Katherine Melbourne

Curriculum Vitae

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Education

2015–2019 **B.S. Astrophysics**, *Yale University*, New Haven, CT.

Professional Experience

Summer 2018 **Ball Aerospace**, Arlington, VA
Brooke Owens Fellow – Strategic Operations

2017 – 2018 **Yale Center for Teaching and Learning**, New Haven, CT
STEM Education Undergraduate Fellow

Spring 2017 **National Aeronautics and Space Administration**, Washington, D.C.
Office of International and Interagency Relations Intern

Research Experience

Present **National Aeronautics and Space Administration**, Greenbelt, MD
Astrophysics Research Intern

2016 – 2018 **University of Chile**, Santiago, Chile
Tetelman Fellow for International Research in the Sciences

Summer 2017 **Cryogenic Underground Observatory for Rare Events**, New Haven, CT
Yale College Dean's Research Fellow

Summer 2014 **Boston University**, Boston, MA
Astronomy Research Intern

Observing Experience

2019 **W. M. Keck Observatory**, Waimea, HA
Keck I High Resolution Echelle Spectrometer

2016 **La Silla Observatory**, Atacama Desert, Chile
Swiss 1.2 Meter Leonard Euler Telescope

2013 **Kitt Peak National Observatory**, Tucson, AZ

Publications and Presentations

2019 in prep. **Melbourne, K.**, Youngblood, A., Roberge, A., Basu, S. et al. *Predicting the UV Emission of M Dwarfs with Exoplanets from CaII and H-alpha.*

2019 **North Central Region of the Astronomical League Convention**, Moline, IL
"Our Coolest Neighbors: M Dwarfs and the Search for Earth 2.0"

2019 **American Astronomical Society** (Poster), Seattle, WA
"Characterizing the UV Emission of M Dwarfs with Exoplanets"

2018 **Yale Undergraduate Research Association** (Poster), Seattle, WA
First Place: "Characterizing the UV Emission of M Dwarfs with Exoplanets"

2018 **NASA Goddard Space Flight Center Intern Research Fair** (Poster), Greenbelt, MD
First Place: "Characterizing the UV Emission of M Dwarfs with Exoplanets"

2018 **Conference for Undergraduate Women in Physics**, New York City, NY
First Place: "The Effects of Stellar Activity on Radial Velocity Exoplanet Detection"

2017 **American Physical Society Division of Nuclear Physics** (Poster), Pittsburgh, PA
"Analyzing CUORE Data and Geant4 Simulation"

2016 **University of Chile Astronomy Department Professional Seminar**, Santiago, Chile
"The Effects of Stellar Activity on Radial Velocity Exoplanet Detection"

2014 **Research Internship for Science and Engineering Symposium** (Poster), Boston, MA
"Calibrating a Color-Magnitude Relationship of M Dwarf Stars with Known Distances"

Outreach and Community Service

Present **Popular Astronomy Club Member**, Moline, IL

2015 – 2018 **Yale Women in Physics Co-President and Secretary General** New Haven, CT

2018 – 2019 **Girls Science Investigations Volunteer**, New Haven, CT

2017 **Yale Resonance TED Talk Presenter**, New Haven, CT

2017 **Middle School Science Fair Judge**, Washginton, D.C.

Awards and Grants

2019 **Yale's Brady-Johnson Grand Strategy Program Grant** ($3100)

2019 **Bruce M. Babcock '62 Travel Research Fellowship** ($1200)

2019 **National Space Club and Foundation Keynote Scholarship Finalist**

2018 **Women in Aerospace Scholarship in Memory of Molly K. Macauley** ($2000)

2018 **John Mather Nobel Scholars Conference Travel Grant** ($3000)

2017 **Connecticut Space Grant Undergraduate Research Fellowship** ($5000)

2017 **Saybrook Residential College Research Fellowship** ($545)

2017 **Yale College Dean's Research Fellowship** ($4300)

2016 **Horkheimer/Smith First-Place Scholarship for Youth Astronomy Outreach** ($1750)

2016 **Alan S. Tetelman '58 Fellowship for International Research in the Sciences** ($3200)

Coursework

STEM Astrostatistics and Data Mining, Mathematical Methods of Physics, Physical Processes of Astronomy, The Evolving Universe, Galactic and Extragalactic Astronomy, Advanced Classical Physics I and II, Differential Equations, Linear Algebra

Policy Data Science for Public Policy, The Rise of China, Development Under Fire, History of Soviet Russia, U.S. Foreign Policy Crises 1898-2017, Grand Strategy

2019 Center for Strategic and International Studies Understanding Space Security Course