ChangHoon Hahn

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APPOINTMENTS

Princeton University, Department of Astrophysical Sciences Postdoctoral Research Associate	2020 -
Lawrence Berkeley National Laboratory and UC Berkeley Postdoctoral Fellow	2017 - 2020

EDUCATION

New York University — Ph.D. in Physics   2011 - 2017
   Advisors : Michael R. Blanton and Roman Scoccimarro
   Thesis : *Galaxies and their Host Dark Matter Structures*
   Awards : *Dean's Dissertation Fellowship (2016-2017)*
           James Arthur Graduate Fellowship (2015-2016)
           Henry M. MacCracken Fellowship (2011-2015)

Rutgers University — B.Sc. in Astrophysics   2007 - 2011
   Advisors : Andrew J. Baker and Jerry A. Sellwood
   Awards : *Paul Robeson Scholar*

LEADERSHIP AND SCIENTIFIC COLLABORATIONS

	Dark Energy Spectroscopic Instrument (DESI) — Continuing Participant	
Co-chair	DESI Bright Galaxy Survey Working Group	2019 -
Member	DESI Science Committee	2019 -
Member	DESI Outreach Committee	2020 -
Member	Subaru Prime Focus Spectrograph (PFS)	2020 -
Member	Sloan Digital Sky Survey-IV	
Member	Sloan Digital Sky Survey-III	
Member	PRIsm MUlti-object Survey	

PROFESSIONAL SERVICE

Organizer(Chair)	Winter 2020 Berkeley Cosmology Conference, UC Berkeley, CA	2020
Member	Equity and Inclusion Recruitment Committee Princeton University, Dept. of Astrophysical Sciences	2020
Organizer	Bay Area Likelihood-Free Inference Meeting, Berkeley	2019
Organizer	Likelihood-Free Inference workshop, Flatiron Institute, NYC	2019
Organizer	Berkeley Lab Institute for Nuclear and Particle Astrophysics Seminar	2019 - 2020
Organizer	LBNL/BCCP DESI lunch seminar	2018 - 2020
Organizer	NYU CCPP Astro Coffee	2014 - 2017
Referee	Monthly Notices of the Royal Astronomical Society	
	Journal of Cosmology and Astroparticle Physics	
	Astronomy & Astrophysics	
	Journal of Open Source Software	
Reviewer	FINESST grant	2019 - 2020
	AAS Chambliss Award	2017

PUBLICATIONS

Refereed Journal Articles (total: 21 — first author: 9)

21. **Hahn, C.**, Villaescusa-Navarro, F.; *Constraining M_ν with the Bispectrum II: The Total Information Content of the Galaxy Bispectrum* JCAP, 04, 029, *2021* (`arXiv:2012.02200`).

20. Ruiz-Macias, O. *et al.* (incl. **Hahn, C.**); *et al. Characterising the target selection pipeline for the Dark Energy Spectroscopic Instrument Bright Galaxy Survey* MNRAS, 502, 4328, *2021* (`arXiv:2007.14950`).

19. Dickey, C. M.; Starkenburg, T. K.; Geha, M.; **Hahn, C**; *et al. IQ Collaboratory II: The Quiescent Fraction of Isolated, Low Mass Galaxies Across Simulations and Observations* ApJ accepted, *2020* (`arXiv:2010.01132`).

18. **Hahn, C.**; Villaescusa-Navarro, F.; Castorina, E.; Scoccimarro R. *Constraining M_ν with the Bispectrum I: Breaking Parameter Degeneracies* JCAP, 03, 040, *2020* (`arXiv:1909.11107`).

17. Villaescusa-Navarro, F.; **Hahn, C.**; Massara, E.; Banerjee, A.; Delgado, A. *et al.The Quijote Simulation* ApJS, 250, 2, *2020* (`arXiv:1909.05273`).

16. Alsing, J.; Peiris, Hiranya; Leja, J.; **Hahn, C.**; *et al.* SPECULATOR: Emulating Stellar Population Synthesis for Fast and Accurate Galaxy Spectra and Photometry ApJS, 249, 5, *2020* (`arXiv:1911.1178`).

15. **Hahn, C.**; Beutler, F.; Sinha, M.; Berlind, A.; Ho, S.; Hogg, D. W. *Likelihood Non-Gaussianity in Large-Scale Structure Analyses* MNRAS, 485, 2956, *2019* (`arXiv:1803.06348`).

14. **Hahn, C.**; Starkenburg, T.; Choi, E.; Davé, R.; Dickey, C.; Geha, M. *et al. IQ-Collaboratory 1.1: the Star-Forming Sequence of Simulated Central Galaxies* ApJ, 872, 160 *2019* (`arXiv:1803.06348`).

13. Vakili, M.; **Hahn, C.** *How are galaxies assigned to halos? Searching for assembly bias in the SDSS galaxy clustering* ApJ, 872, 115, *2019* (`arXiv:1610.01991`).

12. Tinker, J.; **Hahn, C.**; Mao, Y.; Wetzel, A. *Halo Histories versus Galaxy Properties at z=0, III: The Properties of Star-Forming Galaxies* MNRAS, 478, 4487, *2018* (`arXiv:1705.08458`).

11. Tinker, J.; **Hahn, C.**; Mao, Y.; Wetzel, A.; Conroy, C. *Halo Histories versus Galaxy Properties at z=0, II: Large-Scale Galactic Conformity* MNRAS, 477, 935, *2018* (`arXiv:1702.01121`).

10. **Hahn, C.**; Tinker, J.; Wetzel, A. *Star Formation Quenching Timescale of Central Galaxies in a Hierarchical Universe* ApJ, 841, 6, *2017* (`arXiv:1609.04398`).

9. Blanton, M. *et al.* (incl. **Hahn, C.**) *Sloan Digital Sky Survey IV: Mapping the Milky Way, Nearby Galaxies, and the Distant Universe* AJ, 154, 28, *2017* (`arXiv:1703.00052`).

8. **Hahn, C.**; Vakili M.; Walsh, K.; Hearin, A.; Hogg, D. W.; Campbell, D. *Approximate Bayesian Computation in Large Scale Structure: Constraining the Galaxy-Halo Connection* MNRAS, 469, 2791, *2017* (`arXiv:1607.01782`).

7. Vakili, M. *et al.* (incl. **Hahn, C.**) *Accurate halo-galaxy mocks from automatic bias estimation and particle mesh gravity solvers* MNRAS, 472, 4144, *2017* (`arXiv:1701.03765`).

6. **Hahn, C.**; Scoccimarro, R.; Blanton, M.; Tinker, J.; Rodríguez-Torres, S. *The Effect of Fiber Collisions on the Galaxy Power Spectrum Multipole* MNRAS, 467, 1940, *2017* (`arXiv:1609.01714`).

5. Rodríguez-Torres, S. *et al.* (incl. **Hahn, C.**) *Clustering of Quasars in the First Year of the SDSS-IV eBOSS survey: Interpretation and halo occupation distribution* MNRAS, 468, 728, *2017* (`arXiv:1612.06918`).

4. Zhai, Z.; Tinker, J.; **Hahn, C.** *et al. The Clustering of Luminous Red Galaxies at $z \sim 0.7$ from eBOSS and BOSS Data* ApJ, 848, 2, *2017* (`arXiv:1607.05383`).

3. Rodríguez-Torres, S.*et al.* (incl. **Hahn, C.**) *The clustering of galaxies in the SDSS-III Baryon Oscillation Spectroscopic Survey: modelling the clustering and halo occupation distribution of BOSS CMASS galaxies in the Final Data Release* MNRAS, 460, 1173, *2016* (`arXiv:1509.06404`).

2. **Hahn, C.**; Blanton, M.; Moustakas, J.; Coil, A.; Cool, R.; Eisenstein, D. *et al.* *PRIMUS: Effects of Galaxy Environment on the Quiescent Fraction at $z < 0.8$* ApJ, 806, 162, *2015* (`arXiv:1412.7162`).

1. **Hahn, C.**; Sellwood, J.; Pryor C. *Velocity-space substructure from nearby RAVE and SDSS stars* MNRAS, 418, 2459, *2011* (`arXiv:1102.4626`).

In Review

3. **Hahn, C.**; Starkenburg, T. K.; Anglés-Alcázar D.; Choi, E.; Davé, R. *et al.* *IQ Collaboratory III: The Empirical Dust Attenuation Framework – Taking Hydrodynamical Simulations with a Grain of Dust* ApJ submitted (`arXiv:2106.09741`).

2. **Hahn, C.**; Tinker, J.; Wetzel, A. *Constraining Star Formation Histories of Blue Galaxies using the Scatter between Stellar Mass and Halo Mass* ApJ submitted (`arXiv:1910.01644`).

1. Giusarma, E.; Reyes, M.; Villaescusa-Navarro, F.; He, S.; Ho, S; **Hahn, C.** *Learning neutrino effects in Cosmology with Convolutional Neural Networks* ApJ submitted, *2019* (`arXiv:1910.04255`).

White Papers and Pre-Prints

2. Tollerud, E. *et al.* (incl. **Hahn, C.**) *Sustaining Community-Driven Software for Astronomy in the 2020s 2019*

1. Ferraro, S. *et al.* (incl. **Hahn, C.**) *Inflation and Dark Energy from spectroscopy at $z > 2$ 2019* (`arXiv:1803.06348`).

RESEARCH ADVISING

Tianshu Wang	Princeton	graduate	2020 -
Massimo Pascale	UC Berkeley	graduate	2019 -
James Kyubin Kwon	UC Berkeley	undergraduate	2019 -
		now graduate student at UC Santa Cruz	
Malgorzata Siudek	IFAE Barcelona	postdoctoral	2019
Arin Avsar	UC Berkeley	undergraduate	2019 - 202
Tess Werhane	UC Berkeley	undergraduate	2019 - 2020
James Zhu	UC Berkeley	undergraduate	2019 - 2020
Patrick Staudt	Rutgers	undergraduate	2019 - 2020
		now graduate student at UC Irvine	

TEACHING AND OUTREACH

Instructor, DESI Early Career Scientist Workshop	2020
Instructor, Berkeley Lab Exploration of New Discoveries (BLEND): Big Data	2018
Instructor, Berkeley Lab In School Settings (BLISS)	2017 - 2019
Volunteer, QuarkNet Physics in and Through Cosmology Workshop	2020
Volunteer, UC Berkeley Astro Night	2018 - 2019
Volunteer, Intrepid Museum Kids Week Meet the Scientist	2017
Volunteer, NY Hall of Science Big Data Fest	2015
Appeared in an episode of the NYTimes podcast *Tell Me Something I Don't Know*	2016

SELECTED TALKS

(*: invited)

[2021]	ESO GALSPEC2021, Remote	Apr
	Galread Seminar, Princeton Unviersity	Mar
	*Astro/Cosmology Seminar, Kavli IPMU	Feb
	*Cosmology-Galaxy-IGM Seminar, UC Santa Cruz	Jan
[2020]	DESI Collaboration meeting, Remote	Dec
	*Astro Seminar, University of Waterloo	Oct
	Bahcall Lunch, Institute for Advanced Studies	Sep
	Cosmology at Home, Remote	Aug
	Aspen Galaxy Quenching, Aspen CO	Jan
[2019]	*Cosmology Lunch Seminar, Princeton/Institute for Advanced Study	Dec
	Hernquist Group Meeting, Harvard Center for Astrophysics	Nov
	Galaxy lunch, Yale University	Nov
	Cosmology × Data Group meeting, Flatiron Institute	Nov
	Morning Tea, Carnegie Observatories	Oct
	*Cosmology Seminar, KIPAC/SLAC/Stanford	Oct
	KICP Chicago	Oct
	CPAC seminar, Argonne National Lab	Oct
	DESI Time Domain Hack, Fermilab	Oct
	Cosmic Controversies, KICP Chicago	Oct
	*DESI Commissioning and Survey Validation workshop, NOAO AZ	Sep
	DESI Collaboration meeting, Berkeley Lab	Jul
	Cosmology × Data Group meeting, NYU CCPP	May
[2018]	*Isolated and Quenched Galaxies Workshop, Flatiron Institute NYC	Dec
	DESI Collaboration Meeting, Tuscon AZ	May
	Cosmology × Data Group meeting, Flatiron Institute NYC	Feb
[2017]	Isolated and Quenched Galaxies Workshop, Flatiron Institute NYC	Sep
	*CCAPP seminar, The Ohio State University	Feb
	*seminar, Argonne National Lab	Jan
	American Astronomical Society 229, Grapevine TX	Jan
[2016]	*RPM seminar, Berkeley Lab	Dec
	Galaxy group meeting, Yale University	Oct
	Seminar, Universidad Nacional de Colombia, Bogota COL	Jun
	Brownbag Lunch, NYU CCPP	Apr
[2015]	SDSS Collaboration Meeting, Madrid ESP	Jul
	Multi-Object Spectroscopy in the Next Decade, Canary Islands ESP	Feb
[2014]	BOSS+eBOSS Collaboration Meeting, Cloudcroft NM	Dec
	Evolving Galaxies in Evolving Environments, Bologna ITA	Sep