

Jessica Schonhut-Stasik, M.Sc.

 [Jesstella](#) |  [jessica-schonhut-stasik](#) |  [jessicastasik.com](#) |  jessica.s.stasik@vanderbilt.edu |  + (808)-971-1218 |  British-American Dual Citizen

SUMMARY

Career Goals:

- Accelerate discoveries in astronomy by researching novel approaches to Galactic Archaeology using multiple methods to enable precision measurements.
- Continue interdisciplinary research in inclusion, diversity, equity, and accessibility (IDEA) with a focus on the marginalized groups in astronomy, such as gender and disability; Focus on investigating the needs and experiences of neurodiverse students in astronomy and create evidence-based, qualitative research to support the needs of this under-served population.
- Support community understanding of astronomy through communication, outreach, education, and mentoring students at all levels.
- Support marginalized groups in astronomy through broader efforts in IDEA by sculpting innovations in science policy and pedagogy, broadening the horizon for the next generation.

Astronomy Research Goals:

- Continue to observe and analyse large samples of red giant stars in the Milky Way and further afield to investigate Galactic formation and evolution.
- Investigate the statistical distribution of binary and multiple star systems in evolved star populations, to further our understanding of star and planet distributions in the Galaxy.
- Investigate the synergy of different observatories, combining space-based observations (i.e., *Kepler*, *K2*, *Gaia*, and *Roman*) with ground-based observations (i.e., APOGEE, Robo-AO, and targeted campaigns on telescopes like Keck).
- Continue to produce accessible and transparent data and analysis products for scientists, students and the public.

EDUCATION

2020 — Present	Doctoral Candidate of Astronomy at Vanderbilt University	(GPA: 3.9/4.0)
<i>Thesis Advisor:</i>	Keivan G. Stassun	
<i>Thesis Topic:</i>	Galactic Archaeology in a Large Sample of Evolved Stars, Exploring Multiple Parameter Spaces and a Multi-Method Approach.	
2019	M.Sc (Astronomy) at University of Hawai'i (at Manoa)	(GPA: 3.8/4.0)
2017	B.Sc (Year 3) at The Open University <i>summa cum laude</i>	(1st Class)
2015	B.Sc (Years 1, 2) at University of Hertfordshire <i>summa cum laude</i>	(1st Class)

Jessica is a fellow of the Neurodiversity Inspired Science and Engineering Program hosted by the Frist Center for Autism and Innovation at Vanderbilt University. This program will provide a professional certificate upon Ph.D. graduation.

Prior to 2015 Jessica graduated with a Higher Diploma in Music Performance (specializing in vocals) from the Brighton Institute for Modern Music (UK), a Diploma in Music Performance and Business from the Academy of Contemporary Music (UK), and A Levels in Law, Critical Thinking, Further Mathematics, Physics, Textiles, English Literature and Photography (UK). She spent roughly 5 years as a professional photographer and musician.

CURRENT EMPLOYMENT

2022 **Project and Communications Coordinator**, Frist Center for Autism, Nashville, TN

Communications Responsibilities: All communications duties including conference facilitation and organization, webinar and talk organization and moderation, website and social media upkeep, board and committee meetings for the College Autism Network. Mentoring and engaging with neurodiverse individuals at all career stages.

Project Responsibilities: Overseeing the The Autism Self-advocacy Center for Equity and Neurodiversity in Engineering (A-SCENE) Project, an NSF Engineering Education and Centers funded engineering grant to create a comprehensive and fully interconnected system of programs and supports for neurodiverse students and create and disseminate a national neurodiversity in higher education playbook.

Organization and communication with neurodiversity consultants, collection of resources and research.

2022 **Web Designer and Grant Writer**, Aloha 'Ilio Dog Rescue, HI

2021 **Grant Writer**, Maunakea Scholars Program, HI

2019 **Telescope System Specialist**, UKIRT Observatory, Maunakea, HI

Responsibilities: Running queue-based observations for the United Kingdom Infrared Telescope on Maunakea Hawai'i. Troubleshooting, problem-solving, and basic engineering of facility, including the telescope and multiple instruments. Corresponding with PIs and reducing observed data.

SCIENCE PUBLICATIONS

H-Index = 3; Total Citations = 38

First-Author Publications

Schonhut-Stasik, J. S., Stassun, K. G., et al. 2023, *The APO-K2 Catalog. III. The Companion Stars and Statistical Analysis of Multiplicity in Evolved Stars*, ApJ (In Prep.)

Schonhut-Stasik, J. S., Zinn, J, Stassun, K. G., et al. 2023, *The APO-K2 Catalog. I. 7,673 Red Giants with Fundamental Stellar Parameters from APOGEE Spectroscopy and K2 Asteroseismology*, AJ (In Submission.) <https://arxiv.org/pdf/2304.10654.pdf>

Schonhut-Stasik, J. S., Stassun, K. G., 2023, *FluxCT: A Web Tool for Identifying Contaminating Flux in Kepler and TESS Target Pixel Files*, Research Notes of the American Astronomical Society, <https://iopscience.iop.org/article/10.3847/2515-5172/acb936>

Schonhut-Stasik, J. S., Huber, D., Baranec, C., et al. 2020, *ROBO-AO Kepler Asteroseismic Survey. II. Do Stellar Companions Inhibit Stellar Oscillations?*, ApJ, 888, 34. doi:10.3847/1538-4357/ab50c3 <https://ui.adsabs.harvard.edu/abs/2020ApJ...888...34S>

Schonhut-Stasik, J. S., Baranec, C., Huber, D., et al. 2017, *Robo-AO Kepler Asteroseismic Survey. I. Adaptive Optics Imaging of 99 Asteroseismic Kepler Dwarfs and Subgiants*, ApJ, 847, 97. doi:10.3847/1538-4357/aa886f <https://ui.adsabs.harvard.edu/abs/2017ApJ...847...97S>

Nth-Author Publications

Warfield, J., Zinn, J., **Schonhut-Stasik, J. S.**, et al. 2023, *The APO-K2 Catalog. II. Accurate Stellar Ages for 7,672 Red Giant Branch Stars Across the Milky Way*. MNRAS, (In Prep.)

Arcand, K., Sturdevant, G., **Schonhut-Stasik, J. S.**, Kane, S., et al. 2023, *A Universe of Sound: Processing NASA Data into Sonifications to Explore Participant Response* (In Prep.)

Ramos, A., **Schonhut-Stasik, J. S.**, Stassun, K., et al. 2022, *Determining the Habitability of Earth-like Exoplanets Through an Analysis of their Eventual Destruction by Supernova* Research Notes of the American Astronomical Society. <https://iopscience.iop.org/article/10.3847/2515-5172/acbaf9>

Miskovetz, K., Dupuy, T. J., **Schonhut-Stasik, J. S.**, et al. 2022, *Resolving the Multiplicity of Exoplanet Host Stars in Gemini/NIRI Data*, Research Notes of the American Astronomical Society, 6, 8.

doi:10.3847/2515-5172/ac488e <https://ui.adsabs.harvard.edu/abs/2022RNAAS...6...8M>

Lamman, C., Baranec, C., Berta-Thompson, Z. K., et al. 2018, *Robo-AO M Dwarf Multiplicity Survey*, APJ <https://ui.adsabs.harvard.edu/abs/2018AAS...23230601L>

Baranec, C., Ziegler, C., Law, N. M., et al. 2016, *Robo-AO Kepler Planetary Candidate Survey. II. Adaptive Optics Imaging of 969 Kepler Exoplanet Candidate Host Stars*, 152, 18. doi:10.3847/0004-6256/152/1/18 <https://ui.adsabs.harvard.edu/abs/2016AJ...152...18B> (*Under maiden name ‘Schonhut’. Citations = 54).

PRESENTATIONS

Invited Talks

Dyer Observatory “Meet an Astronomer” Series, June 2023. *Galactic Archaeology: The Indiana Jones of Astronomy*. Nashville, US.

Schonhut-Stasik, J. S., 2023, *Neurodiversity in and Educational Setting*, American Astronomical Society Meeting 241, Seattle, US <https://www.jessicastasik.com/neurodiversity-in-an-educational-setting>

Contributed Talks

Schonhut-Stasik, J. S., Zinn, J., Stassun, K. G., et al. 2023, *The APO-K2 Catalog: Accessing Catalog Products and Ongoing Investigations*, TASC/KASC Meeting, Honolulu, HI, US *Session Talk*.

Schonhut-Stasik, J. S., Zinn, J., Stassun, K. G., et al. 2023, *The APO-K2 Catalog. I. 7,673 Red Giants with Fundamental Stellar Parameters from APOGEE Spectroscopy and K2 Asteroseismology*, American Astronomical Society Meeting 242, Albuquerque, New Mexico, US *Session Talk*.

Arcand, K., Sturdevant, G., Schonhut-Stasik, J. S., Kane, S., et al. 2023, *A Universe of Sound: Processing NASA Data into Sonifications to Explore Participant Response* American Astronomical Society Meeting 242, Albuquerque, New Mexico, US *Poster*.

Schonhut-Stasik, J. S., Stassun, K. G. 2023, *The Frist Center for Autism and Innovation* American Astronomical Society Meeting 241, Seattle, US. *Poster*.

Schonhut-Stasik, J. S., Stassun, K. G. 2023, *FluxCT: A Web Tool for Identifying Contaminating Flux in Kepler and TESS Target Pixel Files* American Astronomical Society Meeting 241, Seattle, US <https://www.jessicastasik.com/flux-contamination-tool> *Poster*.

Schonhut-Stasik, J. S., Stassun, K. G. 2023, *FluxCT: A Web Tool for Identifying Contaminating Flux in Kepler and TESS Target Pixel Files* KASC/TASC Workshop, Leuven, Belgium <https://www.jessicastasik.com/flux-contamination-tool> *Poster*.

Schonhut-Stasik, J. S., Stassun, K. G. 2023, *The APO-K2 Catalog: 8,000 Red Giants with Fundamental Stellar Parameters from APOGEE Spectroscopy and K2 Asteroseismology*, Cool Stars Conference, Toulouse, France. *Poster*.

Schonhut-Stasik, J. S., Zinn, J., Stassun, K., et al. 2022, *The APO-K2 Catalog: 8,000 Red Giants with Fundamental Stellar Parameters from APOGEE Spectroscopy and K2 Asteroseismology*, American Astronomical Society Meeting 240, Pasadena, US <https://ui.adsabs.harvard.edu/abs/2022AAS...24040402S> *Poster*.

Schonhut-Stasik, J. S., 2022, *AstronomerAND: A Podcast Discussing the Intersectionality of Astronomy*, American Astronomical Society Meeting 240, Pasadena, US <https://ui.adsabs.harvard.edu/abs/2022AAS...24034502S> *Poster*.

SELECT CONFERENCE CONTRIBUTIONS

<i>Presenter, Kepler/TESS Asteroseismic Science Consortium Meeting</i> , Honolulu, US	2023
<i>Presenter, American Astronomical Society 242th Meeting</i> , Alberquerque, US	2023
<i>Presenter, American Astronomical Society 241st Meeting</i> , Seattle, US	2023
<i>Facilitator, College Autism Summit</i> , Vanderbilt University, TN	2022
<i>Presenter, Kepler/TESS Asteroseismic Science Consortium Meeting</i> , Leuven, Belgium	2022
<i>Presenter, Cool Stars</i> , Toulouse, France	2022
<i>Presenter, American Astronomical Society 240th Meeting</i> , Pasadena, US	2022
<i>Presenter, Sigma Xi Showcase</i> , Virtual	2022
<i>Breakout Room Moderator, Microsoft Autism at Work</i> , Virtual	2021
<i>Presenter, Low-Mass Meeting</i> , Hilo, US	2019
<i>Panelist, Future Focus 2</i> , Honolulu, US	2017

TEACHING & MENTORING

Teaching:

Galactic Archaeology *	HISTARS Summer Program (HS) 2023
Python for Astronomy *	HISTARS Summer Program (HS) 2022, 2023
Computational Physics and Astronomy *	University of Hawai'i (UG) 2021
Python Basics *	HISTARS Summer Program (HS) 2018
Aspie Bootcamp: Python +	Frist Center (UG)) Program 2023
Astronomy Tutor for Student Athletes +	Vanderbilt University (UG) 2021
ASTRO101 +	Honoka'a High School and Manoa Academy (HS) 2020

* indicates courses taught from my own original curriculum, + indicates teaching assistant or tutor.

Students Advised:

Rebecca Minsley	Graduate Student 2023 - Astronomy
Alex Diefenbach	Undergraduate Student 2023 - Astronomy
Maya Nachega	Undergraduate Student 2023 - Pre-med and Bio-Engineering
Elizabeth Walther †	Undergraduate Student 2023 - Majoring in Economics
Angelu Ramos †	Undergraduate Student 2022 - Majored in Astronomy and Mathematics
Hannah Blue	Undergraduate Student 2021 - Majored in Astronomy
Kimberly Miskovetz †	Undergraduate Student 2020 - Majored in Astronomy
Julia Cordeiro	High School Student 2020
Sydney Kim	High School Student 2018
Faith Sullivan	High School Student 2018
Claire Lamman †	Undergraduate Student 2017
Xavier Tailbit	High School Student 2017

† indicates students who published papers, or presented conference proceedings based on this work.

ADDITIONAL EMPLOYMENT EXPERIENCE

2019 — 2022 **Website Designer**, UKIRT Observatory, Maunakea, HI
2020 — 2021 **Student Researcher**, Vanderbilt University, Nashville, TN
2019 — 2020 **Student Researcher**, Gemini Observatory, Hilo, HI
Summer 2019 **Student Researcher**, Institute for Astronomy, Hilo, HI
2015 — 2017 **Student Intern**, Institute for Astronomy, Hilo, HI
Summer 2015 **Virtual Reality Engineer**, BAE, Bristol, UK
Summer 2014 **Process Engineer**, Xerox, Hertfordshire, UK
2013 — 2015 **Planetarium Operator**, Bayfordbury Observatory, Hertfordshire, UK

GRANTS AND FUNDING

NISE Fellowship (PhD Fellowship) Frist Center for Autism and Innovation 2021 - Present
FAMOUS Travel Grant (\$1,000) American Astronomical Society 2023
Lacy-Fischer Interdisciplinary Research Grant (PI) (\$7,500) Vanderbilt University 2023
Graduate School Travel Grant (2 x \$500) Vanderbilt University 2021, 2023
HISTARS Award (\$500, \$1,000) University of Hawai'i 2018, 2022
Curb Public Scholars Grant (\$2,000) Curb Center 2021
Graduate Student Organization Award (2 x \$600) University of Hawai'i 2017, 2018
Outreach Grant (\$1,000) Institute of Physics 2015
Student Union Grant (2 x \$500) University of Hertfordshire 2015

SELECT PUBLIC ENGAGEMENT

Ongoing:

Student Mentor, **Maunakea Scholars Program**, Hilo, HI, 2016 Onward
Co-Facilitator, **HISTARS Summer Program**, Maui, HI, 2022 Onward
Stage Manager and Coordinator, **Astroday**, Hilo, HI, 2020 Onward

Past:

Public Lecture, **Dyer Observatory**, Nashville, TN, 2023
Podcast Guest, **Square Pegs**, Virtual, 2023
Educator, **Skype a Scientist**, Virtual, 2020, 2021
Podcast Guest, **Starts with a Bang**, Virtual, 2020
Film Maker and Educator, **Manoa Academy**, Virtual, 2020
Outreach Ambassador, **MKO@Home**, Virtual, 2020
Activity Supervisor, **He'e Fair**, Hilo, HI, 2019
Activity Supervisor, **Solar System Walk**, Waimea, HI, 2018, 2019, 2020
Judge, **Science Fair**, Hilo, HI, 2015, 2016
Workshop Leader, **Onizuka Day**, Hilo, HI, 2015
Activity Supervisor, **Astroday**, Hilo and Kona, HI, 2015 — 2020
Educator, **Journey Through the Universe**, Hilo, HI, 2015
Activity Supervisor, **Kealakehe Elementary Science Night**, HI, 2015

LEADERSHIP AND SERVICE

Current:

Webinar Organizer & Moderator, Frist Center for Autism and Innovation
Frist Center Liason Board Member, College Autism Network Board of Directors
Podcast Host, AstronomerAND
Graduate Student Honors Council, Vanderbilt University
College Autism Summit Facilitator, Vanderbilt University
Committee Member for APS-IDEAS Group, Vanderbilt University
American Astronomical Society Astronomy Ambassador, AAS

Past:

Proposal Review Panel - Executive Secretary, NASA ADAP 2023
Conference Proposal Reviewer, College Autism Summit 2023
AAS Peer Review Workshop, AAS Summer Meeting 2023
Outreach Workshop, University of Hawaii 2022
REU and Akamai Group Mentor, Institute for Astronomy 2018, 2019
IfA Women's Lunch Leader, Institute for Astronomy 2017 — 2019
Physics Society Founder and Chairperson University of Hertfordshire 2014
STEM Ambassador, Institute of Physics 2013 — 2015
Astrophysics Ambassador, University of Hertfordshire 2013 — 2015

HONORS AND AWARDS

Chambliss Award Honorable Mention, AAS Summer Meeting 2023
FAMOUS Award, AAS Summer Meeting 2023
Top Prize in Physics and Astronomy Poster Presentation, Sigma Xi Showcase 2022
Dai Ho Chun Award, University of Hawaii Foundation 2018
IfA Outreach Award, University of Hawai'i 2019
Top 10 Undergraduate Women of the Year Award, Rolls Royce 2015
University of Hertfordshire Volunteer Award, University of Hertfordshire 2015

MEMBERSHIPS AND COLLABORATIONS

Professional Society Memberships: († Indicates current memberships)

American Astronomical Society †	Graduate Student Member
American Physical Society †	Graduate Student Member
International Society for Autism Research †	Graduate Student Member
Sigma Xi †	Full Member
Royal Astronomical Society	Fellow
Institute of Physics	Student Member

Scientific Collaborations:

APOKASC, APOGEE-Kepler Asteroseismic Science Consortium †
Neurodiversity in Space (PI) †
Planet Patrol †
Robo-AO, Robotic Laser Adaptive Optics Instrument
Neurodiversity in STEM Interdisciplinary Research Group (PI) †
Sonification World Chat †
Maunakea Scholars Working Group †
WriteNOW! Vanderbilt Writing Group †

SKILLS

Packages Created:

Webtool, **FluxCT**, 2023.

FluxCT: Enabling users to determine potentially contaminating stars in *Kepler* and *TESS* target pixel files.

Web Tool Access: <https://www.jessicastasik.com/flux-contamination-tool>

GitHub repository: <https://github.com/Jesstella/FluxCT>

Telescope Observation and Reduction:

- Gemini, Maunakea, HI
- Keck (NIRC2), Maunakea, HI
- Subaru, Maunakea, HI
- UKIRT, Maunakea, HI
- UH88 (Robo-AO), Maunakea, HI
- SDSS (APOGEE), Apache Point Obs, NM
- *Kepler* and K2, Space-based
- TESS, Space-based
- Gaia, Space-based

Programming Languages and Software:

- Python (vim, emacs, git, GitHub)
- SQL
- Blender, Unreal Engine
- Audacity
- LaTeX
- Wordpress, GoDaddy, and Wix
- Adobe Suite including Photoshop
- Intermediate French

Skill-Enhancement Workshops:

Participant, **Ground and Space Telescopes in the Big Surveys Era**, Albuquerque, NM, US, 2023

Vanderbilt Representative, **AAAS Catalyzing Advocacy in Science & Engineering**, DC, US, 2023

Participant, **Sigma Xience**, Virtual, US, 2023

Blender Course, **Vanderbilt**, Virtual, US, 2023

Participant, **Supporting Your Introductory Astronomy Courses**, Seattle, US, 2023

Participant, **American Physical Society Science Trust Workshop**, Virtual, 2022

Participant, **How to Give Effective Presentations**, Pasadena, US, 2022

Participant, **Effective Astronomy Visualizations**, Pasadena, US, 2022

Participant, **ComSciCon ATL**, Virtual, 2022

Participant, **AAS Astronomy Ambassadors Workshop**, Virtual, 2022

Participant, **INSAR Institute Series: Autism and Intersectionality**, Virtual, 2021

Participant, **NISE Seminar: Affective Computing**, Virtual, 2021

Participant, **MkPy Python Workshop**, Hilo, HI, 2017

REFERENCE

Keivan G. Stassun, *Professor of Astronomy*, Vanderbilt University, Nashville, TN.

Relationship to Applicant: Thesis Advisor

Email: keivan.stassun@vanderbilt.edu

Joel Zinn, *Associate Professor of Astronomy*, University of California at Long Beach, Long Beach, CA.

Relationship to Applicant: Collaborator in Galactic Archaeology with APOKASC collaboration.

Email: Joel.Zinn@csulb.edu

Kimberly Arcand, *Science Communicator*, NASA's Chandra Observatory, Harvard CfA, MA.

Relationship to Applicant: Collaborator and leader of sonification research project.

Email: kkowal@cfa.harvard.edu

Doug Simons, *Director of Institute for Astronomy*, University of Hawai'i, Hilo, HI.

Relationship to Applicant: Mentor and collaborator in Maunakea Scholars outreach program.

Email: dsimons@hawaii.edu

Christina Richey, *Program Manager for Research and Technology Development*, JPL, Pasadena, CA.

Relationship to Applicant: Thesis Committee Member.

Email: christina.r.richey@jpl.nasa.gov