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EDUCATION

- Ph.D., Physics** June 2023
Institution: University of California, Irvine
Advisor: Prof. Aaron Barth
- M.S., Physics** December 2019
Institution: University of California, Irvine
- B.S., Physics, *Summa Cum Laude*** May 2017
Institution: University of California, Merced
Advisor: Prof. Linda Hirst
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RESEARCH EXPERIENCE

- Graduate Student Researcher** June 2018 – present
Department of Physics & Astronomy, University of California, Irvine
- Intern** Summer 2016
NASA Student Airborne Research Program (SARP), Armstrong Flight Research Center,
Palmdale, CA & Irvine, California
- Undergraduate Student Researcher** Summer 2015 - May 2017
Department of Physics, University of California, Merced
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TELESCOPE OBSERVING EXPERIENCE

- Lick Observatory** **(7 nights)** June 2019 - February 2021
Used the Kast Double Spectrograph on the Shane 3-meter telescope to observe dozens of active galactic nuclei as part of the Seoul National University AGN Monitoring Project (SAMP) collaboration.

TEACHING EXPERIENCE

Teaching Assistant

Department of Physics & Astronomy, University of California, Irvine

Responsibilities included, but were not limited to: Preparing discussion section material for classes with 10-40 students, grading assignment and exams, responding to student emails, directly assisting students with laboratory equipment or coding exercises.

Physics 139: Observational Astronomy Laboratory	Fall 2022
Physics 7C: Classical Physics I	Summer 2022
Physics 3C: Basic Physics III	Summer 2021
Physics 20A: Introduction to Astronomy	Summer 2021
Physics 3LC: Basic Physics I Laboratory	Spring 2021
Physics 139: Observational Astronomy Laboratory	Fall 2020
Physics 7LD: Classical Physics II Laboratory	Spring 2018
Physics 3B: Basic Physics II	Winter 2018
Physics 7C: Classical Physics I	Fall 2017

Physics Tutor, Cal-Bridge Program

2019-2021

Provided one-on-one tutoring to students taking upper-division physics courses at California State Universities.

Classical Mechanics	Winter 2019, Fall 2021
Electricity & Magnetism	Winter 2019
Mathematical Methods in Physics	Fall 2018, 2021

PUBLICATIONS

First-Author

- [Black Hole Mass Measurements of Early-Type Galaxies NGC 1380 and NGC 6861 Through ALMA and HST Observations and Gas-Dynamical Modeling](#)
K.M. Kabasares, A.J. Barth, D.A. Buote, B.D. Boizelle, J.L. Walsh, J. Darling, A.J. Baker, L.C. Ho, J. Cohn. 2022, *The Astrophysical Journal*, 934, 162.
- *Gas-Dynamical Mass Measurements of the Central Black Holes in Early-Type Galaxies NGC 4786 and NGC 5193 Using Observations from ALMA and HST (Submitted)*

Co-Author

- *ALMA Gas-Dynamical Mass Measurements of the Supermassive Black Holes in Two Local Relic Galaxies (In Preparation)*

- *Mapping Dust Attenuation in Luminous Early-Type Galaxies In Preparation*
- *The Seoul National University AGN Monitoring Project III: Revisiting the H β Size - Luminosity Relation from Six Year Reverberation Mapping of High-Luminosity Active Galactic Nuclei (Submitted)*
- *The Seoul National University AGN Monitoring Project IV: the H α Size-Luminosity Relation (Accepted for Publication)*
- *An ALMA Gas-dynamical Mass Measurement of the Supermassive Black Hole in the Local Compact Galaxy UGC 2698*
J. Cohn, J.L. Walsh, B.D. Boizelle, A.J. Barth, K. Gebhardt, K. Gültekin, A. Yildirim, D.A. Buote, J. Darling, A.J. Baker, L. Ho, **K.M. Kabasares**. 2021, *The Astrophysical Journal*, 919, 77.
- *Black Hole Mass Measurements of Radio Galaxies NGC 315 and NGC 4261 Using ALMA CO Observations.*
B.D. Boizelle, J.L. Walsh, A.J. Barth, D.A. Buote, A.J. Baker, J. Darling, L. Ho, J. Cohn. 2020, **K.M. Kabasares**, *The Astrophysical Journal*, 908, 19.
- *Observing Severe Drought Influences on Ozone Air Pollution in California*
M.A.G. Demetillo, J.F. Anderson, J.A. Geddes, X. Yang, E.Y. Najacht, S.A. Herrera, **K.M. Kabasares**, A.E. Kotsakis, M.T. Lerdau, & S.E. Pusede. 2019, *Environmental Science & Technology*, 53, 9, 4695-4706

HONORS & AWARDS

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| Honorable Mention , Chambliss Astronomy Achievement Student Award
240th Meeting of the American Astronomical Society, Pasadena CA | June 2022 |
| Travel Grant , Associated Graduate Students of UC Irvine
University of California, Irvine | (\$600) Winter 2019 |
| Honorable Mention , NSF Graduate Research Fellowship Program | April 2019 |
| Senior Thesis Presentation Award , Physics Department
University of California, Merced | May 2017 |
| Outstanding Undergraduate Award , Physics Department
University of California, Merced | May 2017 |
| Honorable Mention , California Alliance for Minority Participation Poster Symposium
University of California, Irvine | February 2016 |

Certificate of Achievement (1st Place), Undergraduate Research Poster Competition February 2016
University of California, Merced

CONFERENCES, TALKS, AND PRESENTATIONS

- 241st Meeting of the American Astronomical Society 10 Jan 2023
Talk: *A Molecular Gas-Dynamical Mass Measurement of the Supermassive Black Hole in Early-Type Galaxy ESO 208-G21 Through ALMA CO(2-1) and HST Observations*
- 8th Annual GMT Community Science Meeting: [Black Holes at All Scales](#), 31 Aug – 2 Sep 2022
Sedona, AZ
Poster: *Gas-Dynamical Mass Measurements of Supermassive Black Holes with ALMA*
- Physics & Astronomy Summer Graduate Student Seminar, Irvine, CA 19 Jul 2022
Talk: *Using ALMA and HST Observations to Dynamically Weigh Supermassive Black Holes*
- 240th Meeting of the American Astronomical Society 15 Jun 2022
iPoster: [Black Hole Mass Estimates of Early-Type Galaxies NGC 4786, NGC 5193, and NGC 3245 Using ALMA CO Observations and Gas-Dynamical Models](#)
- UC Irvine Astronomy Club Public Talk (Virtual) 24 Feb 2021
Talk: *The Lab, NASA, and Black Holes: My Highly Variable Research Experiences*
- 235th Meeting of the American Astronomical Society, Honolulu, HI 7 Jan 2020
Poster: *Measurement of the Black Hole Masses in NGC 1380 and NGC 6861 from ALMA CO(2-1) Observations*
- National Academies Space Studies Board Meeting, Irvine, CA 6 Nov 2019
Poster: *Measurement of the Black Hole Mass in NGC 1380 Through ALMA CO(2-1) Observations*
- American Physical Society March Meeting, New Orleans, LA, 15 Mar 2017
Poster: *Quantum Dot Dispersion in Cholesteric Liquid Crystal*
- UC Merced Undergraduate Research Poster Competition, Merced, CA 4 Mar 2016
Poster: *Investigating Quantum Dot Self-Assembly in a Cholesteric Liquid Crystal*

- California Alliance for Minority Participation, Poster Symposium, Irvine, CA 6 Feb 2016
Poster: *Investigating Quantum Dot Self-Assembly in a Cholesteric Liquid Crystal*
 - SACNAS National Diversity in STEM Conference, Washington D.C. 31 Oct 2015
Poster: *Investigating Quantum Dot Self-Assembly in a Cholesteric Liquid Crystal*
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SOFTWARE & SKILLS

Programming Languages: (Proficient) Python, L^AT_EX, MATLAB, (Basic) IDL, C++, git

Astronomical Software: 3DBarolo, TinyTim, AstroDrizzle, casa, CARTA, GALFIT, ds9

Other Software: Mathematica, R, Excel, Jupyter Notebook

PROFESSIONAL DEVELOPMENT AND WORKSHOPS

Preparing for a Faculty Career Certificate Program Spring 2022
UC Irvine, Graduate Division

Mentoring Excellence Certificate Program, Fall 2021
UC Irvine, Graduate Division

Submillimeter Array Interferometry School 11 – 17 January 2020
Submillimeter Array, Hilo, HI

ALMA Data Reduction Workshop 13 – 15 March 2019
National Radio Astronomy Observatory, Charlottesville, VA

Waterman-Glancy Observational Astronomy Workshop 11 – 15 October 2018
Lick Observatory

CERTIFICATIONS

Machine Learning by Stanford University & DeepLearning.AI on Coursera. ([Certificate](#))

- i. Supervised Machine Learning: Regression and Classification ([Certificate](#))
- ii. Advanced Learning Algorithms ([Certificate](#))

- iii. Unsupervised Learning, Recommenders, Reinforcement Learning ([Certificate](#))
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MENTORSHIP

UC Irvine Physics & Astronomy Community Excellence (PACE) Fall 2019 — Spring 2022

Peer Mentor

Met routinely with first-year graduate students at UC Irvine to provide advice and support to help them navigate their first year in the department. Also provided one-on-one mentorship with individual mentees.

Cal-Bridge

Summer 2019, 2020, & 2021

Graduate Student Mentor

Trained, mentored, and supervised 3 separate summer undergraduate researchers conducting a summer research project at UC Irvine.

Undergraduate Student(s)

- Brandon Manjarrez
- Janelle Sy (current graduate student at New York University)
- Jeysen Flores-Velázquez (current graduate student at Pennsylvania State University)

Competitive Edge

Summer 2022

Graduate Student Mentor

Supervised the summer research project of an incoming first-year graduate student at UC Irvine.

Graduate Student(s)

- Patricia Fofie
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SERVICE, OUTREACH, & VOLUNTEER WORK

UC Irvine Astronomy Club

Fall 2018 — Winter 2020

Outreach Volunteer

Traveled to local elementary schools in the Irvine community to host star parties for students and their families with telescopes provided by the UCI Astronomy Club. Also helped run viewing parties of lunar eclipses on UCI grounds.

UC Irvine Physics Graduate Caucus (PGC)

Fall 2018 — Winter 2020

Admin Support Coordinator

Created meeting minutes and transcriptions for all PGC meetings and assisted in the hosting of PGC events.

UC Merced Society of Physics Students (SPS)

Fall 2016 — Spring 2017

Social Media Director

Maintained and posted updates in the SPS club social media accounts.

UC Merced Society for the Advancement of Chicanos/Hispanics and Native Americans in Science (SACNAS) Club

Fall 2016 — Spring 2017

Outreach Volunteer

Traveled to local elementary and middle schools in California's Central Valley to talk to students about going to college, and conducted scientific demonstrations for them.

SELECTED MEDIA AND PRESS APPEARANCES

Cosmos Crusaders Podcast

4 October 2022

YouTube Video: [Cosmos Crusaders Episode 8](#)

PhD Balance's Grad Chat Podcast

25 April 2021

YouTube Video: [Choosing an Advisor](#)

Starts With a Bang Podcast

12 October 2020

Soundcloud Audio: [Black Holes And ALMA](#)

UC Merced News

29 February 2016

Article: [Undergraduate Students Excel at Research Symposium](#)

PROFESSIONAL MEMBERSHIPS

American Astronomical Society

2020-Present