

LEHMAN H. GARRISON

Cosmology — Large-Scale Structure
High-Performance Computing —
N-body Simulations

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PROFESSIONAL POSITIONS	Flatiron Research Fellow Cosmology X Data Science Group Center for Computational Astrophysics Flatiron Institute, New York, NY	2019–present
EDUCATION	Ph.D. in Astronomy and Astrophysics <i>Harvard University</i> , Cambridge, MA Thesis: <i>Computational Modeling of Large-Scale Structure with Abacus</i> Advisor: Daniel J. Eisenstein	2013–2019
	B.A. in Astrophysical Sciences (High Honors) <i>Princeton University</i> , Princeton, NJ Thesis: <i>Galactic Warp Excitation by the Magellanic Clouds</i> Advisors: David N. Spergel, Naoki Yoshida (U. Tokyo)	2009–2013
AWARDS AND HONORS	Eric Keto Prize for Best Ph.D. Thesis in Theoretical Astrophysics at Harvard University	April 2019
	Smith Family Graduate Science and Engineering Fellowship <i>Harvard University</i>	2013
	Sigma Xi Book Award for Outstanding Senior Thesis Department of Astrophysical Sciences, Princeton University	June 2013
SELECTED PUBLICATIONS	First Author Publications <ol style="list-style-type: none">4. <i>Generating Approximate Halo Catalogs for Blind Challenges in Precision Cosmology</i>, Garrison, L. H., Eisenstein, D. J., submitted to MNRAS3. <i>A High-Fidelity Realization of the Euclid Code Comparison N-body Simulation with ABACUS</i>, Garrison, L. H., Eisenstein, D. J., submitted to MNRAS. arXiv:1810.029162. <i>The Abacus Cosmos: A Suite of Cosmological N-body Simulations</i>, Garrison, L. H., Eisenstein, D. J., Ferrer, D., Tinker, J. L., Pinto, P. A., & Weinberg, D. H. 2018, ApJS, 236, 431. <i>Improving Initial Conditions for Cosmological N-body Simulations</i>, Garrison, L. H., Eisenstein, D. J., Ferrer, D., Metchnik, M. V., &	

Contributing Author Publications

5. *Corrfunc: Blazing fast correlation functions with AVX512F SIMD Intrinsics*, Sinha, M., **Garrison, L. H.**, submitted to Proceedings of the Second Workshop on Software Challenges to Exascale Computing
4. *Exploring the squeezed three-point galaxy correlation function with generalized halo occupation distribution models*, Yuan, S., Eisenstein, D. J., & **Garrison, L. H.**, 2018, MNRAS, 478, 2019
3. *Emulating galaxy clustering and galaxy-galaxy lensing into the deeply nonlinear regime: methodology, information, and forecasts*, Wibking, B. D, Salcedo, A. N., Weinberg, D. H., **Garrison, L. H.**, Ferrer, D., Tinker, J., Eisenstein, D., Metchnik, M., Pinto, P., 2018, MNRAS
2. *Testing the Detection Significance on the Large Scale Structure by a JWST Deep Field Survey*, Zhang, H., Eisenstein, D. J., **Garrison, L. H.**, Ferrer, D. W., submitted to ApJ. arXiv:1712.05787
1. *Using galaxy pairs to investigate the three-point correlation function in the squeezed limit*, Yuan, S., Eisenstein, D. J., & **Garrison, L. H.**, 2017, MNRAS, 472, 577

PROFESSIONAL SERVICE	<i>Referee</i> , MNRAS & ApJ, 4 papers	since 2016
	<i>Graduate Student Representative</i> , CfA Library Committee	2017–2019
OUTREACH	<i>Harvard Observing Project</i> , Observer	2014–2019
	• Teaching undergrads how to make scientific measurements on a telescope	
	<i>Cambridge Explores the Universe</i> , Volunteer	Summers 2015–2018
	<i>BiteScis Lesson Plan: Shooting for the Stars</i>	March 2018
	• Created an open-access high school physics lesson plan based on Breakthrough Starshot	
	<i>SAO Latino Initiative</i> , Guest Instructor	Summers 2017 - 2019
TEACHING	<i>Banneker & Aztlán Institute</i> , Tutor	Summer 2017
	<i>Teaching Fellow</i>	
	• PHYS P-17010 <i>Introduction to Cosmology</i>	Summer 2017
	• AST S-35 <i>Fundamentals of Contemporary Astro.</i>	Summer 2015
	• CS 109 <i>Data Science</i>	Fall 2013
	<i>Lecturer</i> , Wolbach Library at the Harvard-Smithsonian CfA	2017

- Lecture series on modern Python for astronomy, beginner to expert level