

JESSICA L. BIRKY

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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/MS in Astronomy (<i>expected</i>) - University of Washington BS in Physics - University of California, San Diego	2019 - 2024 2015 - 2019
HONORS AND AWARDS	NSF Graduate Research Fellowship Frances Hellman Research Scholarship (<i>declined</i>) Physics Chair Challenge Award ($\times 3$) SJND Mathematics Achievement Award Denise Cervelli - Maddix Mathematics Scholarship M.M. Holm Science Scholarship	2019 - 2024 2017 2016, 17, 18 2015 2014 2013
RESEARCH POSITIONS	Graduate Student Researcher - University of Washington <i>DIRAC Institute; Advisor: James Davenport</i> Topic: time series classification of eclipsing binarie light curves in TESS 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 Research Intern - Max Planck Institute für Astronomie <i>Stars & Milky Way groups; Advisor: David Hogg</i> Topic: data-driven models of M dwarfs	Aug 2019 - Present <i>Seattle, WA</i> May 2016 - May 2019 <i>La Jolla, CA</i> Summer 2017 & 2018 <i>Heidelberg, Germany</i>
PUBLICATIONS	Birky, J. , Hogg, D. W., Mann, A., Burgasser, A. J., 2019, Temperatures and Metallicities for M dwarfs in the APOGEE Survey (Accepted to ApJ; arXiv :2001.04962)	
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.	
SOFTWARE CONTRIBUTIONS	Burgasser, A. J., Splat Development Team, The SpeX Prism Library Analysis Toolkit (SPLAT): A Data Curation Model , Bull. Astr. Soc. India, 00, 1-6, 2017 (arXiv :1707.00062)	
TELESCOPE TIME AWARDED	Co-I : IRTF iShell - 2 nights (PI : Adam Burgasser) <i>Training the Cannon : Calibrating APOGEE Observations of Ultracool Dwarfs</i>	2018

Co-I : **APOGEE 2.5-meter** - Fibers for ancillary survey (PI : Adam Burgasser) 2017 - 2018
APOGEE-2 Survey of the Lowest-Mass Stars and Brown Dwarfs : Composition, Chemistry and Companions

TALKS

Physical Parameters for 10,000+ M dwarfs in the APOGEE Survey 2019
Sloan Digital Sky Survey Collaboration Meeting Ensenada, Mexico

Data Driven Models for APOGEE M dwarfs 2017
Stars Meeting & Milky Way Meeting, MPIA Heidelberg, Germany

Identification of H-band Absorption Lines in APOGEE Spectra of the Lowest Mass Stars 2016
Summer Undergraduate Research Conference, UCSD La Jolla, CA

ORGANIZATIONS

Sloan Digital Sky Survey (SDSS) - Faculty and Student Team (FAST) Member 2016 - Present
American Astronomical Society (AAS) - Junior Member 2016 - Present
Society for the Advancement of Chicanos and Native Americans in Science 2016 - Present

PROFESSIONAL DEVELOPMENT

ZTF Collaboration Meeting - *UW Seattle, WA* Sept 2019
Caltech FUTURE of Physics Workshop - *Pasadena, CA* Nov 2018
M33 HST Survey Meeting - *Ringberg Castle, Tegernsee, Germany* Jul 2018
Conference for Undergraduate Women in Physics - *Cal Poly Pomona, CA* Jan 2018
Gaia Sprint - *Internationales Wissenschaftsforum Heidelberg, Germany* Jul 2017
Conference for Undergraduate Women in Physics - *UC Los Angeles, CA* Jan 2017

ENGINEERING EXPERIENCE

UCSD Human Powered Submarine Team Sept 2015 - Mar 2017
Propulsion and Hull Design Teams La Jolla, CA

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
LANGUAGES		English (<i>fluent</i>), German (<i>limited working proficiency</i>)

REFERENCES

Prof. Adam Burgasser aburgasser@ucsd.edu
Professor of Physics, University of California, San Diego

Prof. David Hogg david.hogg@nyu.edu
Professor of Physics and Data Science, New York University
Group Leader, Center for Computational Astrophysics, Flatiron Institute
Adjunct Senior Staff Scientist, Max Planck Institute für Astronomie

Dr. Christopher Theissen ctheissen@ucsd.edu
NASA Sagan Postdoctoral Fellow, University of California, San Diego

Dr. James Davenport jrad@uw.edu
Research Scientist, University of Washington/DIRAC Institute