

Adrian M. Price-Whelan — Curriculum Vitae

Current position: Flatiron Research Fellow

Center for Computational Astrophysics, Flatiron Institute,
162 Fifth Ave., New York, NY 10010, USA

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Education and past positions

2016–2019, Lyman J. Spitzer, Jr. fellow, Princeton University

PhD 2016, Astronomy, Columbia University. *Advisor: K. V. Johnston*

MA 2013, MPhil 2014, Astronomy, Columbia University. *Advisor: K. V. Johnston*

Honors BA 2010, Physics, New York University. *Advisor: D. W. Hogg*

Publications — ADS search

refereed: 77 — first author: 18 — citations: 19694 — h-index: 34 (2021-08-05)

Refereed

- 77 Hedges, C. *et al.* (incl. **APW**), *TOI-2076 and TOI-1807: Two Young, Comoving Planetary Systems within 50 pc Identified by TESS that are Ideal Candidates for Further Follow Up*, *AJ*, **162**, 54, 2021
- 76 Foreman-Mackey, D. *et al.* (incl. **APW**), *exoplanet: Gradient-based probabilistic inference for exoplanet data & other astronomical time series*, *JOSS*, **6**, 3285, 2021 (arXiv:2105.01994) [3 citations]
- 75 Putman, M. E.; Zheng, Y.; **Price-Whelan, A. M.**; Grcevich, J. *et al.*, *The Gas Content and Stripping of Local Group Dwarf Galaxies*, *ApJ*, **913**, 53, 2021 (arXiv:2101.07809) [11 citations]
- 74 Sheffield, A. A. *et al.* (incl. **APW**), *Chemodynamically Characterizing the Jhelum Stellar Stream with APOGEE-2*, *ApJ*, **913**, 39, 2021 (arXiv:2103.07488)
- 73 Valluri, M.; **Price-Whelan, A. M.**; Snyder, S. J., *Detecting the Figure Rotation of Dark Matter Halos with Tidal Streams*, *ApJ*, **910**, 150, 2021 (arXiv:2009.09004) [3 citations]
- 72 Miller, A. *et al.* (incl. **APW**), *Orbital and Stellar Parameters for 2M06464003+0109157: A Double-lined Eclipsing Binary of Spotted, Sub-solar Twins*, *PASP*, **133**, 44201, 2021 (arXiv:2103.10488)
- 71 **Price-Whelan, A. M.**; Hogg, D. W.; Johnston, K. V.; Ness, M. K. *et al.*, *Orbital Torus Imaging: Using Element Abundances to Map Orbits and Mass in the Milky Way*, *ApJ*, **910**, 17, 2021 (arXiv:2012.00015)
- 70 Yavetz, T. D.; Johnston, K. V.; Pearson, S.; **Price-Whelan, A. M.** *et al.*, *Separatrix divergence of stellar streams in galactic potentials*, *MNRAS*, **501**, 1791, 2021 (arXiv:2011.11919) [3 citations]

- 69 Mazzola, C. N. et al. (incl. **APW**), *The close binary fraction as a function of stellar parameters in APOGEE: a strong anticorrelation with α abundances*, MNRAS, **499**, 1607, 2020 (arXiv:2007.09059) [4 citations]
- 68 Shipp, N.; **Price-Whelan, A. M.**; Tavangar, K.; Mateu, C. et al., *Discovery of Extended Tidal Tails around the Globular Cluster Palomar 13*, AJ, **160**, 244, 2020 (arXiv:2006.12501) [8 citations]
- 67 Angus, R.; Beane, A.; **Price-Whelan, A. M.**; Newton, E. et al., *Exploring the Evolution of Stellar Rotation Using Galactic Kinematics*, AJ, **160**, 90, 2020 (arXiv:2005.09387) [14 citations]
- 66 Ahumada, R. et al. (incl. **APW**), *The 16th Data Release of the Sloan Digital Sky Surveys: First Release from the APOGEE-2 Southern Survey and Full Release of eBOSS Spectra*, ApJS, **249**, 3, 2020 (arXiv:1912.02905) [288 citations]
- 65 Caldwell, N.; Bonaca, A.; **Price-Whelan, A. M.**; Sesar, B. et al., *A Larger Extent for the Ophiuchus Stream*, AJ, **159**, 287, 2020 (arXiv:2004.14350) [4 citations]
- 64 **Price-Whelan, A. M.**; Hogg, D. W.; Rix, H.; Beaton, R. L. et al., *Close Binary Companions to APOGEE DR16 Stars: 20,000 Binary-star Systems Across the Color-Magnitude Diagram*, ApJ, **895**, 2, 2020 (arXiv:2002.00014) [34 citations]
- 63 Bonaca, A. et al. (incl. **APW**), *High-resolution Spectroscopy of the GD-1 Stellar Stream Localizes the Perturber near the Orbital Plane of Sagittarius*, ApJ, **892**, 2020 (arXiv:2001.07215) [20 citations]
- 62 Pope, B. J. S. et al. (incl. **APW**), *No Massive Companion to the Coherent Radio-emitting M Dwarf GJ 1151*, ApJ, **890**, 2020 (arXiv:2002.07850) [5 citations]
- 61 Mumford, S. et al. (incl. **APW**), *SunPy: A Python package for Solar Physics*, JOSS, **5**, 1832, 2020 [8 citations]
- 60 Hayes, C. R. et al. (incl. **APW**), *Metallicity and α -Element Abundance Gradients along the Sagittarius Stream as Seen by APOGEE*, ApJ, **889**, 63, 2020 (arXiv:1912.06707) [27 citations]
- 59 Bonaca, A.; Pearson, S.; **Price-Whelan, A. M.**; Dey, A. et al., *Variations in the Width, Density, and Direction of the Palomar 5 Tidal Tails*, ApJ, **889**, 70, 2020 (arXiv:1910.00592) [15 citations]
- 58 Nidever, D. L.; **Price-Whelan, A. M.**; Choi, Y.; Beaton, R. L. et al., *Spectroscopy of the Young Stellar Association Price-Whelan 1: Origin in the Magellanic Leading Arm and Constraints on the Milky Way Hot Halo*, ApJ, **887**, 115, 2019 (arXiv:1910.05360) [7 citations]
- 57 **Price-Whelan, A. M.**; Nidever, D. L.; Choi, Y.; Schlafly, E. F. et al., *Discovery of a Disrupting Open Cluster Far into the Milky Way Halo: A Recent Star Formation Event in the Leading Arm of the Magellanic Stream?*, ApJ, **887**, 19, 2019 (arXiv:1811.05991) [13 citations]
- 56 **Price-Whelan, A. M.**; Mateu, C.; Iorio, G.; Pearson, S. et al., *Kinematics of the Palomar 5 Stellar Stream from RR Lyrae Stars*, AJ, **158**, 223, 2019 (arXiv:1910.00595) [17 citations]
- 55 Chakrabarti, S.; Chang, P.; **Price-Whelan, A. M.**; Read, J. et al., *Antlia 2's Role in Driving the Ripples in the Outer Gas Disk of the Galaxy*, ApJ, **886**, 67, 2019 (arXiv:1906.04203) [11 citations]
- 54 Koppelman, H. H.; Helmi, A.; Massari, D.; **Price-Whelan, A. M.** et al., *Multiple retrograde substructures in the Galactic halo: A shattered view of Galactic history*, A&A, **631**, 2019

- (arXiv:1909.08924) [55 citations]
- 53 Bonaca, A.; Conroy, C.; **Price-Whelan, A. M.**; Hogg, D. W., *Multiple Components of the Jhelum Stellar Stream*, ApJ, **881**, 2019 (arXiv:1906.02748) [21 citations]
- 52 Casey, A. R. et al. (incl. **APW**), *Tidal Interactions between Binary Stars Can Drive Lithium Production in Low-mass Red Giants*, ApJ, **880**, 125, 2019 (arXiv:1902.04102) [34 citations]
- 51 Erkal, D. et al. (incl. **APW**), *The total mass of the Large Magellanic Cloud from its perturbation on the Orphan stream*, MNRAS, **487**, 2685, 2019 (arXiv:1812.08192) [109 citations]
- 50 Bonaca, A.; Hogg, D. W.; **Price-Whelan, A. M.**; Conroy, C., *The Spur and the Gap in GD-1: Dynamical Evidence for a Dark Substructure in the Milky Way Halo*, ApJ, **880**, 38, 2019 (arXiv:1811.03631) [81 citations]
- 49 Rasskazov, A. et al. (incl. **APW**), *Hypervelocity Stars from a Supermassive Black Hole-Intermediate-mass Black Hole Binary*, ApJ, **878**, 17, 2019 (arXiv:1810.12354) [14 citations]
- 48 Koposov, S. E. et al. (incl. **APW**), *Piercing the Milky Way: an all-sky view of the Orphan Stream*, MNRAS, **485**, 4726, 2019 (arXiv:1812.08172) [50 citations]
- 47 **Price-Whelan, A. M.**; Goodman, J., *Binary Companions of Evolved Stars in APOGEE DR14: Orbital Circularization*, ApJ, **867**, 5, 2018 (arXiv:1804.06841) [17 citations]
- 46 De Rosa, G. et al. (incl. **APW**), *Velocity-resolved Reverberation Mapping of Five Bright Seyfert 1 Galaxies*, ApJ, **866**, 133, 2018 (arXiv:1807.04784) [27 citations]
- 45 Kado-Fong, E.; Greene, J. E.; Hendel, D.; **Price-Whelan, A. M.** et al., *Tidal Features at $0.05 < z < 0.45$ in the Hyper Suprime-Cam Subaru Strategic Program: Properties and Formation Channels*, ApJ, **866**, 103, 2018 (arXiv:1805.05970) [26 citations]
- 44 Anderson, L.; Hogg, D. W.; Leistedt, B.; **Price-Whelan, A. M.** et al., *Improving Gaia Parallax Precision with a Data-driven Model of Stars*, AJ, **156**, 145, 2018 (arXiv:1706.05055) [22 citations]
- 43 Astropy Collaboration; **Price-Whelan, A. M.**; Sipócz, B. M.; Günther, H. M. et al., *The Astropy Project: Building an Open-science Project and Status of the v2.0 Core Package*, AJ, **156**, 123, 2018 (arXiv:1801.02634) [1999 citations]
- 42 Hendel, D. et al. (incl. **APW**), *SMHASH: anatomy of the Orphan Stream using RR Lyrae stars*, MNRAS, **479**, 570, 2018 (arXiv:1711.04663) [13 citations]
- 41 **Price-Whelan, A. M.**; Bonaca, A., *Off the Beaten Path: Gaia Reveals GD-1 Stars outside of the Main Stream*, ApJ, **863**, 2018 (arXiv:1805.00425) [63 citations]
- 40 **Price-Whelan, A. M.**; Hogg, D. W.; Rix, H.; De Lee, N. et al., *Binary Companions of Evolved Stars in APOGEE DR14: Search Method and Catalog of ~ 5000 Companions*, AJ, **156**, 18, 2018 (arXiv:1804.04662) [772 citations]
- 39 Hayes, C. R. et al. (incl. **APW**), *Disk-like Chemistry of the Triangulum-Andromeda Overdensity as Seen by APOGEE*, ApJ, **859**, 2018 (arXiv:1805.03706) [16 citations]
- 38 Bergemann, M. et al. (incl. **APW**), *Two chemically similar stellar overdensities on opposite sides of the plane of the Galactic disk*, Nature, **555**, 334, 2018 (arXiv:1803.00563) [47 citations]
- 37 Morris, B. M. et al. (incl. **APW**), *astroplan: An Open Source Observation Planning Package in Python*, AJ, **155**, 128, 2018 (arXiv:1712.09631) [27 citations]
- 36 Oh, S.; **Price-Whelan, A. M.**; Brewer, J. M.; Hogg, D. W. et al., *Kronos and Krios: Evidence*

- for Accretion of a Massive, Rocky Planetary System in a Comoving Pair of Solar-type Stars*, ApJ, **854**, 138, 2018 (arXiv:1709.05344) [36 citations]
- 35 Sheffield, A. A.; **Price-Whelan, A. M.**; Tzanidakis, A.; Johnston, K. V. et al., *A Disk Origin for the Monoceros Ring and A13 Stellar Overdensities*, ApJ, **854**, 47, 2018 (arXiv:1801.01171) [30 citations]
- 34 Greco, J. P.; Greene, J. E.; **Price-Whelan, A. M.**; Leauthaud, A. et al., *Sumo Puff: Tidal debris or disturbed ultra-diffuse galaxy?*, PASJ, **70**, 2018 (arXiv:1704.06681) [14 citations]
- 33 Goulding, A. D. et al. (incl. **APW**), *Galaxy interactions trigger rapid black hole growth: An unprecedented view from the Hyper Suprime-Cam survey*, PASJ, **70**, 2018 (arXiv:1706.07436) [82 citations]
- 32 **Price-Whelan, A. M.**, *Gala: A Python package for galactic dynamics*, JOSS, **2**, 388, 2017 [78 citations]
- 31 Alam, S. et al. (incl. **APW**), *The clustering of galaxies in the completed SDSS-III Baryon Oscillation Spectroscopic Survey: cosmological analysis of the DR12 galaxy sample*, MNRAS, **470**, 2617, 2017 (arXiv:1607.03155) [1302 citations]
- 30 **Price-Whelan, A. M.**; Foreman-Mackey, D., *schwimmbad: A uniform interface to parallel processing pools in Python*, JOSS, **2**, 357, 2017 [13 citations]
- 29 Pearson, S.; **Price-Whelan, A. M.**; Johnston, K. V., *Gaps and length asymmetry in the stellar stream Palomar 5 as effects of Galactic bar rotation*, Nature Astronomy, **1**, 633, 2017 (arXiv:1703.04627) [58 citations]
- 28 Johnston, K. V.; **Price-Whelan, A. M.**; Bergemann, M.; Laporte, C. et al., *Disk Heating, Galactoseismology, and the Formation of Stellar Halos*, MDPI: galaxies, **5**, 44, 2017 (arXiv:1709.00491) [5 citations]
- 27 Li, T. S. et al. (incl. **APW**), *Exploring Halo Substructure with Giant Stars. XV. Discovery of a Connection between the Monoceros Ring and the Triangulum-Andromeda Overdensity?*, ApJ, **844**, 74, 2017 (arXiv:1703.05384) [30 citations]
- 26 Oh, S.; **Price-Whelan, A. M.**; Hogg, D. W.; Morton, T. D. et al., *Comoving Stars in Gaia DR1: An Abundance of Very Wide Separation Comoving Pairs*, AJ, **153**, 257, 2017 (arXiv:1612.02440) [96 citations]
- 25 Sesar, B.; Fouesneau, M.; **Price-Whelan, A. M.**; Bailer-Jones, C. A. L. et al., *A Probabilistic Approach to Fitting Period-luminosity Relations and Validating Gaia Parallaxes*, ApJ, **838**, 107, 2017 (arXiv:1611.07035) [39 citations]
- 24 **Price-Whelan, A. M.**; Hogg, D. W.; Foreman-Mackey, D.; Rix, H., *The Joker: A Custom Monte Carlo Sampler for Binary-star and Exoplanet Radial Velocity Data*, ApJ, **837**, 20, 2017 (arXiv:1610.07602) [48 citations]
- 23 Charisi, M.; Bartos, I.; Haiman, Z.; **Price-Whelan, A. M.** et al., *A population of short-period variable quasars from PTF as supermassive black hole binary candidates*, MNRAS, **463**, 2145, 2016 (arXiv:1604.01020) [114 citations]
- 22 **Price-Whelan, A. M.**; Sesar, B.; Johnston, K. V.; Rix, H., *Spending Too Much Time at the Galactic Bar: Chaotic Fanning of the Ophiuchus Stream*, ApJ, **824**, 104, 2016 (arXiv:1601.06790) [29 citations]

- 21 Sesar, B.; **Price-Whelan, A. M.**; Cohen, J. G.; Rix, H. *et al.*, *Evidence of Fanning in the Ophiuchus Stream*, *ApJ*, **816**, 2016 (arXiv:1512.00469) [7 citations]
- 20 **Price-Whelan, A. M.**; Johnston, K. V.; Valluri, M.; Pearson, S. *et al.*, *Chaotic dispersal of tidal debris*, *MNRAS*, **455**, 1079, 2016 (arXiv:1507.08662) [41 citations]
- 19 Charisi, M.; Bartos, I.; Haiman, Z.; **Price-Whelan, A. M.** *et al.*, *Multiple periods in the variability of the supermassive black hole binary candidate quasar PG1302-102?*, *MNRAS*, **454**, 2015 (arXiv:1502.03113) [20 citations]
- 18 **Price-Whelan, A. M.**; Johnston, K. V.; Sheffield, A. A.; Laporte, C. F. P. *et al.*, *A reinterpretation of the Triangulum-Andromeda stellar clouds: a population of halo stars kicked out of the Galactic disc*, *MNRAS*, **452**, 676, 2015 (arXiv:1503.08780) [77 citations]
- 17 Sesar, B. *et al.* (incl. **APW**), *The Nature and Orbit of the Ophiuchus Stream*, *ApJ*, **809**, 59, 2015 (arXiv:1501.00581) [24 citations]
- 16 Alam, S. *et al.* (incl. **APW**), *The Eleventh and Twelfth Data Releases of the Sloan Digital Sky Survey: Final Data from SDSS-III*, *ApJS*, **219**, 12, 2015 (arXiv:1501.00963) [1547 citations]
- 15 Pearson, S.; Küpper, A. H. W.; Johnston, K. V.; **Price-Whelan, A. M.**, *Tidal Stream Morphology as an Indicator of Dark Matter Halo Geometry: The Case of Palomar 5*, *ApJ*, **799**, 28, 2015 (arXiv:1410.3477) [54 citations]
- 14 Andrews, J. J.; **Price-Whelan, A. M.**; Agüeros, M. A., *The Mass Distribution of Companions to Low-mass White Dwarfs*, *ApJ*, **797**, 2014 (arXiv:1412.0114) [18 citations]
- 13 **Price-Whelan, A. M.**; Hogg, D. W.; Johnston, K. V.; Hendel, D., *Inferring the Gravitational Potential of the Milky Way with a Few Precisely Measured Stars*, *ApJ*, **794**, 4, 2014 (arXiv:1405.6721) [40 citations]
- 12 Anderson, L. *et al.* (incl. **APW**), *The clustering of galaxies in the SDSS-III Baryon Oscillation Spectroscopic Survey: baryon acoustic oscillations in the Data Releases 10 and 11 Galaxy samples*, *MNRAS*, **441**, 24, 2014 (arXiv:1312.4877) [1083 citations]
- 11 Ahn, C. P. *et al.* (incl. **APW**), *The Tenth Data Release of the Sloan Digital Sky Survey: First Spectroscopic Data from the SDSS-III Apache Point Observatory Galactic Evolution Experiment*, *ApJS*, **211**, 17, 2014 (arXiv:1307.7735) [816 citations]
- 10 **Price-Whelan, A. M.**; Agüeros, M. A.; Fournier, A. P.; Street, R. *et al.*, *Statistical Searches for Microlensing Events in Large, Non-uniformly Sampled Time-Domain Surveys: A Test Using Palomar Transient Factory Data*, *ApJ*, **781**, 35, 2014 (arXiv:1311.3683) [10 citations]
- 9 **Price-Whelan, A. M.**; Johnston, K. V., *Spitzer, Gaia, and the Potential of the Milky Way*, *ApJ*, **778**, 2013 (arXiv:1308.2670) [28 citations]
- 8 Astropy Collaboration *et al.* (incl. **APW**), *Astropy: A community Python package for astronomy*, *A&A*, **558**, 2013 (arXiv:1307.6212) [4620 citations]
- 7 Dawson, K. S. *et al.* (incl. **APW**), *The Baryon Oscillation Spectroscopic Survey of SDSS-III*, *AJ*, **145**, 10, 2013 (arXiv:1208.0022) [1341 citations]
- 6 Ahn, C. P. *et al.* (incl. **APW**), *The Ninth Data Release of the Sloan Digital Sky Survey: First Spectroscopic Data from the SDSS-III Baryon Oscillation Spectroscopic Survey*, *ApJS*, **203**, 21, 2012 (arXiv:1207.7137) [1079 citations]
- 5 Eisenstein, D. J. *et al.* (incl. **APW**), *SDSS-III: Massive Spectroscopic Surveys of the Dis-*

- tant Universe, the Milky Way, and Extra-Solar Planetary Systems*, AJ, **142**, 72, 2011 (arXiv:1101.1529) [1527 citations]
- 4 Aihara, H. et al. (incl. **APW**), *Erratum: "The Eighth Data Release of the Sloan Digital Sky Survey: First Data from SDSS-III"* (2011, ApJS, 193, 29), ApJS, **195**, 26, 2011 [51 citations]
 - 3 Blanton, M. R. et al. (incl. **APW**), *Improved Background Subtraction for the Sloan Digital Sky Survey Images*, AJ, **142**, 31, 2011 (arXiv:1105.1960) [281 citations]
 - 2 Aihara, H. et al. (incl. **APW**), *The Eighth Data Release of the Sloan Digital Sky Survey: First Data from SDSS-III*, ApJS, **193**, 29, 2011 (arXiv:1101.1559) [1096 citations]
 - 1 **Price-Whelan, A. M.**; Hogg, D. W., *What Bandwidth Do I Need for My Image?*, PASP, **122**, 207, 2010 (arXiv:0910.2375) [4 citations]

Preprints & other

- 13 Gandhi, S. S.; Johnston, K. V.; Hunt, J. A. S.; **Price-Whelan, A. M.** et al., *Snails Across Scales: Local and Global Phase-Mixing Structures as Probes of the Past and Future Milky Way*, 2021 (arXiv:2107.03562)
- 12 Rix, H. et al. (incl. **APW**), *Selection Functions in Astronomical Data Modeling, with the Space Density of White Dwarfs as Worked Example*, 2021 (arXiv:2106.07653)
- 11 Grunblatt, S. K.; Zinn, J. C.; **Price-Whelan, A. M.**; Angus, R. et al., *Age-Dating Red Giant Stars Associated with Galactic Disk and Halo Substructures*, 2021 (arXiv:2105.10505)
- 10 Katz, D. S. et al. (incl. **APW**), *Software Sustainability & High Energy Physics*, 2020 (arXiv:2010.05102)
- 9 Garavito-Camargo, N.; Besla, G.; Laporte, C. F. P.; **Price-Whelan, A. M.** et al., *Quantifying the impact of the Large Magellanic Cloud on the structure of the Milky Way's dark matter halo using Basis Function Expansions*, 2020 (arXiv:2010.00816) [11 citations]
- 8 Oladosu, A. et al. (incl. **APW**), *Meta-Learning for One-Class Classification with Few Examples using Order-Equivariant Network*, 2020 (arXiv:2007.04459)
- 7 Hogg, D. W.; **Price-Whelan, A. M.**; Leistedt, B., *Data Analysis Recipes: Products of multivariate Gaussians in Bayesian inferences*, 2020 (arXiv:2005.14199) [2 citations]
- 6 Ness, M. et al. (incl. **APW**), *In Pursuit of Galactic Archaeology: Astro2020 Science White Paper*, 2019 (arXiv:1907.05422)
- 5 Buckley, M. R.; Hogg, D. W.; **Price-Whelan, A. M.**, *Applying Liouville's Theorem to Gaia Data*, 2019 (arXiv:1907.00987) [3 citations]
- 4 The MSE Science Team et al. (incl. **APW**), *The Detailed Science Case for the Maunakea Spectroscopic Explorer*, 2019 edition, 2019 (arXiv:1904.04907) [32 citations]
- 3 Breivik, K.; **Price-Whelan, A. M.**; D'Orazio, D. J.; Hogg, D. W. et al., *Stellar multiplicity: an interdisciplinary nexus*, 2019 (arXiv:1903.05094) [2 citations]
- 2 Bergemann, M. et al. (incl. **APW**), *Stellar Astrophysics and Exoplanet Science with the Maunakea Spectroscopic Explorer (MSE)*, 2019 (arXiv:1903.03157)
- 1 **Price-Whelan, A. M.**; Oh, S.; Spergel, D. N., *Spectroscopic confirmation of very-wide stellar binaries and large-separation comoving pairs from Gaia DR1*, 2017 (arXiv:1709.03532) [14

[citations\]](#)

Grants and observing

Cold Dark Matter and the GD-1 Stellar Stream, Hubble Space Telescope, Cycle 27, 2019
Spectroscopic follow-up of a young cluster near the Leading Arm of the Magellanic System, Clay Telescope, MIKE, 2019
Three-dimensional kinematics of the GD-1 stellar stream, MMT 6.5m, 2018
Comoving stars in Gaia DR1, Hiltner Telescope, MDM, 2017
TRACSSS-2: Tracing More Cold Stellar Streams with Spitzer, Spitzer mission, Cycle 13, 2016
The Triangulum-Andromeda stellar clouds: a population of halo stars kicked out of the Galactic disk?, Hiltner Telescope, MDM, 2015
Spitzer Merger History and Shape of the Galactic Halo, Spitzer mission, Cycle 10, 2014
Gaia, Spitzer, and the potential of the Milky Way, NASA theory grant, 2014–2016
Sigma Xi Grants in Aid of Research, 2013
Probing the Milky Way's dark matter halo with RR Lyraes, Hiltner Telescope, MDM, 2013

Honors and awards

2020 Blavatnik Regional Awards, Winner in Physical Sciences and Engineering (2020)
Dr. Pliny A. and Margaret H. Price Prize in Cosmology and AstroParticle Physics (2015)
NSF Graduate Research Fellowship (2012–2016)
Survey architect, SDSS-III (2011–2014)
Phi Beta Kappa, Beta of New York (2010–2016)
Summa cum laude, New York University (2010)
Samuel F.B. Morse Medal, awarded for excellence in physics (2010)

Selected recent presentations

Mapping Dark Matter with Stellar Streams, SCSU, 2021 (colloquium)
A New Era for Galactic Dynamics in the Milky Way, AAS 237, 2021 (plenary)
Mapping Dark Matter with Stellar Streams, University of Utah, 2020 (colloquium)
Mapping Dark Matter with Stellar Streams: Signatures of Dark Matter Substructure, CCPP, New York University, 2020 (colloquium)
Mapping Dark Matter with Stellar Streams: Imprints of Galactic Dynamical Phenomena, CCA, Flatiron Institute, 2020 (colloquium)
Mapping Dark Matter with Stellar Streams, LSA, University of Michigan, 2020 (colloquium)
Discovery and characterization of a recent star formation event in the Magellanic Leading Arm, AAS, Honolulu, 2020 (contributed talk and press conference)

Discovery and characterization of a recent star formation event in the Magellanic Leading Arm, A synoptic view of the Magellanic Clouds, ESO Garching 2019 (contributed talk)
A detailed look at the GD-1 stellar stream, KITP, Santa Barbara, 2019 (contributed talk)
The Milky Way as a benchmark, UCONN, Connecticut, 2019 (colloquium)
The Milky Way as a benchmark, Princeton/IAS, Princeton, 2019 (colloquium)
The GD-1 stream and dark matter around the Milky Way, AAS, Seattle, 2019 (contributed talk)
The Dynamic Milky Way in the Gaia Era, University of Arizona, Arizona, 2018 (colloquium)
The Dynamic Milky Way in the Gaia Era, Princeton/IAS, Princeton, 2018 (colloquium)
A disk origin for inner stellar halo structures, Stellar halos, Heidelberg, 2018 (contributed talk)
An Overview of the Astropy Project, Python in Astronomy, NYC, 2018 (invited keynote)
Binary star science with many targets, few epochs, SnowPAC, Utah, 2018 (conference)
The Galactic bar and its effect on stellar streams, University of Kentucky, 2018 (seminar)
Comoving stars in the Gaia era, HAA, NRC-Herzberg, 2018 (seminar)
Comoving stars in the Gaia era, University of British Columbia, 2018 (colloquium)
Fitting a straight line to data, Computational Physics Workshop, Princeton, 2017 (invited)

Open source development

Core contributor to the [Astropy](#) project and maintainer of [Astropy Tutorials](#)
Core developer of [gala](#), [schwimmbad](#), [D3PO](#),
Contributor to [matplotlib](#), [emcee](#), [ccdproc](#)

Student advising

Princeton undergraduates: Bethlee Lindor (2017), Samuel Moore (2018)
Columbia undergraduates: Tze P. Goh (2014–2015), Adrian Meyers (2014–2015), Kate Steiner (2020)
Summer students: Cameron Jackson (NSBP Scholar, 2020)
Google Summer of Code: Manan Agarwal (2015), Jazmin Berlanga (2015), Brett Morris (2015)
Graduate students: Sarah Pearson (Columbia, 2016–2017; now postdoc at Flatiron Institute), Semyeong Oh (Princeton, 2016–2018; now postdoc at Cambridge), Tomer Yavetz (Columbia, 2018–), Nora Shipp (U Chicago, 2019–), Nico Garavito-Camargo (U Arizona, 2019–).

Teaching

Lecturer, breakout leader, participant at Astro Hack Week (2014–2018)

Data science seminar, co-organized with Peter Melchior, 2018, Princeton University
PHY121: Intro to Astronomy, Prison Teaching Initiative, Fort Dix Correctional Facility
AST 542: Statistics and Machine Learning, Co-instructor, 2017, Princeton University
Galaxies, Teaching assistant, 2014, Columbia University
Stars, Planets, and Galaxies, Lab instructor, 2013, Columbia University
Earth, Moon, and Planets, Lab instructor, 2012, Columbia University
Stars, Planets, and Galaxies, Teaching assistant, 2012, Columbia University

Workshop and meeting organization

Co-organizer of *Streams21* meeting [Streams21: Constraints on Dark Matter](#), Feb 2021
Co-organizer of [Applied Galactic Dynamics Summer School](#), postponed until 2021 at earliest
Co-organizer of the [Gaia sprints](#), 2016–present
Instructor (Astropy) at [PyData NYC](#), 2017
Instructor (Machine Learning) at [AstroHackWeek](#), 2017
Co-organizer of [SciCoder workshop](#), 2011–2013, 2015
[AstroHackNY](#), NYC astronomy & statistics group meetings, (organizer, 2014-2015)
[NYCastroML](#), machine learning and statistics group meetings, (co-organizer, 2013-2014)

Public outreach

Volunteer with the Prison Teaching Initiative, 2017
The bar at the center of the Galaxy, 2016, public outreach talk, Astronomy on Tap, NYC
Galactic synthesizers, 2015, public outreach talk, Columbia University, NYC
Dark matter, 2015, public outreach talk, [100% Outer Space](#), Silent Barn, Brooklyn, NY
Organizer for [Astronomy on Tap](#) (uptown), 2013-2014, public outreach talks at bars in NYC
Light, 2012, public outreach talk for middle school girls, [astro4girls](#), Ridgely Library
Member of [Rooftop variables](#), 2011–2016, Isaac E. Young Middle School, New Rochelle, NY (partner teacher: Scott Misner)
Roof captain and manager, 2011–2016, bi-weekly events for [Columbia Astronomy outreach](#)

Professional services & activities

Referee: MNRAS, ApJ, A&A, Phys. Rev. L, Phys. Rev. D
Member: American Astronomical Society, NSBP, New York Academy of Sciences
TACs: NASA, NOAO