# **HANNAH BISH**

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## EDUCATION

Ph.D. Astronomy (expected), University of Washington	expected 2022
M.S. Astronomy, University of Washington	2016
B.S. Astrophysics, Rutgers University	2014
Appointments	
Graduate Research Assistant, University of Washington Research: Kinematics & Structure of Gas Flows in the Galactic Halo Advisor: Prof. Jessica Werk	2016 - present
Teaching Assistant, University of Washington Courses Taught: Intro Astronomy (ASTR 101), The Planets (ASTR 150)	2014 - 2016
Research Assistant, Rutgers University Research: $Ly$ - $\alpha$ Emission Strength in Star-Forming Galaxies Advisor: Prof. Eric Gawiser	2012 - 2014
<b>REU Student</b> , American Museum of Natural History Research: <i>High Proper Motion Stars in the SUPERBLINK Survey</i> Advisor: Prof. Sebastien Lepine	2010
Teaching, Mentoring, and Outreach	

Mentor, Pre-Major in Astronomy Program (Pre-MAP), University of Washington Supervised research of four undergraduate students	2016 - 2020
Speaker, Everett Astronomical Society, Everett WA	2019
Speaker, Astronomy on Tap, Seattle WA	2019
Volunteer, Meany Middle School Astronomy Outreach, Seattle WA	2019
Organizer, EquiTea, University of Washington	2017 - 2019
Volunteer, ARCS educational astronomy for children & parents, Seattle WA	2017
Volunteer, Planetarium presenter for visiting groups, University of Washington	2016 - 2017
Lecturer, Astronomy course for middle school girls, University of Washington	2016
Teaching Assistant, University of Washington ASTR 101: Intro Astronomy, four terms ASTR 150: The Planets, two terms	2014 - 2016

#### Honors and Awards

Co-I on successful HST Proposal (HST-GO-16679), 71 orbits	2021
Graduate Student Prize for Research Excellence, University of Washington	2019
Graduate Student Presentation Award, Wolfe Symposium in Astrophysics	2018
Co-I on successful HST Proposal (HST-GO-15154), 17 orbits	2017
ARCS Graduate Fellowship	2014 - 2017
Magna cum laude, Rutgers University	2014
Honors thesis in Astrophysics, Rutgers University	2014
Aresty Research Center Grant	2013
Richard J. Plano Summer Research Internship Award	2013
Rutgers University Academic Excellence Award	2013

### **PUBLICATIONS**

- 1. **Bish, H.V.**, Werk, J.K., Di Teodoro, E.M., Peek, J.E.G., Putman, M.E., Zheng, Y. "The Sandwich Model: Kinematics of a Warm Extended Disk in the Milky Way's Circumgalactic Medium" (in prep.)
- 2. **Bish, H.V.**, Werk, J.K., Peek, J.E.G., Putman, M.E., Zheng, Y. "QuaStar: Measuring the Milky Way's Obscured Low-Velocity Circumgalactic Medium" 2021, ApJ, 912, 8
- 3. Bish, H.V., Werk, J.K., Prochaska, J.X.; Rubin, K.H.R.; Zheng, Y.; O'Meara, J.M.; Deason, A.J. "Galactic Gas Flows from Halo to Disk: Tomography and Kinematics at the Milky Way's Disk-Halo Interface" 2019, ApJ, 882, 76
- 4. Werk, J.K., Rubin, K.H.R., **Bish, H.V.**; Prochaska, J.X.; Zheng, Y.; O'Meara, J.M.; Lenz, D.; Hummels, C.; Deason, A.J. "The Nature of Ionized Gas in the Milky Way Galactic Fountain" 2019, ApJ, 887, 89
- 5. Vargas, C.J., **Bish, H.V.**, Acquaviva, V., Gawiser, E.J., Finkelstein, S.L., Ciardullo, R., Ashby, M., Feldmeier, J., Ferguson, H., Gronwall, C., Guaita, L., Hagen, A., Koekemoer, A., Kurczynski, P., Newman, J., & Padilla, N. "To Stack or Not to Stack: Spectral Energy Distribution Properties of Ly-Emitting Galaxies at z=2.1". 2013, ApJ, 783, 26.

### PRESENTATIONS

#### ORAL:

AAS #236 205.03 - QuaStar: A First Look at the Milky Way's Hidden CGM	2020
Wolfe Symposium in Astrophysics - Milky Way Gas Kinematics at the Disk-Halo Interface	2018
MUSYC LAE Meeting - SED Properties of $z\sim2-3$ LAEs	2013
Rutgers University - MCMC SED Fitting in CANDELS	2013
Tri-State Astronomy Conference - "Physical Properties of LAEs at $z=2.1$	2013
CANDELS Team Meeting - To Stack or Not to Stack: SED Properties of $z=2.1\ LAEs$	2013
MUSYC LAE Meeting - SpeedyMC Results for $z=2.1$ LAEs with CANDELS SEDs	2012

#### Posters:

AAS #225 143.55 - What Determines the Strength of Ly $\alpha$ Emission in Star-Forming Galaxies?	2015
AAS #223 145.05 - To Stack or Not to Stack: Physical Properties of LAEs at $z=2.1$	2014
AAS #221 147.32 - Physical Properties of Lyman Alpha Emitters in CANDELS	2013