James R. A. Davenport

Curriculum Vitae

University of Washington
Department of Astronomy
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	Research Assistant Professor, Department of Astronomy	2020 – Present
	Associate Director, DiRAC Institute	
	University of Washington, Seattle, WA	
	Research Scientist	2018 – 2020
	University of Washington, Seattle, WA	
	NSF Astronomy & Astrophysics Postdoctoral Fellowship	2015 – 2018
	Western Washington University, Bellingham, WA	
Education	Ph.D. in Astronomy	2015
	Thesis: Spots and Flares: Stellar Activity in the Time Domain Era	
	M.S. in Astronomy	2010
	University of Washington, Seattle, WA	
	M.S. in Astronomy	2009
	San Diego State University, San Diego, CA	
	B.S. in Astronomy	2007
	B.S. in Physics	
	University of Washington, Seattle, WA	
Professional Experience	Graduate Student Intern (Microsoft Research, Redmond)	Summer 2013
	3.5-m Observing Specialist (Apache Point Observatory)	Summer 2007
Teaching Experience	Instructor (UW)	
	ASTR421: Stellar Observation and Theory	2022
	ASTR511: Galactic Astronomy	2023
	Data Science Seminar Instructor (WWU)	2016, 2018
	Student Instructor (UW)	2010, 2011
	Teaching Assistant (UW)	2005 – 2007, 2010 – 2013
	Teaching Assistant (SDSU)	2007
	Upward Bound Teaching Assistant (UW)	Summer 2006
Professional Affiliations	Adjunct Professor, DXARTS (UW)	2021 – Present
	LSSTC Board Institutional Rep	2020 – Present
	Scialog Fellow	2018, 2019
	NExSS Steering Committee Member	2018 – Present
	ISSI Meeting: Quasi-periodic Pulsations in Stellar Flares (Bern, Switzerland)	2016 – 2017
	Kavli Workshop on Maximizing Science in the Era of LSST (Tucson, AZ)	2016
	Large Synoptic Survey Telescope	2009 – Present
	Sloan Digital Sky Survey collaboration	2007 – Present
	American Astronomical Society	2006 – Present

Recent Awards & Funding

NASA TESS Cycle 5 ($50,000) GO 5105 2022
"Characterizing Activity Cycles with Flares from TESS" (P-I: **J. Davenport**)

UW Student Tech Fee ($1158) Proposal #2021-58 2021
"Building a UW Global Meteor Network Station"

NASA TESS Cycle 3 ($40,000) GO 3227 2020
"Detecting Activity Cycles Using Stellar Flares" (P-I: **J. Davenport**)

NASA TESS Directors Discretionary Time (DDT 009) 2020
"New Eclipses from the Former Eclipsing Binary QX Cas" (P-I: **J. Davenport**)

Heising-Simons Foundation, Scialog ($50,000) 2019
"A Galactic Census of Eclipsing Binaries" (P-I: **J. Davenport & T. Brandt**)

NASA TESS Cycle 2 ($200,000) 2019
"Measuring Long Rotation Periods from TESS's Short Light Curves" (P-I: R. Angus)

NASA TESS Cycle 1 ($50,000) GO 11264 2018
"Superflare Rates in GKM Stars with TESS" (P-I: **J. Davenport**)

NASA TESS Cycle 1 ($50,000) 2018
"Exploring The Variability Of Ultracool Dwarfs With Tess" (P-I: J. S. Pineda)

NASA ADAP ($211,732) 2017
"Measuring Stellar Rotation with K2" (P-I: **J. Davenport**)

NASA K2 Cycle 5 GO14001 2017
"Gyrochronology and Magnetic Activity in Wide Binaries with K2" (P-I: **J. Davenport**)

XSEDE Open Science Grid, Startup Allocation (100k SUs) 2016
"Exploring the Physics of Starspots with Kepler Data" (P-I: **J. Davenport**)

NSF Astronomy & Astrophysics Postdoctoral Fellowship ($278,000) 2015
"Using Stellar Activity to Measure the Ages of Stars in the Era of Giant Photometric Surveys" (P-I: **J. Davenport**)

Invited Talks

"Boom!" (Urbana-Champaign, IL) **video** 2022
Invited Talk, Breakthrough Discuss (Santa Cruz, CA) **video** 2022
CEHW Seminar, The Pennsylvania State University 2022
Colloquium, University of California San Diego & San Diego State University 2021
Colloquium, University of British Columbia 2021
Seminar, University of Delaware 2021
Colloquium, University of Washington **video** 2019
GeekWire Summit (Seattle, WA) **video** 2018
Colloquium, Lowell Observatory 2018
CEHW Seminar, The Pennsylvania State University 2017
Colloquium, University of Texas at Austin 2017
Colloquium, University of British Columbia 2017
Invited Speaker, Northwest Astronomers Meeting 2016
Data Visualization in Python, Code Fellows (Seattle, WA) 2016
Invited Splinter Talk, Cool Stars 19 Flares Splinter (Uppsala, Sweden) **video** 2016
Colloquium, High Altitude Observatory, UCAR (Boulder, CO) **video** 2015
Colloquium, Dept. of Physics & Astronomy, WWU (Bellingham, WA) 2015
Workshop, Data Science Training for Librarians (Harvard) 2015
Data Visualization in Python, Code Fellows (Seattle, WA) 2014
Keynote, Thinking with your Eyes (Harvard) **video** 2014

"Seattle NerdNite" 20 **video**	2013
"Seattle Ignite!" 19 **video**	2013

Media & Public Engagement

An up to date list of media coverage is available on my website.

My science and data visualization blog, **ifweassume.com**, has received over 2 million views. Featured data analysis projects including **Airports of the World** and **The United States of Starbucks**, have resulted in international media coverage.

Service & Outreach

LSSTC Catalyst Fellowship "Ideas Lab" Chair	2021 – Present
LSSTC Catalyst Fellowship Steering Committee	2021 – Present
LSSTC Member Institution Representative	2021–Present
SETI.news monthly newsletter editor	2016 – Present
Cool Stars 20.5, LOC – GatherTown Organizer	2021
Gaia/TESS Sprint Organizer	2018 – Present
Northwest x Southwest Astronomers Meeting 2018 SOC	2018
SPARCS Systems Requirements Review Panel (ASU)	2018, 2019
NASA Grant Review Panels	
NSF Grant Review Panels	
AAS Agents Program (WWU)	
AAS Chambliss Poster Judge	
Journal Referee (ApJ, ApJS, ApJL, AJ, MNRAS, A&A, RMxAA, JAAVSO)	
Panelist, ComSciCon-PNW (Seattle, WA)	2017
Northwest Astronomers Meeting 2016 SOC Co-Chair	2016
Panelist, Mix It Up: The STEM Mosaic (WWU)	2016
ExoClimes 2016 Organizer (Quest University, British Columbia, CA)	2016
STEM Career Fair (Sammamish High School, Bellevue WA)	2014
Judge (John Hunter Python Plotting Contest)	2014 – 2018
APO–UW Time Allocation Committee	2012 – 2014
Graduate & Professional Student Library Advisory Committee (UW)	2012 – 2014
Speaker (Everett Astro. Soc., Seattle Astro. Soc.)	2013
Astro Admissions Committee Grad Representative (UW)	2011 – 2012
Cool Stars 16 LOC (UW)	2010
Science Olympiad Tutor (Aviation High School, Seattle)	2006
Volunteer Lecturer (Center for Talented Youth)	October 2006
Open House Speaker (Theodor Jacobson Observatory, UW)	2003 – 2006

1st Author Publications

27. Searching the SETI Ellipsoid with Gaia
Davenport, J.R.A., et al. *ApJ In Press* (2022)
26. The Rise and Fall of the Eclipsing Binary, HS Hydrae
Davenport, J.R.A., et al. *AJ* 162, 189 (2021)
25. 10 Years of Stellar Activity for GJ 1243
Davenport, J.R.A., Tovar Mendoza, G., Hawley, S. L. *AJ* , 160, 36 (2020)
24. SETI in the Spatio-Temporal Survey Domain
Davenport, J.R.A. arXiv # 1907.04443 (2019)
23. Photometric Metallicities for Low-Mass Stars with Gaia and WISE
Davenport, J.R.A., Dorn-Wallenstein, T.Z. *RNAAS*, 3, 3, (2019)
22. The Evolution of Flare Activity with Stellar Age
Davenport, J.R.A. et al. *ApJ* 871, 241 (2019)
21. Rotating Stars from Kepler Observed with Gaia DR2
Davenport, J.R.A. & Covey, K. R., *ApJ* 868, 151 (2018)
20. The GALEX View of "Boyajian's Star" (KIC 8462852)
Davenport, J.R.A. et al. *ApJ* 853, 130 (2018)
19. Rotating Stars from Kepler Observed in Gaia DR1
Davenport, J.R.A.*ApJ* 835, 16 (2017)
18. Infrared Flares from M Dwarfs: a Hinderance to Future Transiting Exoplanet Studies
Davenport, J.R.A., *RNAAS*, 1, 2 (2017)
17. *MOST* Observations of our Nearest Neighbor: Flares on Proxima Centauri
Davenport, J.R.A., Kipping, D.M., et al., *ApJ* 829L, 31 (2016)
16. The Kepler Catalog of Stellar Flares
Davenport, J.R.A. *ApJ*, 829, 23 (2016)
15. Searching for "Tabby's Star" Analogs in Stripe 82
Davenport, J.R.A. & Ruan, J. J. (2016), The Journal of Brief Ideas
14. Measuring Differential Rotation & Starspot Evolution on the M Dwarf GJ 1243 with Kepler
Davenport, J.R.A. et al. *ApJ*, 806, 212 (2015)
13. SDSSJ14584479+3720215: A Benchmark JHK$_s$ Blazar Light Curve from the 2MASS Calibration Scans
Davenport, J.R.A., Ruan, J.J., et al., *ApJ*, 803, 2 (2015)
12. The Galactic Astigmatism: Constraining the Milky Way Dark Matter Halo Using Ultra-Weak Lensing
Davenport, J.R.A. (2015), The Journal of Brief Ideas
11. Kepler Flares II: The Temporal Morphology of White-Light Flares on GJ 1243
Davenport, J.R.A. et al., *ApJ*, 797, 122 (2014)
10. Studying Gender in Conference Talks – data from the 223rd meeting of the American Astronomical Society
Davenport, J.R.A., et al. (2014), arXiv #1403.3091
9. The Readability of Tweets and their Geographic Correlation with Education
Davenport, J.R.A. & DeLine, R. (2014), arXiv #1401.6058
8. The SDSS–2MASS–WISE 10 Dimensional Stellar Color Locus
Davenport, J.R.A., et al., *MNRAS*, 440, 3430 (2014)
7. The Very Short Period M Dwarf Binary SDSS J001641–000925
Davenport, J.R.A., et al., *ApJ*, 764, 62 (2013)
6. Unidentified Moving Objects in Next Generation Time Domain Surveys
Davenport, J.R.A., (2013) arXiv #1303.7433

5. Visible Improvements, Review of *Visual Strategies: a Practical Guide for Scientists and Engineers* **Davenport, J.R.A.**, Physics World, February 2013
4. Multi-wavelength characterization of stellar flares on low-mass stars using SDSS and 2MASS time domain surveys
Davenport, J.R.A., et al. *ApJ*, 748, 58 (2012)
3. Death of a cluster: the destruction of M67 as seen by the SDSS
Davenport, J.R.A. & Sandquist, E. L, *ApJ*, 711, 559 (2010)
2. Improved Photometric Calibrations for Red Stars Observed with the SDSS Photometric Telescope
Davenport, J.R.A., Bochanski, Covey, Hawley, West, Schneider, *AJ*, 134, 2430 (2007)
1. Sloan/Johnson-Cousins/2MASS Color Transformations for Cool Stars
Davenport, J.R.A., West, A. A., et al., *PASP*, 118, 850 (2006)

Co–Author Publications

67. The Properties of Fast Yellow Pulsating Supergiants: FYPS Point the Way to Missing Red Supergiants
Dorn-Wallenstein, T. Z. **et al.** *AJ submitted*
66. Rubin Observatory LSST Transients and Variable Stars Roadmap
Hambleton, K. M. **et al.** arXiv # 2208.04499 (2022)
65. Whitepaper: From Data to Software to Science with the Rubin Observatory LSST
O'Mullane, W. **et al.** arXiv # 2208.02781 (2022)
64. Llamaradas Estelares: Modeling the Morphology of White-Light Flares
Tovar Mendoza, G., **Davenport, J.R.A.**, et al. *AJ in press* (2022)
63. 370 New Eclipsing Binary Candidates from TESS Sectors 1-26
Howard, E. L., **Davenport, J.R.A.**, & Covey, K. R. *RNAAS* 6, 96 (2022)
62. Final Report for SAG 21: The Effect of Stellar Contamination on Space-based Transmission Spectroscopy
Rackham, B. V., **et al.** arXiv # 2201.09905 (2022)
61. Simultaneous Multiwavelength Flare Observations of EV Lacertae
Paudel, R. R. **et al.** *ApJ* 922, 31 (2021)
60. Giant white-light flares on fully convective stars occur at high latitudes
Ilin, E., **et al.** *MNRAS* 507, 1723 (2021)
59. How to organize an online conference – Lessons learned from Cool Stars 20.5 (virtually cool)
Günther, H. M. **Davenport, J.R.A.**, et al. arXiv # 2105.08795 (2021)
58. Photometric Classifications of Evolved Massive Stars: Preparing for the Era of Webb and Roman with Machine Learning
Dorn-Wallenstein, T. Z., **Davenport, J.R.A.**, et al. *ApJ* 913, 32 (2021)
57. Stellar Rotation in the K2 Sample: Evidence for Broken Spindown
Gordon, A. A., **Davenport, J.R.A.**, et al. *ApJ* 913, 70 (2021)
56. Flares in Open Clusters with K2. II. Pleiades, Hyades, Praesepe, Ruprecht 147, and M67
Ilin, E., **et al.** *A&A* 645, A42 (2021)
55. Short Term Variability of Evolved Massive Stars with TESS II: A New Class of Cool, Pulsating Supergiants
Dorn-Wallenstein, T. Z., **et al.** *ApJ* 902, 24 (2020)
54. Deconfusing the Confusogram: Getting New Insights from Zeeman Doppler Imaging
Sebastian Pineda, J. & **Davenport, J.R.A.** *RNAAS* 4, 6 (2020)
53. Temporal Evolution of Spatially Resolved Individual Star Spots on a Planet-hosting Solar-type Star: Kepler-17
Namekata, K, **Davenport, J.R.A.**, et al. *ApJ* 891, 103 (2020)

52. A blueprint of state-of-the-art techniques for detecting quasi-periodic pulsations in solar and stellar flares
Broomhall, A-M, **Davenport, J.R.A.**, et al. *ApJS* 244, 44 (2019)

51. Using Flare Rates to Search for Stellar Activity Cycles
Scoggins, M., **Davenport, J.R.A.**, Covey, K.R., *RNAAS* 3, 137 (2019)

50. High Fidelity Imaging of the Inner AU Mic Debris Disk: Evidence of Differential Wind Sculpting?
Wisniewski, J. P., Kowalski, A. F., **Davenport, J.R.A.**, et al.*ApJL* 883, 8 (2019)

49. Do Kepler superflare stars really include slowly-rotating Sun-like stars? – Results using APO 3.5m telescope spectroscopic observations and Gaia-DR2 data
Notsu, Y., **et al.** *ApJ* 876, 58 (2019)

48. Rotation Period Evolution in Low-Mass Binary Stars: The Impact of Tidal Torques and Magnetic Braking
Fleming, D. P., Barnes, R., **Davenport, J.R.A.**, Luger, R., *ApJ* 881, 88 (2019)

47. Short Term Variability of Evolved Massive Stars with TESS
Dorn-Wallenstein, T. Z., Levesque, E. M., & **Davenport, J.R.A.**, *ApJ* 878, 155 (2019)

46. The Solar Benchmark: Rotational Modulation of the Sun Reconstructed from Archival Sunspot Records
Morris, B. M. **Davenport, J.R.A.** et al. *MNRAS* 484, 3244 (2019)

45. Flares in Open Clusters with K2. I. M45 (Pleiades), M44 (Praesepe) and M67
Ilin, E. **et al.***A&A* in press (2018)

44. A Significant Over-Luminosity in the Transiting Brown Dwarf CWW 89Ab
Beatty, T. G. **et al.***AJ* 156, 168 (2018)

43. ZTF Bright Transient Survey classifications
Graham, M. L. **et al.**, *ATEL*, 11745 (2018)

42. Possible Bright Starspots on TRAPPIST-1
Morris, B. M. **et al.***ApJ* 857, 39 (2018)

41. Spotting Stellar Activity Cycles in Gaia Astrometry
Morris, B. M. **et al.***MNRAS* 476, 5408 (2018)

40. The First Post-Kepler Brightness Dips of KIC 8462852
Boyajian, T. S. **et al.***ApJL* 853, 8 (2018)

39. Flare Activity of Wide Binary Stars with Kepler
Clarke, R. W., **Davenport, J.R.A.**, et al., *ApJ* 853, 59 (2018)

38. Who asks questions at astronomy meetings?
Schmidt, S. J., & **Davenport, J.R.A.**, Nature Astronomy 1, 0153 (2017)

37. Modeling Repeated M-dwarf Flaring at an Earth-like Planet in the Habitable Zone: Atmospheric Effects for an Unmagnetized Planet
Tilley, M. A. **et al.** *Astrobiology* (2018)

36. Chromospheric Activity of HAT-P-11: an Unusually Active Planet-Hosting K Star
Morris, B. M., **et al.** *ApJ* 848, 58 (2017)

35. The Role of Gender in Asking Questions at Cool Stars 18 and 19
Schmidt, S. J., **et al.** (2017) arXiv #1704.05260

34. Tidal Synchronization and Differential Rotation of Kepler Eclipsing Binaries
Lurie, J. C., **et al.** *AJ* 154, 250 (2017)

33. The Starspots of Hat-P-11: Evidence for a Solar-Like Dynamo
Morris, B. M., **et al.** *ApJ* 846, 99 (2017)

32. Orbiting Clouds of Material at the Keplerian Co-Rotation Radius of Rapidly Rotating Low Mass WTTs in Upper Sco
Stauffer, J. **et al.** (2017) *AJ*, 153, 152 (2017)

31. No Conclusive Evidence For Transits Of Proxima B In MOST Photometry;
Kipping, D. M. **et al.** *AJ*, 153, 93 (2017)
30. Kepler Flares IV: A Comprehensive Analysis of the Activity of GJ 1243;
Silverberg, S. M., **et al.**, *ApJ*, 829, 129, (2016)
29. Maximizing Science in the Era of LSST, Stars Study Group Report: Rotation and Magnetic Activity in the Galactic Field Population and in Open Star Clusters
Hawley, S.L, **et al.** (2016) Kavli Workshop White Paper
28. Examining the relationships between colour, T_{eff}, and [M/H] for APOGEE K and M dwarfs;
Schmidt, S. J. **et al.**, *MNRAS*, 460, 2611 (2016)
27. The Time-Domain Spectroscopic Survey: Understanding the Optically Variable Sky with SEQUELS in SDSS-III;
Ruan, J. J. **et al.**, *ApJ* 825, 137 (2016)
26. The MUSCLES Treasury Survey I: Motivation and Overview;
France, K., **et al.**, *ApJ*, 820, 89 (2016)
25. Characterizing the Rigidly Rotating Magnetosphere Stars HD 345439 and HD 23478;
Wisniewski, J. P., **et al.**, *ApJL*, 811, 26 (2015)
24. The Time Domain Spectroscopic Survey: Variable Object Selection and Anticipated Results;
Morganson, E., **et al.**, *ApJ*, 806, 244 (2015)
23. The Eleventh and Twelfth Data Releases of the Sloan Digital Sky Survey: Final Data from SDSS-III;
Alam, S., **et al.**, *ApJS*, 219, 12 (2015)
22. Testing the recovery of stellar rotation signals from Kepler light curves using a blind hare-and-hounds exercise;
Aigrain, S., **et al.**, *MNRAS*, 450, 3211 (2015)
21. BOSS Ultracool Dwarfs I: Colors and Magnetic Activity of M and L dwarfs;
Schmidt, S. J., **et al.**, *AJ*, 149, 158 (2015)
20. Kepler Flares III: Stellar Activity on GJ 1245 A and B;
Lurie, J. C., **Davenport, J.R.A.**, Hawley, S. L., et al., *ApJ*, 800, 95 (2015)
19. Hα Emission From Active Equal-mass, Wide M Dwarf Binaries;
Gunning, H. C., Schmidt, S. J, **Davenport, J.R.A.** et al., *PASP*, 126, 108 (2014)
18. Kepler Flares I: Active and Inactive M dwarfs;
Hawley, S. L., **Davenport, J.R.A.** et al., *ApJ*, 797, 121 (2014)
17. Discovery of Two Rare Rigidly-Rotating Magnetosphere Stars in the APOGEE Survey;
Eikenberry, S. S., **et al.**, *ApJL*, 748, 30 (2014)
16. High-Precision 2MASS JHK_s Light Curves and Other Data for RR Lyrae Star SDSSJ 015450+001501: Strong Constraints for Non-Linear Pulsation Models;
Szabó, R., **et al.**, *ApJ*, 780, 92 (2013)
15. Time-resolved Properties and Global Trends in dMe Flares from Simultaneous Photometry and Spectra;
Kowalski, A. K., **et al.**, *ApJS*, 207, 15 (2013)
14. The Multi-object, Fiber-fed Spectrographs for the Sloan Digital Sky Survey and the Baryon Oscillation Spectroscopic Survey;
Smee, S. A., **et al.**, *AJ*, 146, 32 (2013)
13. The Baryon Oscillation Spectroscopic Survey of SDSS-III;
Dawson, K., **et al.**, *AJ*, 145, 10 (2013)
12. The Ninth Data Release of the Sloan Digital Sky Survey: First Spectroscopic Data from the SDSS-III Baryon Oscillation Spectroscopic Survey;
Ahn, C. P., **et al.**, *ApJS*, 203, 21 (2012)

11. Characterizing the Optical Variability of Bright Blazars: Variability-based Selection of Fermi Active Galactic Nuclei;
Ruan, J. J., **et al.**, *ApJ*, 760, 51 (2012)

10. A Multi-survey Approach to White Dwarf Discovery;
Sayres, C., **et al.**, *AJ*, 143, 103 (2012)

9. Hα Emission Variability in Active M Dwarfs;
Bell, K. J.; Hilton, E.J.; **Davenport, J.R.A.**; et al. *PASP*, 124, 14 (2012)

8. SDSS-III: Massive Spectroscopic Surveys of the Distant Universe, the Milky Way Galaxy, and Extra-Solar Planetary Systems;
Eisenstein, D. J., **et al.** *AJ*, 142, 72 (2011)

7. The Eighth Data Release of the Sloan Digital Sky Survey: First Data from SDSS-III;
Aihara, H., **et al.**, *ApJS*, 193, 29 (2011)

6. The Sloan Digital Sky Survey DR7 Spectroscopic M Dwarf Catalog. I: Data;
West, A. A., **et al.**, *AJ* 141, 97 (2011)

5. The Number of Rotations per Stellar Activity Cycle in G and K Main Sequence Stars;
Erika Böhm-Vitense & **J.R.A. Davenport**
Cool Stars 16 Conference, 2010 (Seattle, WA)

4. The Seventh Data Release of the Sloan Digital Sky Survey;
Abazajian, K. N. **et al.**, *ApJS*, 182, 543 (2009)

3. The Luminosity and Mass Functions of Low-Mass Stars in the Galactic Disk: I. The Calibration Region;
Covey, K. R., **et al.**, *AJ*, 136, 1778 (2008)

2. Time-Resolved Photometry of the Optical Counterpart of Swift J2319.4+2619;
Shafter, A. W., **Davenport, J.R.A.**, et al., *PASP*, 120, 374-379, (2008)

1. The Sixth Data Release of the Sloan Digital Sky Survey;
Adelman-McCarthy, J. K, **et al.**, *ApJS*, 175, 297-313 (2008)