

JESSICA L. BIRKY

CONTACT	Office	Physics & Astronomy Building, Rm B317 3910 15th Ave NE, Seattle WA, 98195	Email	jbirky@uw.edu
	Phone	+1 (510) 364-5254	Website	https://jbirky.github.io
			Github	https://github.com/jbirky
			ORCID	0000-0002-7961-6881
RESEARCH INTERESTS	Large scale surveys, stars, stellar populations, galactic archaeology. Computational physics, data analysis and modeling, machine learning and data-driven models. Developing open source tools/code.			
EDUCATION	PhD in Astronomy (<i>expected</i>) - University of Washington			2019 - 2024
	BS in Physics - University of California, San Diego			2015 - 2019
RESEARCH POSITIONS	Graduate Student Researcher - University of Washington <i>DIRAC Institute; Advisors : James Davenport</i> <i>Virtual Planet Laboratory; Advisor : Rory Barnes</i> Topic : tidal evolution of eclipsing binaries in K2/TESS			Aug 2019 - Present Seattle, WA
	Undergraduate Researcher - University of California, San Diego <i>Cool Star Lab; Advisor : Adam Burgasser</i> Topic : spectroscopic parameters of low-mass stars using atmosphere models			May 2016 - May 2019 <i>La Jolla, CA</i>
	Research Intern - Max Planck Institute für Astronomie <i>Stars & Milky Way groups; Advisor : David Hogg</i> Topic : data-driven models of M dwarfs			Summer 2017 & 2018 <i>Heidelberg, Germany</i>
HONORS AND AWARDS	NSF Graduate Research Fellowship MPIA Summer Intern Fellowship UCSD Provost Honors Frances Hellman Research Scholarship (<i>declined</i>) Physics Chair Challenge Award ($\times 3$)			2019 - 2024 2017, 18 2018, 19 2017 2016, 17, 18
PUBLICATIONS	Hsu, C., Burgasser, A. J., et. al (incl. Birky, J.) 2021, The Brown Dwarf Kinematics Project (BDKP). V. Radial and Rotational Velocities of T Dwarfs From Keck/NIRSPEC High-Resolution Spectroscopy , <i>In prep, ApJ</i> .			
	Davenport, J. R. A., Windemuth, D., et. al (incl. Birky, J.) 2021, The Rise and Fall of the Eclipsing Binary, HS Hydra , <i>In prep, ApJL</i> .			
	Martin, D. V., El-Badry, K., et al. (incl. Birky, J.) 2021, TOI-1259Ab—a gas giant with 2.6% deep transits and a bound white dwarf companion , <i>Submitted MNRAS</i> , (arXiv :2101.02707).			
	Birky, J. , Hogg, D. W., Mann, A., Burgasser, A. J., 2020, Temperatures and Metallicities for M dwarfs in the APOGEE Survey , <i>ApJ</i> , 892, 1.			
CONFERENCE PRESENTATIONS	Birky, J. , Davenport, J. R. A, Brandt, T. (2020 January). Systematic Classification of TESS Eclipsing Binaries . Poster presentation at AAS Meeting 235, Honolulu HI.			
	Birky, J. , Hogg, D. W., Mann, A. W., Burgasser, A. (2019 January). Precise Stellar Parameters for 10,000+ APOGEE M dwarfs . Poster presentation at AAS Meeting 233, Seattle, WA.			
	Birky, J. , Hogg, D. W., Burgasser, A. (2018 January). Data-Driven Spectral Models for APOGEE M Dwarfs . Poster presentation at AAS Meeting 231, Washington DC.			
	Birky, J. , Aganze, C., Burgasser, A., Theissen, C., Schmidt, S., Stassun, K., Teske, J., Bird, J. (2017 January). Modeling Stellar Parameters for High Resolution Late-M and Early-L Dwarf SDSS/APOGEE Spectra . Poster presentation at AAS Meeting 229, Grapevine TX.			

Birky, J., Aganze, C., Burgasser, A., Theissen, C., Schmidt, S., Stassun, K., Teske, J. (2016 October). [Identification of H-band Absorption Lines in High Resolution APOGEE Spectra of the Lowest Mass Stars](#). Poster presentation at the national SACNAS Conference, Long Beach CA.

TALKS	Physical Parameters for 10,000+ M dwarfs in the APOGEE Survey	2019
	<i>Sloan Digital Sky Survey Collaboration Meeting</i>	<i>Ensenada, Mexico</i>
	Data Driven Models for APOGEE M dwarfs	2017
	<i>Stars Meeting & Milky Way Meeting, MPIA</i>	<i>Heidelberg, Germany</i>
TELESCOPE TIME AWARDED	Identification of H-band Absorption Lines in APOGEE Spectra of the Lowest Mass Stars	2016
	<i>Summer Undergraduate Research Conference, UCSD</i>	<i>La Jolla, CA</i>
	Co-I : IRTF iShell - 6 nights (PI : Adam Burgasser)	2018A - 2019B
	<i>Training the Cannon : Calibrating APOGEE Observations of Ultracool Dwarfs</i>	
TEACHING	Co-I : APOGEE 2.5-meter - Fibers for ancillary survey (PI : Adam Burgasser)	2017 - 2018
	<i>APOGEE-2 Survey of the Lowest-Mass Stars and Brown Dwarfs : Composition, Chemistry and Companions</i>	
	Teaching Assistant :	
	ASTR 150 : The Planets	Winter 2021
SERVICE	ASTR 102 : Introduction to Astronomy	Fall 2020
	Apache Point Observatory - Telescope Allocation Committee	2020
PROFESSIONAL DEVELOPMENT	online.tess.science - <i>Online workshop</i>	Sep 2020
	TESS Ninja 3 : Expanding the Science of TESS - <i>Sydney, Australia</i>	Feb 2020
	ZTF Collaboration Meeting - <i>UW Seattle, WA</i>	Sept 2019
	Caltech FUTURE of Physics Workshop - <i>Pasadena, CA</i>	Nov 2018
	M33 HST Survey Meeting - <i>Ringberg Castle, Tegernsee, Germany</i>	Jul 2018
	Conference for Undergraduate Women in Physics - <i>Cal Poly Pomona, CA</i>	Jan 2018
	Gaia Sprint - <i>Internationales Wissenschaftsforum Heidelberg, Germany</i>	Jul 2017
	Conference for Undergraduate Women in Physics - <i>UC Los Angeles, CA</i>	Jan 2017
ENGINEERING EXPERIENCE	UCSD Human Powered Submarine Team	Sept 2015 - Mar 2017
	<i>Propulsion and Hull Design Teams</i>	<i>La Jolla, CA</i>
	Role : designed submarine drive train and hull profile ; peromed fluid dynamics simulations	
SOFTWARE CONTRIBUTIONS	Burgasser, A. J., Splat Development Team (incl. Birky, J.), The SpeX Prism Library Analysis Toolkit (SPLAT) : A Data Curation Model, Bull. Astr. Soc. India, 00, 1-6, 2017 (arXiv:1707.00062)	
SKILLS	PROGRAMMING	<i>Proficient</i> : Python, C++, Mathematica
		<i>Familiar</i> : Matlab, Processing
	SOFTWARE	<i>Proficient</i> : L ^A T _E X, Unix, Git
		<i>Familiar</i> : SQL, Solidworks, Illustrator
ORGANIZATIONS	LANGUAGES	English (<i>fluent</i>), German (<i>limited working proficiency</i>)
	American Astronomical Society (AAS) Member	2016 - Present
	Society for the Advancement of Chicanos and Native Americans in Science	2016 - Present
	Sloan Digital Sky Survey (SDSS) - Faculty and Student Team (FAST) Member	2016 - 2019
REFERENCES	Prof. James Davenport (UW)	jrad@uw.edu
	Prof. Rory Barnes (UW)	rkb9@uw.edu
	Prof. David Hogg (NYU/MPIA/Flatiron)	david.hogg@nyu.edu
	Prof. Adam Burgasser (UCSD)	aburgasser@ucsd.edu