

Alex M. Garcia

—Contacts—

Email:
[alexgarcia@virginia.edu]

LinkedIn:
[/in/alex-garcia-astro]

Personal Website:
[alexgarcia623.github.io]

ORCID:
[0000-0002-8111-9884]

Github:
[AlexGarcia623]

—Honors and Awards—

- ◇ Graduate Student Teaching Award (UF)
Spring 2023
- ◇ Outstanding Master's Thesis (UF)
Fall 2022
- ◇ Outstanding Research Presentation (UF)
Fall 2022
- ◇ Distinguished Contributions by a Graduate Student (UF)
Fall 2022
- ◇ Distinguished Service and Citizenship (UF)
Fall 2022
- ◇ Tutor of the Year Finalist; Honorable Mention (UIUC)
Spring 2021
- ◇ Eagle Scout, Boy Scouts of America
April 2015

—Student Mentoring—

- ◇ Zach Stevens (UVA Undergrad)
2023-24
- ◇ Caitlin O'Brien (UF REU Student)
2022-23

—Service—

Member
Dark Skies, Bright Kids Outreach Group (UVA Astro)
2023-Present

—Education—

University of Virginia
2023 – Present
Doctorate of Philosophy in Astronomy
Master's of Science in Astronomy

University of Florida
2021 – 2023
Master's of Science in Astronomy

University of Illinois
2017 – 2021
Bachelor's of Science in Engineering Physics (*Honors*)
Bachelor's of Science in Astronomy (*Distinction*)

—Research Experience—

Graduate Researcher
2021 – Present
University of Virginia
University of Florida
Paul Torrey

Undergraduate Researcher
2020 – 2021
University of Illinois
Bryan Dunne & Yue Shen

—Publications—

First Author

4. *Deconstructing the Fundamental Metallicity Relation*
Garcia, et al., In Prep.
3. *Does the FMR evolve with redshift? A perspective from cosmological simulations*
Garcia, et al., Submitted. Jan 2024
2. *Interplay of Stellar and Gas-Phase Metallicities: Unveiling Insights for Stellar Feedback Modeling with Illustris, IllustrisTNG, and EAGLE*
Garcia, et al., Submitted Aug 2023 [Preprint]
1. *Gas-phase metallicity break radii of star-forming galaxies in IllustrisTNG*
Garcia, et al., Accepted Dec 2022. [arXiv] [MNRAS]

Co-Author

3. *Resolving scaling relations in IllustrisTNG at $z = 0$*
Qi, Torrey, Moreno, Hemler, Hernquist, **Garcia**. MNRAS. In Prep
2. *Extragalactic Archaeology: the chemical and accretion history of NGC 1365*
Kewley, Grasha, Hemler, **Garcia**, et al., Nature Astronomy. In Prep
1. *The First Quiescent Galaxies in TNG300*
Hartley, Nelson, Suess, **Garcia**, et al., MNRAS. Accepted. [arXiv] [MNRAS]

Non-research

2. *Hands-on Astronomy – Tenth Edition*
UF Astronomy 1022L Lab manual [Summary]
1. *Astronomy Laboratory Exercises and eXperiments (ALEX)*
UF Astronomy 1022L Lab software [Github] [View]

Referee

Monthly Notices of the Royal Astronomical Society (MNRAS)
2023

Committee for Diversity, Equity and Inclusion (Graduate Student Rep.)
University of Florida Astronomy
2021 - 2023

Technical Skills

●●● = Fluent
●●● = Proficient
●●● = Familiar

●●● Python
●●● L^AT_EX ●●● Tikz
●●● Microsoft Office
●●● Google Workspace
●●● JavaScript
●●● HTML
●●● CSS
●●● Bash
●●● SLURM
●●● Git/Github
●●● R

Clubs/Hobbies

Alachua (FL) Astronomy Club
2021-2023

Bluecoats Drum and Bugle Corps
Summer 2019, 2020, 2021

Madison Scouts Drum Corps
Summer 2017, 2018

Contributed Talks & Presentations

9. Conference on Building Galaxies from Scratch (Poster) – Vienna *February 2024*
8. Conference on Resolving Galaxy Ecosystems (Talk) – Hong Kong *December 2023*
7. Master's Defense – U.Virginia *November 2023*
6. Mark Vogelsberger Group Meeting – MIT *November 2023*
5. Lisa Kewley Group Meeting – CfA Harvard-Smithsonian *November 2023*
4. Guest Lecture – U.Virginia ASTR 5110 *September 2023*
3. Sara Ellison Group Meeting – U.Victoria (*virtual*) *May 2023*
2. Graduate Research Symposium – U.Florida *October 2022*
1. Master's Defense – U.Florida [\[Video\]](#) *September 2022*

Professional Experience**Teaching Assistant/Grader**

Institution	Course			Semester
<i>Univ. of Virginia</i>	ASTR TBD	-	TBD	<i>SP 2024</i>
	ASTR 5110	-	Astronomical Techniques	<i>FA 2023</i>
<i>Univ. of Florida</i>	AST 1022L [†]	-	Astronomy Laboratory	<i>SP 2023</i>
	AST 1022L [†]	-	Astronomy Laboratory	<i>SP 2022</i>
	AST 1002	-	Discovering the Universe	<i>FA 2021</i>
<i>Univ. of Illinois</i>	ASTR 330	-	Extraterrestrial Life	<i>SP 2021</i>
	ASTR 330	-	Extraterrestrial Life	<i>W 2021</i>
	ASTR 100	-	Introduction to Astronomy	<i>FA 2020</i>
	ASTR 150	-	Killer Skies: Astro-Disasters	<i>FA 2020</i>

[†] Primary instructor for two weekly sessions of 16 students each

Planetarium Assistant

2021 – 2023

Gainesville, FL

Kika Silva Pla Planetarium

- Designed, developed, and presented planetarium shows for K-12 classes, collegiate-level curricula, as well as the general public.
- Hosted several shows, including *Florida Skies*: an hour long tour of the Gainesville night sky using a CHRONOS II optical-mechanical projector.

Tutor

2018 – 2021

Urbana, IL

Grainger College of Engineering

- Guided undergraduate students towards success in various homework assignments in a number of different disciplines.
- Planned and led small group exam review sessions, including the creation of worksheets, for specific courses and presented to students in order to help them review for exams.
- Analyzed the data on traffic of incoming students and created monthly reports of attendance, tracking several different variables.