

ANDREIA CARRILLO

andreia.carrillo@durham.ac.uk

Post-Doctoral Research Associate

Institute for Computational Cosmology, Department of Physics, Durham University

EDUCATION

The University of Texas at Austin

August 2016 - July 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

- University Graduate Continuing Fellowship *Summer 2021*
- 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

1st author:

1. *The detailed abundance patterns of accreted halo stars from the optical to infrared*
Andreia Carrillo, Keith Hawkins, Paula Jofre, Danielle de Brito Silva, Payel Das, Madeline Lucey, accepted to MNRAS February 2022
2. *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, 2020, MNRAS, 493, 4094
3. *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
4. *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. *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. *The Stars of the HETDEX Survey. I. Radial Velocities and Metal-Poor Stars from Low-Resolution Stellar Spectra*
Keith Hawkins, Greg Zeimann, Chris Sneden,..., **Andreia Carrillo**, et al., 2021, accepted to ApJ, arXiv:2102.06224
2. *A Giant Planet Candidate Transiting a White Dwarf*
Andrew Vanderburg, Saul A. Rappaport, Siyi Xu,..., **Andreia Carrillo**, et al., 2020, Nature, 585, 363–367
3. *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

Talks

1. *Milky Way halo stars and their chemistry.* DESI Milky Way Survey Group, March 3, 2022
2. *The Analysis of Stellar Populations in the Milky Way and Beyond.* DESI @ Durham Group Meeting, Durham University, November 2, 2021
3. *The detailed chemical abundance patterns of accreted halo stars from the optical to infrared.* Galread Extragalactic Discussion Group, Princeton University, August 16, 2021
4. *The Analysis of Stellar Populations in the Milky Way and Beyond.* PhD Defense Public Presentation, UT Austin, July 21, 2021
5. *Stellar Population Analysis in the Milky Way and Beyond.* Lunch Talk Series, Carnegie Observatories, January 15, 2021
6. *Stellar Population Analysis in the Milky Way and Beyond.* Dissertation Talk, 237th American Astronomical Society Meeting, January 11-15, 2021
7. *The VIRUS-P Exploration of Nearby Galaxies (VENGA): Assembly History of the Bulge, Bar, and Disc of NGC 2903.* Galread Extragalactic Discussion Group, Princeton University, December 7, 2020
8. *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
9. *Establishing the relationship of age, metallicity, and abundance of disk stars in a simulated Milky Way galaxy.* UT Austin, October 14, 2020
10. *The detailed chemical abundance patterns of accreted halo stars.* The Local Group: Assembly and Evolution, STScI, August 31, 2020
11. *Age-abundance trends in a simulated Milky Way galaxy.* FIRE Collaboration, July 17, 2020
12. *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
13. *Galactic Archaeology with Chemistry and Kinematics.* UT Austin, November 6, 2019

14. *The S-process abundance patterns of the accreted halo from APOGEE*. 2019 SDSS IV/V Collaboration Meeting, June 24-28, 2019
15. *Stellar Populations in the Milky Way and Beyond*. UT Austin, April 4, 2019
16. *Star formation history and stellar populations of NGC 2903's bulge, bar, and disk with VENGA IFU Survey*. UT Austin, May 14, 2018
17. *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 Society Meeting, June 4-8, 2017
3. *Characterizing dw1335-29, a Recently Discovered Dwarf Satellite of M83*. 227th American Astronomical Society Meeting, January 4-8, 2016

OBSERVING EXPERIENCE

Harlan J. Smith Telescope (Tull Spectrograph) – 8 nights *April-August 2019*
 MDM Telescope (4k Imager, CCDS Spectrograph) – 3 nights *May 2015*

TEACHING

Tutor: Foundations of Physics *Fall 2021-present*
 Tutor for first year undergrads majoring in Physics, *Durham University*

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

Research mentor: Freshman Research Initiative *Spring & Fall 2019,2020,2021*
 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

Astro-IDEA *Spring 2022 - present*
Durham University
 Part of the organizing team for the Astronomy group devoted to Integration, Diversity, Equity and Accessibility in the department and the broader community.

Astronomy Girls' Day *Fall 2021 - present*
Durham University
 Part of the organizing team for the Astronomy Girls' Day outreach event with the aim of inspiring and encouraging girls for a career in science

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).

Astronomy Undergraduate Poster Session organizer*Spring 2015 & 2016**Department of Astronomy, University of Michigan*

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

1. "Career-a: Path to Space 2021 ". Space Innovators Youth Alliance, Philippine Science High School - Cagayan Valley Campus, December 11, 2021. *[invited speaker]*
2. "Women in the Society: Modern Day Iha". Archers for UNICEF, De La Salle University-Manila, April 30, 2021. *[invited speaker]*

3. “*Women’s Herstory month: meet an astrophysicist and astronomer*”. Strive Higher Incorporated, Bronx NY, March 21, 2021. [guest reader]
4. “*The Milky Way: Dark Constellations, A Black Hole Our Galaxy*”. Seeker Constellations Youtube series, January 22, 2021. [guest expert: <https://www.youtube.com/watch?v=ZoL6Em5OZl4t=301s>]
5. “*How Galaxies Form*”. Headwaters School, Austin Texas, November 8, 2019. [talk]
6. “*Bayesian Statistics for Dummies*”. Graduate Student and Postdoc Seminar, UT Austin, October 25, 2019. [talk]
7. “*The Chemical Abundance of Milky Way’s Cannibalized Stars*”. Undergraduate Women in Physics, UT Austin, November 5, 2019. [talk]
8. “*Different Stars Make Different Galaxies*”. Teaching Workshop, McDonald Observatory, June 30, 2019. [talk]
9. “*Stellar Populations of Galaxies*”. Astronomy on Tap, Austin Texas, March 19, 2019. [talk: https://www.youtube.com/watch?v=Q2cfQ_Y4x4]
10. “*AstroCoffee/AstroPython*”. Gaia Oracle, Filipino Astronomy Community Magazine, December 6, 2019. [article]
11. “*My journey through astronomy + stellar populations*”. Astronomy Students Association, UT Austin, November 14, 2018. [talk]
12. “*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/>]
13. “*Empowering Girls to Code*”. Microsoft DigiGirlz, Manila Philippines, August 11, 2017. [invited speaker]
14. “*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>]
15. “*Concealed Universe: Women in Astronomy*”. National Museum, Philippines, March 23, 2017. [featured scientist]
16. “*Satellites aka Dwarf Galaxies*”. Astronomy on Tap, Austin Texas, March 21, 2017. [talk: <https://www.youtube.com/watch?v=4oPoXXrQhfQ>]
17. *Pinoy Scientists*. Manila, Philippines, May 3, 2016. [featured scientist]
18. *Undergraduate Alumni Profiles*. Astronomy Department, University of Michigan, 2016. [feature: <https://lsa.umich.edu/astro/undergraduates/alumni-profiles/andreia-carrillo.html>]
19. “*Aiming High: Astronomy Undergraduate Education at 6,800 Feet*”. Mercury Vol. 44 No. 4, p. 25, 2015. [article]

REFERENCES

Keith Hawkins

Department of Astronomy
University of Texas at Austin
2515 Speedway
Austin, TX 78712
keithhawkins@utexas.edu

Melissa Ness

Department of Astronomy
Columbia University
Mail Code 5246
550 West 120th Street
New York, NY 10027
mkness@gmail.com

Niv Drory

McDonald Observatory & Department of Astronomy
University of Texas at Austin
2515 Speedway
Austin, TX 78712
drory@astro.as.utexas.edu