

Michaela Leung

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EDUCATION

University of California, Riverside

Doctor of Philosophy in Earth and Planetary Sciences

Riverside, CA

Sept. 2020 – Present

University of Washington

Bachelor of Science in Earth and Space Sciences

Seattle, WA

Sept. 2016 – June 2020

- Cum Laude with Departmental and Interdisciplinary Honors.
- Early entrance at age 15 through UW Academy for Young Scholars program

RESEARCH EXPERIENCE

Research Assistant

Alternative Earths Team, University of California, Riverside

July 2020 – Present

Riverside, CA

Advisor: Dr. Edward Schwieterman

- Added gaseous species to 1-dimensional coupled climate photochemistry model (atmos)
- Piloted novel process based biosignatures.

Research Assistant

Virtual Planetary Laboratory, University of Washington

October 2017 – Present

Seattle, WA

Advisor: Dr. Victoria Meadows

- Using 1-dimensional coupled climate photochemical model for terrestrial planets in circumbinary orbits)
- Used SMART radiative transfer model to analyze oxygen false positives
- Developed python scripts and modified existing FORTRAN code. Wrote two first-author papers and gave poster presentations.

PRESENTATIONS AND PUBLICATIONS

Upcoming

- **Leung, M.**, Meadows V. & Lustig-Yeager, J. (2020), How to Discriminate Signs of Life from Ocean Loss on Earth-like Exoplanets Using High Resolution Ground Based Spectroscopy: oral presentation at AAS 238th meeting
- **Leung, M.**, Zuckerman, A., Lincowski, A., & Meadows V. Effects of Atmospheric Photochemistry on Circumbinary Planets. In Preparation for submission to AAS Journals

Past

- **Leung, M.**, Meadows V., & Lincowski, A. (2020) Effects of Atmospheric Photochemistry in Circumbinary Planets: poster presented at the 52nd Annual Meeting of the Division of Planetary Sciences AAS, Virtual Meeting, October 26.
- **Leung, M.**, Meadows V., & Lincowski, A. (2020) Effects of Atmospheric Photochemistry in Circumbinary Planets: presented at Exoplanets in Southern California, Virtual Meeting, September 15.
- Using 1-dimensional coupled climate photochemical model to for terrestrial planets in circumbinary orbits)
- **Leung, M.**, Meadows, V., & Lustig-Yaeger, J. (2020). High-resolution Spectral Discriminants of Ocean Loss for M-Dwarf Terrestrial Exoplanets, 160(1). <https://doi.org/10.3847/1538-3881/ab9012>
- **Leung, M.** & Meadows V. (2020) Effects of Atmospheric Photochemistry in Circumbinary Planets: poster presented at the Undergraduate Research Symposium
- **Leung, M.**, Meadows V. & Lustig-Yeager, J. (2019), How to Discriminate Signs of Life from Ocean Loss on Earth-like Exoplanets Using High Resolution Ground Based Spectroscopy: poster presented at the Undergraduate Research

DIVERSITY, EQUITY, INCLUSION, AND OUTREACH EXPERIENCE

Committee Member

November 2020 – Present

Professional Culture and Climate Subcommittee

Division of Planetary Sciences, AAS

- Worked on analyzing results from DPS meeting survey, and proposed ideas to improve culture and climate in DPS.

Astrobiology Guest Speaker

October 2020 – Present

- Conducted multiple virtual presentations with over 150 students in middle school science classes in Western Washington.

Southern California Organizer

August 2020 – Present

Astrobiology for the Incarcerated

- Developed relationships with local incarceration facilities and created presentation materials.

Undergraduate Research Leader

September 2019 – June 2020

Undergraduate Research Program, University of Washington

Seattle, WA

- Communicated about research opportunities at outreach events to first year and transfer students.

Undergraduate Representative

May 2019 – June 2020

Earth and Space Sciences Curriculum Committee, University of Washington

Seattle, WA

- Represented undergraduate students in discussions and decisions about curriculum updates and overhauls.
- Led discussions about equity and initiated review of teaching goals in required courses

RELEVANT WORK EXPERIENCE

Technical Editor

May–July 2020

Math for Programmers

- Edited manuscript for technical accuracy and clarity. Created high quality figures and confirmed Python code functionality.

Undergraduate Peer Tutor and Mentor

Odegaard Writing and Research Center, University of Washington

Seattle, WA

Peer Tutor: September 2018 – June 2020 | Peer Mentor: August 2019 – June 2020

- Worked with graduate and undergraduate student writers on various writing projects through question based, non-directive strategies.
- Developed mentorship and organization skills through supporting and training staff as well as planning events and programming.
- Supported transition to remote April 2020. Led initiative to connect staff through isolation.

Interpretive Science Educator

February 2015 – June 2018

Pacific Science Center

Seattle, WA

- Facilitated informal science education. Examples include presenting interactive activities about remote sensing and transit detection of exoplanets.
- Learned strategies for science communication across age groups and utilized these skills to work primarily with family with young children
- Developed hands-on activities and planned event celebrating 2017 total solar eclipse using multimedia strategies including themed music and crafts
- Wrote successful grant application for \$165k to fund solar panel array. Worked with contractors and assessed bids. Developed educational signage and hands-on science communication activities.

HONORS AND AWARDS

- Provost's Research Fellowship, University of California, Riverside
- Undergraduate Student Speaker, Earth and Space Sciences Graduation, 2020
- Husky 100, 2020
- Mary Gates Research Scholarship, Spring 2020
- University of Washington Dean's List: 9 quarters
- Husky Leadership Certificate, University of Washington