Maryam Hami — CV

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Education

University of Innsbruck — **Innsbruck, Austria**
Master's in Astrophysics — *2017–2020*

International (Erasmus) joint masters degree program in astrophysics. Awarded full-ride merit-based scholarship.

Whittier College — **Whittier, California**
Bachelor's in Physics, Astronomy Emphasis — *2013–2017*

Graduated with honors-society inductions for physics and mathematics. Awarded merit-based scholarship.

Employment

NorthWest Research Associates — **Monterey, CA**
Research Scientist — *June 2023–Present*

Support the Office of Naval Research Fleet Numerical Meteorology and Oceanography Center (FNMOC), running and vetting assimilative ionospheric models supported by FNMOC environmental data, in addition to research in ionospheric modelling and radio wave propagation.

Space Telescope Science Institute (AURA and NASA) — **Baltimore, MD**
Test Engineer — *July 2021–June 2023*

Provide technical support for the development and execution of test programs that verify and validate the James Webb Space Telescope (JWST) Science & Operations Center, Flight Operations Subsystem, and the testing and certification of the JWST onboard scripts. **24x7 on-console operations shift support for the commissioning of JWST**, and anomaly response support during normal operations.

National Radio Astronomy Observatory — **Charlottesville, VA**
Research Intern — *May 2020–July 2021*

Calibrate and image data from the Atacama Large Millimeter Array (ALMA) to perform molecular spectroscopy and identify spectral lines in HII (ionzed Hydrogen) regions in the outskirts of the Milky Way Galaxy.

National Radio Astronomy Observatory — **Charlottesville, VA**
Summer Student Internships — *Summer 2018/2019*

Summer of 2018: Calibrate and analyze data from the Very Large Array (VLA) to create a linear mosaic of HII regions along the ends of the bar of the Milky Way Galaxy. Summer of 2019: Compare star formation rates in luminous starbursts between HST paschen beta infrared data and VLA 33GHz radio data.

Technical Certifications and Skills

Operator, JWST Operations Scripts Subsystem

NASA's James Webb Space Telescope (JWST) Onboard/Operations Scripts subsystem, a crucial component to the success of the JWST mission, responsible for facilitating communication between the 4 instruments onboard the spacecraft, and implementing the innovative concept of "Event-Driven Operations" to tackle science scheduling inefficiencies.

- **Operator, NASA Goddard Space Flight Center Electrostatic Discharge (GSFC ESD) Control Plan**

  NASA Goddard Space Flight Center Manufacturing Technology Transfer Center. ESD certification was completed so that I can operate the high-fidelity JWST Simulators, which contain devices sensitive to ESD.

- **Programming and Software skills**

  Python, Cecil, TCL, JIRA software, Raytheon's ECLIPSE command and control software, CASA, IDL, Matlab, SQL, LaTeX

Publications and Conferences

- **2022:** Rigby, J., **Hami, M.**, et al. *'Characterization of JWST science performance from commissioning '* Submitted to *astro-ph*. Available: https://doi.org/10.48550/arXiv.2207.05632

- **2020:** Balbi A., **Hami, M.**, Kovacevic, A. *'The Habitability of the Galactic Bulge'* Published in *Life*. Available: https://doi.org/10.3390/life10080132

- **2018: American Astronomical Society Conference** *'Is The Milky Way A Grand Design Spiral?'*

- **2017: National Astronomy Consortium Conference** *'Star Formation Rates in Luminous Starbursts'*

Thesis Projects

- **Master's Thesis:** *'Inner Galaxy Habitability'*

  Expand on current knowledge of the Galactic Habitable Zone - the idea that certain regions of the Milky Way are more suitable for harboring life. My research accounts for another limiting parameter which previous research has not accounted for - the Milky Way's supermassive blackhole Sag A* during its active phase. Accounting for such a parameter helps to understand the habitability of the inner Galaxy and the Galactic Bulge. Published in *Life* 2020: https://doi.org/10.3390/life10080132

- **Bachelor's Thesis:** *'The Anthropic Principle'*

  The implications of the anthropic principle in cosmology and our ability as humans to observe and understand the Universe. I examine stellar nucleosynthesis and the pathway to terrestrial planets, the requirements for life on Earth to exist, the arguments for a fine-tuned Universe, and the problem of observational selection effects in astronomy.