PUBLICATIONS

$*$ **100 publications; 16,197 citations; h-index = 66 (Google Scholar)**

Highlighted Publications:

1. S. Mandal, **N. Sehgal**, "Mass-varying Dark Matter from a Phase Transition", arXiv:2212.07884
2. The CMB-HD Collaboration, "Snowmass2021 CMB-HD White Paper", arXiv:2203.05728
3. D. Han, **N. Sehgal**, "Mitigating Foreground Bias to the CMB Lensing Power Spectrum for a CMB-HD Survey", *Phys. Rev. D*, (2021), **105**, 083516
4. S. Mandal, **N. Sehgal**, T. Namikawa, "Finding Evidence for Inflation and the Origin of Galactic Magnetic Fields with CMB Surveys", *Phys. Rev. D*, (2021), **105**, 063537
5. D. Han, **N. Sehgal**, F. Villaescusa-Navarro, "Deep Learning Simulations of the Microwave Sky", *Phys. Rev. D*, (2021), **104**, 123521
6. D. Han, **N. Sehgal**, A. MacInnis for the ACT Collaboration, "The Atacama Cosmology Telescope: Delensed Power Spectra and Parameters", *Journal of Cosmology and Astroparticle Physics*, (2021), **01**, 031
7. **N. Sehgal** et al, "CMB-HD: Astro2020 RFI Response", Response to request for information (RFI) by the Panel of Radio, Millimeter, and Submillimeter Observations from the Ground (RMS) of the Astro2020 Decadal Survey, (2020), arXiv:2002.12714
8. **N. Sehgal** et al, "CMB-HD: An Ultra-Deep, High-Resolution Millimeter-Wave Survey Over Half the Sky", *Bulletin of the American Astronomical Society*, Vol. 51, Issue 7, id. 6 (2019)
9. **N. Sehgal** et al, "Science from an Ultra-Deep, High-Resolution Millimeter-Wave Survey", *Bulletin of the American Astronomical Society*, Vol. 51, Issue 3, id. 43 (2019)
10. H. N. Nguyen, **N. Sehgal**, M. Madhavacheril, "Measuring the Small-Scale Matter Power Spectrum with High-Resolution CMB Lensing", *Phys. Rev. D*, (2018), **99**, 023502
11. B. Sherwin, A. van Engelen, **N. Sehgal**, M. Madhavacheril for the ACT Collaboration, "The Atacama Cosmology Telescope: Two-Season ACTPol Lensing Power Spectrum", *Phys. Rev. D*, (2017), **95**, 123529
12. **N. Sehgal**, M. Madhavacheril, B. Sherwin, A. van Engelen, "Internal Delensing of Cosmic Microwave Background Acoustic Peaks", *Phys. Rev. D*, (2017), **95**, 103512
13. H. Miyatake, M. Madhavacheril, **N. Sehgal**, A. Slosar, D. Spergel, B. Sherwin, A. van Engelen, "Measurement of a Cosmographic Distance Ratio with Galaxy and CMB Lensing", *Physical Review Letters*, (2017), **118**, 161301

14. A. van Engelen, B. Sherwin, **N. Sehgal** for the ACT Collaboration, "The Atacama Cosmology Telescope: Lensing of CMB Temperature and Polarization Derived from Cosmic Infrared Background Cross-Correlation", *The Astrophysical Journal*, (2015), **808**, 7

15. M. Madhavacheril, **N. Sehgal**, for the ACT Collaboration, "Evidence of Lensing of the Cosmic Microwave Background by Dark Matter Halos", *Physical Review Letters*, (2015), **114**, 151302 (*Chosen as Editor's Suggestion and Featured in Physics*)

16. M. Madhavacheril, P. McDonald, **N. Sehgal**, A. Slosar, "Building Unbiased Estimators from Non-Gaussian Likelihoods with Application to Shear Estimation", *Journal of Cosmology and Astroparticle Physics*, (2015), **1**, 22

17. M. Madhavacheril, **N. Sehgal**, T. Slatyer, "Current Dark Matter Annihilation Constraints from CMB and Low-Redshift Data", *Phys. Rev. D*, (2014), **89**, 103508

18. A. van Engelen, S. Bhattacharya, **N. Sehgal**, G. P. Holder, O. Zahn, D. Nagai, "CMB Lensing Power Spectrum Biases from Galaxies and Clusters Using High-Angular Resolution Temperature Maps", *The Astrophysical Journal*, (2014), **786**, 13

19. **N. Sehgal** for the ACT Collaboration, "The Atacama Cosmology Telescope: Relation Between Galaxy Cluster Optical Richness and Sunyaev-Zel'dovich Effect", *The Astrophysical Journal*, (2013), **767**, 38

20. **N. Sehgal** for the ACT Collaboration, "The Atacama Cosmology Telescope: Cosmology from Galaxy Clusters Detected via the Sunyaev-Zel'dovich Effect", *The Astrophysical Journal*, (2011), **732**, 44

21. M. Sun, **N. Sehgal**, G. M. Voit, M. Donahue, C. Jones, W. Forman, A. Vikhlinin, C. Sarazin, "The pressure profiles of hot gas in local galaxy groups", *The Astrophysical Journal*, (2011) **727**, L49

22. R. Essig, **N. Sehgal**, L. Strigari, M. Geha, J. Simon, "Indirect Dark Matter Detection with Segue 1", *Phys. Rev. D*, (2010) **82**, 123503

23. **N. Sehgal**, P. Bode, S. Das, C. Hernandez-Monteagudo, K. Huffenberger, Y.-T. Lin, J. P. Ostriker, H. Trac, "Simulations of the Microwave Sky", *The Astrophysical Journal*, (2010) **709**, 920

24. R. Essig, **N. Sehgal**, L. Strigari, "Bounds on Cross-sections and Lifetimes for Dark Matter Annihilation and Decay into Charged Leptons from Gamma-ray Observations of Dwarf Galaxies", *Phys. Rev. D*, (2009) **80**, 023506

Additional Publications:

25. J. C. Hill for the ACT Collaboration, "Atacama Cosmology Telescope: Constraints on prerecombination early dark energy", *Phys. Rev. D*, (2022), **105**, 123536

26. Y. Guan for the ACT Collaboration, "The Atacama Cosmology Telescope: Microwave Intensity and Polarization Maps of the Galactic Center", *The Astrophysical Journal*, (2021), **01**, 06

27. J. Orlowski-Scherer for the ACT Collaboration, "Atacama Cosmology Telescope measurements of a large sample of candidates from the Massive and Distant Clusters of WISE Survey: Sunyaev-Zeldovich effect confirmation of MaDCoWS candidates using ACT", *Astronomy and Astrophysics*, (2021), **653**, A135

28. S. Adhikari for the ACT and DES Collaborations, "Probing galaxy evolution in massive clusters using ACT and DES: splashback as a cosmic clock", *The Astrophysical Journal*, (2020), **923**, 01

29. N. Robertson for the ACT Collaboration, "Strong detection of the CMB lensing x galaxy weak lensing cross-correlation from ACT-DR4,PlanckLegacy and KiDS-1000", *Astronomy & Astrophysics*, (2020), **649**, A146

30. S. Naess for the ACT Collaboration, "The Atacama Cosmology Telescope: A search for Planet 9", *The Astrophysical Journal*, (2021), **923**, 02

31. M. Mallaby-Kay for the ACT Collaboration, "The Atacama Cosmology Telescope: Summary of DR4 and DR5 Data Products and Data Access", *The Astrophysical Journal Supplement Series*, (2021), **255**, 01

32. S. Aiola for the ACT Collaboration, "The Atacama Cosmology Telescope: DR4 Maps and Cosmological Parameters", *Journal of Cosmology and Astroparticle Physics*, (2020), **12**, 47

33. S. Choi for the ACT Collaboration, "The Atacama Cosmology Telescope: A Measurement of the Cosmic Microwave Background Power Spectra at 98 and 150 GHz", *Journal of Cosmology and Astroparticle Physics*, (2020), **12**, 45

34. S. Naess for the ACT Collaboration, "The Atacama Cosmology Telescope: arcminute-resolution maps of 18,000 square degrees of the microwave sky from ACT 2008-2018 data combined with Planck", *Journal of Cosmology and Astroparticle Physics*, (2020), **12**, 46

35. M. Hilton for the ACT Collaboration, "The Atacama Cosmology Telescope: A Catalog of > 4000 Sunyaev-Zel'dovich Galaxy Clusters", *The Astrophysical Journal Supplement Series*, (2021), **253**, 01

36. S. Amodeo for the ACT Collaboration, "The Atacama Cosmology Telescope: Modelling the Gas Thermodynamics in BOSS CMASS galaxies from Kinematic and Thermal Sunyaev-Zel'dovich Measurements", *Phys. Rev. D*, (2021), **103**, 06

37. E. Schaan for the ACT Collaboration, "The Atacama Cosmology Telescope: Combined kinematic and thermal Sunyaev-Zel'dovich measurements from BOSS CMASS and LOWZ halos", *Phys. Rev. D*, (2021), **103**, 06

38. B. Fuzia for the ACT Collaboration, "The Atacama Cosmology Telescope: SZ-based masses and dust emission from IR-selected cluster candidates in the SHELA survey", *Monthly Notices of the Royal Astronomical Society*, (2021), **502**, 03

39. CMB-S4 Collaboration, "CMB-S4: Forecasting Constraints on Primordial Gravitational Waves", *submitted to The Astrophysical Journal*, (2020), arXiv:2008.12619

40. T. Namikawa for the ACT Collaboration, "Atacama Cosmology Telescope: Constraints on cosmic birefringence", *Phys. Rev. D*, (2020), **101**, 083527

41. O. Darwish for the ACT Collaboration, "The Atacama Cosmology Telescope: A CMB lensing mass map over 2100 square degrees of sky and its cross-correlation with BOSS-CMASS galaxies", *Monthly Notices of the Royal Astronomical Society*, (2020), **500**, 2

42. M. Madhavacheril for the ACT Collaboration, "The Atacama Cosmology Telescope: Weighing Distant Clusters with the Most Ancient Light", *Astrophysical Journal Letters*, (2020), **903**, 1

43. M. Madhavacheril for the ACT Collaboration, "Atacama Cosmology Telescope: Component-separated maps of CMB temperature and the thermal Sunyaev-Zel'dovich effect", *Phys. Rev. D*, (2020), **102**, 023534

44. The Simons Observatory Collaboration, "The Simons Observatory: Science goals and forecasts", *Journal of Cosmology and Astroparticle Physics*, (2018), **02**, 56

45. H. Miyatake, H for the ACT Collaboration, "Weak-Lensing Mass Calibration of ACTPol Sunyaev-Zel'dovich Clusters with the Hyper Suprime-Cam Survey", *The Astrophysical Journal*, (2018), **875**, 63

46. C. Ge, M. Sun, E. Rozo, **N. Sehgal**, A. Vikhlinin, W. Forman, C. Jones, D. Nagai, "X-ray scaling relations from a complete sample of the richest maxBCG clusters", *Monthly Notices of the Royal Astronomical Society*, (2018), **484**, 1946

47. T. Louis for the ACT Collaboration, "The Atacama Cosmology Telescope: two-season ACTPol spectra and parameters", *Journal of Cosmology and Astroparticle Physics*, (2017), **6**, 31

48. De Bernardis for the ACT Collaboration, "Detection of the pairwise kinematic Sunyaev-Zel'dovich effect with BOSS DR11 and the Atacama Cosmology Telescope", *Journal of Cosmology and Astroparticle Physics*, (2017), **3**, 8

49. R. Thornton for the ACT Collaboration, "The Atacama Cosmology Telescope: The polarization-sensitive ACTPol instrument", *Astrophysical Journal Supplement Series*, (2016), **227**, 21

50. CMB-S4 Collaboration, "CMB-S4 Science Book, First Edition", (2016), arXiv:1610.02743

51. S. Henderson for the ACTPol Collaboration, "Advanced ACTPol Cryogenic Detector Arrays and Readout", *Journal of Low Temperature Physics*, (2016), **184**, 772

52. N. Battaglia for the ACT Collaboration, "Weak-lensing mass calibration of the Atacama Cosmology Telescope equatorial Sunyaev-Zeldovich cluster sample with the Canada-France-Hawaii telescope stripe 82 survey", *Journal of Cosmology and Astroparticle Physics*, (2016), **8**, 13

53. De Bernardis for the ACT Collaboration, "Survey strategy optimization for the Atacama Cosmology Telescope", *SPIE Astronomical Telescopes and Instrumentation Proceedings*, (2016), **9910**, 991014

54. E. Schaan for the ACT Collaboration, "Evidence for the kinematic Sunyaev-Zel'dovich effect with the Atacama Cosmology Telescope and velocity reconstruction from the Baryon Oscillation Spectroscopic Survey", *Phys. Rev. D*, (2016), **93**, 082002

55. The FERMI Collaboration, "Searching for Dark Matter Annihilation from Milky Way Dwarf Spheroidal Galaxies with Six Years of Fermi Large Area Telescope Data", *Physical Review Letters*, (2016), **115**, 231301

56. A. Drlica-Wagner et al, "Search for Gamma-Ray Emission from DES Dwarf Spheroidal Galaxy Candidates with Fermi-LAT Data", *The Astrophysical Journal Letters*, (2015), **809**, L4

57. R. Allison for the ACT Collaboration, "The Atacama Cosmology Telescope: measuring radio galaxy bias through cross-correlation with lensing", *Monthly Notices of the Royal Astronomical Society*, (2015), **451**, 849

58. R. Lindner for the ACT Collaboration, "The Atacama Cosmology Telescope: The LABOCA/ACT Survey of Clusters at All Redshifts", *The Astrophysical Journal*, (2015), **803**, 79

59. N. Hand for the ACT Collaboration, "First Measurement of the Cross-Correlation of CMB Lensing and Galaxy Lensing", *Phys. Rev. D*, (2015), **91**, 062001

60. D. Huterer et al., "Growth of cosmic structure: Probing dark energy beyond expansion", *Astroparticle Physics*, (2015), **63**, 23

61. C. Hill for the ACT Collaboration, "The Atacama Cosmology Telescope: A Measurement of the Thermal Sunyaev-Zel'dovich One-Point PDF", *submitted to The Astrophysical Journal*, (2014), arXiv:1411.8004

62. M. Gralla for the ACT Collaboration, "A Measurement of the Millimeter Emission and the Sunyaev-Zel'dovich Effect Associated with Low-Frequency Radio Sources", *Monthly Notices of the Royal Astronomical Society*, (2014), **445**, 460

63. S. Naess for the ACT Collaboration, "The Atacama Cosmology Telescope: CMB Polarization at $200 < \ell < 9000$", *Journal of Cosmology and Astroparticle Physics*, (2014), **10**, 7

64. E. Calabrese et al., "Precision epoch of reionization studies with next-generation CMB experiments", *Journal of Cosmology and Astroparticle Physics*, (2014), **8**, 10

65. T. Louis for the ACT Collaboration, "The Atacama Cosmology Telescope: cross correlation with Planck maps", *Journal of Cosmology and Astroparticle Physics*, (2014), **7**, 16

66. D. Marsden for the ACT Collaboration, "The Atacama Cosmology Telescope: Dusty Star-Forming Galaxies and Active Galactic Nuclei in the Southern Survey", *Monthly Notices of the Royal Astronomical Society*, (2014), **439**, 1556

67. S. Das for the ACT Collaboration, "The Atacama Cosmology Telescope: Temperature and Gravitational Lensing Power Spectrum Measurements from Three Seasons of Data", *Journal of Cosmology and Astroparticle Physics*, (2014), **4**, 14

68. The FERMI Collaboration, "Dark Matter Constraints from Observations of 25 Milky Way Satellite Galaxies with the Fermi Large Area Telescope", *Phys. Rev. D*, (2014), **89**, 042001

69. M. Hasselfield for the ACT Collaboration, "The Atacama Cosmology Telescope: Beam Measurements and the Microwave Brightness Temperatures of Uranus and Saturn", *The Astrophysical Journal Supplement*, (2013), **209**, 17

70. J. Sievers for the ACT Collaboration, "The Atacama Cosmology Telescope: Cosmological parameters from three seasons of data", *Journal of Cosmology and Astroparticle Physics*, (2013), **10**, 60

71. J. Dunkley for the ACT Collaboration, "The Atacama Cosmology Telescope: likelihood for small-scale CMB data", *Journal of Cosmology and Astroparticle Physics*, (2013), **07**, 25

72. M. Hasselfield for the ACT Collaboration, "The Atacama Cosmology Telescope: Sunyaev-Zel'dovich selected galaxy clusters at 148 GHz from three seasons of data", *Journal of Cosmology and Astroparticle Physics*, (2013), **07**, 8

73. C. Sifon for the ACT Collaboration, "The Atacama Cosmology Telescope: Dynamical Masses and Scaling Relations for a Sample of Massive Sunyaev-Zel'dovich Effect Selected Galaxy Clusters", *The Astrophysical Journal*, (2013), **772**, 25

74. E. Calabrese for the ACT Collaboration, "Cosmological parameters from pre-planck cosmic microwave background measurements", *Phys. Rev. D*, (2013), **87**, 103012

75. R. Dunner for the ACT Collaboration, "The Atacama Cosmology Telescope: Data Characterization and Map Making", *The Astrophysical Journal*, (2013), **762**, 10

76. M. Wilson for the ACT Collaboration, "The Atacama Cosmology Telescope: A Measurement of the Thermal Sunyaev-Zel'dovich Effect Using the Skewness of the CMB Temperature Distribution", *Phys. Rev. D*, (2012), **86**, 122005

77. B. Sherwin for the ACT Collaboration, "The Atacama Cosmology Telescope: Cross-Correlation of CMB Lensing and Quasars", *Phys. Rev. D*, (2012), **86**, 083006

78. N. Hand for the ACT Collaboration, "Evidence of Galaxy Cluster Motions with the Kinematic Sunyaev-Zel'dovich Effect", *Physical Review Letters*, (2012), **109**, 041101

79. E. Reese for the ACT Collaboration, "The Atacama Cosmology Telescope: High-resolution Sunyaev-Zel'dovich Array Observations of ACT SZE-selected Clusters from the Equatorial Strip", *The Astrophysical Journal*, (2012), **751**, 12

80. R. Hlozek for the ACT Collaboration, "The Atacama Cosmology Telescope: a measurement of the primordial power spectrum", *The Astrophysical Journal*, (2012), **749**, 90

81. F. Menanteau for the ACT Collaboration, "The Atacama Cosmology Telescope: ACT-CL J0102-4915 "El Gordo," a Massive Merging Cluster at Redshift 0.87", *The Astrophysical Journal*, (2012), **748**, 7

82. The FERMI Collaboration, "Search for Dark Matter Satellites Using Fermi-LAT", *The Astrophysical Journal*, (2012), **747**, 121

83. A. Hajian for the ACT Collaboration, "Correlations in the (Sub)millimeter background from ACTxBLAST", *The Astrophysical Journal*, (2012), **744**, 40

84. A. Hajian for the ACT Collaboration, "The Atacama Cosmology Telescope: Calibration with the Wilkinson Microwave Anisotropy Probe Using Cross-correlations", *The Astrophysical Journal*, (2011), **740**, 86

85. J. Dunkley for the ACT Collaboration, "Atacama Cosmology Telescope: Cosmological Parameters from the 2008 Power Spectrum", *The Astrophysical Journal*, (2011), **739**, 52

86. T. Marriage for the ACT Collaboration, "The Atacama Cosmology Telescope: Sunyaev Zel'dovich Selected Galaxy Clusters at 148 GHz in the 2008 Survey", *The Astrophysical Journal*, (2011), **737**, 61

87. B. Sherwin for the ACT Collaboration, "Evidence for dark energy from the cosmic microwave background alone using the Atacama Cosmology Telescope lensing measurements", *Physical Review Letters*, (2011), **107**, 021302

88. S. Das for the ACT Collaboration, "Detection of the Power Spectrum of Cosmic Microwave Background Lensing by the Atacama Cosmology Telescope", *Physical Review Letters*, (2011), **107**, 021301

89. N. Hand for the ACT Collaboration, "The Atacama Cosmology Telescope: Detection of Sunyaev-Zel'dovich Decrement in Groups and Clusters Associated with Luminous Red Galaxies", *The Astrophysical Journal*, (2011), **736**, 39

90. The MAGIC Collaboration, "Searches for Dark Matter annihilation signatures in the Segue 1 satellite galaxy with the MAGIC-I telescope", *Journal of Cosmology and Astroparticle Physics*, (2011), **06**, 35

91. T. Marriage for the ACT Collaboration, "Atacama Cosmology Telescope: Extragalactic Sources at 148 GHz in the 2008 Survey", *The Astrophysical Journal*, (2011), **731**, 100

92. S. Das for the ACT Collaboration, "Atacama Cosmology Telescope: A Measurement of the Cosmic Microwave Background Power Spectrum at 148 and 218 GHz from the 2008 Southern Survey", *The Astrophysical Journal*, (2011), **729**, 62

93. A. Hincks for the ACT Collaboration, "The Atacama Cosmology Telescope (ACT): Beam Profiles and First SZ Cluster Maps", *The Astrophysical Journal Supplement*, (2010), **191**, 423

94. F. Menanteau for the ACT Collaboration, "The Atacama Cosmology Telescope: Physical Properties and Purity of a Galaxy Cluster Sample Selected via the Sunyaev-Zel'dovich Effect", *The Astrophysical Journal*, (2010), **723**, 1523

95. J. Fowler for the ACT Collaboration, "The Atacama Cosmology Telescope: A Measurement of the 600< ell <8000 Cosmic Microwave Background Power Spectrum at 148 GHz", *The Astrophysical Journal*, (2010), **722**, 1148

96. D. Swetz for the ACT Collaboration, "Instrument design and characterization of the Millimeter Bolometer Array Camera on the Atacama Cosmology Telescope", *Proceedings of the SPIE*, (2008), **7020**, 702008

97. **N. Sehgal**, J. P. Hughes, D. Wittman, V. Margoniner, J. Anthony Tyson, P. Gee, I. dell'Antonio, "Probing the Relation Between X-ray-Derived and Weak-Lensing-Derived Masses for Shear-Selected Galaxy Clusters: I.A781", *The Astrophysical Journal*, (2008) **673**, 163

98. **N. Sehgal**, H. Trac, K. Huffenberger, P. Bode, "Microwave Sky Simulations and Projections for Galaxy Cluster Detection with the Atacama Cosmology Telescope", *The Astrophysical Journal*, (2007) **664**, 149

99. **N. Sehgal**, A. Kosowsky, G. Holder, "Constrained Cluster Parameters from Sunyaev-Zel'dovich Observations", *The Astrophysical Journal*, (2005) **635**, 22

100. L. Ofman, V. M. Nakariakov, **N. Sehgal**, "Dissipation of Slow Magnetosonic Waves in Coronal Plumes", *The Astrophysical Journal*, (2000) **533**, 1071