James R. A. Davenport

Curriculum Vitae

University of Washington
Department of Astronomy
Box 358510, Seattle WA, 98195

jrad@uw.edu
jradavenport.github.io
ifweassume.com

	Research Scientist, DIRAC Institute University of Washington, Seattle, WA	2018 –
Postdoctoral Experience	DIRAC Institute Postdoctoral Fellow University of Washington, Seattle, WA	2017 – 2018
	NSF Astronomy & Astrophysics Postdoctoral Fellowship Western Washington University, Bellingham, WA	2015 – 2018
Education	Ph.D. in Astronomy *Thesis: Spots and Flares: Stellar Activity in the Time Domain Era*	2015
	M.S. in Astronomy University of Washington, Seattle, WA	2010
	M.S. in Astronomy San Diego State University, San Diego, CA	2009
	B.S. in Astronomy B.S. in Physics University of Washington, Seattle, WA	2007
Professional Experience	Graduate Student Intern (Microsoft Research, Redmond)	Summer 2013
	3.5-m Observing Specialist (Apache Point Observatory)	Summer 2007
Teaching Experience	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
Honors	Scialog Fellow	2018, 2019
	NSF Astronomy & Astrophysics Postdoctoral Fellowship	2015 – 2018
	AAS 225 Rodger Doxsey Travel Prize	2015
	AAS Chambliss Poster Award (Honorable Mention)	2011, 2012
	Cliff E. Smith & Ruth Kinnell Graduate Fellowship (SDSU)	2008 – 2009
	Awona Harrington Astronomy Scholarship (SDSU)	2008
	John Baer Prize (UW)	2006
	Masonic Tribute Award	2002

Technical Skills

Data Reduction, analysis, and visualization with Python, MySQL, IDL, IRAF
High throughput computing with Condor
Survey & time-domain data retrieval and analysis
Optical/Near-Infrared Photometry
Optical Spectroscopy

Invited Talks

Colloquium, University of Washington	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
Astronomy of Tap Seattle V	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

Awards & Funding

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

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

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**)

UW Student Technology Fee: ($36,900) 2015
"Manastash Ridge Observatory Imaging Camera Upgrade"

NASA *Kepler* GO Cycle 5 2013
"Starspot Evolution on Active Mid-M dwarfs" (P-I: **J. Davenport**)

UW Student Technology Fee ($22,600) 2013
"Student Research at the Frontier of High Performance Computing"

Media & Public Engagement

Results from Flares on Proxima Centauri have been reported on by PBS, Scientific American, and others. 2016

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. 2012 – Present

Service & Outreach

Gaia/TESS Satellite Sprint Organizer	2018, 2019
Northwest x Southwest Astronomers Meeting 2018 SOC	2018

SPARCS Systems Requirements Review Panel (ASU)	2018
NSF Grant Review Panel	
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 – 2016
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

Professional Affiliations

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

Refereed 1st Author Publications

17. Constraining Starspot Latitudes Using Transiting Exoplanets
Davenport, J.R.A., Morris, B. M., et al. *in prep*
16. SETI in the Spatial-Temporal Survey Domain
Davenport, J.R.A. *AJ submitted*
15. The Evolution of Flare Activity with Stellar Age
Davenport, J.R.A. et al. *ApJ* 871, 241 (2019)
14. Rotating Stars from Kepler Observed with Gaia DR2
Davenport, J.R.A. & Covey, K. R., *ApJ* 868, 151 (2018)
13. The GALEX View of "Boyajian's Star" (KIC 8462852)
Davenport, J.R.A. et al. *ApJ* 853, 130 (2018)
12. Rotating Stars from Kepler Observed in Gaia DR1
Davenport, J.R.A.*ApJ* 835, 16 (2017)
11. *MOST* Observations of our Nearest Neighbor: Flares on Proxima Centauri
Davenport, J.R.A., Kipping, D.M., et al., *ApJ* 829L, 31 (2016)
10. The Kepler Catalog of Stellar Flares
Davenport, J.R.A. *ApJ*, 829, 23 (2016)
9. Measuring Differential Rotation & Starspot Evolution on the M Dwarf GJ 1243 with Kepler
Davenport, J.R.A. et al. *ApJ*, 806, 212 (2015)
8. 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)
7. Kepler Flares II: The Temporal Morphology of White-Light Flares on GJ 1243
Davenport, J.R.A. et al., *ApJ*, 797, 122 (2014)

6. The SDSS–2MASS–WISE 10 Dimensional Stellar Color Locus
Davenport, J.R.A., et al., *MNRAS*, 440, 3430 (2014)
5. The Very Short Period M Dwarf Binary SDSS J001641–000925
Davenport, J.R.A., et al., *ApJ*, 764, 62 (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)

Other Publications

Photometric Metallicities for Low-Mass Stars with Gaia and WISE
Davenport, J.R.A., Dorn-Wallenstein, T.Z. *RNAAS*, 3, 3, (2019)

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

Infrared Flares from M Dwarfs: a Hinderance to Future Transiting Exoplanet Studies
Davenport, J.R.A., *RNAAS*, 1, 1 (2017)

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

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

Searching for "Tabby's Star" Analogs in Stripe 82
Davenport, J.R.A. & Ruan, J. J. (2016), The Journal of Brief Ideas

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

The Galactic Astigmatism: Constraining the Milky Way Dark Matter Halo Using Ultra-Weak Lensing
Davenport, J.R.A. (2015), The Journal of Brief Ideas

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

The Readability of Tweets and their Geographic Correlation with Education
Davenport, J.R.A. & DeLine, R. (2014), arXiv #1401.6058

Unidentified Moving Objects in Next Generation Time Domain Surveys
Davenport, J.R.A., April Fools 2013 arXiv #1303.7433

Visible Improvements, Review of *Visual Strategies: a Practical Guide for Scientists and Engineers*
Davenport, J.R.A., Physics World, February 2013

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)

Refereed Co-Author Publications

45. 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.*AAS Journals* Submitted (2019)
44. 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)
43. 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* in press (2019)
42. Short Term Variability of Evolved Massive Stars with TESS
Dorn-Wallenstein, T. Z., Levesque, E. M., & **Davenport, J.R.A.**, *ApJ* 878, 155 (2019)
41. 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)
40. Flares in Open Clusters with K2. I. M45 (Pleiades), M44 (Praesepe) and M67
Ilin, E. **et al.***A&A* in press (2018)
39. A Significant Over-Luminosity in the Transiting Brown Dwarf CWW 89Ab
Beatty, T. G. **et al.***AJ* 156, 168 (2018)
38. Possible Bright Starspots on TRAPPIST-1
Morris, B. M. **et al.***ApJ* 857, 39 (2018)
37. Spotting Stellar Activity Cycles in Gaia Astrometry
Morris, B. M. **et al.***MNRAS* 476, 5408 (2018)
36. The First Post-Kepler Brightness Dips of KIC 8462852
Boyajian, T. S. **et al.***ApJL* 853, 8 (2018)
35. Flare Activity of Wide Binary Stars with Kepler
Clarke, R. W., **Davenport, J.R.A.**, et al., *ApJ* 853, 59 (2018)
34. 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)
33. Chromospheric Activity of HAT-P-11: an Unusually Active Planet-Hosting K Star
Morris, B. M., **et al.** *ApJ* 848, 58 (2017)
32. Tidal Synchronization and Differential Rotation of Kepler Eclipsing Binaries
Lurie, J. C., **et al.** *AJ* 154, 250 (2017)
31. The Starspots of Hat-P-11: Evidence for a Solar-Like Dynamo
Morris, B. M., **et al.** *ApJ* 846, 99 (2017)
30. 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)
29. No Conclusive Evidence For Transits Of Proxima B In MOST Photometry;
Kipping, D. M. **et al.** *AJ*, 153, 93 (2017)
28. Kepler Flares IV: A Comprehensive Analysis of the Activity of GJ 1243;
Silverberg, S. M., **et al.**, *ApJ*, 829, 129, (2016)
27. 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)
26. The Time-Domain Spectroscopic Survey: Understanding the Optically Variable Sky with SEQUELS in SDSS-III;
Ruan, J. J. **et al.**, *ApJ* 825, 137 (2016)
25. The MUSCLES Treasury Survey I: Motivation and Overview;
France, K., **et al.**, *ApJ*, 820, 89 (2016)

24. Characterizing the Rigidly Rotating Magnetosphere Stars HD 345439 and HD 23478;
Wisniewski, J. P., **et al.**, *ApJL*, 811, 26 (2015)
23. The Time Domain Spectroscopic Survey: Variable Object Selection and Anticipated Results;
Morganson, E., **et al.**, *ApJ*, 806, 244 (2015)
22. 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)
21. 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)
20. BOSS Ultracool Dwarfs I: Colors and Magnetic Activity of M and L dwarfs;
Schmidt, S. J., **et al.**, *AJ*, 149, 158 (2015)
19. 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)
18. 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)
17. Kepler Flares I: Active and Inactive M dwarfs;
Hawley, S. L., **Davenport, J.R.A.** et al., *ApJ*, 797, 121 (2014)
16. Discovery of Two Rare Rigidly-Rotating Magnetosphere Stars in the APOGEE Survey;
Eikenberry, S. S., **et al.**, *ApJL*, 748, 30 (2014)
15. 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)
14. Time-resolved Properties and Global Trends in dMe Flares from Simultaneous Photometry and Spectra;
Kowalski, A. K., **et al.**, *ApJS*, 207, 15 (2013)
13. 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)
12. The Baryon Oscillation Spectroscopic Survey of SDSS-III;
Dawson, K., **et al.**, *AJ*, 145, 10 (2013)
11. 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)
10. Characterizing the Optical Variability of Bright Blazars: Variability-based Selection of Fermi Active Galactic Nuclei;
Ruan, J. J., **et al.**, *ApJ*, 760, 51 (2012)
9. A Multi-survey Approach to White Dwarf Discovery;
Sayres, C., **et al.**, *AJ*, 143, 103 (2012)
8. Hα Emission Variability in Active M Dwarfs;
Bell, K. J.; Hilton, E.J.; **Davenport, J.R.A.**; et al. *PASP*, 124, 14 (2012)
7. 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)
6. The Eighth Data Release of the Sloan Digital Sky Survey: First Data from SDSS-III;
Aihara, H., **et al.**, *ApJS*, 193, 29 (2011)
5. The Sloan Digital Sky Survey DR7 Spectroscopic M Dwarf Catalog. I: Data;
West, A. A., **et al.**, *AJ* 141, 97 (2011)

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)

Recent Conference Presentations

Rotating Stars from Kepler Observed with Gaia DR2
Davenpot, J.R.A., Angus, R., Covey, K.R., Kipping, D., Agüeros, M.
Cool Stars 20 Conference, 2018 (Boston, MA)

SETI with ZTF and LSST
Davenport, J.R.A
VASCO-I Workshop, 2018 (Uppsala, Sweden)

Stellar Rotation with Kepler and Gaia: Evidence for a Bimodal Star Formation History
Davenport, J.R.A
231st AAS Conference, 2018 (Washington, DC)

Exoplanets Around Flare Stars
Davenport, J.R.A
Know thy Star, Know thy Planet Meeting, 2017 (Pasadena, CA)

Talk: Flare Rate Evolution Revealed by Kepler
Davenport, J.R.A
Kepler/K2 Science Conference IV, 2017 (NASA Ames)

Poster: Rotating Stars from Kepler Observed with Gaia DR1
Davenport, J.R.A
Kepler/K2 Science Conference IV, 2017 (NASA Ames)