

CONTACT INFORMATION	<p><i>Mailing Address:</i> Space Sciences Bldg. Cornell University Ithaca, NY 14853</p>	<p><i>E-Mail:</i> coconnor@astro.cornell.edu <i>ORCID:</i> 0000-0003-3987-3776 <i>Website:</i> ceoconnor1996.github.io/chrisoc_astro/#</p>
EDUCATION	<p>Cornell University, Ithaca, New York</p> <p>Ph.D., Astronomy and Space Sciences Expected May 2024 – Thesis: <i>Physical and Dynamical Processes in Planetary Systems of Evolved Stars and White Dwarfs</i> – Advisor: Prof. Dong Lai</p> <p>M.S., Astronomy and Space Sciences December 2020</p> <p>University of California, Los Angeles, Los Angeles, California</p> <p>B.S., Astrophysics June 2018 <i>Cum laude</i>, Highest Honors in Physics and Astronomy – Honors Thesis: <i>The Effect of Giant Planets on the In Situ Assembly of Compact Planetary Systems</i> – Advisor: Prof. Brad Hansen</p>	
RESEARCH INTERESTS	<p>Stars and planets: Star–planet and binary interactions, especially tidal evolution and planetary engulfment. Planet formation and dynamical evolution. Planets around post-main-sequence stars. White-dwarf pollution.</p> <p>Astrophysical dynamics: Orbital dynamics in planetary and stellar systems. Fluid dynamics, especially pertaining to stellar mergers, planetary engulfment events, and tidal interactions.</p> <p>High-energy astrophysics and transients: Compact objects and accretion phenomena. Stellar transients, e.g. supernovae, luminous red novae, tidal disruption events, and quasi-periodic eruptions. Gravitational wave sources.</p>	
POSITIONS	<p>Cornell University</p> <p><i>Ph.D. Candidate, Graduate Research Assistant</i> 2018 – pres. Advisor: Prof. Dong Lai</p> <p>Kavli Institute for Theoretical Physics, UC Santa Barbara July – Dec. 2022 <i>Graduate Fellow</i> Collaborators: Prof. Lars Bildsten, Dr. Matteo Cantiello</p> <p>University of California, Los Angeles</p> <p><i>Undergraduate Research Assistant</i> 2016 – 2018 Advisors: Prof. Brad Hansen, Prof. Smadar Naoz</p> <p><i>Galactic Center Group Research Intern</i> 2016 Advisors: Dr. Shoko Sakai, Prof. Andrea Ghez</p>	
HONORS & AWARDS	<p>KITP Graduate Fellowship, UC Santa Barbara 2022</p> <p>Eleanor York Service Award, Cornell Astronomy 2022</p> <p>Sadov Graduate Student Fellowship, Cornell University 2022</p> <p>NASA Space Grant Graduate Fellowship Spring 2021, Spring 2023</p> <p>NSF GRFP Honorable Mention 2020</p> <p>Cornell University First-Year Graduate Student Fellowship 2018</p> <p>Charles Geoffrey Hilton Award, UCLA Physics and Astronomy 2018</p>	

SUBMITTED
PUBLICATIONS

[1] **C. E. O'Connor**, D. Lai, D. Z. Seligman. On the pollution of white dwarfs by exo-Oort cloud comets. 2023, MNRAS, submitted.

REFEREED
PUBLICATIONS

As lead author:

[2] **C. E. O'Connor**, L. Bildsten, M. Cantiello, D. Lai. Giant planet engulfment by evolved giant stars: light curves, asteroseismology, and survivability. 2023, ApJ, accepted. arXiv:2304.09882

[3] **C. E. O'Connor**, J. Teyssandier, D. Lai. Secular chaos in white-dwarf planetary systems: origins of metal pollution and short-period planetary companions. 2022, MNRAS, 513, 4178–4195. doi:10.1093/mnras/stac1189

[4] **C. E. O'Connor**, B. Liu, D. Lai. Enhanced Lidov–Kozai migration and the formation of the transiting giant planet WD 1856+534 b. 2021, MNRAS, 501, 507–514. doi:10.1093/mnras/staa3723

[5] **C. E. O'Connor**, D. Lai. High-eccentricity migration of planetesimals around polluted white dwarfs. 2020, MNRAS, 498, 4005–4020. doi:10.1093/mnras/staa2645

[6] **C. E. O'Connor**, B. M. S. Hansen. Constraining planetary migration and tidal dissipation with coeval hot Jupiters. 2018, MNRAS, 477, 175–189. doi:10.1093/mnras/sty645

As co-author:

[7] S. Xu, et al. (including **C. E. O'Connor**). Gemini/GMOS transmission spectroscopy of the grazing planet candidate WD 1856+534 b. 2021, AJ, 162, 296. doi:10.3847/1538-3881/ac2d26

CONFERENCES &
WORKSHOPS

Emerging Researchers in Exoplanet Science VIII, Yale, June 2023. (contributed talk)

54th Annual DDA Meeting, Michigan State Univ., May 2023. (contributed talk)

White Dwarfs from Physics to Astrophysics, KITP, Nov 2022. (contributed talk)

White Dwarfs as Probes of [...], KITP, Oct – Dec 2022.

Exoplanets IV; Las Vegas, NV; May 2022. (contributed talk)

53rd Annual DDA Meeting, Flatiron Institute, April 2022. (contributed talk)

Emerging Researchers in Exoplanet Science VI, virtual meeting, May 2021. (plenary talk)

52nd Annual DDA Meeting, virtual meeting, May 2021. (contributed talk)

Triple Evolution and Dynamics 3, virtual meeting, March 2021. (contributed talk)

AAS Meeting 237, virtual meeting, Jan 2021. (contributed talk)

51st Annual DDA Meeting, virtual meeting, Aug 2020. (contributed talk)

AAS Meeting 233; Seattle, WA; Jan 2019. (contributed poster)

AAS Meeting 229; Grapevine, TX; Jan 2017. (contributed poster)

SEMINARS &
COLLOQUIA

(* = invited)

* Stars and Planets Journal Club, Boston University, April 2023.

* Exoplanets and Stars Seminar, Yale University, February 2023.

* TAPIR Seminar, California Institute of Technology, December 2022.

Center for Integrative Planetary Science Seminar, UC Berkeley, September 2022.

Special Astronomy Seminar, UCLA, August 2022.

OBSERVING
PROPOSALS

[1] Revealing the Atmospheric Composition of a White Dwarf Planet. JWST Cycle 1, 13 hr, GO 2358 (PI: R. J. MacDonald).

TEACHING &
MENTORSHIP

Cornell University

Graduate teaching assistant/grader for undergraduate- and graduate-level astronomy courses:

- Astro 6560: Theory of Stellar Structure and Evolution – grad-level lecture course (grader) Spring 2023
- Astro 1101: From New Worlds to Black Holes – introductory lecture course (Head TA) Fall 2021
- Astro 1102: Our Solar System – introductory lecture course (TA) Spring 2020
- Astro 4410: Experimental Astronomy – advanced laboratory course (TA) Fall 2019

PROFESSIONAL
DEVELOPMENT &
SERVICE

Reviewer for AAS Journals, MNRAS

Organizing Committee Member for Emerging Researchers in Exoplanet Science Symposium 2023

Intergroup Dialogue for Graduate Students and Postdoctoral Scholars, Cornell University 2021

Summer course on communication and collaboration across cultural, social, and power differences.

Graduate and Professional Student Assembly, Cornell University 2020 – 2022

- Voting Member for Division of Physical Sciences (2 terms)
- Field Representative for Astronomy and Space Sciences (2 terms)