

# NEELIMA SEHGAL

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## POSITIONS

- **Stony Brook University** - Associate Professor in Physics and Astronomy - *Sept. 2018 - present*
- **Stony Brook University** - Assistant Professor in Physics and Astronomy - *Sept. 2012 - Aug. 2018*
- **Princeton University** - NSF Postdoctoral Fellow - *Sept. 2011 - Sept. 2012*
- **Stanford University/SLAC** - KIPAC Postdoctoral Fellow - *Oct. 2008 - Sept. 2011*

## EDUCATION

- **Rutgers University**—Department of Physics and Astronomy  
*PhD in Astrophysics - May 2008*
- **Yale University**—Department of Physics and Mathematics  
*B.S. in Physics and Mathematics - May 1999*  
*Distinction in Physics and Mathematics*

## CURRENT RESEARCH INTERESTS

- Dark Matter, Early Universe
- Neutrino Physics, Dark Energy
- Inflation, Quantum Gravity

## FELLOWSHIPS, HONORS, AND AWARDS

- Stony Brook Discovery Prize Finalist (2017)
- NSF Postdoctoral Fellowship (2011 - 2012)
- University and Bevier Dissertation Fellowship, Rutgers (2007-2008)
- GAANN fellowship, Rutgers (2003-2004)
- GAANN fellowship, Rutgers (2000-2001)
- Deforest Senior Prize in Mathematics, Yale (1999)

## GRANTS

- Department of Energy, High Energy Physics Theory – 2019-2024, PI
- National Science Foundation, Astronomy & Astrophysics – 2019-2023, PI
- Brookhaven National Laboratory LDRD – 2019-2022, co-I
- Stony Brook-Brookhaven Research Initiative SEED Grant – 2016-2017, PI
- LSSTC and Simonyi-Gates Enabling Science Grant – 2016, co-I
- National Science Foundation, Astronomy & Astrophysics – 2015-2018, PI
- Stony Brook-Brookhaven Research Initiative SEED Grant – 2013-2014, PI

## PROFESSIONAL ACTIVITY AND SERVICE

- Collaboration Leadership:
  - PI of CMB-HD Collaboration, 2019 - present (<https://cmb-hd.org>)
  - Co-lead of Simons Observatory Lensing Science Working Group, 2016 - present
  - Co-lead of ACTPol/AdvACT Lensing Science Working Group, 2014 - present
- Workshop Organizer:
  - "The CMB in HD: the low-noise high-resolution frontier" at the CCA, Dec. 2018
  - "LSST Dark Energy Science Collaboration Meeting" at Stony Brook, July 2017
  - "Cross-correlation Spectacular with LSST" at Stony Brook/BNL, May 2016
  - "Cosmological Implications of the EBL" at KIPAC/SLAC, Dec. 2009
- Convener:
  - Co-convener of the "Cosmology and Dark Energy" working group for the APS Division of Particles and Fields (DPF) meeting in Boston, Aug 2019
  - Co-convener of the "Cosmic Physics" working group for the Conference on the Intersections of Particle and Nuclear Physics (CIPANP18) in Palm Springs, CA, May/June 2018
  - Co-convener of the "Cosmology and Astrophysics" working group for the APS Division of Particles and Fields (DPF) meeting at Fermilab, July/Aug 2017
- Lecturer at Summer School:
  - DMSS: A Dark Matter Summer School, University at Albany, SUNY, July 2018
  - Theoretical Advanced Study Institute in Elementary Particle Physics (TASI), "Anticipating the Next Discoveries in Particle Physics", Boulder CO 2016

- Review panel member:
  - NASA, NSF, DOE, 2011 - present
- Co-Lead of CMB-S4 Membership Working Group, Fall 2017-Spring 2018
- Lead editor of the CMB Lensing Chapter of the CMB-S4 Science Book, 2015-2016
- Referee for *Physical Review D*, *JCAP*, *Astronomy & Astrophysics*, *Monthly Notices of the Royal Astronomical Society*, *The Astrophysical Journal*

### FORMER ADVISEES:

- Ho Nam Nguyen - currently PhD student at University of Berkeley
- William Tyndall - currently PhD student at Yale University
- Dongwon Han - currently Postdoc at Cambridge University
- Mat Madhavacheril - currently Faculty at University of Pennsylvania
- Alex van Engelen - currently Faculty at Arizona State University

### UNIVERSITY SERVICE

- Played integral role in creation of new Cosmology Cluster initiative at Stony Brook University resulting in four new Cosmology faculty positions, 2013

### TEACHING EXPERIENCE

- AST 101 - Undergraduate Introduction to Astronomy
- AST 347 - Undergraduate Cosmology
- PHY 524 - Graduate Cosmology
- PHY 688 - Graduate Special Topics in Astrophysics - "The Dark Universe"

**INVITED COLLOQUIA, SEMINARS, AND TALKS**

\* 64 invited talks

1. Simons Center Lighting New Lampposts Workshop, NY, March 13th, 2023
2. University of Texas Austin Seminar, Austin, TX, Nov. 29, 2022
3. City College of New York Colloquium, New York, NY, Sept. 28, 2022
4. Cosmological Probes of New Physics Workshop, U. of Maryland, Sept. 16, 2022
5. Waterloo Centre for Astrophysics Astro Seminar, January 20, 2021
6. University of Albany Physics Colloquium, Albany, NY, March, 6, 2020
7. Cosmological Frontiers in Fundamental Physics, Perimeter Institute, Sept. 19, 2019
8. STRONG-DM 2019, Vienna, Austria, Aug, 19, 2019
9. LSST Dark Matter Workshop, Chicago, IL, Aug. 6, 2019
10. Brookhaven National Laboratory HET Lunch Seminar, Brookhaven, July 19, 2019
11. AAS Special Session on Cosmological Probes of Dark Matter, June 10, 2019
12. NASA Goddard Physics Colloquium, Baltimore, MD, May 21, 2019
13. In Pursuit of New Particles and Paradigms, Aspen, March, 26, 2019
14. Accurate Lensing in the Era of Precision Cosmology, Berkeley, CA, Jan. 14, 2019
15. Novel Instrumentation for Fundamental Physics, Puerto Rico, November 30, 2018
16. Yale University Physics Colloquium, November 26, 2018
17. University of Toronto Physics Colloquium, October 25, 2018
18. NYU CCPP Astro Seminar, September 18, 2018
19. Conference on Shedding Light on the Dark Universe with Extremely Large Telescopes, Trieste, Italy, July 3, 2018
20. CDM18 Workshop, KITP, Santa Barbara, CA, May 25th, 2018
21. CDM18 Conference, KITP, Santa Barbara, CA, May 1st, 2018
22. American Physical Society Mid-Atlantic Section, Newark, NJ, Nov. 4, 2017
23. Kavli CMB Lensing Workshop, Stanford, CA, September 13, 2017
24. Fermilab Colloquium, Batavia IL, November 30, 2016
25. York University Physics & Astronomy Colloquium, Toronto, Canada, Oct. 18, 2016
26. U.S. RMS Futures II, HERA Session, Baltimore, MD, August, 4, 2016
27. U.S. RMS Futures II, CMB Session, Baltimore, MD, August, 3, 2016

28. Light Dark World International Forum 2016, Daejeon, South Korea, July 12, 2016
29. Neutrinos and Light Particles in Cosmology, Berkeley, CA, June 23, 2016
30. University of Michigan Physics Seminar, Ann Arbor, MI, March 28, 2016
31. Canadian Institute of Theoretical Physics Seminar, Canada, Nov. 5, 2015
32. BNL DOE Cosmic Visions Talk, New York, NY, Oct. 17, 2015
33. Gruber Cosmology Conference, Yale University, New Haven, CT, Oct. 2, 2015
34. Brookhaven National Laboratory Physics Seminar, New York, NY, Sept. 17, 2015
35. CCAPP Seminar, Ohio State University, Columbus, OH, October 27, 2014
36. Rutgers University Astronomy Talk, New Brunswick, NJ, October 25, 2014
37. HPS Collaboration Meeting, VA, June 17, 2014
38. Dark Interactions, Brookhaven National Lab, NY, June 12, 2014
39. NY section of the APS meeting, SUNY Oswego, NY, April 25, 2014
40. Simons Center for Geometry and Physics Seminar, Stony Brook, NY, March 25, 2014
41. American Museum of Natural History, New York, NY, January 14, 2014
42. Princeton/IAS Cosmology Lunch, Princeton, NJ, October 21, 2013
43. Tri-State Astronomy Conference, New York, NY, September 27, 2013
44. Simons Center for Geometry and Physics Seminar, Stony Brook, NY, April 16, 2013
45. American Physical Society Invited Session, Denver, CO, April 14, 2013
46. Particle Physics Seminar, Stony Brook University, Stony Brook, NY, Dec. 3, 2012
47. A New Era for SZ Science, Santander, Spain, June 27, 2011
48. Stony Brook University Physics and Astronomy Seminar, NY, May 10, 2011
49. San Francisco State University, Physics & Astronomy Colloquium, April 11, 2011
50. Santa Cruz FLASH Seminar, CA, March 11, 2011
51. Canadian Institute of Theoretical Physics Seminar, Canada, Feb. 3, 2011
52. University of Waterloo Astro Lunch Talk, Canada, Feb. 2, 2011
53. Perimeter Institute Cosmology and Gravitation Seminar, Canada, Feb. 1, 2011
54. Chicago KICP Seminar, Chicago, IL, Jan. 28, 2011
55. Lawrence Livermore National Lab Physics Seminar, CA, Jan. 21, 2011
56. AAS Special Session: Cluster Cosmology with Optical and SZ, Seattle, Jan. 12, 2011

57. Caltech Astronomy Colloquium, Pasadena, CA, Dec. 15, 2010
58. Berkeley Cosmology Seminar, U.C. Berkeley, Berkeley, CA, Nov. 23, 2010
59. Stanford Astrophysics Colloquium, Stanford, Palo Alto, CA, May 20, 2010
60. University of Pennsylvania Cosmology Seminar, Philadelphia, PA, Jan. 16, 2008
61. Berkeley Cosmology Seminar, Berkeley, CA, Dec. 18, 2007
62. University of California at Davis Cosmology Seminar, Davis, CA, Dec. 17, 2007
63. Princeton Wunch Talk, Princeton, NJ, Dec. 5, 2007
64. Harvard Center for Astrophysics HEAD Lunch Talk, Boston, MA, Nov. 10, 2007