

CONTACT INFO	<i>E-Mail:</i> christopher.oconnor@northwestern.edu <i>ORCID:</i> 0000-0003-3987-3776 <i>Website:</i> ceoconnor1996.github.io/chrisoc_astro/#		
EDUCATION	Cornell University , Ithaca, New York Ph.D., Astronomy and Space Sciences May 2024 – Dissertation: <i>Physical and Dynamical Processes in Post-Main-Sequence Planetary Systems</i> – Advisor: Prof. Dong Lai M.S., Astronomy and Space Sciences December 2020 University of California, Los Angeles , Los Angeles, California B.S., Astrophysics June 2018 <i>Cum laude</i> ; Highest Honors in Astrophysics		
RESEARCH INTERESTS	Theoretical astrophysics: Dynamics of planetary and stellar systems. Extrasolar planets, especially around post-main-sequence stars. Dense star clusters. Tides, mass transfer, mergers, and collisions.		
RESEARCH POSITIONS	CIERA Postdoctoral Fellow, CIERA, Northwestern University Research Aide, Cornell Center for Astrophysics and Planetary Science, Cornell University Graduate Research Assistant, Department of Astronomy, Cornell University Graduate Fellow, Kavli Institute for Theoretical Physics, UC Santa Barbara Undergraduate Research Assistant, UCLA Galactic Center Group Research Intern, UCLA	Sept. 2024 – pres. May – July 2024 2019 – 2024 July – Dec. 2022 2016 – 2018 2016	
SELECTED HONORS & AWARDS	Cranson and Edna B. Shelley Graduate Research Award, Cornell Astronomy Raynor L. Duncombe Student Research Prize, AAS Division on Dynamical Astronomy KITP Graduate Fellowship, UC Santa Barbara Eleanor York Service Award, Cornell Astronomy Sadov Graduate Student Fellowship, Cornell University New York Space Grant Graduate Fellowship Charles Geoffrey Hilton Award, UCLA Astronomy	2024 2024 2022 2022 2022 2021, 2023 2018	
SUBMITTED PUBLICATIONS	[1] C. E. O'Connor . The fate of <i>Gaia</i> 's wide binaries: Interplay of white-dwarf recoil and tidal capture. 2025, submitted to AAS Journals. [2] R. J. MacDonald, C. E. O'Connor , et al. Aerosols and hydrocarbons in the atmosphere of a white dwarf planet. 2025, provisionally accepted to Nature.		
JOURNAL PUBLICATIONS	As lead author: [3] C. E. O'Connor , D. Lai. Metal Pollution in Sun-like Stars from Destruction of Ultra-Short-Period Planets. 2025, ApJL, 978, L26. doi:10.3847/2041-8213/ada1ce [4] C. E. O'Connor , D. Lai, D. Z. Seligman. On the pollution of white dwarfs by exo-Oort cloud comets. 2023, MNRAS, 524, 6181. doi:10.1093/mnras/stad2281 [5] C. E. O'Connor , L. Bildsten, M. Cantiello, D. Lai. Giant Planet Engulfment by Evolved Giant Stars: Light Curves, Asteroseismology, and Survivability. 2023, ApJ, 950, 128. doi:10.3847/1538-4357/acd2d4 [6] 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 [7] 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		

- [8] **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
- [9] **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:

- [10] M. A. Limbach, et al. (including **C. E. O'Connor**). Thermal Emission and Confirmation of the Frigid White Dwarf Exoplanet WD 1856+534b. 2025, ApJL in press. arXiv:2504.16982
- [11] 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

OTHER PUBLICATIONS

- [12] W. G. Levine, et al. (including **C. E. O'Connor**). Emerging Researchers in Exoplanetary Science (ERES): Lessons Learned in Conference Organization for Early-Career Researchers. 2024, BAAS, 56(1), id.2024i004. doi:10.3847/25c2feb.9580e9c8

CONFERENCES & WORKSHOPS

(* = invited)

*International Conference on Exoplanets and Planet Formation, Shanghai, December 2025.
 CIERA Fellows at 15, Northwestern, August 2025. (contributed talk; SOC member)
 Detection and Dynamics of Exoplanets: Interplay between theory and observations, University of Coimbra (Portugal), July 2025. (contributed talk)
 Emerging Researchers in Exoplanet Science X, Princeton, June 2025. (contributed poster; OC member)
 56th Annual DDA Meeting, Georgia Tech, May 2025. (contributed talk)
 Emerging Researchers in Exoplanet Science IX, Cornell, July 2024. (OC chair)
 55th Annual DDA Meeting, University of Toronto, May 2024. (contributed talk)
 Emerging Researchers in Exoplanet Science VIII, Yale, June 2023. (contributed talk; OC member)
 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)

* CIERA Theory Group Meeting, Northwestern University, April 2024.
 * Stars Research Group Meeting, Center for Computational Astrophysics, Flatiron Institute, Nov 2023.
 * Star and Planet Formation Seminar, University of Michigan, Nov 2023.
 * Extrasolar Planet Discussion Group, Princeton University, Oct 2023.
 Astrophysics Coffee Talk, Institute for Advanced Study, Sept 2023.
 * Center for Exoplanets and Habitable Worlds Seminar, Penn State University, Sept 2023.
 * 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.
 Astronomy Seminar, UCLA, August 2022.

OBSERVING PROGRAMS

- [1] By the Ashes of Stars: A Chemical Census of a White Dwarf Planet. JWST Cycle 4 GO #9033, awarded 13.6 hr (PI: R. J. MacDonald)

- [2] Probing the Dynamical History and the Mid-IR SED of WD 1856 b. JWST Cycle 3 GO #5204, awarded 4.5 hr (PI: M. A. Limbach)
- [3] Revealing the Atmospheric Composition of a White Dwarf Planet. JWST Cycle 1 GO #2358, awarded 13 hr (PI: R. J. MacDonald).

STUDENTS
MENTORED

Graduate students:

- Jupiter Ding, NU Astronomy, Fall 2024 – pres. (co-mentored with Prof. Yoram Lithwick)

Undergraduate students:

- Julian Turner, Cornell Physics, Spring 2023 – 2025 (co-mentored with Prof. Dong Lai)

High-school students:

- Mandy Dantz, Walter Payton College Prep senior, Summer 2025

SERVICE

Reviewer for A&A, ApJ, ApJL, MNRAS

Emerging Researchers in Exoplanet Science Symposium (ERES)

2022 – pres.

- OC Member for ERES X at Princeton, June 2025
- OC Chair for ERES IX at Cornell, July 2024
- OC Member for ERES VIII at Yale, June 2023

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)