), p. 008. [36 citations]
9. K. Storey-Fisher, J. L. Tinker, Z. Zhai, **J. DeRose** et al., *The Aemulus Project. VI. Emulation of Beyond-standard Galaxy Clustering Statistics to Improve Cosmological Constraints* (2024). *The Astrophysical Journal*, 961(2), p. 208. [22 citations]
10. C. To, **J. DeRose** et al., *Buzzard to Cardinal: Improved Mock Catalogs for Large Galaxy Surveys* (2024). *The Astrophysical Journal*, 961(1), p. 59. [21 citations]
11. Z. Zhai, J. L. Tinker, A. Banerjee, **J. DeRose** et al., *The Aemulus Project. V. Cosmological Constraint from Small-scale Clustering of BOSS Galaxies* (2023). *The Astrophysical Journal*, 948(2), p. 99. [66 citations]
12. R. Zhou, S. Ferraro, M. White, **J. DeRose** et al., *DESI luminous red galaxy samples for cross-correlations* (2023). *Journal of Cosmology and Astroparticle Physics*, 2023(11), p. 097. [43 citations]
13. R. Ruggeri, C. Blake, **J. DeRose** et al., *A data compression and optimal galaxy weights scheme for Dark Energy Spectroscopic Instrument and weak lensing data sets* (2023). *Monthly Notices of the Royal Astronomical Society*, 525(3), pp. 3865-3878. [3 citations]
14. B. Hadzhiyska et al., *Mitigating the noise of DESI mocks using analytic control variates* (2023). *arXiv preprint arXiv:2308.12343*.
15. A. Amon et al., *Consistent lensing and clustering in a low-S8 Universe with BOSS, DES Year 3, HSC Year 1, and KiDS-1000* (2023). *Monthly Notices of the Royal Astronomical Society*, 518(1), pp. 477-503. [117 citations]
16. M. White, R. Zhou, **J. DeRose** et al., *Cosmological constraints from the tomographic cross-correlation of DESI Luminous Red Galaxies and Planck CMB lensing* (2022). *Journal of Cosmology and Astroparticle Physics*, 2022(02), p. 007. [149 citations]

17. S. Chen, M. White, **J. DeRose** et al., *Cosmological analysis of three-dimensional BOSS galaxy clustering and Planck CMB lensing cross correlations via Lagrangian perturbation theory* (2022). *Journal of Cosmology and Astroparticle Physics*, 2022(07), p. 041. [85 citations]

18. N. Kokron, S. Chen, M. White, **J. DeRose** et al., *Accurate predictions from small boxes: variance suppression via the Zel'dovich approximation* (2022). *Journal of Cosmology and Astroparticle Physics*, 2022(09), p. 059. [45 citations]

19. N. Kokron, **J. DeRose** et al., *Priors on red galaxy stochasticity from hybrid effective field theory* (2022). *Monthly Notices of the Royal Astronomical Society*, 514(2), pp. 2198-2213. [41 citations]

20. T. M. Abbott et al., *Dark Energy Survey Year 3 results: Cosmological constraints from galaxy clustering and weak lensing* (2022). *Physical Review D*, 105(2), p. 023520. [1380 citations]

21. A. Amon et al., *Dark Energy Survey Year 3 results: Cosmology from cosmic shear and robustness to data calibration* (2022). *Physical Review D*, 105(2), p. 023514. [535 citations]

22. J. Myles et al., *Dark Energy Survey Year 3 results: redshift calibration of the weak lensing source galaxies* (2021). *Monthly Notices of the Royal Astronomical Society*, 505(3), pp. 4249-4277. [232 citations]

23. J. L. Tinker, J. Cao, M. Alpaslan, **J. DeRose** et al., *Probing the galaxy–halo connection with total satellite luminosity* (2021). *Monthly Notices of the Royal Astronomical Society*, 505(4), pp. 5370-5388. [26 citations]

24. A. P. Hearin, N. Ramachandra, M. R. Becker, **J. DeRose**. *Differentiable predictions for large scale structure with shamnet* (2021). *arXiv preprint arXiv:2112.08423*. [19 citations]

25. S. Pandey et al., *Perturbation theory for modeling galaxy bias: Validation with simulations of the Dark Energy Survey* (2020). *Physical Review D*, 102(12), p. 123522. [61 citations]

26. M. Costanzi, C. To, **J. DeRose** et al., *Spectroscopic Quantification of Projection Effects in the SDSS redMaPPer Galaxy Cluster Catalog* (2020).

27. T. McClintock, E. Rozo, M. R. Becker, **J. DeRose** et al., *The Aemulus Project. II. Emulating the halo mass function* (2019). *The Astrophysical Journal*, 872(1), p. 53. [195 citations]

28. Z. Zhai, J. L. Tinker, M. R. Becker, **J. DeRose** et al., *The Aemulus project. III. Emulation of the galaxy correlation function* (2019). *The Astrophysical Journal*, 874(1), p. 95. [178 citations]

29. R. Buchs, C. Davis, D. Gruen, **J. DeRose** et al., *Phenotypic redshifts with self-organizing maps: A novel method to characterize redshift distributions of source galaxies for weak lensing* (2019). *Monthly Notices of the Royal Astronomical Society*, 489(1), pp. 820-841. [124 citations]

30. T. M. Abbott et al., *Dark Energy Survey year 1 results: Cosmological constraints from galaxy clustering and weak lensing* (2018). *Physical Review D*, 98(4), p. 043526. [1445 citations]

31. M. Gatti et al., *Dark Energy Survey Year 1 results: cross-correlation redshifts–methods and systematics characterization* (2018). *Monthly Notices of the Royal Astronomical Society*, 477(2), pp. 1664-1682. [105 citations]

32. D. Gruen, O. Friedrich, E. Krause, **J. DeRose** et al., *Density split statistics: Cosmological constraints from counts and lensing in cells in DES Y1 and SDSS data* (2018). *Physical Review D*, 98(2), p. 023507. [157 citations]

33. O. Friedrich, D. Gruen, **J. DeRose** et al., *Density split statistics: Joint model of counts and lensing in cells* (2018). *Physical Review D*, 98(2), p. 023508. [138 citations]

Collaborative Publications

1. N. Jeffrey et al., *Dark energy survey year 3 results: likelihood-free, simulation-based wCDM inference with neural compression of weak-lensing map statistics* (2025). *Monthly Notices of the Royal Astronomical Society*, 536(2), pp. 1303-1322.

2. L. Faga et al., *Dark energy survey year 3 results: cosmology from galaxy clustering and galaxy–galaxy lensing in harmonic space* (2025). *Monthly Notices of the Royal Astronomical Society*, 536(2), pp. 1586-1609.

3. S. Pandey et al., *Constraints on cosmology and baryonic feedback with joint analysis of Dark Energy Survey Year 3 lensing data and ACT DR6 thermal Sunyaev-Zel'dovich effect observations* (2025). *arXiv preprint arXiv:2506.07432*.

4. M. A. Karim et al., *Data Release 1 of the Dark Energy Spectroscopic Instrument* (2025). *arXiv e-prints*, arXiv: 2503.14745.

5. M. Abdul-Karim et al., *Data Release 1 of the Dark Energy Spectroscopic Instrument* (2025). *arXiv preprint arXiv:2503.14745*.

6. S. Heydenreich et al., *Lensing Without Borders: Measurements of galaxy-galaxy lensing and projected galaxy clustering in DESI DR1* (2025). *arXiv preprint arXiv:2506.21677*.

7. S. Bocquet et al., *Multiprobe cosmology from the abundance of SPT clusters and DES galaxy clustering and weak lensing* (2025). *Physical Review D*, 111(6), p. 063533.

8. J. Siegel et al., *Intrinsic alignment demographics for next-generation lensing: Revealing galaxy property trends with DESI Y1 direct measurements* (2025). *arXiv preprint arXiv:2507.11530*.

9. B. Thakore et al., *High-significance detection of correlation between the unresolved gamma-ray background and the large-scale cosmic structure* (2025). *Journal of Cosmology and Astroparticle Physics*, 2025(06), p. 037.

10. S. Sartori et al., *The imprint of cosmic voids from the DESI Legacy Survey DR9 Luminous Red Galaxies in the Planck 2018 lensing map through spectroscopically calibrated mocks* (2025).

11. A. Thomsen et al., *Dark Energy Survey Year 3 results: Simulation-based CDM inference from weak lensing and galaxy clustering maps with deep learning. I. Analysis design* (2025). *arXiv preprint arXiv:2511.04681*.

12. J. U. Lange et al., *A Unified Photometric Redshift Calibration for Weak Lensing Surveys using the Dark Energy Spectroscopic Instrument* (2025). *arXiv preprint arXiv:2510.25419*.

13. Q. Hang et al., *Biasing from galaxy trough and peak profiles with the DES Y3 redMaGiC galaxies and the weak lensing mass map* (2025). *arXiv preprint arXiv:2509.18967*.

14. R. Gomes et al., *Dark Energy Survey Year 3 Results: Cosmological constraints from second and third-order shear statistics* (2025). *arXiv preprint arXiv:2508.14018*.

15. S. Rauhut et al., *Testing gravitational physics by combining DESI DR1 and weak lensing datasets using the E_G estimator* (2025). *arXiv preprint arXiv:2507.16098*.

16. G. Zacharegkas et al., *Constraining the Stellar-to-Halo Mass Relation with Galaxy Clustering and Weak Lensing from DES Year 3 Data* (2025). *arXiv preprint arXiv:2506.22367*.

17. J. Prat et al., *Dark Energy Survey Year 3 results: CDM cosmology from simulation-based inference with persistent homology on the sphere* (2025). *arXiv preprint arXiv:2506.13439*.

18. M. Maus et al., *A joint analysis of 3D clustering and galaxy× CMB-lensing cross-correlations with DESI DR1 galaxies* (2025). *arXiv preprint arXiv:2505.20656*.

19. A. Adame et al., *The early data release of the dark energy spectroscopic instrument* (2024). *The Astronomical Journal*, 168(2), p. 58.

20. A. Adame et al., *Validation of the scientific program for the dark energy spectroscopic instrument* (2024). *The Astronomical Journal*, 167(2), p. 62.

21. S. Bocquet et al., *SPT clusters with DES and HST weak lensing. II. Cosmological constraints from the abundance of massive halos* (2024). *Physical Review D*, 110(8), p. 083510.

22. L. Bigwood et al., *Weak lensing combined with the kinetic Sunyaev–Zel'dovich effect: a study of baryonic feedback* (2024). *Monthly Notices of the Royal Astronomical Society*, 534(1), pp. 655-682.

23. M. Gatti et al., *Dark Energy Survey Year 3 results: Simulation-based cosmological inference with wavelet harmonics, scattering transforms, and moments of weak lensing mass maps. Validation on simulations* (2024). *Physical Review D*, 109(6), p. 063534.

24. S. Grandis et al., *The SRG/eROSITA All-Sky Survey-Dark Energy Survey year 3 weak gravitational lensing by eRASS1 selected galaxy clusters* (2024). *Astronomy & Astrophysics*, 687, A178.

25. S. Bocquet et al., *SPT clusters with DES and HST weak lensing. I. Cluster lensing and Bayesian population modeling of multiwavelength cluster datasets* (2024). *Physical Review D*, 110(8), p. 083509.

26. J. Kim et al., *The Atacama Cosmology Telescope DR6 and DESI: structure formation over cosmic time with a measurement of the cross-correlation of CMB lensing and luminous red galaxies* (2024). *Journal of Cosmology and Astroparticle Physics*, 2024(12), p. 022.

27. G. Giannini et al., *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* (2024). *Monthly Notices of the Royal Astronomical Society*, 527(2), pp. 2010-2036.

28. M. Gatti et al., *Detection of the significant impact of source clustering on higher order statistics with DES Year 3 weak gravitational lensing data* (2024). *Monthly Notices of the Royal Astronomical Society: Letters*, 527(1), pp. L115-L121.

29. J. McCullough et al., *DESI complete calibration of the colour–redshift relation (DC3R2): results from early DESI data* (2024). *Monthly Notices of the Royal Astronomical Society*, 531(2), pp. 2582-2602.

30. J. U. Lange et al., *Systematic Effects in Galaxy-Galaxy Lensing with DESI* (2024). *arXiv preprint arXiv:2404.09397*.

31. S. Yuan et al., *Redshift evolution and covariances for joint lensing and clustering studies with DESI Y1* (2024). *Monthly Notices of the Royal Astronomical Society*, 533(1), pp. 589-607.

32. J. McCullough et al., *Dark energy survey year 3: Blue shear* (2024). *arXiv preprint arXiv:2410.22272*.

33. C. Blake et al., *The DESI-Lensing Mock Challenge: large-scale cosmological analysis of 3x2-pt statistics* (2024). *arXiv preprint arXiv:2412.12548*.

34. N. Chicoine et al., *Weak Gravitational Lensing around Low Surface Brightness Galaxies in the DES Year 3 Data* (2024). *arXiv preprint arXiv:2407.19081*.

35. S. Sartori et al., *The imprint of cosmic voids from the DESI Legacy Survey DR9 LRGs in the Planck 2018 lensing map through spectroscopically calibrated mocks* (2024). *arXiv preprint arXiv:2412.02761*.

36. A. Campos et al., *Enhancing weak lensing redshift distribution characterization by optimizing the Dark Energy Survey Self-Organizing Map Photo-z method* (2024). *arXiv preprint arXiv:2408.00922*.

37. T. Abbott et al., *Dark Energy Survey Year 3 results: Constraints on extensions to with weak lensing and galaxy clustering* (2023). *Physical Review D*, 107(8), p. 083504.

38. T. Abbott et al., *Joint analysis of Dark Energy Survey Year 3 data and CMB lensing from SPT and Planck. III. Combined cosmological constraints* (2023). *Physical Review D*, 107(2), p. 023531.

39. A. Chen et al., *Constraining the baryonic feedback with cosmic shear using the DES Year-3 small-scale measurements* (2023). *Monthly Notices of the Royal Astronomical Society*, 518(4), pp. 5340-5355.

40. C. Chang et al., *Joint analysis of Dark Energy Survey Year 3 data and CMB lensing from SPT and . II. Cross-correlation measurements and cosmological constraints* (2023). *Physical Review D*, 107(2), p. 023530.

41. S. Samuroff et al., *The Dark Energy Survey Year 3 and eBOSS: constraining galaxy intrinsic alignments across luminosity and colour space* (2023). *Monthly Notices of the Royal Astronomical Society*, 524(2), pp. 2195-2223.

42. J. Elvin-Poole et al., *Dark Energy Survey Year 3 results: magnification modelling and impact on cosmological constraints from galaxy clustering and galaxy–galaxy lensing* (2023). *Monthly Notices of the Royal Astronomical Society*, 523(3), pp. 3649-3670.

43. J. U. Lange et al., *Constraints on S8 from a full-scale and full-shape analysis of redshift-space clustering and galaxy–galaxy lensing in BOSS* (2023). *Monthly Notices of the Royal Astronomical Society*, 520(4), pp. 5373-5393.

44. Y. Omori et al., *Joint analysis of Dark Energy Survey Year 3 data and CMB lensing from SPT and Planck. I. Construction of CMB lensing maps and modeling choices* (2023). *Physical Review D*, 107(2), p. 023529.

45. D. Anbajagane et al., *Beyond the 3rd moment: a practical study of using lensing convergence CDFs for cosmology with DES Y3* (2023). *Monthly Notices of the Royal Astronomical Society*, 526(4), pp. 5530-5554.

46. J. Sánchez et al., *Mapping gas around massive galaxies: cross-correlation of DES Y3 galaxies and Compton-y maps from SPT and Planck* (2023). *Monthly Notices of the Royal Astronomical Society*, 522(2), pp. 3163-3182.

47. Z. Zhang et al., *Modelling galaxy cluster triaxiality in stacked cluster weak lensing analyses* (2023). *Monthly Notices of the Royal Astronomical Society*, 523(2), pp. 1994-2013.

48. C. Sánchez et al., *The Dark Energy Survey Year 3 high-redshift sample: selection, characterization, and analysis of galaxy clustering* (2023). *Monthly Notices of the Royal Astronomical Society*, 525(3), pp. 3896-3922.

49. C. Zhou et al., *The intrinsic alignment of red galaxies in DES Y1 redMaPPer galaxy clusters* (2023). *Monthly Notices of the Royal Astronomical Society*, 526(1), pp. 323-336.

50. T. Zhang et al., *Covariance matrices for variance-suppressed simulations* (2023). *Monthly Notices of the Royal Astronomical Society*, 518(3), pp. 3737-3745.

51. J. Prat et al., *Non-local contribution from small scales in galaxy–galaxy lensing: comparison of mitigation schemes* (2023). *Monthly Notices of the Royal Astronomical Society*, 522(1), pp. 412-425.

52. J. Myles et al., *Mapping variations of redshift distributions with probability integral transforms* (2023). *Monthly Notices of the Royal Astronomical Society*, 519(2), pp. 1792-1808.

53. J. J. Han et al., *NANCY: Next-generation All-sky Near-infrared Community surveY* (2023). *arXiv preprint arXiv:2306.11784*.

54. Y. Omori et al., *D-meson semileptonic decays to pseudoscalars from four-flavor lattice QCD* (2023). American Physical Society.

55. D. E. Survey et al., *DES Y3+ KiDS-1000: Consistent cosmology combining cosmic shear surveys* (2023). *arXiv preprint arXiv:2305.17173*.

56. A. Palmese et al., *VizieR Online Data Catalog: Stellar mass as a galaxy cluster mass proxy (Palmese+, 2020)* (2023). *VizieR Online Data Catalog*, 749, J/MNRAS/493/4591.

57. D. Gruen et al., *4MOST Complete Calibration of the Colour-Redshift Relation (4C3R2)* (2023). *The Messenger (ESO)*, 190, pp. 28-30.

58. L. F. Secco et al., *Dark Energy Survey Year 3 results: Cosmology from cosmic shear and robustness to modeling uncertainty* (2022). *Physical Review D*, 105(2), p. 023515.

59. A. Porredon et al., *Dark Energy Survey Year 3 results: Cosmological constraints from galaxy clustering and galaxy-galaxy lensing using the MagLim lens sample* (2022). *Physical Review D*, 106(10), p. 103530.

60. M. Gatti et al., *Dark Energy Survey Year 3 Results: clustering redshifts – calibration of the weak lensing source redshift distributions with redMaGiC and BOSS/eBOSS* (2022). *Monthly Notices of the Royal Astronomical Society*, 510(1), pp. 1223-1247.

61. W. G. Hartley et al., *Dark energy survey year 3 results: deep field optical+ near-infrared images and catalogue* (2022). *Monthly Notices of the Royal Astronomical Society*, 509(3), pp. 3547-3579.

62. C. Doux et al., *Dark energy survey year 3 results: cosmological constraints from the analysis of cosmic shear in harmonic space* (2022). *Monthly Notices of the Royal Astronomical Society*, 515(2), pp. 1942-1972.

63. D. Zürcher et al., *Dark energy survey year 3 results: Cosmology with peaks using an emulator approach* (2022). *Monthly Notices of the Royal Astronomical Society*, 511(2), pp. 2075-2104.

64. M. Rodríguez-Monroy et al., *Dark Energy Survey Year 3 results: galaxy clustering and systematics treatment for lens galaxy samples* (2022). *Monthly Notices of the Royal Astronomical Society*, 511(2), pp. 2665-2687.

65. S. Everett et al., *Dark energy survey year 3 results: measuring the survey transfer function with Balrog* (2022). *The Astrophysical Journal Supplement Series*, 258(1), p. 15.

66. M. Gatti et al., *Dark Energy Survey Year 3 results: Cosmology with moments of weak lensing mass maps* (2022). *Physical Review D*, 106(8), p. 083509.

67. J. U. Lange et al., *Five per cent measurements of the growth rate from simulation-based modelling of redshift-space clustering in BOSS LOWZ* (2022). *Monthly Notices of the Royal Astronomical Society*, 509(2), pp. 1779-1804.

68. H. Wu et al., *Optical selection bias and projection effects in stacked galaxy cluster weak lensing* (2022). *Monthly Notices of the Royal Astronomical Society*, 515(3), pp. 4471-4486. et al.,

69. R. Cawthon et al., *Dark Energy Survey Year 3 results: calibration of lens sample redshift distributions using clustering redshifts with BOSS/eBOSS* (2022). *Monthly Notices of the Royal Astronomical Society*, 513(4), pp. 5517-5539. et al.,

70. J. Prat et al., *Dark energy survey year 3 results: High-precision measurement and modeling of galaxy-galaxy lensing* (2022). *Physical Review D*, 105(8), p. 083528. et al.,

71. C. Sánchez et al., *Dark Energy Survey Year 3 results: Exploiting small-scale information with lensing shear ratios* (2022). *Physical Review D*, 105(8), p. 083529. et al.,

72. A. Kovács et al., *The DES view of the Eridanus supervoid and the CMB cold spot* (2022). *Monthly Notices of the Royal Astronomical Society*, 510(1), pp. 216-229. et al.,

73. D. J. Schlegel et al., *The MegaMapper: A stage-5 spectroscopic instrument concept for the study of inflation and dark energy* (2022). *arXiv preprint arXiv:2209.04322*. et al.,

74. J. P. Cordero et al., *Dark Energy Survey Year 3 results: marginalization over redshift distribution uncertainties using ranking of discrete realizations* (2022). *Monthly Notices of the Royal Astronomical Society*, 511(2), pp. 2170-2185. et al.,

75. G. Zacharegkas et al., *Dark Energy Survey Year 3 results: galaxy–halo connection from galaxy–galaxy lensing* (2022). *Monthly Notices of the Royal Astronomical Society*, 509(3), pp. 3119-3147. et al.,

76. D. J. Schlegel et al., *A spectroscopic road map for cosmic frontier: DESI, DESI-II, Stage-5* (2022). *arXiv preprint arXiv:2209.03585*. et al.,

77. M. Gatti et al., *Cross-correlation of Dark Energy Survey Year 3 lensing data with ACT and Planck thermal Sunyaev-Zel'dovich effect observations. I. Measurements, systematics tests, and feedback model constraints* (2022). *Physical Review D*, 105(12), p. 123525. et al.,

78. A. Leauthaud et al., *Lensing without borders–I. A blind comparison of the amplitude of galaxy–galaxy lensing between independent imaging surveys* (2022). *Monthly Notices of the Royal Astronomical Society*, 510(4), pp. 6150-6189. et al.,

79. L. F. Secco et al., *Dark Energy Survey Year 3 Results: Three-point shear correlations and mass aperture moments* (2022). *Physical Review D*, 105(10), p. 103537. et al.,

80. S. Huang et al., *The outer stellar mass of massive galaxies: a simple tracer of halo mass with scatter comparable to richness and reduced projection effects* (2022). *Monthly Notices of the Royal Astronomical Society*, 515(4), pp. 4722-4752. et al.,

81. M. Lokken et al., *Superclustering with the Atacama Cosmology Telescope and Dark Energy Survey. I. Evidence for thermal energy anisotropy using oriented stacking* (2022). *The Astrophysical Journal*, 933(2), p. 134. et al.,

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GRANTS AND COMPUTING ALLOCATIONS

- Fugaku, "Correlated Simulations for Joint Analysis of CMB and LSS", (Collaborator, 2023-2026).
- NASA ATP, "Leveraging Weak Gravitational Lensing - Redshift Space Distortions Cross-correlations", (Collaborator, 2022-2024).
- XSEDE, "N-body Simulations for Cosmic Acceleration and Neutrino Science with Wide Field Galaxy Surveys", 320000 node hours (Co-I, 3/22 - 3/23).
- XSEDE, "N-body Simulations for Cosmic Acceleration and Neutrino Science with Wide Field Galaxy Surveys", 43000 node hours (Co-I, 1/21 - 1/22).
- XSEDE, "Cosmological Simulations of Dark Energy and Massive Neutrinos for Wide Field Galaxy Surveys", 4000 node hours (PI, 6/20 - 6/21).
- NERSC, "Cosmological Simulations for Sky Surveys", 44k Node hours (co-I, 1/24 - 1/25).
- NERSC, "Cosmological Simulations for Sky Surveys", 25k Node hours (co-I, 1/23 - 1/24).
- NERSC, "Cosmological Simulations for Sky Surveys", 5M NERSC hours (co-I, 1/22 - 1/23).
- NERSC, "Cosmological Simulations for Sky Surveys", 5M NERSC hours (co-I, 1/21 - 1/22).
- NERSC, "Cosmological Simulations for Sky Surveys", 7M NERSC hours (co-I, 1/20 - 1/21).
- NERSC, "Cosmological Simulations for Sky Surveys", 7M NERSC hours (co-I, 1/19 - 1/20).
- NERSC, "Cosmological Simulations for Sky Surveys", 9M NERSC hours (co-I, 1/18 - 1/19).

SELECTED TALKS

29. APS Global Physics Summit 2025 – Latest Results from the Dark Energy Spectroscopic Instrument Special Session, 3/25, (**Invited**)
28. Bay Area Strings, Information & Cosmology Symposium , 11/24, (**Invited**)
27. Boston University Physics Seminar, 3/24, (**Invited**)
26. Brookhaven National Laboratory Physics Seminar, 1/24, (**Invited**)
25. Berkeley Astrophysics Roundtable Donor Event, UC Berkeley, 12/23 (**Invited**)
24. SLAC Summer Institute: Artificial Intelligence in Fundamental Physics, SLAC, 8/23 (**Invited**)
23. Future Science with CMB x LSS , YITP, Kyoto, Japan, 4/23 (**Invited**)
22. Cosmology Colloquium, SLAC, 2/23 (**Invited**)
21. Cosmology Seminar, Kavli IPMU, 11/22 (**Invited**)
20. Intriguing Inconsistencies in the Growth of Structure over Cosmic Time, Sesto, Italy, 7/22 (**Invited**)
19. Berkeley Center for Cosmological Physics, Vipolze Conference, Smartno, Slovenia, 7/22
18. DES Y3 Highlight Plenary, DESI Collaboration Meeting, 6/22 (**Invited**)
17. Astro Seminar, NYU, 3/22 (**Invited**)
16. Astronomy Colloquium, University of British Columbia, 10/21 **(Invited**)
15. Astrophysics Colloquium, Stanford University, 6/21 **(Invited**)

14. Dark Energy Survey Year 3 Results Webinar, Virtual, 5/21
13. Institute for Nuclear and Particle Astrophysics Seminar, LBNL, 1/21 **(Invited)**
12. German Center for Cosmological Lensing Seminar, Remote talk, 5/20 **(Invited)**
11. Spectroscopic Surveys: Are We Ready For the Future?, UC Berkeley, 1/20 **(Invited)**
10. AAS Thesis Spotlight, Seattle, 1/19
9. FLASH Seminar, UC Santa Cruz, 9/18 **(Invited)**
8. Astro Seminar, NYU, 9/18 **(Invited)**
7. Berkeley Cosmology Seminar, UC Berkeley, 9/18 **(Invited)**
6. Modeling the Extragalactic Sky, UC Berkeley, 1/18 **(Invited)**
5. Astrophysics Colloquium, Stanford University, 9/17 **(Invited)**
4. Webinar, Laboratório Interinstitucional de e-Astronomia, Brazil, 7/17 **(Invited)**
3. COSMO16, University of Michigan, 8/16
2. KIPAC Tea, Stanford University, 9/16
1. Mock Santiago: Preparing for the Next Generation of Surveys, Universidad Catolica, Santiago, Chile, 4/16 **(Invited)**

STUDENTS/POSTDOCS (CO)SUPERVISED

- Vincent Su, B.S. Stanford ‘17
- Denise Lepore, B.S. CSU Pomona ‘19
- Amara McCune, B.S. Stanford ‘18 (now PhD student in physics at UC Santa Barbara)
- Duncan Wood, B.S. Stanford ‘17
- Judah Luberto, B.S. UC Santa Cruz ‘22
- Nishant Mishra, B.S. UC Berkeley ‘21 (now PhD student in astrophysics at University of Michigan)
- Shi-Fan Chen, Ph.D UC Berkeley ‘22 (now Hubble Fellow at Columbia University)
- Nickolas Kokron, Ph.D Stanford ‘23 (now postdoc at Princeton)
- Enia Xhakaj, Ph.D UC Santa Cruz ‘23
- Rose Hinson, B.S. UC Berkeley ‘24
- Danial Baradaran, B.S. UC Berkeley ‘25
- Jyotsna Ravi, B.S. UC Berkeley ‘26 (Expected)
- Alexa Bartlett, Ph.D. UC Berkeley ‘28 (Expected)
- Hugo Camacho, Postdoc, BNL

SERVICE AND OUTREACH

- DESI High coordinator 2021-2024
- LBNL INPA Seminar Committee 2021-2022
- DESI Education and Public Outreach Committee, 2021-2022
- Astro Scholar Mentor, Berkeley Astronomy Department, 2020-2021
- Organizer for Astronomy on Tap (2016-2020)
- Lead Organizer for "Meetings of Astrophysics Students at Stanford" seminar series (2016-2018)
- Lead Organizer for Stanford Physics Computing Bootcamp (2016-2018)
- NSF AAG Panelist (2023)
- Referee: Astrophysical Journal, Monthly Notices of the Royal Astronomical Society, Journal of Cosmology and Astroparticle Physics, Astronomy & Astrophysics

TEACHING

- Spring 2015: **PHYS25 Modern Physics**
  T.A.
- Winter 2017: **PHYS16 The Origin and Development of the Cosmos**
  T.A.
- Winter 2018: **PHYS16 The Origin and Development of the Cosmos**
  T.A.

REFERENCES

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