

JAMES R. A. DAVENPORT

Curriculum Vitae

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>
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Postdoctoral Experience	NSF ASTRONOMY & ASTROPHYSICS POSTDOCTORAL FELLOWSHIP Western Washington University, Bellingham, WA, USA	2015 – 2018
Education	PH.D. IN ASTRONOMY <i>Thesis: Spots and Flares: Stellar Activity in the Time Domain Era</i> M.S. IN ASTRONOMY University of Washington, Seattle, WA, USA	2015 2010
	M.S. IN ASTRONOMY San Diego State University, San Diego, CA, USA	2009
	B.S. IN ASTRONOMY B.S. IN PHYSICS University of Washington, Seattle, WA, USA	2007
Honors	AAS 225 RODGER DOXSEY TRAVEL PRIZE AAS CHAMBLISS POSTER AWARD (Honorable Mention) CLIFF E. SMITH & RUTH KINNEL GRADUATE FELLOWSHIP (SDSU) AWONA HARRINGTON ASTRONOMY SCHOLARSHIP (SDSU) JOHN BAER PRIZE (UW) MASONIC TRIBUTE AWARD	2015 2011, 2012 2008 – 2009 2008 2006 2002
Research Experience	GRADUATE RESEARCH ASSISTANT (U. Washington) Supervisors: Prof. Suzanne L. Hawley (Ph.D. Thesis Advisor), Prof. L. Hebb, Prof. A. C. Becker, Prof. Ž. Ivezić	2009 – 2015
	GRADUATE RESEARCH ASSISTANT (San Diego State U.) Supervisor: Prof. Eric Sandquist (M.S. Thesis Advisor)	2007 – 2009
	UNDERGRADUATE RESEARCH ASSISTANT (U. Washington) Supervisors: Prof. Suzanne L. Hawley, Prof. A. A. West, Dr. J. J. Bochanski	2005 – 2007
	ENGINEERING ASSISTANT (Apache Point Observatory)	2006 – 2009
Professional Experience	GRADUATE STUDENT INTERN (Microsoft Research, Redmond) 3.5-M OBSERVING SPECIALIST (Apache Point Observatory)	Summer 2013 Summer 2007
Technical Experience	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	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	XSEDE Open Science Grid (600k SUs, \$10,800 value)
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: J. Davenport)		
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.		
Media & Public Engagement	My science and data visualization blog, ifweassume.com , has received over a million viewers, and featured data analysis projects including Airports of the World and The United States of Starbucks , which have received international media coverage.	2012 – Present
Service & Outreach	AAS AGENTS PROGRAM	2016–Present
	AAS CHAMBLISS POSTER JUDGE	
	JOURNAL REFEREE (APJ, APJS, APJL, AJ, MNRAS, A&A)	
	NORTHWEST ASTRONOMERS MEETING 2016 SOC CO-CHAIR	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
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
Professional Affiliations	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
Selected Conference Proceedings	TALK: FINDING EVERY STELLAR FLARE IN THE KEPLER LIGHT CURVES Davenport, J.R.A <i>Presentation # 110.07, 227th AAS Conference, 2016 (Kissimmee, FL)</i>	
	TALK: THE SHAPE OF M DWARF FLARES IN KEPLER LIGHT CURVES Davenport, J.R.A <i>Presentation # 8.04, IAUS 320, 2015 (Honolulu, HI)</i> arXiv #1510.05695	
	TALK: USING TRANSITING EXOPLANETS TO STUDY STARSPOTS WITH KEPLER Davenport, J.R.A; Hebb, L.; Hawley, S.L. <i>Presentation # 6.02, IAU FM-13, 2015 (Honolulu, HI)</i>	
	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. <i>Presentation # 229.07D, 225rd AAS Conference, 2015 (Seattle, WA)</i>	
	TALK: USING TRANSITING PLANETS TO MODEL STARSPOT EVOLUTION Davenport, J.R.A; Hebb, L.; Hawley, S.L. <i>Cool Stars 18 Conference, 2014 (Flagstaff, AZ)</i> arXiv #1408.5201	
	TALK: TRACING DETAILED STARSPOT EVOLUTION WITH KEPLER Davenport, J.R.A; Hebb, L.; Hawley, S.L. <i>Presentation # 315.03, 223rd AAS Conference, 2014 (Washington DC)</i>	
	POSTER: TRACING 3 YEARS OF MAGNETIC ACTIVITY ON GJ 1243 Davenport, J.R.A., Hebb, L., Hawley, S.L., Kowalski, A.F., Wisniewski, J.P. <i>Kepler Science Conference II, 2013 (NASA Ames)</i>	
	TALK: A VERY SHORT PERIOD M DWARF BINARY FROM THE SDSS STRIPE 82 Davenport, J.R.A., et al. <i>Al-Fest: Current Insights and Future Prospects in Close Binary Research, 2012 (Seattle, WA)</i>	

POSTER: A VERY SHORT PERIOD M DWARF BINARY FROM THE SDSS STRIPE 82

Chambliss Student Achievement Award Honorable Mention

Davenport, J.R.A., Becker, A.

Presentation # 329.05, 220th AAS Conference, 2012 (Anchorage, AK)

POSTER: ANALYSIS OF THE 2MASS CALIBRATION SCAN DATABASE: VARIABILITY IN THE NIR FROM MINUTES TO YEARS

Davenport, J.R.A., Becker, A.

Presentation # 428.09, 219th AAS Conference, 2012 (Austin, TX)

POSTER: MULTI-WAVELENGTH STELLAR VARIABILITY IN THE TIME DOMAIN ERA: M DWARF FLARES FROM 0.3 TO 2.5 μ M

Davenport, J.R.A., Becker, A., et al. *IAUS 285, 2011 (Oxford, UK)*

POSTER: M DWARF PHOTOMETRIC VARIABILITY IN THE OPTICAL AND NIR

Chambliss Student Achievement Award Honorable Mention

Davenport, J.R.A., Becker, A., Kowalski, A.F., Hawley, S.L, Hilton, E.J.

Presentation # 326.03, 218th AAS Conference, 2011 (Boston, MA)

POSTER: EXTENDING M DWARF VARIABILITY STUDIES TO LONGER WAVELENGTHS

Davenport, J.R.A., Becker, A., Kowalski, A.F., Hilton, E.J., Hawley, S.L

Presentation # 242.13, 217th AAS Conference, 2011 (Seattle, WA)

POSTER: MINING DATABASES FOR LOW MASS STAR VARIABILITY

Davenport, J.R.A., Becker, A., Hawley, S.L, Kowalski, A.F., Sesar, B., Cutri, R.

Cool Stars 16 Conference, 2010 (Seattle, WA) arXiv#1101.1363

POSTER: 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)

POSTER: A MATCHED FILTER ANALYSIS OF THE OPEN CLUSTER M67 WITH SDSS PHOTOMETRY

Davenport, J.R.A., Sandquist, E.L.

Presentation # 442.17, 213th AAS Conference, 2009 (Long Beach, CA)

TALK: PROGRESS OF SDSS PT CALIBRATIONS FOR RED-STARS

Davenport, J.R.A.

Spring 2007 SDSS-II Collaboration Meeting (Philadelphia, PA)

POSTER: IMPROVEMENT IN THE SDSS PHOTOMETRIC CALIBRATION FOR RED STARS

Davenport, J. R. A., Bochanski, J., Covey, K. R., West, A. A., Hawley, S. L.

209th AAS Conference, 2007 (Seattle, WA)

POSTER: SLOAN/JOHNSON-COUSINS/2MASS COLOR TRANSFORMATIONS FOR COOL STARS

Davenport, J. R. A., West, A. A.

Cool Stars 14 Conference, 2006 (Pasadena, CA)

TALK: THE UW UNDERGRADUATE RADIO TELESCOPE PROJECT

Davenport, J. R. A.

2006 Northwest Astronomers Meeting (Everett, WA)

- Refereed** 13. USING EXOPLANET TRANSITS TO DETERMINE STARSPOOT EVOLUTION AND DIFFERENTIAL ROTATION ON KEPLER 17
First Author Publications **Davenport, J.R.A.** et al. *in prep*
12. ROTATING STARS FROM KEPLER OBSERVED IN GAIA DR1
Davenport, J.R.A. *ApJL submitted* (2016)
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 & STARSPOOT 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 **Davenport, J.R.A.** & Ruan, J. J. (2015), The Journal of Brief Ideas
- SEARCHING FOR “TABBY’S STAR” ANALOGS IN STRIPE 82
Davenport, J.R.A. & Ruan, J. J. (2015), 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)
- 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** 29. [NO CONCLUSIVE EVIDENCE FOR TRANSITS OF PROXIMA B IN MOST PHOTOMETRY](#);
Co-Author Kipping, D. M. **et al.** (2016) *ApJ* submitted
- Publications** 28. [KEPLER FLARES IV: A COMPREHENSIVE ANALYSIS OF THE ACTIVITY OF GJ 1243](#);
 Silverberg, S. M., **et al.**, *ApJ* in press (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. [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_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. [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)