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EDUCATION	<b>Cornell University</b> , Ithaca, New York Ph.D., Astronomy and Space Sciences <span style="float: right;">May 2024</span> – Dissertation: <i>Physical and Dynamical Processes in Post-Main-Sequence Planetary Systems</i> – Advisor: Prof. Dong Lai M.S., Astronomy and Space Sciences <span style="float: right;">December 2020</span>  <b>University of California, Los Angeles</b> , Los Angeles, California B.S., Astrophysics <span style="float: right;">June 2018</span> <i>Cum laude</i> ; Highest Honors in Astrophysics	
RESEARCH INTERESTS	<b>Theoretical astrophysics:</b> Dynamics of planetary and stellar systems. Extrasolar planets, especially around post-main-sequence stars. Dense star clusters, stellar binaries, compact object binaries, and gravitational wave astronomy. Tidal interactions, mass transfer, mergers, and collisions.	
RESEARCH POSITIONS	<b>CIERA Postdoctoral Fellow, CIERA, Northwestern University</b> <span style="float: right;"><b>Sept. 2024 – pres.</b></span> Research Aide, Cornell Center for Astrophysics and Planetary Science, Cornell University <span style="float: right;">May – July 2024</span> Graduate Research Assistant, Department of Astronomy, Cornell University <span style="float: right;">2019 – 2024</span> Graduate Fellow, Kavli Institute for Theoretical Physics, UC Santa Barbara <span style="float: right;">July – Dec. 2022</span> Undergraduate Research Assistant, UCLA <span style="float: right;">2016 – 2018</span> Galactic Center Group Research Intern, UCLA <span style="float: right;">2016</span>	
PUBLICATIONS	17 total; 11 as lead author; 2 as major contributor. <i>h</i> -index = 7. [1] R. J. MacDonald, <b>C. E. O'Connor</b> , V. A. Boehm, et al. Aerosols and hydrocarbons in the atmosphere of a white dwarf planet. 2026, <i>Nature</i> , in press. doi:10.1038/s41586-026-10514-7 [2] S. Agrawal, et al. (including <b>C. E. O'Connor</b> ). Red vs. Blue: How metallicity shapes black hole dynamics and mergers in dense star clusters. 2026, submitted to <i>ApJ</i> . arXiv:2606.23788 [3] M. A. S. Martinez, <b>C. E. O'Connor</b> , F. Kiroğlu, F. A. Rasio. Getting Tilted: Random Walk of Binary Black Hole Spin-Orbit Alignment in Dense Star Clusters. 2026, submitted to <i>ApJ</i> . arXiv:2606.21691 [4] <b>C. E. O'Connor</b> , K. Kremer, S. Agrawal, et al. Black hole mergers from dense star clusters with realistic binary populations. 2026, submitted to <i>ApJ</i> . arXiv:2606.14846 [5] <b>C. E. O'Connor</b> , K. Kremer, F. A. Rasio. An analytical approach to binary populations in globular clusters. 2026, submitted to <i>ApJ</i> . arXiv:2604.02412 [6] E. González Prieto, et al. (including <b>C. E. O'Connor</b> ). Machine Learning Methods for Stellar Collisions. 2026, submitted to <i>AAS Journals</i> . arXiv:2602.10191 [7] <b>C. E. O'Connor</b> . The fate of <i>Gaia</i> 's wide binaries: Interplay of white-dwarf recoil and tidal interactions. 2026, <i>ApJ</i> , 998, 280. doi:10.3847/1538-4357/ae3b26 [8] J. Li,* <b>C. E. O'Connor</b> ,* F. A. Rasio. Intruder Alert: Breaking resonant chains with planetesimal flybys. 2026, <i>ApJL</i> , 998, L5. doi:10.3847/2041-8213/ae3a9a [*joint lead authors] [9] <b>C. E. O'Connor</b> , D. Lai. Metal Pollution in Sun-like Stars from Destruction of Ultra-Short-Period Planets. 2025, <i>ApJL</i> , 978, L26. doi:10.3847/2041-8213/ada1ce [10] M. A. Limbach, et al. (including <b>C. E. O'Connor</b> ). Thermal Emission and Confirmation of the Frigid White Dwarf Exoplanet WD 1856+534b. 2025, <i>ApJL</i> , 984, L28. arXiv:2504.16982 [11] <b>C. E. O'Connor</b> , D. Lai, D. Z. Seligman. On the pollution of white dwarfs by exo-Oort cloud comets. 2023, <i>MNRAS</i> , 524, 6181. doi:10.1093/mnras/stad2281 [12] <b>C. E. O'Connor</b> , L. Bildsten, M. Cantiello, D. Lai. Giant Planet Engulfment by Evolved Giant Stars: Light Curves, Asteroseismology, and Survivability. 2023, <i>ApJ</i> , 950, 128. doi:10.3847/1538-4357/acd2d4	

- [13] **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
- [14] 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
- [15] **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
- [16] **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
- [17] **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

OTHER  
PUBLICATIONS

- [18] 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:10.3847/25c2cfcb.9580e9c8

RECENT  
CONFERENCES &  
WORKSHOPS

- (\* = invited)
- 57th Annual DDA Meeting, University of Chicago, June 2026. (contributed talk)
- AAS Meeting 248, Pasadena, CA, June 2026. (contributed talk)
- \*International Conference on Exoplanets and Planet Formation, Shanghai, December 2025.
- Great Lakes Exoplanet Area Meeting, UW–Madison, November 2025. (contributed talk)
- CIERA Fellows at 15, Northwestern, August 2025. (contributed talk; SOC member)
- Detection and Dynamics of Exoplanets, 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)

SEMINARS &  
COLLOQUIA

- (\* = invited)
- \* Tea Talk, Indiana University Dept. of Astronomy, October 2025.
- \* Astronomy Colloquium, UW–Madison, October 2025.
- \* 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).