

# JAMES R. A. DAVENPORT

## Curriculum Vitae

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Western Washington University  
Department of Physics and Astronomy, MS-9164  
516 High St., Bellingham, WA 98225-9164, USA

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<http://jradavenport.github.io>  
<http://ifweassume.com>

**Postdoctoral Experience**    NSF ASTRONOMY & ASTROPHYSICS POSTDOCTORAL FELLOWSHIP    2015 – 2018  
Western Washington University, Bellingham, WA, USA

**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, USA

M.S. IN ASTRONOMY    2009  
San Diego State University, San Diego, CA, USA

B.S. IN ASTRONOMY    2007  
B.S. IN PHYSICS  
University of Washington, Seattle, WA, USA

**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  
STUDENT INSTRUCTOR (UW)    2010, 2011  
TEACHING ASSISTANT (UW)    2005 – 2007, 2010 – 2013  
TEACHING ASSISTANT (SDSU)    2007  
UPWARD BOUND TEACHING ASSISTANT (UW)    Summer 2006

**Honors**    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, Dept. of Physics & Astronomy, UBC (Vancouver, BC)    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) <a href="#">video</a>	2014
	“Seattle NerdNite” 20 <a href="#">video</a>	2013
	“Seattle Ignite!” 19 <a href="#">video</a>	2013
<b>Awards &amp; Funding</b>	NASA K2 Cycle 5 <a href="#">GO14001</a>	2017
	Gyrochronology and Magnetic Activity in Wide Binaries with K2 (P-I: <b>J. Davenport</b> )	
	XSEDE Open Science Grid (600k SUs, \$10,800 value)	2016
	Mapping small scale starspots on transiting planet host stars (P-I: L. Hebb)	
	XSEDE Open Science Grid, Startup Allocation (100k SUs)	2016
	Exploring the Physics of Starspots with Kepler Data (P-I: <b>J. Davenport</b> )	
	SETI Institute, NASA Astrobiology Institute (\$1500)	2015
	IAU Student Travel Grant	
	UW Student Technology Fee: (\$36,900)	2015
	Manastash Ridge Observatory Imaging Camera Upgrade	
	Hubble Space Telescope Cycle 22	2014
	The MUSCLES Treasury Survey: Measurements of the Ultraviolet Spectral Characteristics of Low-mass Exoplanetary Systems (P-I: K. France)	
	NASA <i>Kepler</i> GO Cycle 5	2013
	Starspot Evolution on Active Mid-M dwarfs	
	Hubble Space Telescope Cycle 21	2013
	Taking the Temperature of Explosive Stellar Flares (P-I: A. Kowalski)	
	UW Student Technology Fee (\$22,600)	2013
	Student Research at the Frontier of High Performance Computing	
	UW Student Technology Fee (\$8,000)	2005
	Undergraduate Radio Astronomy Research Equipment	
	APO 3.5-m (>50 half nights)	2009 – 2015
	Optical imaging and long-slit spectroscopy on various projects.	
<b>Media &amp; Public Engagement</b>	Results from Flares on Proxima Centauri have been reported on by <a href="#">PBS</a> , <a href="#">Scientific American</a> , and others.	2016
	My science and data visualization blog, <a href="#">ifweassume.com</a> , has received over a million viewers. Featured data analysis projects including <a href="#">Airports of the World</a> and <a href="#">The United States of Starbucks</a> , have resulted in international media coverage.	2012 – Present
<b>Service &amp; Outreach</b>	NSF GRANT REVIEW PANEL	
	AAS AGENTS PROGRAM (WWU)	
	AAS CHAMBLISS POSTER JUDGE	
	JOURNAL REFEREE (APJ, APJS, APJL, AJ, MNRAS, A&A, 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

<b>Professional Affiliations</b>	ISSI MEETING: <a href="#">Quasi-periodic Pulsations in Stellar Flares</a> (Bern, Switzerland)	2016 – 2017
	<a href="#">KAVLI WORKSHOP ON MAXIMIZING SCIENCE IN THE ERA OF LSST</a> (Tucson, AZ)	2016
	LARGE SYNOPTIC SURVEY TELESCOPE	2009 – Present
	SLOAN DIGITAL SKY SURVEY COLLABORATION	2007 – Present
	AMERICAN ASTRONOMICAL SOCIETY	2006 – Present

- Refereed** 13. THE EVOLUTION OF FLARE ACTIVITY WITH STELLAR AGE FROM KEPLER
- First Author** Davenport, J.R.A. et al. *in prep*
- Publications**
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 & STARSPOUT 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<sub>s</sub> 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**      [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
- Refereed Co-Author Publications**
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 ULTRACOOOL 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. H $\alpha$  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*<sub>s</sub> 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. H $\alpha$  EMISSION VARIABILITY IN ACTIVE M DWARFS;  
Bell, K. J.; Hilton, E.J.; **Davenport, J.R.A.**; **et al.** *PASP*, 124, 14 (2012)
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. 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)
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** INVITED TALK: FLARES ON PROXIMA CENTAURI  
**Davenport, J.R.A**  
*Northwest Astronomers Meeting, 2016 (Bellingham, WA)*

POSTER: THE KEPLER CATALOG OF STELLAR FLARES  
**Davenport, J.R.A**  
*Cool Stars 19 Conference, 2016 (Uppsala, Sweden)*

TALK: FINDING EVERY STELLAR FLARE IN THE KEPLER LIGHT CURVES  
**Davenport, J.R.A**  
*Presentation # 110.07, 227th AAS Conference, 2016 (Kissimmee, FL)*

POSTER: STELLAR FLARES FROM KEPLER, PROSPECTS FOR K2 AND TESS  
**Davenport, J.R.A.**  
K2 Science Conference, 2015 (Santa Barbara, CA)

TALK: THE SHAPE OF M DWARF FLARES IN KEPLER LIGHT CURVES  
**Davenport, J.R.A**  
*Presentation # 8.04, IAUS 320, 2015 (Honolulu, HI)*  
[arXiv #1510.05695](#)

TALK: USING TRANSITING EXOPLANETS TO STUDY STARSPOTS WITH KEPLER  
**Davenport, J.R.A**; Hebb, L.; Hawley, S.L.  
*Presentation # 6.02, IAU FM-13, 2015 (Honolulu, HI)*

DISSERTATION TALK: USING TRANSITING PLANETS TO MODEL STARSPOT EVOLUTION WITH KEPLER  
**Rodger Doxsey Travel Prize Winner**  
**Davenport, J.R.A**; Hebb, L.; Hawley, S.L.  
*Presentation # 229.07D, 225rd AAS Conference, 2015 (Seattle, WA)*