

# GILLIAN DORA BELTZ-MOHRMANN

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## EDUCATION

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Ph.D., Astrophysics, Vanderbilt University	in progress
Advisor: Andreas Berlind	
M.A., Astrophysics, Vanderbilt University	2018
B.A., Astrophysics, German, <i>cum laude</i> , Wellesley College	2016
Advisors: Kim McLeod, James Battat	

## RESEARCH POSITIONS

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Graduate Student, Vanderbilt University	2016–
LIGO Summer Undergraduate Research Fellow, Caltech	2015
Advisors: Alan Weinstein, Jonah Kanner	
NSF REU, University of Wyoming	2014
Advisor: Daniel Dale	
Keck Northeast Astronomy Consortium (KNAC) Summer Research Fellow, Williams College	2013
Advisor: Steven Souza	
Undergraduate Research Assistant, Wellesley College	2013–2016

## HONORS & AWARDS

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Vanderbilt Physics & Astronomy Dept. Most Outstanding Student Publication Award	2020
Vanderbilt Physics & Astronomy Dept. Spring McMinn Award	2020
1st place in Vanderbilt Data Science Symposium graduate student poster competition	2019
Vanderbilt Physics & Astronomy Dept. Summer McMinn Award	2019
Vanderbilt Akunuri V. Ramayya Award for outstanding Teaching Assistant	2018
Vanderbilt College of Arts and Sciences Graduate Summer Research Award	2018
Vanderbilt Provost Graduate Fellowship	2016 –
Sigma Xi: The Scientific Research Honor Society	2016
Undergraduate Chambliss Astronomy Achievement Award (Honorable Mention)	2016
Wellesley College Sarah Frances Whiting Medal for Achievement in Astronomy	2014

## TEACHING & OUTREACH

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Graduate Teaching Assistant, <i>Intro Astronomy Lab</i> , Vanderbilt University	2016–2019
Co-mentored high school student <i>Caleigh Dennis</i>	2017–2019
Two-time 1st place winner at Middle Tennessee Science & Engineering Fair	
Vanderbilt Student Volunteers for Science	2016
Physics Tutor, Wellesley College	2013–2016
Whitin Observatory Volunteer, Wellesley College	2012–2016

## SKILLS & EXPERIENCE

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### Computational Skills

Languages: Python, C/C++, Ruby, Julia, Rust, Racket, Prolog, MATLAB, bash, git, L<sup>A</sup>T<sub>E</sub>X  
Parallel Computing: MPI, OpenMP

### Supercomputing Time

Allocation Manager: Texas Advanced Computing Center Stampede2 - 118k node hours	2017–
Gadget-2 & Gadget-4 cosmological simulations, ROCKSTAR halo finder, 2LPTic, CAMB	

## Telescope Time

Wyoming Infrared Observatory 2.3 meter telescope: 80 hours	2014
Wellesley College 0.6 meter telescope: 200 hours	2013–2016
Williams College 0.6 meter telescope: 80 hours	2013

## RECENT TALKS

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<i>Taking Halo Modeling to the Next Level</i> – Mock Innsbruck: the connection between galaxies and dark matter haloes	2020
<i>Testing the Accuracy of HOD Modeling using Hydro Simulations</i> – AJC, Vanderbilt	2019
<i>Large Scale Structure in the Universe</i> – Meet the Astronomer Night, Dyer Observatory ( <a href="https://dyer.vanderbilt.edu/lectures-dyer/">https://dyer.vanderbilt.edu/lectures-dyer/</a> )	2018
<i>Accurate Modeling of Galaxy Clustering on Small Scales</i> – AJC, Vanderbilt	2017
<i>LIGO and the Search for Gravitational Waves</i> – Public Astronomy Night, Whitin Observatory	2016
<i>Detector Characterization for Advanced LIGO</i> – Physics Research Panel, Wellesley College	2015
<i>Tracking Spectral Noise Lines in Advanced LIGO Data</i> – KNAC Fall Research Symposium	2015

## CONFERENCES & WORKSHOPS

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Mock Innsbruck: the connection between galaxies and dark matter haloes	2020
The First Shanghai Assembly on Cosmology and Galaxy Formation <a href="https://gax.sjtu.edu.cn/shanghai2019/node/74">https://gax.sjtu.edu.cn/shanghai2019/node/74</a>	2019
Santa Cruz Galaxy Workshop <a href="http://hipacc.ucsc.edu/PDF/2019SCGW/Beltz-Mohrmann_SantaCruzPoster.pdf">http://hipacc.ucsc.edu/PDF/2019SCGW/Beltz-Mohrmann_SantaCruzPoster.pdf</a>	2019
Summer School on Large Scale Structure, MPA Garching	2018
SciCoder Workshop, Vanderbilt University	2017
227 <sup>th</sup> American Astronomical Society Meeting “Tracking Spectral Noise Lines in Advanced LIGO Data” <b>Beltz-Mohrmann, G.</b> , Weinstein, A., Kanner, J., 2016, AAS Meeting #227, #338.09	2016
225 <sup>th</sup> American Astronomical Society Meeting “EDGES: Deep Multi-wavelength and Radial SED Analysis for NGC4485, NGC4490, and NGC5273” <b>Beltz-Mohrmann, G.</b> , et al., 2015, AAS Meeting #225, #250.04	2015
224 <sup>th</sup> American Astronomical Society Meeting “Photometry and Spectroscopy of BD+35 1111 in M38” Souza, S. P., Kwitter, K. B., Sami, M., <b>Beltz-Mohrmann, G.</b> , 2014, AAS Meeting #224, #219.05	2014

## PUBLICATIONS

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5. **Beltz-Mohrmann, G. D.**, Berlind, A. A., 2020, “Effect of baryons on halo masses”, in prep.
4. Szewciw, A. O., Berlind, A. A., **Beltz-Mohrmann, G. D.**, 2020, “Toward Accurate Modeling of Galaxy Clustering on Small Scales II: Constraining the Halo Model”, in prep.
3. **Beltz-Mohrmann, G. D.**, Berlind, A. A., Szewciw, A. O., 2019, “Testing the Accuracy of Halo Occupation Distribution Modelling using Hydrodynamical Simulations”, Monthly Notices of the Royal Astronomical Society, 491, 5771.
2. Dale, D. A., **Beltz-Mohrmann, G. D.**, Egan, A. A., Hatlestad, A. J., Herzog, L. J., Leung, A. S., McLane, J. N., Phenicie, C., Roberts, J. S., Barnes, K. L., Boquien, M., Calzetti, D., Cook, D. O., Kobulnicky, H. A., Staudaher, S. M., van Zee, L., 2016, “Radial Star Formation Histories in Fifteen Nearby Galaxies”, arXiv:1511.03285, The Astronomical Journal, 151, 4.
1. Souza, S. P., **Beltz-Mohrmann, G.**, Sami, M., 2014, “The Light Curve and Period of MT696”, The Journal of the American Association of Variable Star Observers, 42, 154.