

Mark Dodici

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RESEARCH INTERESTS

Binary stars in dense clusters; transient phenomena in galactic nuclei; hierarchical triples and few-body dynamics; stellar tides; intermediate-mass black holes; celestial mechanics; galactic dynamics

EDUCATION

University of Toronto

2022 – (expected 2027)

Ph.D. candidate, Department of Astronomy & Astrophysics

Graduate researcher, Canadian Institute for Theoretical Astrophysics (CITA)

Visiting Graduate Student, Institute for Advanced Study (Winter 2026)

Advisors: Professors Yanqin Wu & Scott Tremaine

Princeton University

2018 – 2022

A.B. Astrophysical Sciences, *magna cum laude*

Certificate in Planets and Life

PUBLICATIONS

FIRST AUTHOR

M. Dodici, S. Tremaine, & Y. Wu, 2025. Dynamical evolution of stellar binaries in galactic centers. arXiv eprints [astro-ph:2511.02905](https://arxiv.org/abs/2511.02905). (In press, ApJ.)

M. Dodici & S. Tremaine, 2024. Studying binary formation under dynamical friction using Hill's Problem. [ApJ, 972, 193](https://doi.org/10.3847/1538-4357/972/2/193).

M. Dodici & Y. Wu, in prep. Breaking up a denser, primordial Neptunian scatter belt to supply material for the cold, classical Kuiper Belt.

CONTRIBUTING

B. Lewis et al. (incl. **M. Dodici**), 2025. Improving Undergraduate Astronomy Students' Skills with Research Literature via Accessible Summaries: A Case Study with Astrobites-based Lesson Plans. [Phys. Rev. Physics Education Research, 21, 010124](https://doi.org/10.1103/PhysRevPhysEd.21.010124).

B. Hensley, C. Murray, & **M. Dodici**, 2022. Polycyclic Aromatic Hydrocarbons, Anomalous Microwave Emission, and their Connection to the Cold Neutral Medium. [ApJ, 929, 23](https://doi.org/10.3847/1538-4357/929/2/23).

TALKS

AT CONFERENCES

MODEST-25 / IAU Symposium 398	Seoul, South Korea. Jun 2025
AAS Division on Dynamical Astronomy 56	Atlanta, GA. May 2025
AAS Division on Dynamical Astronomy 55	Toronto, ON. May 2024
AAS Division for Planetary Science 55	San Antonio, TX. Oct 2023
CITA Planet Day	Toronto, ON. Aug 2023
Emerging Researchers in Exoplanet Science Symposium VIII	New Haven, CT. Jun 2023
Great Lakes Exoplanets Area Meeting	Columbus, OH. Nov 2022
AAS 240	Pasadena, CA. Jun 2022

AT INSTITUTIONS

Institute for Advanced Study Dynamics Blackboard Talk
Institute for Advanced Study Astrophysics Seminar
CITA Compact Objects Group Meeting
University of Toronto Lunch Seminar

Princeton, NJ. Mar 2026
Princeton, NJ. Feb 2026
Toronto, ON. Feb 2024
Toronto, ON. Jan 2024

FELLOWSHIPS, GRANTS, and AWARDS

Carl Reinhardt Fellowship in Astronomy 2025
Dunlap Institute Seed Funding Grant, for *Coding the Cosmos* (outreach workshop series) 2024
for *Age of the Universe* (outreach workshop) 2023
CITA Graduate Scholarship 2023
C.a. Chant Fellowship in Astronomy 2022, 2023
David A. Dunlap Entrance Award 2022
Princeton Research Day Undergraduate Presenter Award 2021

LEADERSHIP and SERVICE ROLES

Referee, *ApJL, OJA* 2025 –
Graduate Astronomy Students Association 2022 –
Co-President (2024 – 2025)
Courses & Qualifying Exams Committee (2022 – 2024, 2025 –)
Department Jamboree, Organizer & Emcee 2023 – 2025
Coding the Cosmos (HS workshop series), Co-director (2024 – 2025) 2023 – 2025
UofT AstroTours (Public lecture/telescope events), Co-director (2023 – 2024) 2022 – 2024
Age of the Universe (HS workshop), Co-organizer & Speaker 2023

TEACHING ASSISTANT EXPERIENCE

Stars and Planets (AST221, Toronto) Fall 2024, 2025
Introduction to Astrophysics (AST320, Toronto) Winter 2025
Stars and Galaxies (AST201, Toronto) Winter 2023, 2024
The Sun and its Neighbours (AST101, Toronto) Fall 2022, 2023
The Universe (AST203, Princeton) Winter 2021, 2022

OTHER OUTREACH

[Astronomy on Tap TO](#) (Public lecture series), Volunteer 2022 –
[Pursue STEM](#) (HS science program), Workshop leader 2025
[Astrobites](#) (Research blog), Author & Education Study co-author 2023 – 2025
[Eclipse 2024 at the Toronto Public Library](#) (Public lecture series), Speaker 2024
[Solar Eclipse 2024: Indigenous Knowledge](#) (Video), Editor 2024
[Cosmos from your Couch](#) (Astronomy video series), Editor 2023
[ComSciCon Canada](#) (Science Communication Workshop), Attendee 2023
[Princeton Research Day](#) (Virtual talk competition), Award-winning presenter 2021