

# ANDREIA JESSICA A. CARRILLO

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Department of Astronomy, University of Texas at Austin

## EDUCATION

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**The University of Texas at Austin**

*August 2016 - present (expected May 2021)*

Ph.D. Astronomy

Advisor: Dr. Keith Hawkins

*Thesis: Stellar Populations in the Milky Way and Beyond*

**University of Michigan, Ann Arbor**

*September 2012 - May 2016*

B.S. Astronomy and Astrophysics and B.S. Interdisciplinary Physics

## AWARDS AND DISTINCTIONS

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- Fred T. Goetting, Jr. Memorial Scholarship *Summer 2020*
- Center for Computational Astrophysics Predoctoral Fellowship *Spring 2020*
- Astronomy Department Graduate Excellence Fellowship *Spring 2020*
- LSSTC Data Science Fellowship *2019 - Present*
- Astronomy and Astrophysics, Highest Honors *April 29, 2016*
- University of Michigan Astronomy Department Outreach Excellence Award *April 29, 2016*
- University Honors *Fall 2012, 2014, 2016*
- William J. Branstrom Freshman Prize Award *March 17, 2013*

## PUBLICATIONS

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### 1<sup>st</sup> author:

1. *The VIRUS-P Exploration of Nearby Galaxies (VENGA): Assembly History of the Bulge, Bar, and Disc of NGC 2903*  
**Andreia Carrillo**, Shardha Jogee, Niv Drory, Kyle Kaplan, Tim Weinzirl, Guillermo Blanc, Rongxin Luo, Mimi Song, and the VENGA Collaboration. Accepted January 2020 in MNRAS, arXiv:2002.02858
2. *Know thy star, know thy planet: Chemo-kinematically characterizing TESS targets*  
**Andreia Carrillo**, Keith Hawkins, Brendan Bowler, William Cochran, Andrew Vanderburg, 2020, MNRAS, 491, 4365
3. *Characterizing dw1335-29, a Recently Discovered Dwarf Satellite of M83*  
**Andreia Carrillo**, Eric F. Bell, Jeremy Bailin, Antonela Monachesi, Roelof S. de Jong, Benjamin Harmsen, and Colin Slater, 2017, MNRAS, 465, 5026

### In prep:

1. *The neutron-capture abundance patterns of accreted halo stars from the optical to infrared*  
**Andreia Carrillo**, Keith Hawkins, Paula Jofre, Payel Das, Danielle de Brito Silva, Madeline Lucey, *draft upon request*

2. *Establishing the relationship of age, metallicity, and abundance of disk stars in a simulated Milky Way galaxy*  
**Andreia Carrillo**, Melissa K. Ness, Robyn Sanderson, Kathryn V. Johnston, Keith Hawkins,  
*draft upon request*

#### Co-author:

1. *A Giant Planet Candidate Transiting a White Dwarf*  
Andrew Vanderburg, Saul A. Rappaport, Siyi Xu, ..., **Andreia Carrillo**, et al., 2020, *Nature*, 585, 363–367
2. *Identical or fraternal twins? The chemical homogeneity of wide binaries from Gaia DR2*  
Keith Hawkins, Madeline Lucey, Yuan-Sen Ting, ..., **Andreia Carrillo**, 2020, *MNRAS*, 492, 1164

## ACADEMIC PRESENTATIONS

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### Talks

1. *Establishing the relationship of age, metallicity, and abundance of disk stars in a simulated Milky Way galaxy*. Linking the Galactic and Extragalactic virtual meeting, Wollongong, NSW, Australia, November 30 - December 4, 2020, *anticipated*
2. *Establishing the relationship of age, metallicity, and abundance of disk stars in a simulated Milky Way galaxy*. UT Austin, October 14, 2020
3. *The detailed chemical abundance patterns of accreted halo stars*. The Local Group: Assembly and Evolution, STScI, August 31, 2020
4. *Age-abundance trends in a simulated Milky Way galaxy*. FIRE Collaboration, July 17, 2020
5. *Age-abundance trends in a simulated Milky Way galaxy: The Milky Way as an ultimate test of precision cosmology*. CCA Predoc Symposium, June 25, 2020
6. *Galactic Archaeology with Chemistry and Kinematics*. UT Austin, November 6, 2019
7. *The S-process abundance patterns of the accreted halo from APOGEE*. 2019 SDSS IV/V Collaboration Meeting, June 24-28, 2019
8. *Stellar Populations in the Milky Way and Beyond*. UT Austin, April 4, 2019
9. *Star formation history and stellar populations of NGC 2903's bulge, bar, and disk with VENGA IFU Survey*. UT Austin, May 14, 2018
10. *Characterizing dw1335-29, a dwarf galaxy of M83*. UT Austin, October 27, 2017

### Posters

1. *Dissecting the assembly and star formation history of disks and bulges in nearby spirals using the VENGA IFU survey*. Frank N. Bash Symposium, October 24-25, 2017
2. *Dissecting the assembly and star formation history of disks and bulges in nearby spirals using the VENGA IFU survey*. 230th American Astronomical Meeting, June 4-8, 2017
3. *Characterizing dw1335-29, a Recently Discovered Dwarf Satellite of M83*. 227th American Astronomical Meeting, January 4-8, 2016

## OBSERVING EXPERIENCE

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Harlan J. Smith Telescope (Tull Spectrograph) – 8 nights  
MDM Telescope (4k Imager, CCDS Spectrograph) – 3 nights

*April-August 2019*  
*May 2015*

## TEACHING

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**Teaching Assistant:** Astronomy 376R *Fall 2019*  
TA for Astronomy research methods class, *UT Austin*

**Research mentor:** Freshman Research Initiative *Spring & Fall 2019, Fall 2020*  
TA and mentor for freshmen/transferees starting on Astronomy research, *UT Austin*

**Teaching Assistant:** Astronomy 307 *Fall 2017 & 2018*  
Introductory Astronomy class for undergrad STEM majors, *UT Austin*

**Instructor:** Astronomy Structured Study Group *Fall 2016*  
Designed and taught a discussion class catered to the 100-level astronomy students for Honors credit, *University of Michigan*

## SERVICE AND OUTREACH

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**Astronomy on Tap ATX** *Fall 2019 - present*  
*Austin, Texas*  
I volunteer along with other graduate students and postdocs to run the monthly Astronomy on Tap at Austin, Texas attended by ~200 people or more.

**UT Austin Astronomy Department REU program graduate student mentor** *Summer 2019*  
*UT Austin*  
Served as an informal graduate student mentor to a student participating in the REU program

**Girl Day at UT** *Spring 2017, 2018, 2019*  
*UT Austin*  
Participated in and organized the Association of Women in Astronomy Research and Education's Discover Astronomy demos and activities for Girl Day, attended by over 8,000 elementary and middle school students.

**Graduate-Undergraduate Mentoring in Astronomy Program (GUMMY)** *Spring 2019*  
*Department of Astronomy, UT Austin*  
Started a mentoring program for undergrads where they are paired with a graduate student mentor to help them navigate their careers in Astronomy

**Physics Circus** *Spring 2018 - present*  
*Physics Department, UT Austin*  
We go around different elementary and middle schools and do a free Physics show where we teach kids about different states of matter, the atmosphere, and electricity.

**Astro-coffee/python online workshop** *Fall 2018 - present*  
One of the organizers for an online platform for the Filipinos interested in Astronomy to learn about python for research and hear about other people's research experience on astronomy and meteorology through online invited talks.

**TAURUS graduate student mentor** *Summer 2017 & 2018*  
*Department of Astronomy, UT Austin*  
Served as a graduate student mentor for the Texas Astronomy Undergraduate Research experience for Under-represented Students (TAURUS).

Annual poster session showcasing the undergraduate students' researches; Successfully increased the number of participants from 12 from the previous year to 18 in 2015 and 30 in 2016.

**PUBLIC PRESENTATIONS AND PRESS**

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1. *"How Galaxies Form"*. Headwaters School, Austin Texas, November 8, 2019. [talk]
2. *"Bayesian Statistics for Dummies"*. Graduate Student and Postdoc Seminar, UT Austin, October 25, 2019. [talk]
3. *"The Chemical Abundance of Milky Way's Cannibalized Stars"*. Undergraduate Women in Physics, UT Austin, November 5, 2019. [talk]
4. *"Different Stars Make Different Galaxies"*. Teaching Workshop, McDonald Observatory, June 30, 2019. [talk]
5. *"Stellar Populations of Galaxies"*. Astronomy on Tap, Austin Texas, March 19, 2019. [talk: [https://www.youtube.com/watch?v=Q2cfQ\\_Y4x4](https://www.youtube.com/watch?v=Q2cfQ_Y4x4)]
6. *"AstroCoffee/AstroPython"*. Gaia Oracle, Filipino Astronomy Community Magazine, December 6, 2019. [article]
7. *"My journey through astronomy + stellar populations"*. Astronomy Students Association, UT Austin, November 14, 2018. [talk]
8. *"Believe in your genius – let these girls show you"*. Business Mirror, Philippines, March 28, 2018. [feature: <https://businessmirror.com.ph/2018/03/27/believe-in-your-genius-let-these-girls-show-you-how/>]
9. *"Empowering Girls to Code"*. Microsoft DigiGirlz, Manila Philippines, August 11, 2017. [invited speaker]
10. *"Six Filipino Scientists Who Are Changing the World"*. CNN, Manila Philippines, June 28, 2017. [feature: <https://cnnphilippines.com/life/culture/2017/06/27/6-filipino-scientists.html>]
11. *"Concealed Universe: Women in Astronomy"*. National Museum, Philippines, March 23, 2017. [featured scientist]
12. *"Satellites aka Dwarf Galaxies"*. Astronomy on Tap, Austin Texas, March 21, 2017. [talk: <https://www.youtube.com/watch?v=4oPoXXrQhfQ>]
13. *Pinoy Scientists*. Manila, Philippines, May 3, 2016. [featured scientist]
14. *Undergraduate Alumni Profiles*. Astronomy Department, University of Michigan, 2016. [feature: <https://lsa.umich.edu/astro/undergraduates/alumni-profiles/andreia-carrillo.html>]
15. *"Aiming High: Astronomy Undergraduate Education at 6,800 Feet"*. Mercury Vol. 44 No. 4, p. 25, 2015. [article]