Joshua S. Speagle

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POSITIONS

National Science Foundation Graduate Research Fellow: Harvard University — 2016-**Present**
Project Academic Support Staff: Kavli IPMU (WPI), UTIAS, The University of Tokyo — 2015-2016

EDUCATION

Harvard University: MA/PhD Program — 2016-**Present**
Advisers: Daniel Eisenstein and Charlie Conroy

Harvard University: BA with honors in Astrophysics and Physics — 2011-2015
Adviser: Daniel Eisenstein

RESEARCH INTERESTS

Statistical inference, machine learning, galaxy formation and evolution, large-scale structure, all-sky surveys

AWARDS & HONORS

National Science Foundation Graduate Research Fellowship — 2016
Herchel Smith-Harvard Undergraduate Science Fellowship: Harvard College — 2014
Harvard College Research Program Research Fellowship: Harvard College — Feb. 2014
Oct. 2012
Apr. 2012
Feb. 2012
Weismann International Internship Program Fellowship: Harvard College — 2013
Chambliss Astronomy Achievement Student Award: American Astronomical Society — *Jan. 2013
Jan. 2011
REU in Astronomy and Astrophysics: Cornell University — 2012

SELECTED PUBLICATIONS

11. **Speagle, J. S.**; Leauthaud A. et al., in preparation: "Validating Spectroscopic Contributions to Photometric Redshift Accuracy using HSC Survey Galaxy-Galaxy Lensing Data"
10. **Speagle, J. S.**; Leauthaud A. et al., in preparation: "Deriving Photometric Redshifts from Observed Flux Densities with Hierarchical Bayes and Machine Learning"
9. **Speagle, J. S.** & Eisenstein, D. J., **MNRAS**: "Deriving Photometric Redshifts with Fuzzy Archetypes and Self-Organizing Maps II. Implementation" **[arxiv:1510.08080]**
8. **Speagle, J. S.** & Eisenstein, D. J., **MNRAS**: "Deriving Photometric Redshifts with Fuzzy Archetypes and Self-Organizing Maps I. Methodology" **[arxiv:1510.08073]**
7. **Speagle, J. S.** et al., **MNRAS**: "Exploring Photometric Redshifts as an Optimization Problem: An Ensemble MCMC and Simulated Annealing-Driven Template-fitting Approach" **[arxiv:1508.02484]**

* Honorable mention

6. Steinhardt, C. L.; Capak, P. L.; Masters, D. C.; & **Speagle, J. S.**, **ApJ**: "The Impossibly Early Galaxy Problem" **[arxiv:1506.01377]**
5. Masters, D. C. **et al.**, **ApJ**: "Mapping the Galaxy Color-Redshift Relation: Optimal Photometric Redshift Calibration Strategies for Cosmology Surveys" **[arxiv:1509.03318]**
4. Steinhardt, C. L. & **Speagle, J. S.**, **ApJ**: "A Uniform History for Galaxy Evolution" **[arxiv:1409.2883]**
3. Steinhardt, C. L.; **Speagle, J. S.** et al., **ApJL**: "Star Formation at $4 < z < 6$ from the Spitzer Large Area Survey with Hyper-Suprime-Cam (SPLASH)" **[arxiv:1407.7030]** **[Press Release: JPL]**
2. **Speagle, J. S.**; Steinhardt, C. L. et al., **ApJS**: "A Highly Consistent Framework for the Evolution of the Star-Forming 'Main Sequence' from z~0-6" **[arxiv:1405.2041]** **[~210 citations]**
1. **Speagle, J. S.**; Kaplan, D. L.; & van Kerkwijk, M. H., **ApJ**: "The X-ray Counterpart of the High-*B* Pulsar J0726-2612" **[arxiv:1111.2877]**

SELECTED TALKS AND POSTERS

15. Princeton, Talk, Jan. 2017: "Big Data Inference: Combining Hierarchical Bayes and Machine Learning to Improve Photometric Redshifts for HSC"
14. AAS 229, Poster, Jan. 2017: "Improving Photometric Redshifts for Hyper Suprime-Cam (HSC) with Hierarchical Bayes and Machine Learning"
13. COSMO21, Talk, May 2016: "Improving Photometric Redshifts for Hyper Suprime-Cam"
12. *Euclid* Photo-z Working Group Meeting, Talk, May 2016: "Deriving Photo-z's with Fuzzy Archetypes"
11. Kavli IPMU, Lunch Seminar, Mar. 2016: "Mapping, Visualizing, and Exploiting the Color-Redshift Relation"
10. Harvard, Senior Thesis Talk, Apr. 2015: "Mapping the Universe (at low resolution) with Photometric Redshifts"
9. **National Collegiate Research Conference**, Poster, Jan. 2015: "Mapping the Universe"
8. **AAS 225**, Talk, Jan. 2015: "Improving Photometric Redshift Accuracy and Computational Efficiency"
7. **COSMOS Collaboration Meeting**, Talk, May 2014: "A Highly Consistent Framework for the Evolution of the Star-Forming Main Sequence"
6. **AAS 223**, Poster, Jan. 2014: "Parallel Galaxy Main Sequence and Quasar Evolution from z=0-6"
5. **Harvard**, Junior Thesis Talk, Dec. 2013: "'Main Sequence' Evolution from z~0-6"
4. **Tsukuba U.**, Talk, Aug. 2013: "The Evolution of Star-Forming Galaxies Over Cosmic Time"
3. **Kavli IPMU**, Lunch Seminar, Jul. 2013: "Gyrochronology and the Angular Momentum Evolution of Solar-like Stars"
2. **AAS 221**, Poster, Jan. 2013: "An In-Depth Analysis of the *Kepler* Low-Amplitude Blazhko RR Lyrae Stars"
1. **AAS 219**, Poster, Jan. 2012: "The X-ray Counterpart of the High-*B* Pulsar J0726-2612"