

# 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

James.Davenport@wwu.edu  
<http://jradavenport.github.io>  
<http://ifweassume.com>

<b>Postdoctoral Experience</b>	NSF ASTRONOMY & ASTROPHYSICS POSTDOCTORAL FELLOWSHIP Western Washington University, Bellingham, WA, USA	2015–2018
<b>Education</b>	PH.D. IN ASTRONOMY 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
<b>Honors</b>	AAS 225 RODGER DOXSEY TRAVEL PRIZE AAS CHAMBLISS POSTER AWARD (Honorable Mention) CLIFF E. SMITH & RUTH KINNELL GRADUATE FELLOWSHIP (SDSU) AWONA HARRINGTON ASTRONOMY SCHOLARSHIP (SDSU) JOHN BAER PRIZE (UW) MASONIC TRIBUTE AWARD	2015 2011, 2012 2008 – 2009 2008 2006 2002
<b>Research Experience</b>	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
<b>Professional Experience</b>	GRADUATE STUDENT INTERN (Microsoft Research, Redmond) 3.5-M OBSERVING SPECIALIST (Apache Point Observatory)	Summer 2013 Summer 2007
<b>Technical Experience</b>	DATA REDUCTION, ANALYSIS, AND VISUALIZATION WITH PYTHON, MYSQL, IDL, IRAF SURVEY & TIME-DOMAIN DATA RETRIEVAL AND ANALYSIS OPTICAL/NEAR-INFRARED PHOTOMETRY OPTICAL SPECTROSCOPY	

<b>Invited Talks</b>	COLLOQUIUM, HIGH ALTITUDE OBSERVATORY, UCAR (Boulder, CO)	Oct 2015
	COLLOQUIUM, DEPT. OF PHYSICS & ASTRONOMY, WWU (Bellingham, WA)	Oct 2015
	DATA VISUALIZATION IN PYTHON, CODE FELLOWS (Seattle, WA)	2015
	WORKSHOP, DATA SCIENCE TRAINING FOR LIBRARIANS (Harvard)	2015
	KEYNOTE, THINKING WITH YOUR EYES (Harvard)	2014
	NERDNITE SEATTLE (Seattle, WA)	2013
<b>Grants &amp; Funding</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: Kevin 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: Adam Kowalski)	
<b>Media &amp; Public Engagement</b>	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	
	My science and data visualization blog, <a href="http://ifweassume.com">ifweassume.com</a> , has received over a million viewers, and featured data analysis projects including <a href="#">Airports of the World</a> and <a href="#">The United States of Starbucks</a> , which have received international media coverage.	2012 – Present
<b>Service &amp; Outreach</b>	EXOCLIMES 2016 ORGANIZER (Quest University, British Columbia, CA)	2016
	JOURNAL REFEREE (MNRAS, APJ, APJS, APJL, AJ)	
	STEM CAREER FAIR (Sammamish High School, Bellevue WA)	2014
	JUDGE (JOHN HUNTER PYTHON PLOTTING CONTEST)	2014
	APO–UW TIME ALLOCATION COMMITTEE	2012–2014
	GRADUATE & PROFESSIONAL STUDENT LIBRARY ADVISORY COMMITTEE (UW)	2012 – 2014
	SPEAKER (EVERETT ASTRO. SOC., SEATTLE ASTRO. SOC.)	2013
	<a href="#">SPEAKER (SEATTLE NERD NITE)</a>	July 2013
	<a href="#">SPEAKER (SEATTLE IGNITE! 19)</a>	Feb 2013
	AAS CHAMBLISS UNDERGRADUATE POSTER JUDGE	2011, 2012, 2014
	ASTRO ADMISSIONS COMMITTEE GRAD REPRESENTATIVE (UW)	2011 – 2012
	<a href="#">COOL STARS 16 LOC (UW)</a>	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>Teaching Experience</b>	STUDENT INSTRUCTOR (UW)	2010, 2011
	Created and taught IDL programming technique class for upper level undergraduates.	
	TEACHING ASSISTANT (UW)	2005 – 2007, 2010 – 2013
	TEACHING ASSISTANT (SDSU)	2007

UPWARD BOUND TEACHING ASSISTANT (UW)

Summer 2006

<b>Professional Affiliations</b>	AMERICAN ASTRONOMICAL SOCIETY	2006 – Present
	SLOAN DIGITAL SKY SURVEY COLLABORATION	2007 – Present
	LARGE SYNOPTIC SURVEY TELESCOPE	2009 – Present

<b>Selected Conference Proceedings</b>	TALK: FINDING EVERY STELLAR FLARE IN THE KEPLER LIGHT CURVES <b>Davenport, J.R.A</b> <i>Presentation # 110.07, 227th AAS Conference, 2016 (Kissimmee, FL)</i>	
	TALK: THE SHAPE OF M DWARF FLARES IN KEPLER LIGHT CURVES <b>Davenport, J.R.A</b> <i>Presentation # 8.04, IAUS 320, 2015 (Honolulu, HI)</i> <a href="#">arXiv #1510.05695</a>	
	TALK: USING TRANSITING EXOPLANETS TO STUDY STARSPOTS WITH KEPLER <b>Davenport, J.R.A;</b> Hebb, L.; Hawley, S.L. <i>Presentation # 6.02, IAU FM-13, 2015 (Honolulu, HI)</i>	
	TALK: USING TRANSITING PLANETS TO MODEL STARSPOT EVOLUTION WITH KEPLER <b>Rodger Doxsey Travel Prize Winner</b> <b>Davenport, J.R.A;</b> Hebb, L.; Hawley, S.L. <i>Presentation # 229.07D, 225rd AAS Conference, 2015 (Seattle, WA)</i>	
	TALK: USING TRANSITING PLANETS TO MODEL STARSPOT EVOLUTION <b>Davenport, J.R.A;</b> Hebb, L.; Hawley, S.L. <i>Cool Stars 18 Conference, 2014 (Flagstaff, AZ)</i> <a href="#">arXiv #1408.5201</a>	
	TALK: TRACING DETAILED STARSPOT EVOLUTION WITH KEPLER <b>Davenport, J.R.A;</b> 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 <b>Davenport, J.R.A.,</b> 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 <b>Davenport, J.R.A.,</b> 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 <b>Chambliss Student Achievement Award Honorable Mention</b> <b>Davenport, J.R.A.,</b> Becker, A. <i>Presentation # 329.05, 220th AAS Conference, 2012 (Anchorage, AK)</i>	
	POSTER: ANALYSIS OF THE 2MASS CALIBRATION SCAN DATABASE: VARIABILITY IN THE NIR FROM MINUTES TO YEARS <b>Davenport, J.R.A.,</b> Becker, A. <i>Presentation # 428.09, 219th AAS Conference, 2012 (Austin, TX)</i>	
	POSTER: MULTI-WAVELENGTH STELLAR VARIABILITY IN THE TIME DOMAIN ERA: M DWARF FLARES FROM 0.3 TO 2.5 $\mu$ M <b>Davenport, J.R.A.,</b> Becker, A., et al. <i>IAUS 285, 2011 (Oxford, UK)</i>	

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 First Author Publications**
11. THE KEPLER CATALOG OF STELLAR FLARES;  
Davenport, J.R.A. *in prep*
  10. USING EXOPLANET TRANSITS TO DETERMINE STARSPOT EVOLUTION AND DIFFERENTIAL ROTATION ON KEPLER 17; Davenport, J.R.A. et al. *in prep*
  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<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 First Author Publications**
- 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**
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\_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)