

ChangHoon Hahn

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APPOINTMENTS

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

EDUCATION

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|--|-------------|
| New York University — Ph.D. in Physics <i>Advisors</i> : Michael R. Blanton and Roman Scoccimarro <i>Thesis</i> : <i>Galaxies and their Host Dark Matter Structures</i> <i>Awards</i> : <i>Dean's Dissertation Fellowship (2016-2017)</i> <i>James Arthur Graduate Fellowship (2015-2016)</i> <i>Henry M. MacCracken Fellowship (2011-2015)</i> | 2011 - 2017 |
| Rutgers University — B.Sc. in Astrophysics <i>Advisors</i> : Andrew J. Baker and Jerry A. Sellwood <i>Awards</i> : <i>Paul Robeson Scholar</i> | 2007 - 2011 |

LEADERSHIP AND SCIENTIFIC COLLABORATIONS

| | | |
|----------|---|--------|
| | Dark Energy Spectroscopic Instrument (DESI) | |
| 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

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|------------------|--|---------------------|
| 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 AAS Chambliss Award | 2019 - 2020 2017 |

PUBLICATIONS

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

21. **Hahn, C.**, Villaescusa-Navarro, F.; *Constraining M_V 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_V 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

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 - |
| | | <i>now graduate student at UC Santa Cruz</i> | |
| 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 |
| | | <i>now graduate student at UC Irvine</i> | |

TEACHING AND OUTREACH

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|---|-------------|
| 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 <i>Tell Me Something I Don't Know</i> | 2016 |

SELECTED TALKS

(*: invited)

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| [2021] | ESO GALSPEC2021, Remote | Apr |
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| | Galread Seminar, Princeton University | 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 \times 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 \times Data Group meeting, NYU CCPP | May |
| [2018] | *Isolated and Quenched Galaxies Workshop, Flatiron Institute NYC | Dec |
| | DESI Collaboration Meeting, Tuscon AZ | May |
| | Cosmology \times 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 |