

# JESSICA L. BIRKY

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			Github	<a href="https://github.com/jbirky">https://github.com/jbirky</a>
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	<b>PhD/MS in Astronomy</b> ( <i>expected</i> ) - University of Washington 2019 - 2024 <b>BS in Physics</b> - University of California, San Diego 2015 - 2019			
HONORS AND AWARDS	NSF Graduate Research Fellowship 2019 - 2024 Frances Hellman Research Scholarship ( <i>declined</i> ) 2017 Physics Chair Challenge Award ( $\times 3$ ) 2016, 17, 18 SJND Mathematics Achievement Award 2015 Denise Cervelli - Maddix Mathematics Scholarship 2014 M.M. Holm Science Scholarship 2013			
RESEARCH POSITIONS	<b>Graduate Student Researcher</b> - University of Washington Aug 2019 - Present <i>DIRAC Institute ; Advisor : James Davenport</i> <i>Seattle, WA</i> Topic : systematic classification of eclipsing binaries in TESS  <b>Undergraduate Researcher</b> - University of California, San Diego May 2016 - May 2019 <i>Cool Star Lab ; Advisor : Adam Burgasser</i> <i>La Jolla, CA</i> Topic : spectroscopic parameters of low-mass stars using atmosphere models  <b>Research Intern</b> - Max Planck Institute für Astronomie Summer 2017 & 2018 <i>Stars &amp; Milky Way groups ; Advisor : David Hogg</i> <i>Heidelberg, Germany</i> Topic : data-driven models of M dwarfs			
PUBLICATIONS	<b>Birky, J.,</b> Hogg, D. W., Mann, A., Burgasser, A. J., 2019, <a href="#">Temperatures and Metallicities for M dwarfs in the APOGEE Survey</a> ( <i>Submitted to ApJ</i> )			
CONFERENCE PRESENTATIONS	<b>Birky, J.,</b> Davenport, J. R. A, Brandt, T. (2020 January). <a href="#">Systematic Classification of TESS Eclipsing Binaries</a> . Poster presentation at AAS Meeting 235, Honolulu HI.  <b>Birky, J.,</b> Hogg, D. W., Mann, A. W., Burgasser, A. (2019 January). <a href="#">Precise Stellar Parameters for 10,000+ APOGEE M dwarfs</a> . Poster presentation at AAS Meeting 233, Seattle, WA.  <b>Birky, J.,</b> Hogg, D. W., Burgasser, A. (2018 January). <a href="#">Data-Driven Spectral Models for APOGEE M Dwarfs</a> . Poster presentation at AAS Meeting 231, Washington DC.  <b>Birky, J.,</b> Aganze, C., Burgasser, A., Theissen, C., Schmidt, S., Stassun, K., Teske, J., Bird, J. (2017 January). <a href="#">Modeling Stellar Parameters for High Resolution Late-M and Early-L Dwarf SDSS/APOGEE Spectra</a> . Poster presentation at AAS Meeting 229, Grapevine TX.  <b>Birky, J.,</b> 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, <a href="#">The SpeX Prism Library Analysis Toolkit (SPLAT): A Data Curation Model</a> , Bull. Astr. Soc. India, 00, 1-6, 2017 (arXiv :1707.00062)			
TELESCOPE TIME AWARDED	Co-I : <b>IRTF iShell</b> - 2 nights (PI : Adam Burgasser) 2018 <i>Training the Cannon : Calibrating APOGEE Observations of Ultracool Dwarfs</i>			

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 <sup>A</sup> T <sub>E</sub> X, Unix, Git <i>Familiar</i> : SQL, Solidworks, Illustrator
LANGUAGES		English ( <i>fluent</i> ), German ( <i>limited working proficiency</i> )

## REFERENCES

**Prof. Adam Burgasser** (UCSD) [aburgasser@ucsd.edu](mailto:aburgasser@ucsd.edu)  
**Prof. David Hogg** (NYU/MPIA/Flatiron) [david.hogg@nyu.edu](mailto:david.hogg@nyu.edu)  
**Dr. Christopher Theissen** (UCSD) [ctheissen@ucsd.edu](mailto:ctheissen@ucsd.edu)  
**Dr. James Davenport** (UW/DIRAC) [jrad@uw.edu](mailto:jrad@uw.edu)