David W. Hogg

2024 March 25

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Education

PhD 1998, Physics, California Institute of Technology.
SB 1992 (Physics), Massachusetts Institute of Technology.

Positions

current: Professor of Physics and Data Science, New York University, 2014–present.
Associate Professor of Physics with tenure, New York University, 2007–2014.
Assistant Professor of Physics, New York University, 2001–2007.
Long-term member, Institute for Advanced Study, 1997–2001.

Short-term and part-time positions

current: Group Leader, Astronomical Data Group, Center for Computational Astrophysics, Flatiron Institute, New York, 2017–present.
current: Adjunct Senior Staff Scientist, Max-Planck-Institut für Astronomie, Heidelberg, Germany, 2012–present.
Consultant, Flatiron Institute, New York, 2016–2017.
Consultant, Simons Center for Data Analysis, Simons Foundation, New York, 2015–2016.
Visiting Scientist, Max-Planck-Institut für Astronomie, Heidelberg, Germany, 2006–2011.
Visiting Professor, Department of Astronomy and Astrophysics, Columbia University, 2008
Consultant, Google Inc., 2008.
Scholar in Residence, *Spitzer* Science Center, California Institute of Technology, 2006
Visiting Professor, Department of Physics, Massachusetts Institute of Technology, 2005
Lecturer (part-time), Department of Physics, Princeton University, 1998–2001.

Administrative roles

Executive Director, *Moore–Sloan Data Science Environment at NYU*, 2013–2015.
Deputy Director, New York University Center for Data Science, 2014–2015.
Director of Undergraduate Studies, Department of Physics, New York University, 2008–2015.

Service

Chair, *Sloan Digital Sky Survey V* Advisory Council, 2023–present.
Terra Hunting Experiment Board, 2019–present.
Sloan Digital Sky Survey V Technical Advisory Group, 2017–present.
Sloan Digital Sky Survey IV Collaboration Council, 2013–2022.
Spitzer Science Center Oversight Committee, 2008–2019.
Panel reviewer for the National Science Foundation (2019).
Founder and co-organizer of hands-on research and education workshops, including *AAS Hack Together Day* (annually in January, 2013–2020), *AstroHackWeek* (five events, 2014–2017, 2020) *Preparing for TESS* (2018), *Telluric Line Hack Week* (2019), and the *Gaia Sprint* (six week-long events, 2016–2022).
White House appointee to the US national Astronomy and Astrophysics Advisory Committee, 2014–2017.
NASA Extragalactic Database Users Committee, 2006–2013.
Sloan Digital Sky Survey III Collaboration Council, 2008–2011.

Panel Chair, *Spitzer Space Telescope* Time Allocation Committee, 2005.
Sloan Digital Sky Survey Collaboration Council, 1999–2004.
Leader, *Sloan Digital Sky Survey* Calibration Task Force, 2000–2003.
National Optical Astronomy Observatories Time Allocation Committee, 2000–2002.
Hubble Space Telescope Time Allocation Committee, 1999.

Honors

New York University "Golden Dozen" Teaching Award, 2004.
Princeton University Engineering Council Teaching Award, 2000.
Caltech Undergraduate Teaching Award, Associated Students of Caltech, 1996.
J. S. Stemple Memorial Prize, Caltech, for Physics PhD oral candidacy exam, 1995.
Phi Beta Kappa, 1992. Sigma Xi, 1992.
Award of merit, International Physics Olympiad, Bad Ischl, Austria, 1988.

Grants

NASA *TESS* Guest Investigator Grant (TBA; Angus, PI), *Measuring long rotation periods from TESS's short light curves*, 50,000 USD, 2019–2021.

NASA *TESS* Guest Investigator Grant (TBA; Hogg, PI), *Halo Photometry of Naked-Eye Stars with TESS*, 50,000 USD, 2019–2021.

NASA Astrophysics Data Analysis Grant (80NSSC19K0533; Bean, PI), *Improving the sensitivity of radial velocity spectrographs with data-driven techniques*, 308,326 USD, 2019–2021.

NSF Cyberinfrastructure for Emerging Science and Engineering Research Grant (OAC-1841594; Hogg, PI), *Collaborative Research: Community Planning for Scalable Cyberinfrastructure to Support Multi-Messenger Astrophysics*, 36,469 USD, 2018–2019.

NSF Astronomy and Astrophysics Research Grant (AST-1517237; Hogg, PI), *New Probabilistic Methods for Observational Cosmology*, 328,312 USD, 2015–2019.

Moore Foundation and Sloan Foundation Joint Grant (LeCun, PI), *The Moore-Sloan Data Science Environment at NYU*, 12,600,000 USD (approx), 2013–2018.

NASA *K2* Guest Observer grant (NNX16AC70G; Hogg, PI), *Ultra-precise photometry in crowded fields: A self-calibration approach*, 100,000 USD, 2016–2017.

NASA Astrophysics Data Analysis Grant (NNX12AI50G; Hogg, PI), *The Lives and Deaths of Planets and Stars in the Value-Added UV Photon Catalog*, 473,705 USD, 2012–2017.

NSF Cyber-Enabled Discovery Type I Grant (IIS-1124794; Hogg, PI), *A Unified Probabilistic Model of Astronomical Imaging,* 675,000 USD, 2011–2016.

NASA *Hubble Space Telescope* Archival Resarch grant (AR-13250; Hogg, PI), *Probabilistic Self-Calibration of the WFC3 IR Channel*, 119,988 USD, 2013–2016.

NSF Astronomy and Astrophysics Research Grant (AST-0908357; Hogg, PI), *Dynamical models from kinematic data: The Milky Way Disk and Halo,* 147,000 USD, 2009–2011.

Alexander von Humboldt Foundation Research Fellowship (Hogg, PI), *Cosmology with the proper motions of stars,* 32,000 EUR (approx), 2008–2011.

NASA Astrophysics Data Analysis Grant (NNX08AJ48G; Hogg, PI), *Multi-wavelength astrometric catalog built from NASA data,* 277,415 USD, 2008–2011.

Amazon Web Services Research Grant (Koposov, PI) *Searching for tidal streams in the Milky Way Halo,* 40,000 CPU-hours (approx), 2009–2010.

NASA *Spitzer Space Telescope* General Observer Grant (*Spitzer* programs 50568 and 50569; Schiminovich, PI), *S5: Spitzer–SDSS Statistical Spectroscopic Survey,* 350,000 USD (approx), 2008–2010.

Google Research Grant (Blanton, PI), *Beautiful and correct SDSS images for Google Sky,* 86,000 USD, 2008–2009.

NASA Long-Term Space Astrophysics Grant (NAG5-11669; Hogg, PI), *Tools for Galaxy Astrophysics in the Era of the Space Infrared Telescope Facility*, 498,770 USD, 2002–2007.

NSF Information Technology Research Grant (AST-0428465; Hogg, PI), *Automated Astrometry for Time-Domain and Distributed Astrophysics,* 504,140 USD, 2004–2007.

NASA *Spitzer Space Telescope* General Observer Grant (*Spitzer* program 20120; Hogg, PI), *A search for PAH emission in extremely low luminosity galaxies,* 59,243 USD, 2005–2007.

NASA *Galaxy Evolution Explorer* Archival Research Grant (Blanton, PI), *K-corrections for GALEX,* 42,500 USD, 2004–2005.

NASA *Hubble Space Telescope* Archival Research Grant (Blanton, PI), *Comparing the ACS Ultra Deep Field to Low Redshift Galaxy Observations,* 70,000 USD, 2003–2004.

NSF Group Grant (PHY-0101738; Farrar, PI), *Theoretical Particle Physics, Astrophysics and Cosmology,* 686,000 USD (+16,000 USD in REU supplement), 2001–2004.

NASA Hubble Postdoctoral Fellowship, 1997–2000.

NSF Graduate Fellowship, 1992–1995.

PhDs supervised

Morad Masjedi, 2007, *Massive galaxy merging and cosmogony,* PhD thesis, New York University.

Dustin Lang, 2009, *Astrometry.net: Automatic recognition and calibration of astronomical images*, PhD thesis, University of Toronto (co-supervised by Sam Roweis at Toronto).

Ronin Wu, 2010, *Tracing star formation in the mid-infrared*, PhD thesis, New York University.

Jo Bovy, 2011, *Dynamical inference in the Milky Way*, PhD thesis, New York University.

Adi Zolotov, 2011, *The dual origin of stellar halos*, PhD thesis, New York University (co-supervised by Beth Willman at Haverford).

Tao Jiang, 2012, *Galaxy mergers and galaxy evolution*, PhD thesis, New York University.

Fengji Hou, 2014, *Bayesian inference on stellar radial velocity data*, PhD thesis, New York University (co-supervised by Jonathan Goodman at NYU).

Daniel Foreman-Mackey, 2015, *Methods for the detection and characterization of exoplanets and their population*, PhD thesis, New York University.

Mohammadjavad Vakili, 2017, *Methods in computational cosmology*, PhD thesis, New York University.

Dun Wang, 2018, *Methods for the calibration of astronomical imaging data*, PhD thesis, New York University.

Alex Malz, 2019, *Probabilistic analysis methods for cosmology using uncertainty-dominated photometric data*, PhD thesis, New York University.

Kate Storey-Fisher, current PhD student.

Matthew Daunt, current PhD student.

Postdoctoral scholars supervised and co-supervised

Lauren Anderson, Megan Bedell, Andreas A. Berlind, Michael R. Blanton, Katie Breivik, Lisa Bugnet, Gabriella Contardo, Trevor David, Nora Eisner, Ross Fadely, Richard Galvez, Daniela Huppenkothen, Boris Leistedt, Rodrigo Luger, Sarah Pearson, Gabe Perez-Giz, Benjamin J. S. Pope, Adrian M. Price-Whelan, Erin Sheldon, Beth Willman, Lily L. Zhao.

263 Refereed publications

1. Hogg, D. W., Quinlan, G. D., & Tremaine, S., 1991, Dynamical limits on dark matter in the Solar System, *Astron. J.* **101** 2274–2286.
2. Hogg, D. W., Jackson, C., Żytkow, A. N., Irwin, M., Webster, R., & Tremaine, S., 1994, A photographic search for satellites of Neptune, *Icarus* **107** 304–310.
3. Hogg, D. W. & Blandford, R. D., 1994, The gravitational lens system B1422+231: Dark matter, superluminal expansion and the Hubble Constant, *Mon. Not. R. Astr. Soc.* **268** 889–893.
4. Djorgovski, S. *et al.*, 1995, Deep galaxy counts in the K band with the Keck Telescope, *Astrophys. J. Lett.* **438** L13–L16.
5. Smail, I., Hogg, D. W., Yan, L., & Cohen, J. G., 1995, Deep optical galaxy counts with the Keck Telescope, *Astrophys. J. Lett.* **449** L105–L108.
6. Smail, I., Hogg, D. W., Blandford, R., Cohen, J. G., Edge, A. C., & Djorgovski, S. G., 1995, Discovery of two giant arcs in the rich cluster A2219 with the Keck Telescope, *Mon. Not. R. Astr. Soc.* **277** 1–10.
7. Eisenhardt, P. R., Armus, L., Hogg, D. W., Soifer, B. T., Neugebauer, G., & Werner, M. W., 1996, *Hubble Space Telescope* observations of the luminous IRAS source FSC10214+4724: A gravitationally lensed infrared quasar, *Astrophys. J.* **461** 72–83.

8. Cohen, J. G., Hogg, D. W., Pahre, M. A., & Blandford, R., 1996, Strong redshift clustering of distant galaxies, *Astrophys. J. Lett.* **462** L9–L12.
9. Hogg, D. W., Blandford, R., Kundić, T., Fassnacht, C. D., & Malhotra, S., 1996, A candidate gravitational lens in the Hubble Deep Field, *Astrophys. J. Lett.* **467** L73–L75.
10. Cohen, J. G., Cowie, L. L., Hogg, D. W., Songaila, A., Blandford, R., Hu, E. M., & Shopbell, P., 1996, Redshift clustering in the Hubble Deep Field, *Astrophys. J. Lett.* **471** L5–L9.
11. Hogg, D. W., Neugebauer, G., Armus, L., Matthews, K., Pahre, M. A., Soifer, B. T., & Weinberger, A. J., 1997, Near infrared imaging of the Hubble Deep Field with the Keck Telescope, *Astron. J.* **113** 474–482. Associated erratum: *Astron. J.* **113** 2338.
12. Reid, I. N., Gizis, J. E., Cohen, J., Pahre, M. A., Hogg, D. W., Cowie, L., Hu, E., & Songaila, A., 1997, Faint M dwarfs and the structure of the Galactic disk, *Pubs. Astr. Soc. Pac.* **109** 559–565.
13. Hogg, D. W., Pahre, M. A., McCarthy, J. K., Cohen, J. G., Blandford, R., Smail, I., & Soifer, B. T., 1997, Counts and colours of faint galaxies in the U and R bands, *Mon. Not. R. Astr. Soc.* **288** 404–410.
14. Hogg, D. W. & Phinney, E. S., 1997, The fading of young stellar populations and the luminosity functions of dwarf, irregular and starburst galaxies, *Astrophys. J. Lett.* **488** L95–L99.
15. Kundić, T., Hogg, D. W., Blandford, R. D., Cohen, J. G., Lubin, L. M., & Larkin, J. E., 1997, The external shear acting on gravitational lens B1422+231, *Astron. J.* **114** 2276–2283.
16. Hogg, D. W., 1998, *On the evolution of field galaxies*, PhD thesis, California Institute of Technology.
17. Hogg, D. W. *et al.*, 1998, A blind test of photometric redshift prediction, *Astron. J.* **115** 1418–1422.
18. Hogg, D. W., & Turner, E. L., 1998, A maximum likelihood method for improving faint source flux and color estimates, *Pubs. Astr. Soc. Pac.* **110** 727–731.
19. Hogg, D. W., Cohen, J. G., Blandford, R., & Pahre, M. A., 1998, The O II luminosity density of the Universe, *Astrophys. J.* **504** 622–628.
20. Sykes, C. M. *et al.*, 1998, The complex gravitational lens system B1933+503, *Mon. Not. R. Astr. Soc.* **301** 310–314.
21. Nguyen, H. T., Eisenhardt, P. R., Werner, M. W., Goodrich, R., Hogg, D. W., Armus, L., Soifer, B. T., & Neugebauer, G., 1998, Imaging polarimetry of the gravitational lens FSC10214+4724, *Astron. J.* **117** 671–676.
22. Cohen, J. G., Blandford, R., Hogg, D. W., Pahre, M. A., & Shopbell, P. L., 1999, Caltech Faint Field Galaxy Redshift Survey. VIII. Analysis of the field J0053+1234, *Astrophys. J.* **512** 30–47.
23. Cohen, J. G., Hogg, D. W., Pahre, M. A., Blandford, R., Shopbell, P., & Richberg, K., 1999, Caltech Faint Field Galaxy Redshift Survey. VII. Data analysis techniques and redshifts in the field J0053+1234, *Astrophys. J. Suppl. Ser.* **120** 171–178.
24. Barkana, R., Blandford, R., & Hogg, D. W., 1999, A possible gravitational lens in the Hubble Deep Field South, *Astrophys. J. Lett.* **513** L91–L94.
25. Fruchter, A. S. *et al.*, 1999, *Hubble Space Telescope* and Palomar imaging of GRB 990123: Implications for the nature of gamma-ray bursts and their hosts, *Astrophys. J. Lett.* **519** L13–L16.
26. Hogg, D. W. & Fruchter, A. S., 1999, The faint-galaxy hosts of gamma-ray bursts, *Astrophys. J.* **520** 54–58.
27. Carlberg, R. G. *et al.*, 2000, Caltech Faint Galaxy Redshift Survey. XI. The merger rate to redshift 1 from kinematic pairs, *Astrophys. J. Lett.* **532** L1–L4.
28. Hogg, D. W., Pahre, M. A., Adelberger, K. L., Blandford, R., Cohen, J. G., Gautier, T. N., Jarrett, T., Neugebauer, G., & Steidel, C. C., 2000, Caltech Faint Field Galaxy Redshift Survey. IX. Source detection and photometry in the Hubble Deep Field region, *Astrophys. J. Suppl. Ser.* **127** 1–9.
29. Hogg, D. W., Neugebauer, G., Cohen, J. G., Dickinson, M. E., Djorgovski, S. G., Matthews, K., & Soifer, B. T., 2000, Three-micron imaging of the Hubble Deep Field, *Astron. J.* **119** 1519–1525.

30. Cohen, J. G., Hogg, D. W., Blandford, R., Cowie, L. L., Hu, E., Songaila, A., Shopbell, P., & Richberg, K., 2000, Caltech Faint Galaxy Redshift Survey. X. A redshift survey in the region of the Hubble Deep Field North, *Astrophys. J.* **538** 29–52.
31. van den Bergh, S., Cohen, J. G., Hogg, D. W., & Blandford, R., 2000, Caltech Faint Galaxy Redshift Survey. XIV. Galaxy morphology in the HDF (North) and its flanking fields to $z = 1.2$, *Astron. J.* **120** 2190–2205.
32. Hogg, D. W., Cohen, J. G., & Blandford, R., 2000, The Caltech Faint Galaxy Redshift Survey. XII. Clustering of galaxies, *Astrophys. J.* **545** 32–42.
33. Hogg, D. W., 2001, Confusion errors in astrometry and counterpart association, *Astron. J.* **121** 1207–1213.
34. Blanton, M. R. *et al.*, 2001, The luminosity function of galaxies in *SDSS* commissioning data, *Astron. J.* **121** 2358–2380.
35. Smette, A. *et al.*, 2001, *Hubble Space Telescope/STIS* observations of GRB 000301C: CCD imaging and *NUV MAMA* spectroscopy, *Astrophys. J.* **556** 70–76.
36. Yasuda, N. *et al.*, 2001, Galaxy number counts from the *Sloan Digital Sky Survey* commissioning data, *Astron. J.* **122** 1104–1124.
37. Hogg, D. W., Finkbeiner, D. P., Schlegel, D. J., & Gunn, J. E., 2001, A photometricity and extinction monitor at the Apache Point Observatory, *Astron. J.* **122** 2129–2138.
38. Eisenstein, D. J. *et al.*, 2001, Spectroscopic target selection for the *Sloan Digital Sky Survey*: The Luminous Red Galaxy Sample, *Astron. J.* **122** 2267–2280.
39. Stoughton, C. *et al.*, 2002, *Sloan Digital Sky Survey*: Early Data Release, *Astron. J.* **123** 485–548.
40. Schneider, D. P. *et al.*, 2002, The *Sloan Digital Sky Survey* Quasar Catalog. I. Early Data Release, *Astron. J.* **123** 567–577.
41. Hogg, D. W. *et al.*, 2002, The luminosity density of red galaxies, *Astron. J.* **124** 646–651.
42. Eisenstein, D. J., Hogg, D. W., *et al.*, 2003, Average spectra of massive galaxies in the *SDSS*, *Astrophys. J.* **585** 694–713.
43. Hogg, D. W. *et al.*, 2003, The overdensities of galaxy environments as a function of luminosity and color, *Astrophys. J. Lett.* **585** L5–L9.
44. Bernardi, M. *et al.*, 2003, Early-type galaxies in the *SDSS*. I. The sample, *Astron. J.* **125** 1817–1848.
45. Bernardi, M. *et al.*, 2003, Early-type galaxies in the *SDSS*. II. Correlations between observables, *Astron. J.* **125** 1849–1865.
46. Bernardi, M. *et al.*, 2003, Early-type galaxies in the *SDSS*. III. The fundamental plane, *Astron. J.* **125** 1866–1881.
47. Blanton, M. R., Brinkmann, J., Csabai, I., Doi, M., Eisenstein, D., Fukugita, M., Gunn, J. E., Hogg, D. W., & Schlegel, D. J., 2003, Estimating fixed-frame galaxy magnitudes in the *SDSS*, *Astron. J.* **125** 2348–2360.
48. Blanton, M. R. *et al.*, 2003, The galaxy luminosity function and luminosity density at redshift $z = 0.1$, *Astrophys. J.* **592** 819–838.
49. Blanton, M. R., Hogg, D. W., *et al.*, 2003, The broadband optical properties of galaxies with redshifts $0.02 < z < 0.2$, *Astrophys. J.* **594** 186–207.
50. Abazajian, K. *et al.*, 2003, The First Data Release of the *Sloan Digital Sky Survey*, *Astron. J.* **126** 2081–2086.
51. Hogg, D. W. *et al.*, 2004, The dependence on environment of the color–magnitude relation of galaxies, *Astrophys. J. Lett.* **601** L29–L32.
52. Quintero, A. D., Hogg, D. W., *et al.*, 2004, Selection and photometric properties of K+A galaxies, *Astrophys. J.* **602** 190–199.
53. Lupton, R., Blanton, M. R., Fekete, G., Hogg, D. W., O'Mullane, W., Szalay, A., & Wherry, N., 2004, Preparing red-green-blue images from CCD data, *Pubs. Astr. Soc. Pac.* **116** 133–137.
54. Tegmark, M. *et al.*, 2004, The three-dimensional power spectrum of galaxies from the *Sloan Digital Sky Survey*, *Astrophys. J.* **606** 702–740.
55. Tegmark, M. *et al.*, 2004, Cosmological parameters from *SDSS* and *WMAP*, *Phys. Rev. D* **69** 103501.
56. Abazajian, K. *et al.*, 2004, The Second Data Release of the *Sloan Digital Sky Survey*, *Astron. J.* **128** 502–512.

57. Finkbeiner, D. P. *et al.*, 2004, *Sloan Digital Sky Survey* imaging of low Galactic latitude fields: Technical summary and data release, *Astron. J.* **128** 2577–2592.
58. Abazajian, K. *et al.*, 2005, The Third Data Release of the *Sloan Digital Sky Survey*, *Astron. J.* **129** 1755–1759.
59. Zehavi, I., *et al.*, 2005, The intermediate-scale clustering of luminous red galaxies, *Astrophys. J.* **621** 22–31.
60. Hogg, D. W., Eisenstein, D. J., Blanton, M. R., Bahcall, N. A., Brinkmann, J., Gunn, J. E., & Schneider, D. P., 2005, Cosmic homogeneity demonstrated with luminous red galaxies, *Astrophys. J.* **624** 54–58.
61. Hogg, D. W., Tremonti, C. A., Blanton, M. R., Finkbeiner, D. P., Padmanabhan, N., Quintero, A. D., Schlegel, D. J., & Wherry, N., 2005, Mid-infrared and visible photometry of galaxies: Anomalously low polycyclic aromatic hydrocarbon emission from low-luminosity galaxies, *Astrophys. J.* **624** 162–167.
62. Blanton, M. R. *et al.*, 2005, New York University Value-Added Galaxy Catalog: A galaxy catalog based on new public surveys, *Astron. J.* **129** 2562–2578.
63. Willman, B., Blanton, M. R., West, A. A., Dalcanton, J. J, Hogg, D. W., Schneider, D. P., Wherry, N., Yanny, B., & Brinkmann, J., 2005, A new Milky Way companion: Unusual globular cluster or extreme dwarf satellite?, *Astron. J.* **129** 2692–2700.
64. Willman, B. *et al.*, 2005, A new Milky Way dwarf galaxy in Ursa Major, *Astrophys. J. Lett.* **626** L85–L88.
65. Blanton, M. R., Eisenstein, D. J., Hogg, D. W., Schlegel, D. J., & Brinkmann, J., 2005, The relationship between environment and the broad-band optical properties of galaxies in the *Sloan Digital Sky Survey*, *Astrophys. J.* **629** 143–157.
66. Hogg, D. W., Blanton, M. R., Roweis, S. T., & Johnston, K. V., 2005, Modeling complete distributions with incomplete observations: The velocity ellipsoid from *Hipparcos* data, *Astrophys. J.* **629** 268–275.
67. Berlind, A. A., Blanton, M. R., Hogg, D. W., Weinberg, D. H., Davé, R., Eisenstein, D. J., & Katz, N., 2005, Interpreting the relationship between galaxy luminosity, color and environment, *Astrophys. J.* **629** 625–632.
68. Eisenstein, D. J., Zehavi, I., Hogg, D. W., *et al.*, 2005, Detection of the baryon acoustic peak in the large-scale correlation function of *Sloan Digital Sky Survey* Luminous Red Galaxies, *Astrophys. J.* **633** 560–574.
69. Adelman-McCarthy, J. K. *et al.*, 2006, The Fourth Data Release of the *Sloan Digital Sky Survey*, *Astrophys. J. Suppl. Ser.* **162** 38–48.
70. Farrar, G. F., Berlind, A. A., & Hogg, D. W., 2006, Foreground and source of a cluster of ultra–high-energy cosmic rays, *Astrophys. J.* **642** L89–L93.
71. Cool, R. J., Eisenstein, D. J., Hogg, D. W., Blanton, M. R., Schlegel, D. J., Brinkmann, J., Schneider, D. P., & Vanden Berk, D. E., 2006, *SDSS* pre-burst observations of recent gamma-ray burst fields, *Pubs. Astr. Soc. Pac.* **118** 733–739.
72. Masjedi, M., Hogg, D. W., *et al.*, 2006, Very small-scale clustering and merger rate of luminous red galaxies, *Astrophys. J.* **644** 54–60.
73. Blanton, M. R., Eisenstein, D. J., Hogg, D. W., & Zehavi, I. I., 2006, The scale-dependence of relative galaxy bias: Encouragement for the "halo model" description, *Astrophys. J.* **645** 977–985.
74. Tucker, D. L. *et al.*, 2006, The *Sloan Digital Sky Survey* Monitor Telescope pipeline, *Astron. Nachr.* **327** 821–843.
75. Hogg, D. W., Masjedi, M., Berlind, A. A., Blanton, M. R., Quintero, A. D., & Brinkmann, J., 2006, What triggers galaxy transformations? The environments of post-starburst galaxies, *Astrophys. J.* **650** 763–769.
76. Berlind, A. A. *et al.*, 2006, Percolation galaxy groups and clusters in the *SDSS* Redshift Survey: Identification, catalogs, and the multiplicity function, *Astrophys. J. Suppl. Ser.* **167** 1–25.
77. Tegmark, M., *et al.*, 2006, Cosmological constraints from the *SDSS* Luminous Red Galaxies, *Phys. Rev. D* **74** 123507.
78. Schneider, D. P., *et al.*, 2007, The *Sloan Digital Sky Survey* Quasar Catalog IV: Fifth Data Release, *Astron. J.* **134** 102–117.
79. Padmanabhan, N., *et al.*, 2007, The clustering of luminous red galaxies in the *Sloan*

Digital Sky Survey imaging data, *Mon. Not. R. Astr. Soc.* **378** 852–872.

80. Adelman-McCarthy, J. K. *et al.*, 2007, The Fifth Data Release of the *Sloan Digital Sky Survey*, *Astrophys. J. Suppl. Ser.* **172** 634–644.
81. Barron, J. T., Stumm, C., Hogg, D. W., Lang, D., & Roweis, S., 2008, Cleaning the *USNO-B Catalog* through automatic detection of optical artifacts, *Astron. J.* **135** 414–422.
82. Padmanabhan, N., *et al.*, 2008, An improved photometric calibration of the *Sloan Digital Sky Survey* imaging data, *Astrophys. J.* **674** 1217–1233.
83. Adelman-McCarthy, J. K. *et al.*, 2008, The Sixth Data Release of the *Sloan Digital Sky Survey*, *Astrophys. J. Suppl. Ser.* **175** 297–313.
84. Masjedi, M., Hogg, D. W., & Blanton, M. R., 2008, The growth of luminous red galaxies by merging, *Astrophys. J.* **679** 260–268.
85. Bell, E. F., *et al.*, 2008, The accretion origin of the Milky Way's stellar halo, *Astrophys. J.* **680** 295–311.
86. Barron, J. T., Hogg, D. W., Lang, D., & Roweis, S., 2008, Blind Date: Using proper motions to determine the ages of historical images, *Astron. J.* **136** 1490–1501.
87. Bovy, J., Hogg, D. W., & Moustakas, J., 2008, The transparency of galaxy clusters, *Astrophys. J.* **688** 198–207.
88. Maller, A. H., Berlind, A. A., Blanton, M. R., & Hogg, D. W., 2009, The intrinsic properties of *SDSS* galaxies, *Astrophys. J.* **691** 394–406.
89. Marshall, P. J., Hogg, D. W., Moustakas, L. A., Fassnacht, C. D., Bradač, M., Schrabback, T., & Blandford, R. D., 2009, Automated detection of galaxy-scale gravitational lenses in high-resolution imaging data, *Astrophys. J.* **694** 924–942.
90. Lang, D., Hogg, D. W., Jester, S., & Rix, H.-W., 2009, Measuring the undetectable: Proper motions and parallaxes of very faint sources, *Astron. J.* **137** 4400–4411.
91. More, S., Bovy, J., & Hogg, D. W., 2009, Cosmic transparency: A test with the baryon acoustic feature and type Ia supernovae, *Astrophys. J.* **696** 1727–1732.
92. Abazajian, K. N. *et al.*, 2009, The Seventh Data Release of the *Sloan Digital Sky Survey*, *Astrophys. J. Suppl. Ser.* **182** 543–558.
93. Bunn, E. F. & Hogg, D. W., 2009, The kinematic origin of the cosmological redshift, *Am. J. Phys.* **77**(8) 688–694.
94. Bovy, J., Hogg, D. W., & Roweis, S., 2009, The velocity distribution of nearby stars from *Hipparcos* data I. The significance of the moving groups, *Astrophys. J.* **700** 1794–1819.
95. Zolotov, A., Willman, B., Brooks, A. M., Governato, F., Brook, C. B., Hogg, D. W., Quinn, T., & Stinson, G., 2009, The dual origin of stellar halos, *Astrophys. J.* **702** 1058–1067.
96. Bovy, J., Hogg, D. W., & Rix, H.-W., 2009, Galactic masers and the Milky Way circular velocity, *Astrophys. J.* **704** 1704–1709.
97. Price-Whelan, A. M. & Hogg, D. W., 2010, What bandwidth do I need for my image?, *Pubs. Astr. Soc. Pac.* **122** 207–214.
98. Bovy, J., Murray, I., & Hogg, D. W., 2010, Dynamical inference from a kinematic snapshot: The force law in the Solar System, *Astrophys. J.* **711** 1157–1167.
99. Koposov, S. E., Rix, H.-W., & Hogg, D. W., 2010, Constraining the Milky Way potential with a 6-D phase-space map of the GD-1 stellar stream, *Astrophys. J.* **712** 260–273.
100. Lang, D., Hogg, D. W., Mierle, K., Blanton, M., & Roweis, S., 2010, *Astrometry.net*: Blind astrometric calibration of arbitrary astronomical images, *Astron. J.* **139** 1782–1800.
101. Bovy, J. & Hogg, D. W., 2010, The velocity distribution of nearby stars from *Hipparcos* data II. The nature of the low-velocity moving groups, *Astrophys. J.* **717** 617–639.
102. Zolotov, A., Willman, B., Brooks, A. M., Governato, F., Hogg, D. W., Shen, S., & Wadsley, J., 2010, The dual origin of stellar halos II. Chemical abundances as tracers of formation history, *Astrophys. J.* **721** 738–743.
103. Bell, E. F., Xue, X. X., Rix, H.-W., Ruhland, C., & Hogg, D. W., 2010, Stellar population variations in the Milky Way's stellar halo, *Astron. J.* **140** 1850–1859.
104. Hogg, D. W., Myers, A. D., & Bovy, J., 2010, Inferring the eccentricity distribution, *Astrophys. J.* **725** 2166–2175.
105. Zolotov, A., Hogg, D. W., & Willman, B., 2011, Are the ultra-faint dwarf galaxies just cusps?, *Astrophys. J. Lett.* **727** L14. Associated erratum: *Astrophys. J. Lett.* **732** L37.

106. Bovy, J., Hennawi, J. F., Hogg, D. W., *et al.*, 2011, Think outside the color-box: Probabilistic target selection and the SDSS-XDQSO quasar targeting catalog, *Astrophys. J.* **729** 141.
107. Wu, R., Hogg, D. W., & Moustakas, J., 2011, The aromatic features in very faint dwarf galaxies, *Astrophys. J.* **730** 111.
108. Yoon, J. H., Johnston, K. V., & Hogg, D. W., 2011, Clumpy streams from clumpy halos: Detecting missing satellites with cold stellar structures, *Astrophys. J.* **731** 58.
109. Aihara, H. *et al.*, 2011, The Eighth Data Release of the Sloan Digital Sky Survey: First data from *SDSS-III*, *Astrophys. J. Suppl. Ser.* **193** 29. Associated erratum: *Astrophys. J. Suppl. Ser.* **195** 26.
110. Bovy, J., Hogg, D. W., & Roweis, S., 2011, Extreme deconvolution: Inferring complete distribution functions from noisy, heterogeneous and incomplete observations, *Ann. Appl. Stat.* **5** 1657–1677.
111. Eisenstein, D. J. *et al.*, 2011, *SDSS-III*: Massive spectroscopic surveys of the distant Universe, the Milky Way, and extra-Solar planetary systems, *Astron. J.* **142** 72.
112. Tsalmantza, P., Decarli, R., Dotti, M., & Hogg, D. W., 2011, A systematic search for massive black hole binaries in the *Sloan Digital Sky Survey* spectroscopic sample, *Astrophys. J.* **738** 20.
113. Malyshev, D. & Hogg, D. W., 2011, Statistics of gamma-ray point sources below the *Fermi* detection limit, *Astrophys. J.* **738** 181.
114. Coil, A. L. *et al.*, 2011, The *Prism MUlti-Object Survey (PRIMUS)* I: Survey overview and characteristics, *Astrophys. J.* **741** 8.
115. Schmidt, K. B., Rix, H.-W., Shields, J. C., Knecht, M., Hogg, D. W., Maoz, D., & Bovy, J., 2012, The color variability of quasars, *Astrophys. J.* **744** 147.
116. Hou, F., Goodman, J., Hogg, D. W., Weare, J., & Schwab, C., 2012, An affine-invariant sampler for exoplanet fitting and discovery in radial velocity data, *Astrophys. J.* **745** 198.
117. Ross, N. P. *et al.*, 2012, The *SDSS-III Baryon Oscillation Spectroscopic Survey*: Quasar target selection for *Data Release Nine*, *Astrophys. J. Suppl. Ser.* **199** 3.
118. Bovy, J. *et al.*, 2012, Photometric redshifts and quasar probabilities from a single, data-driven generative model, *Astrophys. J.* **749** 41.
119. Watson, D. F., Berlind, A. A., McBride, C. K., Hogg, D. W., & Jiang, T., 2012, The extreme small scales: Do satellite galaxies trace dark matter?, *Astrophys. J.* **749** 83.
120. Kudryavtseva, N., *et al.*, 2012, Instantaneous starburst of the massive clusters Westerlund 1 and NGC 3603 YC, *Astrophys. J. Lett.* **750** L44.
121. Bovy, J., Rix, H.-W., & Hogg, D. W., 2012, The Milky Way has no distinct thick disk, *Astrophys. J.* **751** 131.
122. Tsalmantza, P. & Hogg, D. W., 2012, A data-driven model for spectra: Finding double redshifts in the *Sloan Digital Sky Survey*, *Astrophys. J.* **753** 122.
123. Bovy, J., Rix, H.-W., Liu, C., Hogg, D. W., Beers, T. C., & Lee, Y. S., 2012, The spatial structure of mono-abundance sub-populations of the Milky Way Disk, *Astrophys. J.* **753** 148.
124. Lang, D. & Hogg, D. W., 2012, Searching for comets on the World Wide Web: The orbit of 17P/Holmes from the behavior of photographers, *Astron. J.* **144** 46.
125. Bovy, J., Rix, H.-W., Hogg, D. W., Beers, T. C., Lee, Y. S., & Zhang, L., 2012, The vertical motions of mono-abundance sub-populations in the Milky Way Disk, *Astrophys. J.* **755** 115.
126. Bovy, J. *et al.*, 2012, The Milky Way's circular-velocity curve between 4 and 14 kpc from *APOGEE* data, *Astrophys. J.* **759** 131.
127. Jiang, T., Hogg, D. W., & Blanton, M. R., 2012, Galaxy growth by merging in the nearby Universe, *Astrophys. J.* **759** 140.
128. Fadely, R., Hogg, D. W., & Willman, B., 2012, Star–galaxy classification in multi-band optical imaging, *Astrophys. J.* **760** 15.
129. Holmes, R., Hogg, D. W., & Rix, H.-W., 2012, Designing imaging surveys for a retrospective relative photometric calibration, *Pubs. Astr. Soc. Pac.* **124** 1219–1231.
130. Bundy, K., Hogg, D. W., Higgs, T. D., Nichol, R. C., Yasuda, N., Masters, K. L., Lang, D., & Wake, D. A., 2012, *SYNMAG* Photometry: A fast tool for catalog-level

matched colors of extended sources, *Astron. J.* **144** 188.

131. Ahn, C. P. *et al.*, 2012, The Ninth Data Release of the *Sloan Digital Sky Survey*: First spectroscopic data from the *SDSS-III Baryon Oscillation Spectroscopic Survey*, *Astrophys. J. Suppl. Ser.* **203** 21.
132. Dawson, K. S. *et al.*, 2013, The *Baryon Oscillation Spectroscopic Survey* of *SDSS-III*, *Astron. J.* **145** 10.
133. Weisz, D. R., Fouesneau, M., Hogg, D. W., *et al.*, 2013, The *Panchromatic Hubble Andromeda Treasury* IV. A probabilistic approach to inferring the high-mass stellar initial mass function and other power-law functions, *Astrophys. J.* **762** 123.
134. Foreman-Mackey, D., Hogg, D. W., Lang, D., & Goodman, J., 2013, *emcee*: The MCMC Hammer, *Pubs. Astr. Soc. Pac.* **125** 306–312.
135. Cool, R. J. *et al.*, 2013, The *PRIsm MUlti-object Survey (PRIMUS)*. II. Data reduction and redshift fitting, *Astrophys. J.* **767** 118.
136. Oppenheimer, B. R. *et al.*, 2013, Reconnaissance of the HR 8799 exosolar system. I. Near-infrared spectroscopy, *Astrophys. J.* **768** 24.
137. Wong, K. C., Zabludoff, A. I., Ammons, S. M., Keeton, C. R., Hogg, D. W., & Gonzalez, A. H., 2013, A new approach to identifying the most powerful gravitational lensing telescopes, *Astrophys. J.* **769** 52.
138. Hogg, D. W. & Lang, D., 2013, Replacing standard galaxy profiles with mixtures of Gaussians, *Pubs. Astr. Soc. Pac.* **125** 719–730.
139. Brewer, B. J., Foreman-Mackey, D., & Hogg, D. W., 2013, Probabilistic catalogs for crowded stellar fields, *Astron. J.* **146** 7.
140. Decarli, R., Dotti, M., Fumagalli, M., Tsalmantza, P., Montuori, C., Lusso, E., Hogg, D. W., & Prochaska, J. X., 2013, The nature of massive black hole binary candidates I. Spectral properties and evolution, *Mon. Not. R. Astr. Soc.* **433** 1492–1504.
141. Lang, D., Hogg, D. W., & Schölkopf, B., 2014, Towards building a crowd-sourced sky map (`arXiv:1406.1528`), *JMLR Workshop and Conference Proceedings*, **33** (AI & Statistics 2014), 549.
142. Ahn, C. P. *et al.*, 2014, The Tenth Data Release of the *Sloan Digital Sky Survey*: First spectroscopic data from the *SDSS-III Apache Point Observatory Galactic Evolution Experiment*, *Astrophys. J. Suppl. Ser.* **211** 17.
143. Goodman, A. *et al.*, 2014, Ten simple rules for the care and feeding of scientific data, *PLoS Computational Biology* **10** e1003542.
144. Lusso, E., Decarli, R., Dotti, M., Montuori, C., Hogg, D. W., Tsalmantza, P., Fumagalli, M., & Prochaska, J. X., 2014, The nature of massive black hole binary candidates II. Spectral energy distribution atlas, *Mon. Not. R. Astr. Soc.* **441** 316–332.
145. Price-Whelan, A. M., Hogg, D. W., Johnston, K. V., & Hendel, D., 2014, Inferring the gravitational potential of the Milky Way with a few precisely measured stars, *Astrophys. J.* **794** 4.
146. Fergus, R., Hogg, D. W., Oppenheimer, R., Brenner, D. & Pueyo, L., 2014, *S4*: A spatial-spectral model for speckle suppression, *Astrophys. J.* **794** 161.
147. Foreman-Mackey D., Hogg, D. W., & Morton, T. D., 2014, Exoplanet population inference and the abundance of Earth analogs from noisy, incomplete catalogs, *Astrophys. J.* **795** 64.
148. Bonaca, A., Geha, M., Küpper, A. H. W., Diemand, J., Johnston, K. V., & Hogg, D. W., 2014, Milky Way mass and potential recovery using tidal streams in a realistic halo, *Astrophys. J.* **795** 94.
149. Lee, K.-G. *et al.*, 2015, IGM constraints from the *SDSS-III/BOSS* DR9 Lyα forest transmission probability distribution function, *Astrophys. J.* **799** 196.
150. Sanderson, R. E., Helmi, A., & Hogg, D. W., 2015, Action-space clustering of tidal streams to infer the Galactic potential, *Astrophys. J.* **801** 98.
151. Küpper, A. H. W., Balbinot, E., Bonaca, A., Johnston, K. V., Hogg, D. W., Kroupa, P., Santiago, B. X., 2015, Globular cluster streams as Galactic high-precision scales—The poster child Palomar 5, *Astrophys. J.* **803** 80.
152. Ambikasaran, S., Foreman-Mackey, D., Greengard, L., Hogg, D. W., & O'Neil, M., 2015, Fast direct methods for Gaussian Processes and the analysis of NASA *Kepler* Mission Data, *IEEE Transactions on Pattern Analysis and Machine Intelligence* **PP** (99) 1,1.

153. Weisz, D. R. *et al.*, 2015, The high-mass stellar initial mass function in M31 clusters, *Astrophys. J.* **806** 198.
154. Foreman-Mackey, D., Montet, B. T., Hogg, D. W., Morton, T. D., Wang, D., & Schölkopf, B., 2015, A systematic search for transiting planets in the *K2* data, *Astrophys. J.* **806** 215.
155. Schneider, M. D., Hogg D. W., Marshall, P. J., Dawson, W. A., Meyers, J., Bard, D. J., & Lang, D., 2015, Hierarchical probabilistic inference of cosmic shear, *Astrophys. J.* **807** 87.
156. Ness, M., Hogg, D. W., Rix, H.-W., Ho, A. Y. Q., & Zasowski, G., 2015, *The Cannon*: A data-driven approach to stellar label determination, *Astrophys. J.* **808** 16.
157. Alam, S. *et al.*, 2015, The Eleventh and Twelfth Data Releases of the *Sloan Digital Sky Survey*: Final data from *SDSS-III*, *Astrophys. J. Suppl. Ser.* **219** 12.
158. Mandelbaum, R. *et al.*, 2015, *GREAT3* results I. Systematic errors in shear estimation and the impact of real galaxy morphology, *Mon. Not. R. Astr. Soc.* **450** 2963–3007.
159. Montet, B. T., Morton, T. D., Foreman-Mackey, D., Johnson, J. A., Hogg, D. W., Bowler, B. P., Latham, D. W., Bieryla, A., Mann, A. W., 2015, Stellar and planetary properties of *K2 Campaign 1* candidates and validation of 17 planets, including a planet receiving Earth-like insolation, *Astrophys. J.* **809** 25.
160. Huppenkothen, D. *et al.*, 2015, Dissecting magnetar variability with Bayesian hierarchical models, *Astrophys. J.* **810** 66.
161. Czekala, I., Andrews, S. M., Mandel, K. S., Hogg, D. W., & Green, G. M., 2015, Constructing a flexible likelihood function for spectroscopic inference, *Astrophys. J.* **812** 128.
162. Dalcanton, J. J., Fouesneau, M., Hogg, D. W., *et al.*, 2015, The Panchromatic *Hubble* Andromeda Treasury. VIII. A wide-area, high-resolution map of dust extinction in M31, *Astrophys. J.* **814** 3.
163. Schölkopf, B., Hogg, D. W., Wang, D., Foreman-Mackey, D., Janzing, D., Simon-Gabriel, C.-J., & Peters, J., 2015, Removing systematic errors for exoplanet search via latent causes (`arXiv:1505.03036`), *Proc. 32 Intl. Conf. Machine Learning*, in press.
164. Yan, R. *et al.*, 2016, *SDSS-IV/MaNGA*: Spectrophotometric calibration technique, *Astron. J.* **151** 8.
165. Hernitschek, N. *et al.*, 2016, Finding, characterizing, and classifying variable sources in multi-epoch sky surveys: QSOs and RR Lyrae in *PS1* 3π data, *Astrophys. J.* **817** 73.
166. Price-Whelan, A. M., Johnston, K. V., Valluri, M., Pearson, S., Küpper, A. H. W., & Hogg, D. W., 2016, Chaotic dispersal of tidal debris, *Mon. Not. R. Astr. Soc.* **455** 1079–1098.
167. Lang, D., Hogg, D. W., & Schlegel, D. J., 2016, *WISE* photometry for 400 million *SDSS* sources, *Astron. J.* **151** 36.
168. Ness, M., Hogg, D. W., Rix, H.-W., Martig, M., Pinsonneault, M. H., & Ho, A. Y. Q., 2016, Spectroscopic determination of masses (and implied ages) for red giants, *Astrophys. J.* **823** 114.
169. Fischer, D. A. *et al.*, 2016, State of the field: Extreme precision radial velocities, *Pubs. Astr. Soc. Pac.* **128** 066001.
170. Schölkopf, B., Hogg, D. W., Wang, D., Foreman-Mackey, D., Janzing, D., Simon-Gabriel, C.-J., & Peters, J., 2016, Modeling confounding by half-sibling regression, *Proc. Natl. Acad. Sci.* **113**(27) 7391–7398.
171. Gordon, K. D. *et al.*, 2016, The Panchromatic *Hubble* Andromeda Treasury. XV. *The BEAST*: Bayesian Extinction and Stellar Tool, *Astrophys. J.* **826** 104.
172. Rix, H.-W., Ting, Y.-S., Conroy, C., & Hogg, D. W., 2016, Constructing polynomial spectral models for stars, *Astrophys. J. Lett.* **826** L25.
173. Wang, D., Hogg, D. W., Foreman-Mackey, D., & Schölkopf, B., 2016, A Causal, Data-driven Approach to Modeling the *Kepler* Data, *Pubs. Astr. Soc. Pac.* **128** 094503.
174. Laurent, P. *et al.*, 2016, A $14h^{-3}$ Gpc^3 study of cosmic homogeneity using *BOSS DR12* quasar sample, *J. Cosm. Astropart. Phys.* **11** 060.
175. Foreman-Mackey, D., Morton, T. D., Hogg, D. W., Agol, E., & Schölkopf, B., 2016, The population of long-period transiting exoplanets, *Astron. J.* **152** 206.

176. Calistro Rivera, G.; Lusso, E., Hennawi, J. F., & Hogg, D. W., 2016, *AGNfitter*: A Bayesian MCMC approach to fitting spectral energy distributions of AGNs, *Astrophys. J.* **833** L98.
177. Hogg, D. W. *et al.*, 2016, Chemical tagging can work: Identification of stellar phase-space structures purely by chemical-abundance similarity, *Astrophys. J.* **833** 262.
178. Zhang, H., Zaritsky, D., Zhu, G., Ménard, B., & Hogg, D. W., 2016, Hydrogen emission from the ionized gaseous halos of low-redshift galaxies, *Astrophys. J.* **833** 276.
179. Henderson, C. B. *et al.*, 2016, Campaign 9 of the *K2* Mission: Observational parameters, scientific drivers, and community involvement for a simultaneous space- and ground-based microlensing survey, *Pubs. Astr. Soc. Pac.* **128** 124401.
180. Ho, A. Y.-Q., Ness, M. K., Hogg, D. W., Rix, H.-W., Liu, C., Yang, F., Zhang, Y., Hou, Y., & Wang, Y., 2017, Label Transfer from *APOGEE* to *LAMOST*: Precise Stellar Parameters for 450,000 *LAMOST* Giants, *Astrophys. J.* **836** 5.
181. Price-Whelan, A. M., Hogg, D. W., Foreman-Mackey, D., & Rix, H.-W., 2017, *The Joker*: A Custom Monte Carlo Sampler for Binary-star and Exoplanet Radial Velocity Data, *Astrophys. J.* **837** 20.
182. Leistedt, B. & Hogg, D. W., 2017, Data-driven, interpretable photometric redshifts trained on heterogeneous and unrepresentative data, *Astrophys. J.* **838** 5.
183. Huppenkothen, D., Heil, L. M., Hogg, D. W., & Mueller, A., 2017, Using machine learning to explore the long-term evolution of GRS 1915+105, *Mon. Not. R. Astr. Soc.* **466** 2364–2377.
184. Casey, A. R., Hawkins, K., Hogg, D. W., *et al.*, 2017, The *RAVE-on* Catalog of stellar atmospheric parameters and chemical abundances for chemo-dynamic studies in the *Gaia* era, *Astrophys. J.* **840** 59.
185. Ho, A. Y.-Q., Rix, H.-W., Ness, M. K., Hogg, D. W., Liu, C., & Ting, Y.-S., 2017, Masses and ages for 230,000 *LAMOST* giants, via their carbon and nitrogen abundances, *Astrophys. J.* **841** 40.
186. Oh, S., Price-Whelan, A. M., Hogg, D. W., Morton, T. D., & Spergel, D. N., 2017, Comoving stars in *Gaia DR1*: An abundance of very wide separation comoving pairs, *Astron. J.* **153** 257.
187. Ntelis, P. *et al.*, 2017, Exploring cosmic homogeneity with the *BOSS DR12* galaxy sample, *J. Cosm. Astropart. Phys.* **2017**(06) 019.
188. Blanton, M. R. *et al.*, 2017, *Sloan Digital Sky Survey IV*: Mapping the Milky Way, nearby galaxies, and the distant Universe, *Astron. J.* **154** 28.
189. Hahn, C., Vakili, M., Walsh, K., Hearin, A. P., Hogg, D. W., & Campbell, D., 2017, Approximate Bayesian computation in large-scale structure: constraining the galaxy-halo connection, *Mon. Not. R. Astr. Soc.* **469** 2791–2805.
190. Hawkins, K., Leistedt, B., Bovy, J., & Hogg, D. W., 2017, Red clump stars and *Gaia*: Calibration of the standard candle using a hierarchical probabilistic model, *Mon. Not. R. Astr. Soc.* **471** 722–729.
191. Leistedt, B. & Hogg, D. W., 2017, Hierarchical probabilistic inference of the color–magnitude diagram and shrinkage of stellar distance uncertainties, *Astron. J.* **154** 222.
192. Albareti, F. D. *et al.*, 2017, The 13th Data Release of the *Sloan Digital Sky Survey*: First spectroscopic data from the *SDSS-IV* Survey mapping nearby galaxies at Apache Point Observatory, *Astrophys. J. Suppl. Ser.* **233** 25.
193. Ness, M., Rix, H.-W., Hogg, D. W., *et al.*, 2018, Galactic Doppelgänger: The chemical similarity among field stars and among stars with a common birth origin, *Astrophys. J.* **853** 198.
194. Oh, S., Price-Whelan, A. M., Brewer, J. M., Hogg, D. W., Spergel, D. N., & Myles, J., 2018, Kronos and Krios: Evidence for accretion of a massive, rocky planetary system in a comoving pair of Solar-type stars, *Astrophys. J.* **854** 138.
195. Widmark, A., Leistedt, B., & Hogg, D. W., 2018, Inferring binary and trinary stellar populations in photometric and astrometric surveys, *Astrophys. J.* **857** 114.
196. Abolfathi, B. *et al.*, 2018, The Fourteenth Data Release of the *Sloan Digital Sky Survey*: First spectroscopic data from the *Extended Baryon Oscillation Spectroscopic Survey* and from the Second phase of the *Apache Point Observatory Galactic Evolution*

Experiment, *Astrophys. J. Suppl. Ser.* **235** 42.

197. Hogg, D. W. & Foreman-Mackey, D., 2018, Data analysis recipes: Using Markov Chain Monte Carlo, *Astrophys. J. Suppl. Ser.* **236** 11.
198. El-Badry, K., Ting, Y.-S., Rix, H.-W., Quataert, E., Weisz, D. R., Cargile, P., Conroy, C., Hogg, D. W., Bergemann, M., & Liu, C., 2018, Discovery and Characterization of 3000+ Main-Sequence Binaries from *APOGEE* Spectra, *Mon. Not. R. Astr. Soc.* **476** 528–553.
199. Price-Whelan, A. M., Hogg, D. W., *et al.*, 2018, Binary companions of evolved stars in *APOGEE* DR14: Search method and catalog of ~ 5000 companions, *Astron. J.* **156** 18.
200. Huppenkothen, D., Arendt, A., Hogg, D. W., Ram, K., VanderPlas, J. T. & Rokem, A., 2018, Hack weeks as a model for data science education and collaboration, *Proc. Natl. Acad. Sci.* **115**(36) 8872–8877.
201. Rezaei Kh., S., Bailer-Jones, C. A. L., Hogg, D. W., & Schultheis, M., 2018, Detection of the Milky Way spiral arms in dust from 3D mapping, *Astron. Astrophys.* **618** A168.
202. Anderson, L., Hogg D. W., Leistedt, B., Price-Whelan, A. M., & Bovy, J., 2018, Improving *Gaia* parallax precision with a data-driven model of stars, *Astron. J.* **156** 145.
203. Frankel, N., Rix, H.-W., Ting, Y.-S., Ness, M., & Hogg, D. W., 2018, Measuring radial orbit migration in the Galactic Disk, *Astrophys. J.* **865** 96.
204. Ness, M. K., Silva Aguirre, V., Lund, M. N., Cantiello, M., Foreman-Mackey, D., Hogg, D. W., & Angus, R., 2018, Inference of stellar parameters from brightness variations, *Astrophys. J.* **866** 15.
205. Bonaca, A. & Hogg, D. W., 2018, The information content in cold stellar streams, *Astrophys. J.* **867** 101.
206. Fouesneau, M., Rix, H.-W., von Hippel, T., Hogg, D. W., & Tian, H., 2019, Precise ages of field stars from white dwarf companions, *Astrophys. J.* **870** 9.
207. Eilers, A.-C., Hogg, D. W., Rix, H.-W., & Ness, M. K., 2019, The circular velocity curve of the Milky Way from 5 to 25 kpc, *Astrophys. J.* **871** 120.
208. Mohammed, S., Schiminovich, D., Hawkins, K., Johnson, B., Wang, D., & Hogg, D. W., 2019, An ultraviolet-optical color-metallicity relation for red clump stars using *GALEX* and *Gaia*, *Astrophys. J.* **872** 95.
209. Aguado, D. S. *et al.*, 2019, The Fifteenth Data Release of the *Sloan Digital Sky Surveys*: First release of *MaNGA*-derived quantities, data visualization tools, and stellar library, *Astrophys. J. Suppl. Ser.* **240** 23.
210. Hahn, C., Beutler, F., Sinha, M., Berlind, A., Ho, S., & Hogg, D. W., 2019, Likelihood non-Gaussianity in large-scale structure analyses, *Mon. Not. R. Astr. Soc.* **485** 2956–2969.
211. Bonaca, A., Hogg, D. W., Price-Whelan, A. M., & Conroy, C., 2019, The Spur and the Gap in GD-1: Dynamical evidence for a dark substructure in the Milky Way halo, *Astrophys. J.* **880** 38.
212. Casey, A. R., *et al.*, 2019, Tidal interactions between binary stars can drive lithium production in low-mass red giants, *Astrophys. J.* **880** 125.
213. Leistedt, B., Hogg, D. W., Wechsler, R. H., DeRose, J., 2019, Hierarchical modeling and statistical calibration for photometric redshifts, *Astrophys. J.* **881** 80.
214. Bonaca, A., Conroy, C., Price-Whelan, A. M., & Hogg, D. W., 2019, Multiple components of the Jhelum stellar stream, *Astrophys. J. Lett.* **881** L37.
215. Minchev, I., Matijevic, G., Hogg, D. W., Guiglion, G., Steinmetz, M., Anders, F., Chiappini, C., Martig, M., Queiroz, A., Scannapieco, C., 2019, Yule-Simpson's paradox in Galactic archaeology, *Mon. Not. R. Astr. Soc.* **487** 3946–3957.
216. Beane, A., Sanderson, R. E., Ness, M. K., Johnston, K. V., Grion Filho, D., Mac Low, M.-M., Anglés-Alcázar, D., Hogg, D. W., & Laporte, C. F. P., 2019, The implications of local fluctuations in the Galactic midplane for dynamical analysis in the *Gaia* era, *Astrophys. J.* **883** 103.
217. Hogg, D. W., Eilers, A.-C., & Rix, H.-W., 2019, Spectrophotometric parallaxes with linear models: Accurate distances for luminous red-giant stars, *Astron. J.* **158** 147.
218. Bedell, M., Hogg, D. W., Foreman-Mackey, D., Montet, B. T., & Luger, R., 2019, *Wobble*: A data-driven method for precision radial velocities, *Astron. J.* **158** 164.
219. Angus, R. *et al.*, 2019, Toward precise stellar ages: Combining isochrone fitting with empirical gyrochronology, *Astron. J.* **158** 173.

220. Pope, B. J. S. *et al.*, 2019, The *K2* Bright Star Survey. I. Methodology and data release, *Astrophys. J. Suppl. Ser.* **245** 8.
221. Foreman-Mackey, D. *et al.*, 2019, *emcee v3*: A *Python* ensemble sampling toolkit for affine-invariant MCMC, *J. Open Source Software* **4**(43) 1864.
222. Birky, J., Hogg, D. W, Mann, A. W., & Burgasser, A., 2020, Temperatures and Metallicities of M Dwarfs in the *APOGEE* Survey, *Astrophys. J.* **892** 31.
223. 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, High-resolution Spectroscopy of the GD-1 Stellar Stream Localizes the Perturber near the Orbital Plane of Sagittarius, *Astrophys. J. Lett.* **892** L37.
224. Hey, D. R., Murphy, S. J., Foreman-Mackey, D., Bedding, T. R., Pope, B. J. S., & Hogg, D. W., 2020, Forward Modeling the Orbits of Companions to Pulsating Stars from Their Light Travel Time Variations, *Astron. J.* **159** 202.
225. Price-Whelan, A. M., Hogg, D. W, *et al.*, 2020, Close Binary Companions to *APOGEE* DR16 Stars: 20,000 Binary-star Systems Across the Color-Magnitude Diagram, *Astrophys. J.* **895** 2.
226. Ahumada, R. *et al.*, 2020, The 16th Data Release of the *Sloan Digital Sky Surveys*: First Release from the *APOGEE-2* Southern Survey and Full Release of *eBOSS* Spectra, *Astrophys. J. Suppl. Ser.* **249** 3.
227. Hey, D. R., Murphy, S. J., Foreman-Mackey, D., Bedding, T. R., Pope, B. J. S., & Hogg, D. W., 2020, *Maelstrom*: A Python package for identifying companions to pulsating stars from their light travel time variations, *J. Open Source Software* **5**(51) 2125.
228. Eilers, A.-C., Hogg, D. W., Rix, H.-W., Frankel, N., Hunt, J. A. S., Fouvry, J.-B., & Buck, T., 2020, The strength of the dynamical spiral perturbation in the Galactic disk, *Astrophys. J.* **900** 186.
229. Hunt, J. A. S., Johnston, K. V., Pettitt, A. R., Cunningham, E. C., Kawata, D. & Hogg, D. W., 2020, The power of coordinate transformations in dynamical interpretations of Galactic structure, *Mon. Not. R. Astr. Soc.* **497** 818–828.
230. Samland, M, Bouwman, J., Hogg, D. W., Brandner, W., Henning, T., & Janson, M., 2021, *TRAP*: A temporal systematics model for improved direct detection of exoplanets at small angular separations, *Astron. Astrophys.* **646** 24.
231. Zhao, L. L., Hogg D. W., Bedell, M., & Fischer, D. A., 2021, *Excalibur*: A nonparametric, hierarchical wavelength calibration method for a precision spectrograph, *Astron. J.* **161** 80.
232. Wheeler, A., Hogg, D. W., & Ness, M., 2021 An unsupervised method for identifying X-enriched stars directly from spectra: Li in *LAMOST*, *Astrophys. J.* **908** 247.
233. Storey-Fisher, K & Hogg, D. W., 2021, Two-point statistics without bins: A continuous-function generalization of the correlation function estimator for large-scale structure, *Astrophys. J.* **909** 220.
234. Price-Whelan, A. M., Hogg, D. W., *et al.*, 2021, Orbital Torus Imaging: Using Element Abundances to Map Orbits and Mass in the Milky Way, *Astrophys. J.* **910** 17.
235. Luger, R., Foreman-Mackey, D., Hedges, C., & Hogg, D. W., 2021, Mapping stellar surfaces. I. Degeneracies in the rotational light-curve problem, *Astron. J.* **162** 123.
236. Hogg, D. W. & Villar, S., 2021, Fitting very flexible models: Linear regression with large numbers of parameters, *Pubs. Astr. Soc. Pac.* **133** 093001.
237. Rix, H.-W., Hogg, D. W., Boubert, D., Brown, A. G. A., Casey, A., Drimmel, R., Everall, A., Fouesneau, M., & Price-Whelan, A. M., 2021, Selection functions in astronomical data modeling, with the space density of white dwarfs as a worked example, *Astron. J.* **162** 142.
238. Villar, S., Hogg, D. W., Storey-Fisher, K., Yao, W., & Blum-Smith, B., 2021, Scalars are universal: Equivariant machine learning, structured like classical physics (`arXiv:2106.06610`), *Advances in Neural Information Processing Systems* **35**.
239. Yao, W., Storey-Fisher, K., Hogg, D. W., & Villar, S., 2021, A simple equivariant machine learning method for dynamics based on scalars (`arXiv:2110.03761`), *Advances in Neural Information Processing Systems* **35**.
240. Eilers, A.-C., Hogg, D. W., Rix, H.-W., Ness, M. K., Price-Whelan, A. M. Mészáros, S., &

Nitschelm, C., 2022, Stellar abundance maps of the Milky Way disk, *Astrophys. J.* **928** 23.

241. Gandhi, S. S., Johnston, K. V., Hunt, J. A. S., Price-Whelan, A. M., Laporte, C. F. P., & Hogg, D. W., 2022, Snails across scales: Local and global phase-mixing structures as probes of the past and future milky way, *Astrophys. J.* **928** 80.
242. Zhao, L. L. *et al.*, 2022, The *EXPRES Stellar Signals Project* II. State of the field in disentangling photospheric velocities, *Astron. J.* **163** 171.
243. Malz, A. I. & Hogg, D. W., 2022, How to obtain the redshift distribution from probabilistic redshift estimates, *Astrophys. J.* **928** 127.
244. Abdurro'uf, A. *et al.*, 2022, The seventeenth data release of the *Sloan Digital Sky Surveys*: Complete release of *MaNGA*, *MaStar*, and *APOGEE-2* data, *Astrophys. J. Suppl. Ser.* **259** 35.
245. Huang, N., Hogg, D. W., & Villar, S., 2022, Dimensionality reduction, regularization, and generalization in overparameterized regressions, *SIAM J. Math. Data Sci.* **4**(1) 126–152.
246. Hitchcock, J. A., Bramich, D. M., Foreman-Mackey, D., Hogg, D. W., & Hundertmark, M., 2022, *The Thresher*: Lucky imaging without the waste, *Mon. Not. R. Astr. Soc.* **511** 5372–5384.
247. Hattori, S., Foreman-Mackey, D., Hogg, D. W., Montet, B. T., Angus, R., Pritchard, T. A., Curtis, J. L., & Schölkopf, B., 2022, The *unpopular* package: A data-driven approach to detrending *TESS* full-frame image light curves, *Astron. J.* **163** 284.
248. Hübner, M., Huppenkothen, D., Lasky, P. D., Inglis, A. R., Ick, C., & Hogg, D, W., 2022, Searching for quasi-periodic oscillations in astrophysical transients using Gaussian processes, *Astrophys. J.* **936** 17.
249. Miller, A. C., Anderson, L., Leistedt, B., Cunningham, J. P., Hogg, D. W., & Blei, D. M., 2022, Mapping interstellar dust with Gaussian processes, *Ann. Appl. Statist.* **16**(4) 2672–2692.
250. Eilers, A.-C., Hogg, D. W., Schölkopf, B., Foreman-Mackey, D., Davies, F. B., & Schindler, J.-T., 2022, A generative model for quasar spectra, *Astrophys. J.* **938** 17.
251. Contardo, G., Hogg, D. W., Hunt, J. A. S., Peek, J. E. G., & Chen, Y.-C., 2022, The emptiness inside: Finding gaps, valleys, and lacunae with geometric data analysis, *Astron. J.* **164** 226.
252. Pearson, S., Price-Whelan, A. M., Hogg, D. W., Seth, A. C., Sand, D. J., Hunt, J. A. S., & Crnojević, D., 2022, Mapping dark matter with extragalactic stellar streams: The case of Centaurus A, *Astrophys. J.* **941** 19.
253. Rix, H.-W. *et al.*, 2022, The poor old heart of the Milky Way, *Astrophys. J.* **941** 45.
254. Cantat-Gaudin, T. *et al.*, 2023, An empirical model of the *Gaia* DR3 selection function, *Astron. Astrophys.* **669** A55.
255. Specht, D. *et al.*, 2023, *Kepler K2* Campaign 9 – II. First space-based discovery of an exoplanet using microlensing, *Mon. Not. R. Astr. Soc.* **520** 6350–6366.
256. Villar, S., Yao, W., Hogg, D. W., Blum-Smith, B., & Dumitrascu, B., 2023, Dimensionless machine learning: Imposing exact units equivariance, *Journal of Machine Learning Research* **24**(109) 1–32.
257. Frankel, N., Bovy, J., Tremaine, S., & Hogg, D. W., 2023, Vertical motion in the Galactic disc: Unwinding the Snail, *Mon. Not. R. Astr. Soc.* **521** 5917–5926.
258. Dalcanton, J. J., Bell, E. F., Choi, Y., Dolphin, A. E., Fouesneau, M., Girardi, L, Hogg, D. W., Seth, A. C., & Williams, B. F., 2023, The Panchromatic Hubble Andromeda Treasury. XX. The disk of M31 is thick, *Astron. J.* **166** 80.
259. Almeida, A. *et al.*, 2023, The Eighteenth Data Release of the Sloan Digital Sky Surveys: Targeting and first spectra from *SDSS-V*, *Astrophys. J. Suppl. Ser.* **267** 44.
260. Alonso, D., Fabbian, G., Storey-Fisher, K., Eilers, A.-C., García-García, C., Hogg, D. W., Rix, H.-W., 2023, Constraining cosmology with the *Gaia-unWISE* Quasar Catalog and CMB lensing: Structure growth, *J. Cosm. Astropart. Phys.* **2023**(11) 043.
261. Horta, D., Price-Whelan, A. M., Hogg, D. W., Johnston, K. V., Widrow, L., Dalcanton, .J.J., Ness, M. K., & Hunt, J. A. S., 2024, Orbital Torus Imaging: Acceleration, density, and dark matter in the Galactic disk measured with element abundance gradients, *Astrophys. J.* **962** 165.
262. Griffith, E. J., Hogg, D. W., Dalcanton, J. J., Hasselquist, S., Ratcliffe, B., Ness, M., &

Weinberg, D. H., 2024, *KPM*: A flexible and data-driven K-process model for nucleosynthesis, *Astron. J.* **167** 98.

263. Storey-Fisher, K., Hogg, D. W., Rix, H.-W., Eilers, A.-C., Fabbian, G., Blanton, M. R., Alonso, D., 2024, *Quaia*, the *Gaia-unWISE* Quasar Catalog: An all-sky spectroscopic quasar sample, *Astrophys. J.* **964** 69.

Publications submitted or in preparation

Hogg, D. W. & Villar, S., Is machine learning good or bad for the natural sciences?, *Proc. Intl. Conf. Mach. Learn.* submitted.

Lang, D. & Hogg, D. W., Principled point-source detection in collections of astronomical images (arXiv:2012.15836), *Astron. J.* submitted.

Unrefereed publications

Hogg, D. W., Martin, F., & Resnick, M., 1991, Braitenberg Creatures, *E&L Memo 13,* Epistemology and Learning Group, MIT Media Laboratory, Cambridge, Massachusetts.

Smail, I., Couch, W. J., Ellis, R. S., & Hogg, D. W., 1995, Gravitational lensing by the rich cluster AC114, *Clusters of Galaxies,* eds. Durret, F., Mazure, A., & Tran Thanh Van, J., Editions Frontières, 425.

Djorgovski, S. *et al.*, 1995, Deep galaxy counts in the K band with the Keck Telescope, *Examining the Big Bang and Diffuse Background Radiation,* ed. Kafatos, M., Kluwer, Dordrecht.

Blandford, R. D. & Hogg, D. W., 1996, Gravitational telescopes, *Astrophysical Applications of Gravitational Lensing,* eds. Kochanek, C. S., & Hewitt, J. N., Cambridge University Press, Cambridge.

Danner, R. & Hogg, D. W., 1996, *The Palomar Observatory*, a 20-minute video presentation for the Palomar Observatory Visitor Center.

Hogg, D. W., 1997, *Special Relativity*, lecture notes employed in Caltech's first-year physics course, 1995–2000, and Princeton's, 1999–2001 and 2003–2004, and others (http://cosmo.nyu.edu/hogg/sr/).

Hogg, D. W., Cohen, J. G., Blandford, R., Shopbell, P., Cowie, L. L., Hu, E. M., & Songaila, A., 1997, The redshift distribution in the Hubble Deep Field, *The Hubble Space Telescope and the High Redshift Universe,* eds. Tanvir, N. R., Aragón-Salamanca, A., & Wall, J. V., Cambridge University Press, Cambridge, 147–148.

Hogg, D. W., Blandford, R., Fassnacht, C. D., Kundić, T., Brainerd, T. G., & Malhotra, S., 1997, Strong and weak gravitational lensing in the Hubble Deep Field, *The Hubble Space Telescope and the High Redshift Universe,* eds. Tanvir, N. R., Aragón-Salamanca, A., & Wall, J. V., Cambridge University Press, Cambridge, 267–268.

Arav, N. & Hogg, D. W., 1997, What is the redshift of gamma-ray burst 970508? (arXiv:astro-ph/9706068).

Hogg, D. W. & Turner, E. L., 1998, GRB 971214, association with a Galactic star?, *GRB Coordinates Network Circular* 150.

Cohen, J. G., Hogg, D. W., Blandford, R., Pahre, M. A., & Shopbell, P. L., 1998, The extremely red objects found thus far in the Caltech Faint Galaxy Redshift Survey, *Infrared Surveys: A Prelude to SIRTF,* eds. Bicay, M. D., Cutri, R. M., & Madore, B. F., ASP Conference Series **177**, 51–56.

Thorsett, S. E. & Hogg, D. W., 1999, Possible identification of SN1999E with GRB 980910, *GRB Coordinates Network Circular* 197.

Hogg, D. W., 1999, Distance measures in cosmology (arXiv:astro-ph/9905116).

Hogg, D. W., 1999, Faint field surveys: The view from Pasadena, *The Hy Redshift Universe: Galaxy Formation and Evolution at High Redshift,* eds. Bunker, A. J., & van Breugel, W. J. M., Astronomical Society of the Pacific, San Francisco, 224–233.

Hogg, D. W., Constraints on photometric calibration from observations of high-redshift type Ia supernovae (arXiv:astro-ph/0001419).

Smette, A. *et al.*, 2000, Ultraviolet Spectra of GRBs: Potential with STIS, *The Greatest Explosions Since the Big Bang: Supernovae and Gamma-Ray Bursts,* eds. Livio, M., Panagia, N., & Sahu, K., STScI, Baltimore.

Hogg, D. W. & Zaldarriaga, M., 2000, The big bang's radical brother (book review), *Science* **290** 2079–2080.

Hogg, D. W., 2001, The *Sloan Digital Sky Survey*, *IAU Symposium 204: The Extragalactic Infrared Background and its Cosmological Implications,* eds. Harwit, M., & Hauser, M. G., Astronomical Society of the Pacific, San Francisco, 209.

Hogg, D. W., 2001, A meta-analysis of cosmic star-formation history (arXiv:astro-ph/0105280).

Hogg, D. W., Baldry, I. K., Blanton, M. R., & Eisenstein, D. J., 2002, The *K* correction (arXiv:astro-ph/0210394).

Wherry, N., Blanton, M. R., & Hogg, D. W., 2004, A more informative picture of the *HST Ultra Deep Field* (arXiv:astro-ph/0406274).

Mahajan, S. & Hogg, D. W., 2004, Introductory physics: The new scholasticism (book review) (arXiv:physics/0412107).

Eisenstein, D. J., Hogg, D. W., & Padmanabhan, N., 2005, GRB 050509b: *SDSS* pre-burst observations, *GRB Coordinates Network Circular* 3418.

Hogg, D. W., 2005, Galaxy evolution with future wide-field space missions, *New Astronomy Reviews* **49** 379–386.

Hogg, D. W., 2005, What best constrains galaxy evolution in the local Universe? (arXiv:astro-ph/0512029).

Quintero, A. D., Berlind, A. A., Blanton, M. R., & Hogg, D. W., 2006, The asymmetric relations among galaxy color, structure, and environment (arXiv:astro-ph/0611361).

Hogg, D. W., 2006, Air resistance (arXiv:physics/0609156).

Hogg, D. W., 2007, Real-world ballistics: A dropped bucket (arXiv:0709.0107).

Hogg, D. W., 2008, Data analysis recipes: Choosing the binning for a histogram (arXiv:0807.4820).

Hogg, D. W., Blanton, M. R., Lang, D., Mierle, K., & Roweis, S., 2008, Automated Astrometry, *Astronomical Data Analysis Software and Systems XVII,* Argyle, R. W, Bunclark, P. S., & Lewis, J. R., eds., ASP Conference Series **394**, 27–34 (ISBN:978-1-58381-658-5).

Hogg, D. W. & Lang, D., 2008, Astronomical imaging: The theory of everything, *Classification and Discovery in Large Astronomical Surveys,* Bailer-Jones, C. A. L., ed., AIP Conference Proceedings **1082** 331–338 (ISBN:978-0-7354-0613-1).

Weiner, B. J. *et al.*, 2009, Astronomical Software Wants To Be Free: A Manifesto (arXiv:0903.3971).

Hogg, D. W., 2009, Is cosmology just a plausibility argument? (arXiv:0910.3374).

Hogg, D. W., Bovy, J., & Lang, D., 2010, Data analysis recipes: Fitting a model to data (arXiv:1008.4686).

Hogg, D. W. & Lang, D., 2011, Telescopes don't make catalogs! (arXiv:1008.0738), in *Gaia: At the frontiers of astrometry*, Turon, C., Meynadier, F., & Arenou, F., eds, EAS Publications Series **45** 351–358.

Hogg, D. W., 2012, Data analysis recipes: Probability calculus for inference (arXiv:1205.4446).

Hogg, D. W. *et al.*, 2013, Maximizing *Kepler* science return per telemetered pixel: Detailed models of the focal plane in the two-wheel era (arXiv:1309.0653).

Montet, B. T. *et al.*, 2013, Maximizing *Kepler* science return per telemetered pixel: Searching the habitable zones of the brightest stars (arXiv:1309.0654).

Hou, F., Goodman J., & Hogg, D. W., 2014, The probabilities of orbital-companion models for stellar radial velocity data (arXiv:1401.6128).

Butler-Yeoman, T., Frean, M., Hollitt, C. P., Hogg, D. W., & Johnston-Hollitt, M., 2016, Detecting diffuse sources in astronomical imaging (arXiv:1601.00266), *Astronomical Data Analysis Software and Systems XXV,* Lorente, N. P. F. & Shortridge, K., eds., ASP Conference Series.

Hogg, D. W., 2016, Bayesian Methods for the Physical Sciences: Learning from Examples in Astronomy and Physics (book review), *Physics Today* **69** 59.

Luger, R., Foreman-Mackey, D., Hogg, D. W., 2017, Linear models for systematics and nuisances *Res. Not. Amer. Astron. Soc.* **1**(1) 7.

Doré, O. *et al.*, 2018, Science impacts of the *SPHEREx* all-sky optical to near-infrared spectral survey II: Report of a community workshop on the scientific synergies between the *SPHEREx* Survey and other astronomy observatories (arXiv:1805.05489).

Hogg, D. W., 2018, A likelihood function for the *Gaia* data (arXiv:1804.07766).

Allen, G. *et al.*, 2018, Multi-messenger astrophysics: Harnessing the data revolution (arXiv:1807.04780).

Breivik, K., Price-Whelan, A. M., D'Orazio, D. J, Hogg, D. W., Johnson, L. C., Moe, M., Morton, T. D., & Tayar, J., 2019, Stellar multiplicity: An interdisciplinary nexus (arXiv:1903.05094).

Hogg, D. W. & Schiminovich, D., 2019, A better consensus: Changes to the Decadal process itself (arXiv:1907.04867).

Hogg, D. W., Price-Whelan, A. M., & Leistedt, B., 2020, Data Analysis Recipes: Products of multivariate Gaussians in Bayesian inferences (arXiv:2005.14199).

Hogg, D. W., 2022, Magnitudes, distance moduli, bolometric corrections, and so much more (arXiv:2206.00989).

Villar, S, Hogg, D. W., Yao, W., Kevrekedis, G. A., & Schölkopf, B., 2023, The passive symmetries of machine learning (arXiv:2301.13724).

Code and other non-standard publications

Lang, D., Hogg, D. W., Mierle, K., Blanton, M., & Roweis, S., 2008, *Astrometry.net* codebase, GPLv2 License, automated recognition and calibration for astronomical images (http://astrometry.net/).

Bovy, J., Hogg, D. W., & Roweis, S., 2009, *extreme-deconvolution* codebase, GPLv2 License, for modeling distributions in the presence of noise (http://code.google.com/p/extreme-deconvolution/).

Foreman-Mackey, D., Hogg, D. W., Lang, D., & Goodman, J., 2012, *emcee* codebase, MIT License, an adaptive ensemble sampler (http://danfm.ca/emcee/).

Foreman-Mackey, D. & Hogg, D. W., 2012, *Daft* codebase, MIT license, for drawing graphical models (http://daft-pgm.org/).

Price-Whelan, A., Hogg, D. W., & Foreman-Mackey, D., 2017, *The Joker* codebase, MIT License, a custom Monte Carlo sampler for the two-body problem (http://github.com/adrn/thejoker).

Bedell, M., Hogg, D. W., & Foreman-Mackey, D., 2019, *wobble* codebase, MIT license, a data-driven model for making precise radial-velocity measurements (https://wobble.readthedocs.io/en/latest/).

Invited talks

List available upon request.