Siddharth Mishra-Sharma

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Academic Appointments

New York University — **New York, NY, USA**

Center for Cosmology and Particle Physics

Postdoctoral Associate — Starting Sep. 2018

Education

Princeton University — **Princeton, NJ, USA**

Ph.D. in Theoretical Physics — Sep. 2013 – Aug. 2018 (Expected)

Advisor: Mariangela Lisanti

Thesis: *Extragalactic Searches for Dark Matter Annihilation*

University of Cambridge — **Cambridge, UK**

Part III of the Mathematical Tripos (M.Math.) — Oct. 2012 – Jun. 2013

B.A. (Hons.) in Natural Sciences — Oct. 2009 – Jun. 2012

Prizes and Honours

- Department Teaching Award, Princeton Department of Physics — 2018
  Awarded for excellence in the role of Assistant in Introduction for courses taught at Princeton.
- Kusaka Memorial Prize in Physics, Princeton Department of Physics — 2017
  Awarded to physics graduate students who have shown outstanding performance in research and professional promise.
- Princeton Graduate School Impact Award — 2016
  Awarded to an individual in the community that has made a difference during their time at Princeton.
- Princeton First-Year Graduate Fellowship — 2013
  Awarded for the first year of graduate study at Princeton.
- Hugo de Balsham Prize — 2012
  Awarded for exceptional academic distinction at Peterhouse, Cambridge.
- Peter Scheuer Scholarship in Natural Sciences — 2011, 2012
  Awarded for exceptional academic performance in Cambridge second/third year Tripos examinations.
- Senior Academic Scholarship of Peterhouse, Cambridge — 2010
  Awarded for exceptional academic performance in Cambridge first year Tripos examinations.

Publications

Authors are usually listed in alphabetical order as per the standard in particle physics.

12. L.J. Chang, M. Lisanti, S. Mishra-Sharma, *A Search for Dark Matter Annihilation in the Milky Way Halo*, [arXiv:1804.04132], *Submitted for publication to Phys.Rev.Lett.*

11. S. Mishra-Sharma, D. Alonso, J. Dunkley, *Neutrino masses and beyond-ΛCDM cosmology with LSST and future CMB experiments*, Phys.Rev. **D97** (2018) 123544 [arXiv:1803.07561]
10. DarkSide Collaboration, *Constraints on Sub-GeV Dark Matter-Electron Scattering from the DarkSide-50 Experiment*, [arXiv:1802.06998], *Submitted for publication to Phys.Rev.Lett.*
9. DarkSide Collaboration, *Low-Mass Dark Matter Search with the DarkSide-50 Experiment*, [arXiv:1802.06994], *Submitted for publication to Phys.Rev.Lett.*
8. R. Bartels, D. Hooper, T. Linden, S. Mishra-Sharma, N.L. Rodd, B.R. Safdi, T.R. Slatyer, *Comment on "Characterizing the population of pulsars in the Galactic bulge with the Fermi Large Area Telescope" [arXiv:1705.00009v1]*, Phys.Dark Univ. **20** (2018) 88-94 [arXiv:1710.10266]
7. M. Lisanti, S. Mishra-Sharma, N.L. Rodd, B.R. Safdi, *Mapping Extragalactic Dark Matter Annihilation with Galaxy Surveys: A Systematic Study of Stacked Group Searches*, Phys.Rev. **D97** (2018) 063005 [arXiv:1709.00416]
6. M. Lisanti, S. Mishra-Sharma, N.L. Rodd, B.R. Safdi, *A Search for Dark Matter Annihilation in Galaxy Groups*, Phys.Rev.Lett. **120** (2018) 101101 [arXiv:1708.09385]
5. T. Cohen, M. Lisanti, H. K. Lou, S. Mishra-Sharma, *LHC Searches for Dark Sector Showers*, JHEP **11**, 196 (2017) [arXiv:1707.05326]
4. S. Mishra-Sharma, N.L. Rodd, B.R. Safdi, *NPTFit: A code package for Non-Poissonian Template Fitting*, Astron.J. **153** (2017) no.6, 253 [arXiv:1612.03173]
3. Y. Kahn, G. Krnjaic, S. Mishra-Sharma, T.M.P. Tait, *Light Weakly Coupled Axial Forces: Models, Constraints, and Projections*, JHEP **05**, 002 (2017) [arXiv:1609.09072]
2. M. Lisanti, S. Mishra-Sharma, L. Necib, B.R. Safdi, *Deciphering Contributions to the Extragalactic Gamma-Ray Background from 2 GeV to 2 TeV*, Astrophys.J. **832** (2016) no.2, 117 [arXiv:1606.04101]
1. S.K. Lee, M. Lisanti, S. Mishra-Sharma, B.R. Safdi, *Modulation Effects in Dark Matter-Electron Scattering Experiments*, Phys.Rev. **D92** (2015) 083517 [arXiv:1508.07361]

Selected Seminars and Talks

- Particles, Strings and Cosmology (PASCOS) 2018 — Cleveland, OH, Jun. 2018
- Recontres de Blois — Blois, France, Jun. 2018
- Princeton Astrophysics/IAS Cosmology Lunch Seminar — Princeton, NJ, May 2018
- Fermilab Particle Astrophysics Seminar — Batavia, IL, Mar. 2018
- Workshop on Statistical Challenges in the Search for Dark Matter — Banff, Canada, Feb. 2018
- Accelerating the Search for Dark Matter with Machine Learning — Leiden, Netherlands, Jan. 2018
- Maryland Elementary Particle Theory Seminar — College Park, MD, Nov. 2017
- Rutgers High Energy Theory Seminar — New Brunswick, NJ, Nov. 2017
- Cornell Particle Theory Seminar — Ithaca, NY, Nov. 2017
- Caltech Particle Theory Seminar — Pasadena, CA, Oct. 2017
- UC Irvine Joint Particle Seminar — Irvine, CA, Oct. 2017
- LHC Long-Lived Particles Community Workshop (Remote Talk) — Trieste, Italy, Oct. 2017
- Oxford Dalitz Seminar in Fundamental Physics — Oxford, UK, Oct. 2017
- KIPAC Tea Talk — Stanford, CA, Sep. 2017
- UC Santa Cruz Institute for Particle Physics Seminar — Santa Cruz, CA, Sep. 2017
- Berkeley 4D Seminar — Berkeley, CA, Sep. 2017
- Dark Matter, Neutrinos and their Connection (DAνCO) — Odense, Denmark, Aug. 2017

- TeV Particle Astrophysics (TeVPA) 2017 — Columbus, OH, Aug. 2017
- Phenomenology Symposium (Pheno) 2017 — Pittsburgh, PA, May 2017
- Princeton Pheno & Vino Seminar — Princeton, NJ, Apr. 2017
- APS April Meeting 2017 — Washington, DC, Jan. 2017
- MIT BSM Journal Club — Boston, MA, Nov. 2016
- TeV Particle Astrophysics (TeVPA) 2016 — Geneva, Switzerland, Sep. 2016
- Gamma Rays and Dark Matter Workshop — Obergurgl, Austria, Dec. 2015
- Phenomenology Symposium (Pheno) 2015 — Pittsburgh, PA, May 2015

Summer Schools

- Prospects in Theoretical Physics (PiTP) — Princeton, NJ, Jul. 2017
- Theoretical Advanced Study Institude (TASI) — Boulder, CO, Jun. 2016
- Tri-Institute Summer School on Elementary Particles (TRISEP) — Waterloo, Canada, Jul. 2015

Teaching Experience

Course numbers refer to courses taught at Princeton.

- PHY235 Introduction to Research in Physics — Spring 2018
- PHY312 Experimental Physics — Spring 2018
- PHY115 Physics for Future Leaders — Fall 2017
- PHY104 General Physics II — Spring 2016
- PHY406 Nuclear and Elementary Particle Physics — Fall 2015
- PHY106 Advanced Physics (Electromagnetism) — Spring 2015
- MAT201 Calculus III (Multivariable Calculus) — Fall 2014, 2015
- PHY105 Advanced Physics (Mechanics) — Fall 2014

Broader Impact

- *Referee*, Phys. Rev. D, Phys. Rev. Lett. — 2017 – Present
- *Member*, Princeton University Student Life Committee — 2016 – 2018
- *Member*, Princeton Graduate Housing Advisory Board — 2016 – 2018
- *Vice Chair*, Princeton Graduate College House Committee — 2016 – 2018
- *Subject Representative*, Princeton Graduate Student Government Assembly — 2013 – 2017
- *Organizer*, Princeton Physics Department Open House Committee — 2015 – 2016
- *Chair*, Princeton Physics Graduate Student Council — 2015 – 2018

Research Training

- CERN — Geneva, Switzerland
  Visiting Student, CMS Experiment — Aug. – Sep. 2012
- DAMTP, University of Cambridge — Cambridge, UK
  Summer Student — Jun. – Jul. 2012
- Institute of Astronomy, University of Cambridge — Cambridge, UK
  Summer Student — Aug. – Sep. 2011

- CERN — Geneva, Switzerland
  Summer Student, CMS Experiment — Jun. – Jul. 2011