

Education & Employment

University of Hawaii at Manoa Institute for Astronomy

Ph.D. in Astronomy, 3.85/4.0

Honolulu, HI

2018 – Present

Bay Area Environmental Research Institute

Research Associate

Moffet Field, CA

Summer 2018

University of Washington

Bachelor of Science in Physics & Astronomy, 3.47/4.0 | Astronomy 3.78/4.0

Seattle, WA

2014 – 2018

UW Dean's List – SP16, WI17, SP17 | Astronomy Honors

Research

Interests: Solar & Stellar Physics – Solar Magnetic Fields – Stellar Evolution

Constraining Angular Momentum Loss Mechanisms in Subgiant Stars

Dr. Jennifer van Saders & Dr. Jamie Tayar

Honolulu, HI

Autumn 2019 - Present

- Analyzing how different angular momentum loss models fare for stars on the subgiant branch.

Electric Current Neutralization in Solar Active Regions

Dr. Xudong Sun

Honolulu, HI

Winter 2019 - Spring 2020

- Studying the relationship between current distribution and flare production in solar active regions.

Lockheed Martin Solar and Astrophysics Lab

Dr. Sanjiv Tiwari & Dr. Bart de Pontieu

Palo Alto, CA

Summer 2018

- Studying the evolution of solar coronal plumes with the Interface Region Imaging Spectrograph (IRIS).

Solar Telescope

Astronomy Undergraduate Engineering Group

Seattle, WA

Autumn 2017 – Spring 2018

- Developing a solar telescope for use in introductory astronomy courses.

University of Alabama in Huntsville/NASA MSFC Heliophysics REU

Dr. Sanjiv Tiwari

Huntsville, AL

Summer 2017

- Studying the magnetic origins of solar coronal plumes.

Cataclysmic Variable Spectroscopy

Prof. Paula Szkody

Seattle, WA

Spring 2017 – Winter 2018

- Collected and reduced several Cataclysmic Variable (CV) targets and developed a CV catalog.

Little-Studied Open Clusters Project

Prof. Ana Larson

Seattle, WA

Spring 2016 – Winter 2017

- Cataloged open cluster properties and assisted in development of cluster membership analysis program.

Awards and Honors

American Astronomical Society Solar Physics Division Popular Writing Award:

May 2020

NSF Graduate Research Fellowship Program: Honorable Mention

April 2020

NSF Graduate Research Fellowship Program: Honorable Mention

April 2018

American Geophysical Union (AGU) Fall Meeting Outstanding Student Paper Award:

December 2017

UW Astronomy Baer Undergraduate Prize for Excellence in Research:

Spring 2017

Teaching

Astronomy Course Teaching Assistant: TA for UH undergraduate astronomy courses

Autumn 2018 - Spring 2019

Astronomy Course Grader: Grader for undergraduate astronomy core series

Autumn 2017 - Spring 2018

Introductory Physics Tutorial Instructor: Tutorial TA for UW introductory physics series

Winter 2017 – Spring 2018

Committees

UH Institute for Astronomy Graduate Admissions Committee: Graduate Student Representative

Spring 2019

Volunteer Service and Outreach

Scientist: Skype a Scientist

Autumn 2019 - Present

Presenter: Stars Above Hawaii Stargazing Tours

Spring 2019 - Present

Author: Astrobites, astrobites.org/author/eavallone

Winter 2019 – Present

Volunteer: UH Institute for Astronomy Outreach

Autumn 2018 - Present

Pen-Pal: Letters to a Pre-Scientist

Autumn 2018 – Present

Secretary, President: UW League of Astronomers

Spring 2016 – Spring 2018

Volunteer: Theodor Jacobsen Observatory
Presenter: UW Planetarium, UW Mobile Planetarium

Spring 2016 – Spring 2018
Spring 2016 – Spring 2018

Mentorship

Maunakea Scholars Program: Graduate Student Mentor *Autumn 2018 – Present*
Research Mentor: Co-advising high school student with Dr. Xudong Sun *Spring 2019 – Present*

Technical Skills

Languages: Python | IDL | Mathematica | LaTeX | Bash | UNIX | R
Software: Microsoft Office | Wordpress
Telescope Operations: Observed 4+ nights at APO 3.5m, MRO 0.75m, DAO 1.83m

Workshops

Preparing for DKIST: Image processing and Time Series: Northridge, CA *Winter 2020*
Preparing for DKIST: An Introduction to Ground Based Data: Boulder, CO *Summer 2019*
UCAR CPAESS Heliophysics Summer School: Boulder, CO *Summer 2019*

Presentations

American Astronomical Society Winter Meeting: Poster *January 2020*
◦ Astrobites: Blogging Astronomy Research and Beyond
American Astronomical Society Winter Meeting: Poster *January 2020*
◦ Electric Current Neutralization in Solar Active Regions and its Relation to Magnetic Shear and Eruptive Activity
American Geophysical Union Fall Meeting: Poster *December 2019*
◦ Electric Current Neutralization in Solar Active Regions and its Relation to Magnetic Shear and Eruptive Activity
SHINE Conference: Poster *August 2019*
◦ Electric Current Neutralization in Solar Active Regions and its Relation to Magnetic Shear and Eruptive Activity
Lockheed Martin Solar and Astrophysics Lab: Seminar *July 2018*
◦ The Magnetic Origins and Spectroscopic Properties of Coronal Plumes
UW Undergraduate Research Symposium: Poster *May 2018*
◦ Adapting an Amateur Solar Telescope for use as a Lecture, Research, and Public Outreach Tool
Stanford University Solar Observatories Group: Seminar *March 2018*
◦ Critical Magnetic Field Strengths for Unipolar Solar Coronal Plumes in Quiet Regions and Coronal Holes?
American Geophysical Union Fall Meeting: Poster *December 2017*
◦ Critical Magnetic Field Strengths for Unipolar Solar Coronal Plumes in Quiet Regions and Coronal Holes?
UW Undergraduate Research Symposium: Poster *May 2017*
◦ MW Open Cluster Metallicities + Membership Assignment
Theodor Jacobsen Observatory: Public Outreach Talk | The Sun: Our Home Star *May 2017*
UW Planetarium: Universe Tours *Spring 2016 – Spring 2018*

Publications

Electric Current Neutralization in Solar Active Regions and Its Relation to Eruptive Activity: *2020*
◦ Ellis A. Avallone and Xudong Sun 2020, ApJ, 893, 123
Critical magnetic field strengths for unipolar solar coronal plumes in quiet regions and coronal holes?: *2018*
◦ Avallone, E. A., Tiwari, S. K., Panesar, N. K., Moore, R. L., Winebarger, A. 2018, ApJ, 861, 111

References available upon request.