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PUBLICATIONS

I am an author on **61 papers** that have **over 3900** citations ([h-index=19](#)). This includes:

13 papers as (co-)lead author with **over 1300** citations ([h-index=9](#))

18 papers with significant contributions with **over 900** citations ([h-index=11](#))

2 papers led by students (in blue) with **over 5** citations ([h-index=1](#))

Most of my papers can be found online on [arxiv](#) and [ADS](#). My ORCID is [0000-0003-2573-9832](#). Non-refereed publications are indicated with an asterisk (*).

In Preparation

5. **Shen, J.; Speagle, J. S.**; Frankel, N.; Mackereth, J. T.; Ting, Y.-S.; & Bovy, J.
Disentangling Stellar Age Estimates from Galactic Chemodynamical Evolution
4. **Speagle, J. S. & Iyer, K. G.**; Tacchella, S.; Caplar, N.; Leja, J.; Forbes, J.; & Gawiser, E.
Stochastic Modelling of Star Formation Histories III. Constraints from Physically-Motivated Gaussian Processes
3. **Teng, M. & Speagle, J. S.**
Simple, Data-Driven Outlier Detection in Supervised Machine Learning Applications
2. **Lou, Z.; Speagle, J. S.**; Eadie, G. M.; & Webb, J.
Applications of Bayesian Model Selection to Simulated Globular Clusters
1. **Tu, A. J.**; Zucker, C.; **Speagle, J. S.**; Beane, A.; Goodman, A.; Alves, J.; & Faherty, J.
Characterizing the Kinematics of Young Stars in the Radcliffe Wave

(Co-)Lead Author

13. **Speagle, J. S.** et al. [20 additional co-authors], submitted to ApJ
Mapping the Milky Way in 5-D with 170 Million Stars
12. **Speagle, J. S.** et al. [20 additional co-authors], submitted to ApJ
Deriving Stellar Properties, Distances, and Reddenings from Photometry and Astrometry with *brutus*

- 11.* **Speagle, J. S. & Eadie, G. M.**, 2021, Nature Astronomy
Making the Sum Greater than its Parts
10. **Portillo, S. K. N. & Speagle, J. S.**; & Finkbeiner, D. P., 2020, AJ
Photometric Biases in Modern Surveys
arxiv: [1902.02374](#) Media: [AAS](#)
9. **Speagle, J. S.**, 2020, MNRAS
dynesty: A Dynamic Nested Sampling Package for Estimating Bayesian Posteriors and Evidences
arxiv: [1904.02180](#)
- 8.* **Speagle, J. S.**, 2019, arxiv e-print
A Conceptual Introduction to Markov Chain Monte Carlo Methods
arxiv: [1909.12313](#)
7. **Speagle, J. S.** et al. [11 additional co-authors], 2019, MNRAS
Galaxy-Galaxy Lensing in HSC: Validation Tests and the Impact of Heterogeneous Spectroscopic Training Sets
arxiv: [1906.05876](#)
6. **Zucker, C. & Speagle, J. S.**; Schlafly, E. F.; Green, G. M., Finkbeiner, D. P.; Goodman, A. A.; & Alves, J., 2019, ApJ
A Large Catalog of Accurate Distances to Local Molecular Clouds: The Gaia DR2 Edition
arxiv: [1902.01425](#)
5. **Speagle, J. S. & Eisenstein, D. J.**, 2017, MNRAS
Deriving Photometric Redshifts with Fuzzy Archetypes and Self-Organizing Maps II. Implementation
arxiv: [1510.08080](#)
4. **Speagle, J. S. & Eisenstein, D. J.**, 2017, MNRAS
Deriving Photometric Redshifts with Fuzzy Archetypes and Self-Organizing Maps I. Methodology
arxiv: [1510.08073](#)
3. **Speagle, J. S.**; Capak, P. L.; Eisenstein, D. J.; Masters, D. C.; & Steinhardt, C. L., 2016, MNRAS
Exploring Photometric Redshifts as an Optimization Problem: An Ensemble MCMC and Simulated Annealing-Driven Template-fitting Approach
arxiv: [1508.02484](#)
2. **Speagle, J. S.**; Steinhardt, C. L.; Capak, P. L.; & Silverman, J. D., 2014, ApJS
A Highly Consistent Framework for the Evolution of the Star-Forming ‘Main Sequence’ from $z \sim 0-6$
arxiv: [1405.2041](#)
1. **Speagle, J. S.**; Kaplan, D. L.; & van Kerkwijk, M. H., 2011, ApJ
The X-ray Counterpart of the High-B Pulsar J0726-2612

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Media: [Astrobites](#)

Significant Contribution

18. Leja, J.; **Speagle, J. S.**; Ting, Y.-S.; Johnson, B. D.; Conroy, C.; Whitaker, K. E.; Nelson, E. J.; & Franx, M., submitted to ApJ
A New Census of the $0.2 < z < 3.0$ Universe, Part II: The Star-Forming Sequence
17. **Shen, J.**; Eadie, G. M.; Murray, N.; Zaritsky, D.; **Speagle, J. S.**; Ting, Y.-S.; Conroy, C.; Cargile, P. A.; Johnson, B. D.; Naidu, R.; & Han, J. J., submitted to ApJ
The Mass of the Milky Way from the H3 Survey
16. Zucker, C.; Goodman, A. G.; Alves, J.; Bialy, S.; Foley, M.; **Speagle, J. S.**; Großschedl, J.; Finkbeiner, D. P.; Burkert, A.; Khimey, D.; & Swiggum, C., submitted to Nature
Star Formation Near the Sun: A New Frontier
15. Johnson, B. D.; Leja, J.; Conroy, C.; & **Speagle, J. S.**, 2021, ApJ
Stellar Population Inference with Prospector
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14. **Das, K. K.**; Zucker, C.; **Speagle, J. S.**; Goodman, A.; Schlafly, E. F.; Green, G. M.; Finkbeiner, D. P.; & Alves, J., 2020, MNRAS
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13. Cargile, P. A.; Conroy, C.; Johnson, B. D.; Ting, Y.-S.; Bonaca, A.; Dotter, A.; & **Speagle, J. S.**, 2020, ApJ
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12. Leja, J.; **Speagle, J. S.**; Johnson, B. D.; Conroy, C.; van Dokkum, P.; & Franx, M., 2020, ApJ
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11. Alves, J.; Zucker, C.; Goodman, A. A.; **Speagle, J. S.**; Meingast, S.; Robitaille, T.; Finkbeiner, D. P.; Schlafly, E. F.; & Green, G. M., 2020, Nature
Discovery of a Galactic-scale Gas Wave in the Solar Neighborhood
arxiv: [2001.08748](#) Media: [Official Website](#), [Associated Press](#), [BBC](#), [Popular Science](#)
10. Zucker, C.; **Speagle, J. S.**; Schlafly, E. F.; Green, G. M.; Finkbeiner, D. P.; Goodman, A.; & Alves, J., 2020, A&A
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9. Green, G. M.; Schlafly, E. F.; Zucker, C.; **Speagle, J. S.**; & Finkbeiner, D. P., 2019, ApJ
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8. Cook, B. A.; Conroy, C.; van Dokkum, P.; & **Speagle, J. S.**, 2019 ApJ
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7. Safarzadeh, M.; Berger, E.; Leja, J.; & **Speagle, J. S.**, 2019, ApJL
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6. Leja, J.; Carnall, A. C.; Johnson, B. D.; Conroy, C.; & **Speagle, J. S.**, 2019, ApJ
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5. Zucker, C.; Schlafly E. F.; **Speagle, J. S.**; Green, G. M.; Portillo, S. K. N.; Finkbeiner, D. P.; & Goodman, A. A., 2018, ApJ
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3. Steinhardt, C. L.; Capak, P. L.; Masters, D. C.; & **Speagle, J. S.**, 2016, ApJ
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2. Steinhardt, C. L. & **Speagle, J. S.**, 2014, ApJ
A Uniform History for Galaxy Evolution
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1. Steinhardt, C. L.; **Speagle, J. S.** et al. [22 additional co-authors], 2014, ApJL
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Nested Sampling for Physical Scientists
29. Huang, S.; Leauthaud, A.; Bradshaw, C.; Hearin, A.; Behroozi, P.; Lange, J.; Green, J.; DeRose, J.; **Speagle, J. S.**; & Xhakaj, E., submitted to MNRAS
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28. Leauthaud, A. & Amon, A. et al. [84 additional co-authors including **Speagle, J. S.**], submitted to MNRAS
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27. Naidu, R. P.; Conroy, C.; Bonaca, A.; Zaritsky, D.; Weinberger, R.; Ting, Y.-S.; Caldwell, N.; Tacchella, S.; Han, J. J.; **Speagle, J. S.**; & Cargile, P. A., ApJ
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25. Zucker, C.; Goodman, A. G.; Alves, J.; Shmuel, B.; Koch, E.; **Speagle, J. S.**; Foley, M.; Finkbeiner, D. P.; Leike, R.; & Enßlin, T., 2021, ApJ
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19. Desprez, G. et al. [171 additional co-authors including **Speagle, J. S.**], 2020, **A&A**
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18. Zaritsky, D.; Conroy, C.; Naidu, R. P.; Cargile, P. A.; Putman, M.; Besla, G.; Bonaca, A.; Caldwell, N.; Han, J. J.; Johnson, B. D.; **Speagle, J. S.**; & Ting, Y.-S., 2020, **ApJL**
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15. Bonaca, A.; Conroy, C.; Hogg, D. W.; Cargile, P. A.; Caldwell, N.; Naidu, R. P.; Price-Whelan, A. M.; **Speagle, J. S.**; & Johnson, B. D., 2020, **ApJL**
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- 14.* Tollerud, E. et al. [115 additional co-authors including **Speagle, J. S.**], 2019, **BAAS**
Sustaining Community-Driven Software for Astronomy in the 2020s
- 13.* Siemiginowska, A. et al. [51 additional co-authors including **Speagle, J. S.**], 2019, **BAAS**

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8. Hikage, C. et al. [35 additional co-authors including **Speagle, J. S.**], 2019, PASJ
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6. Medezinski, E. et al. [15 additional co-authors including **Speagle, J. S.**], 2018, PASJ
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5. Mandelbaum, R. et al. [30 additional co-authors including **Speagle, J. S.**], 2018, PASJ
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4. Aihara, H. et al. [108 additional co-authors including **Speagle, J. S.**], 2018, PASJ
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3. Aihara, H. et al. [142 additional co-authors including **Speagle, J. S.**], 2018, PASJ
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2. Oguri, M. et al. [24 additional co-authors including **Speagle, J. S.**], 2018, PASJ
An optically-selected cluster catalog at redshift $0.1 < z < 1.1$ from Hyper Suprime-Cam Subaru Strategic Program S16A data
arxiv: [1701.00818](#)
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