

Katelin Schutz

CONTACT	kschutz@berkeley.edu	
EMPLOYMENT	Pappalardo Fellow, MIT MIT Center for Theoretical Physics	August 2019 - present
EDUCATION	Ph.D. in Physics, Berkeley Thesis Advisor: Hitoshi Murayama Thesis Title: “Searching for the invisible: how dark forces shape our Universe” GPA: 4.0/4.0	May 2019
	S.B. in Physics, MIT Research Advisors: Max Tegmark, Alan Guth, David Kaiser, Tracy Slatyer GPA: 4.9/5.0 (Phi Beta Kappa & Sigma Pi Sigma) Physics GRE: 990/990	June 2014
HONORS AND AWARDS	Pappalardo Fellow , MIT Department of Physics Rising Stars in Physics , MIT & Stanford Departments of Physics Brantley Tuttle Fellow , The Brantley Tuttle Foundation Hertz Fellow , The Fannie and John Hertz Foundation NSF Graduate Research Fellow , The National Science Foundation Berkeley Fellow , UC Berkeley LeRoy Apker Award Finalist , American Physical Society Barrett Astrophysics Prize , MIT Department of Physics Orloff Award for Service , MIT Department of Physics Lord Foundation Undergraduate Research Fellow , The Lord Foundation	2019 2019 2018-2019 2014-2019 2014-2019 2014-2017 2014 2014 2013, 2014 2013
PUBLICATIONS	Primary contributor or equivalent (* indicates alphabetical authorship order): 19. Cora Dvorkin, Tongyan Lin, Katelin Schutz* (2019), <i>The Cosmology of sub-MeV Dark Matter Freeze-in</i> , in prep. 18. Keisuke Harigaya, Robert McGehee, Hitoshi Murayama, Katelin Schutz* , <i>A Predictive Mirror Twin Higgs with Small Z_2 Breaking</i> , arXiv:1905.08798. 17. Cora Dvorkin, Tongyan Lin, Katelin Schutz* (2019), <i>Making dark matter out of light: freeze-in from plasma effects</i> , Phys. Rev. D 99 115009 (Editors’ Suggestion), arXiv:1902.08623. 16. Yonit Hochberg, Eric Kuflik, Robert McGehee, Hitoshi Murayama, Katelin Schutz* (2018), <i>SIMPs through the axion portal</i> , Phys. Rev. D 98 115031, arXiv:1806.10139. 15. Mark Vogelsberger, Jesús Zavala, Katelin Schutz , Tracy R. Slatyer (2018), <i>Evaporating the Milky Way halo and its satellites with inelastic self-interacting dark matter</i> , MNRAS 484 5437-5452, arXiv:1805.03203. 14. Katelin Schutz , Tongyan Lin, Benjamin R. Safdi, Chih-Liang Wu (2017), <i>Constraining a Thin Dark Matter Disk with Gaia</i> , Phys. Rev. Lett. 121 081101, arXiv: 1711.03103. 13. Katelin Schutz & Adrian Liu (2016), <i>Pulsar timing can constrain primordial black holes in the LIGO mass window</i> , Phys. Rev. D 95 023002, arXiv: 1610.04234. 12. Katelin Schutz* & Kathryn Zurek (2016), <i>On the Detectability of Light Dark Matter with Superfluid Helium</i> , Phys. Rev. Lett. 117 121302 (featured), arXiv: 1604.08206. 11. Daniele Bertolini, Katelin Schutz* , Mikhail Solon, and Kathryn Zurek (2016), <i>The Trispectrum in the Effective Field Theory of Large Scale Structure</i> , JCAP 052 1606, arXiv: 1604.01770.	

10. Daniele Bertolini, **Katelin Schutz***, Mikhail Solon, Jonathan Walsh, and Kathryn Zurek (2015), *Non-Gaussian Covariance of the Matter Power Spectrum in the Effective Field Theory of Large Scale Structure*, Phys. Rev. D **93** 123505, arXiv: 1512.07630.
9. **Katelin Schutz** & Chung-Pei Ma (2015), *Constraints on Individual Supermassive Black Hole Binaries from Pulsar Timing Array Limits on Continuous Gravitational Waves*, MNRAS **459** 1737-1744, arXiv: 1510.08472.
8. **Katelin Schutz*** & Tracy R. Slatyer (2014), *Self-Scattering for Dark Matter with an Excited State*, JCAP **021** 1501, arXiv: 1409.2867.
7. **Katelin Schutz**, Evangelos Sfakianakis, David Kaiser (2013), *Multifield Inflation after Planck: Isocurvature Modes from Nonminimal Couplings*, Phys. Rev. D **89** 064044, arXiv: 1310.8285.

Contributor from a large collaboration:

6. Haoxuan Zheng, Max Tegmark, et al. (2016), *Brute-Force Mapmaking with Compact Interferometers: A MITEoR Northern Sky Map from 128 MHz to 175 MHz*, MNRAS, **465** (3) 2901-2915, arXiv: 1605.03980.
5. Haoxuan Zheng, Max Tegmark, et al. (2014), *MITEoR: A Scalable Interferometer for Precision 21 cm Cosmology*, MNRAS **445** (2) 1084-1103, arXiv: 1405.5527.
4. Haoxuan Zheng, Max Tegmark, et al. (2013), *Mapping our Universe in 3D with MITEoR*, IEEE International Symposium on Phased Array Systems & Technology 784-791, arXiv: 1309.2639.

White paper contributor or endorser:

3. Gianfranco Bertone et al. (2019), *Gravitational wave probes of dark matter: challenges and opportunities*, arXiv: arXiv:1907.10610.
2. Vera Gluscevic et al. (2019), *Cosmological Probes of Dark Matter Interactions: The Next Decade*, arXiv: 1903.05140.
1. Daniel Green et al. (2019), *Messengers from the Early Universe: Cosmic Neutrinos and Other Light Relics*, arXiv: 1903.04763.

INVITED COLLOQUIA	1. McGill Department of Physics	Nov. 2019
INVITED SEMINARS	21. Fermilab Particle Astrophysics Seminar	Oct. 2019
	20. University of Washington Dark Universe Science Center Seminar	Sept. 2019
	19. University of Oregon Particle Theory Seminar	Sept. 2019
	18. Université de Genève Cosmology and Particle Physics Seminar	July 2019
	17. Stanford Linear Accelerator Laboratory Theory Seminar	Mar. 2019
	16. New York University High Energy Physics Seminar	Mar. 2019
	15. Princeton Pheno & Vino Seminar	Dec. 2018
	14. Stanford Institute for Theoretical Physics Seminar	Oct. 2018
	13. Harvard Dvorkin Group Seminar	Oct. 2018
	12. Perimeter Institute Particle Theory Seminar	Oct. 2018
	11. University of Michigan Pheno Seminar	Sept. 2018
	10. UC Santa Cruz Institute for Particle Physics Seminar	Apr. 2018
	9. Brookhaven National Lab High Energy Theory Seminar	Apr. 2018
	8. Israeli Joint Particle Physics Seminar, Weizmann Institute	Feb. 2018
	7. University of Chicago Kavli Institute for Cosmological Physics Seminar	Nov. 2017
	6. Institute for Advanced Study astro-ph Coffee	Nov. 2017

	5. Princeton Pheno & Vino Seminar	Nov. 2017
	4. Lawrence Berkeley Lab Institute for Nuclear & Particle Astrophysics Seminar	Nov. 2017
	3. Caltech High Energy Physics Seminar	May 2017
	2. UC San Diego High Energy Theory Seminar	Oct. 2016
	1. Caltech Theoretical Astrophysics Including Relativity & Cosmology Seminar	Mar. 2016
INTERNAL TALKS	10. From Charm to Strings Berkeley Symposium for Mary K. Gaillard	Sept. 2019
	9. Berkeley-IPMU Workshop	Jan. 2019
	8. BCTP Tahoe Summit (fellowship winner)	Sept. 2018
	7. Berkeley-IPMU Workshop	Jan. 2018
	6. Berkeley Astronomy Department Lunch Seminar Series	Feb. 2016
	5. BCTP 4D Particle Physics Seminar	Jan. 2016
	4. Guth-Kaiser Density Perturbation Group Meeting	Jan. 2014
	3. MIT-Kenyon Undergraduate Cosmology Conference	Aug. 2013
	2. Guth-Kaiser Density Perturbation Group Meeting	July 2013
	1. Guth-Kaiser Density Perturbation Group Meeting	July 2012
CONFERENCE TALKS & PRESENTATIONS	5. TeVPA, Dark Matter Session (video abstract winner)	Aug. 2017
	4. American Physical Society April Meeting	Jan. 2017
	3. American Astronomical Society 227th Meeting	Jan. 2016
	2. American Astronomical Society 225th Meeting	Jan. 2015
	1. Institute for Nuclear and Particle Astrophysics and Cosmology Meeting	Dec. 2014
WORKSHOP TALKS & PARTICIPATION	5. Rochester Institute of Technology <i>“Great Lakes Cosmology Workshop”</i>	Aug. 2019
	4. CERN Theory Group <i>“Axions in the Lab and in the Cosmos”</i>	July 2019
	3. Mainz Institute for Theoretical Physics <i>“Indirect Searches for New Physics Across the Scales”</i>	July 2019
	2. Aspen Center for Physics <i>“Progress after Impasse: New Frontiers in Dark Matter”</i>	June 2019
	1. Institut d’astrophysique de Paris <i>“Nonlinear evolution of the Universe: Theory meets Expectations”</i>	May 2016
POPULAR-LEVEL AND OUTREACH TALKS	6. Hertz Foundation Summer Workshop, Los Angeles CA	Aug. 2019
	5. Conference for Undergraduate Women in Physics, Santa Barbara CA	Jan. 2019
	4. Drive for the Nobel Prize Symposium, Berkeley CA	Nov. 2017
	3. Grounds for Science Cafe, Berkeley CA	Oct. 2017
	2. Homefarm Eclipse Campground, Terrebonne OR	Aug. 2017
	1. Dovetail Artist Collective, San Francisco CA	Nov. 2016

TEACHING	Grader, Quantum Mechanics I	Spring 2014
	Grader, Classical Mechanics III	Fall 2013
	Teaching Assistant, Electricity & Magnetism	Spring 2013
PROFESSIONAL ACTIVITIES	Journal Referee	Feb. 2016 - Present
	Physical Review D, Physical Review Letters, Journal of High Energy Physics	
	Theoretical Advanced Study Institute (TASI)	June 2016
	Attended summer school in theoretical particle physics at CU Boulder, with the theme: “Anticipating the Next Discoveries in Particle Physics”	
COMMUNITY	Organizer, Berkeley 4D Particle Physics Seminar	Jan. 2018 - Dec. 2018
	Facilitator, Berkeley “Respect is Part of Research” Workshop	Aug. 2015 - Aug. 2017
	Coordinator, Berkeley Graduate Poster Session	Oct. 2014
	Coordinator, Berkeley Physics Social Hour	Aug. 2014 - Aug. 2015
	President, MIT Society of Physics Students	May 2013 - May 2014
	Vice President, MIT Society of Physics Students	May 2012 - May 2013
	Treasurer, MIT Society of Physics Students	May 2011 - May 2012
	Head Coordinator, MIT Physics Pre-Orientation Program	Aug. 2012 and Aug. 2013
	President, MIT Undergraduate Women in Physics	Jan. 2012 - May 2013