Taylor L. J. Kutra

Email: tkutra@ur.rochester.edu
Website: taylorkutra.github.io

Appointments

University of Rochester — Current
Postdoctoral Fellow
Advisor: Dr. Dominique Segura-Cox

Lowell Observatory — 2023-2025
Postdoctoral Fellow
Advisor: Dr. Lisa Prato

Sidrat Research — 2023-2025
Contracted Astronomer

Education

University of Toronto: *Ph.D. in Astronomy & Astrophysics* — 2018-2023
Adivsor: Prof. Yanqin Wu
Thesis: *Illuminating Protoplanetary Disk Substructures & Their Indirect Effects on Exoplanets*

Quest University Canada: *BAS* — 2013-2017
Advisors: Prof. Aaron Boley and Dr. Ian Hoffman

Publications

Kutra, T., Prato, L., Tofflemire, B. M., et al. 2025, *Sites of Planet Formation in Binary Systems. II. Double the Disks in DF Tau*, AJ, 169, 20.

Goksu, A.*****, **Kutra, T.,** & Wu, Y. 2024, *On the Rigidly Precessing, Eccentric Gas Disk Orbiting the White Dwarf SDSS J1228+1040*, AJ, 167, 236.

Kutra, T., Wu, Y. & Lithwick, Y. 2024, *Irradiated Disks May Settle into Staircases*, 2024, ApJ, 964, 165.

Kutra, T., Wu, Y., & Qian, Y. 2021, *Super-Earths and Sub-Neptunes are insensitive to Stellar Metallicity*, 2021, AJ, 162, 69.

***** indicates student lead papers

Teaching Experience & Training

Experience as Instructor of Record & Formal Teacher Training

Rochester Education Justice Initiative — Spring 2026
Instructor of record for introductory astronomy (AST 107) at Groveland Correctional Facility.

Physics and Astronomy Faculty Teaching Institute Workshop — Jan. 2025
Increasing Student Learning and Inclusion in Your Classroom: Strategies from the Faculty Teaching Institute

Teaching Assistant Training Program — 2019-2021
Advanced University Teaching Preparation Certificate
Workshops completed: Teaching and Learning Transferable Skills: For Yourself and Your Students, Identify, Assist, Refer Plus Training (IAR+), Understanding Racial Discrimination in the Learning Environment, Building Community in Online Learning Environments, Equity and Access in Online Teaching

Teaching Assistantships

AST251: Life on Other Worlds — Winter 2019-2021
Responsibilities: weekly office hours, weekly online tutorial for 180+ students, develop assignment and test questions, host review sessions for midterm and final exam.

AST101:The Sun and Its Neighbours Fall 2018-2022
Responsibilities: lead 3-4 tutorials (online and in-person) per week, new TA training, marking and marking coordination, developing test and assignment questions.

Awards and Honors

Fieldus Award, University of Toronto 2023
NSERC Postgraduate Scholarship - Doctoral, University of Toronto 2021-2023
Graduate Student of the Month, Dunlap Institute August 2021
Queen Elizabeth II Graduate Scholarship in Science & Technology, University of Toronto 2020
Robert Shelly Graduate Scholarship, University of Toronto 2019
University of Toronto Fellowship 2018-2019
Faculty of Arts and Science Graduate Admissions Award, University of Toronto 2018
Keystone Distinction and Showcase Award, Quest University Canada 2017
Canadian Academic Performance Scholarship, Quest University Canada 2013-2017
Presedential Scholarship, Quest University Canada 2013-2017

Observing Time Awarded

7 nights total – 6 nights as PI
Magellan (PI, MagE) 6 hours
Gemini South (PI, GHOST) 7.5 hours
Lowell Discovery Telescope (PI, DeVeny, EXPRES) 5 nights
Keck 10m Telescopes(co-I, NIRSPAO) 1 night

External Research Talks

16 external talks — 8 invited, including 3 colloquia
Five Colleges Astronomy Department Seminar, University of Massachusets Amherst 2026
Colloquium, University of Rochester *(invited)* 2026
American Astronomical Society Meeting, 247 2026
American Astronomical Society Meeting, 245 2025
Embry Riddle Aeronautical University *(invited)* 2024
Astronomy Seminar, University of Texas *(invited)* 2024
American Astronomical Society Meeting, 243 2024
Origins Seminiar, University of Arizona 2023
Lowell Observatory Colloquium *(invited)* 2023
Leibniz Institute Colloquium *(invited)* 2023
Department of Astronomy Tea Talks, Indiana University *(invited)* 2022
Division of Planetary Sciences, 54th Annual Meeting 2022
Toronto Astrophysics Talks Series, University of Toronto *(invited)* 2022
Canadian Institute for Theoretical Astrophysics *(invited)* 2022
STScI Spring Symposium: Towards the Comprehensive Characterization of Exoplanets 2021
Emerging Researchers in Exoplanet Science V, Cornell University 2019

Selected Public Outreach

Appointments

Astronomer for Canyon Explorations Astronomy River Trip 2024-2025
Give nightly astronomy talks and/or facilitate nightly star-gazing on a 14 day river trip in Grand Canyon, with a focus on the astrophysics in the night sky.

Cosmos from Your Couch Dunlap Institute, 2022-2023
Designed, produced, and edited 20 YouTube videos, including How to Safely View a Solar Eclipse with Professor Ralph Chou which has 11k views and 'Queering the Cosmos' series for Pride Month. Also filmed 4 episodes (including How Does Starlight Shape Disks?)

AstroTours Keynote Director 2022
Organized and hosted the Keynote AstroTour on Rediscovering our Scientific Heritage: A Journey

Through Classical Islamic Astronomy

AstroTours Co-Director 2019-2021
Organized and hosted a monthly outreach event with 100+ attendees per month. Responsibilities included: helping presenters create accessible astronomy talks, designing new exhibits (notably tactile astronomy exhibits for blind or visually impaired community members), managing and collaborating with a team of 10+ to execute and improve our events.

Public Talks

Grand Canyon Star Party Speaker Grand Canyon Conservancy, 2024

How to Make a Planet (and Why it Shouldn't Work) Astrotours, July 2023
Recording available.

Why Haven't I heard of Her? Stories of Women in Astronomy
Recording available. Astrotours, February 2022

Selected Press & Media Appearances

How to Stargaze Like a True Astronomer, Time Magazine (2025) An ALMA Survey of Circumstellar Disks in Young Binaries, American Astronomical Society Press Conference (2025)
Double the Disks, Double the Discovery: New Insights into Planet Formation in DF Tau, NRAO News Release (2025)
Solar Eclipse LIVE, Discovery Channel (April 2024, begins at 57:52).
ALMA Observations Reveal New Insights into Planet Formation in Binary Star Systems, NRAO News Release (2024)
Should I Stay or Should I Go: What Governs Circumstellar Disk Lifetimes, American Astronomical Society Press Conference (2024)

Selected Service Appointments

Co-Chair Training and Mentoring Committee Current
Founded training and mentoring committee at Lowell Observatory, creating Early Career Training Fund.

Colloquium Committee Current
Lowell Observatory

Faculty Search Committee 2021-2022
University of Toronto at Mississauga

Summer Undergraduate Research Program Committee 2021-2022
David A. Dunlap Department of Astronomy & Astrophysics, Dunlap Institute

Community Climate Committee 2019-2022
David A. Dunlap Department of Astronomy & Astrophysics, Dunlap Institute
Integrating Undergraduate and Systematically Marginalized/Excluded (SME) Students sub-Committee: drafted job ad for new staff position to support SME students, formed and ran astronomy undergraduate mentorship program.
Climate Survey: conducted first community climate survey, compiled results, crafted recommendations.

Graduate Astronomy Students Association co-President 2020-2021
Anti-Racism Meeting Co-Organizer 2020-2022
Equity, Diversity and Inclusion Library 2020-2023
Shutdown STEM Strike Co-Orgnizer June 2020, July 2021

Mentorship Experience

University of Rochester Undergraduate Current
Julia Muñoz
Lowell Observatory Interns and Students 2023-2025
Peter Knowlton (PhD student at University of Victoria)
Jacob Hyden (PhD student at Texas State University)
Meghan Speckert (PhD student at Arizona State University)

Research Experience for Undergraduates 2024
Hannah Lawson

University of Toronto Undergraduates 2020-2021
Ates Goksu (PhD student at McMaster University), Sidhant Suar.

Girls SySTEM Mentoring Program 2020-2021

References

Lisa Prato, Astronomer, Northern Arizona University lisa.prato@nau.edu
Yanqin Wu, Professor, University of Toronto yanqin.wu@utoronto.ca
Mubdi Rahman, Principal Astronomer, Sidrat Research mubdi@sidratresearch.com
Dominique Segura-Cox, Professor, University of Rochester d.segura-cox@rochester.edu