

Tiger Lu

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APPOINTMENTS	Center for Computational Astrophysics , Flatiron Institute, New York, NY Flatiron Research Fellow	Sep 2025 – Present
	Yale University , New Haven, CT Graduate Research Assistant	Aug 2020 – May 2025
	University of California, Berkeley , Berkeley, CA Summer Undergraduate Researcher	May 2019 – Aug 2019
	Carnegie Observatories , Pasadena, CA Summer Undergraduate Researcher	May 2018 – Aug 2018
EDUCATION	Yale University , New Haven, Connecticut, USA <ul style="list-style-type: none">▪ Ph.D. in Astronomy with Distinction<ul style="list-style-type: none">• Thesis: Planets are not Points: the Profound Effect of Planetary Structure on Exoplanet System Architectures• Advisers: Prof. Gregory Laughlin, Prof. Malena Rice▪ M.S., M.Phil. in Astronomy	Aug 2020 – May 2025 Aug 2020 – Aug 2022
	California Institute of Technology , Pasadena, California, USA <ul style="list-style-type: none">▪ B.S. in Astrophysics▪ Minor in Computer Science	Aug 2016 – Jun 2020
PUBLICATIONS	104 citations. <i>h</i> -index = 7. <i>Italics</i> : Student directly supervised by T. Lu	
	FIRST-AUTHOR	
	[6] Lu, T. , Tajer, H., Hernandez, D.M., Rein, H., Liu, Y. and Rice, M., 2025. Collisional Fragmentation Support in TRACE . <i>RNAAS</i> 9 , 5	
	[5] Lu, T. , Li, G., Cassese, B., and Lin, D.N.C., 2025. The Dynamical History of HIP-41378 f - Oblique Exorings Masquerading as a Puffy Planet . <i>ApJ</i> 980 , 39	
	[4] Lu, T. , An, Q., Li, G., Millholland, S.C., Brandt, G.M. and Brandt, T., 2025. Planet-Planet Scattering and ZLK Migration – the Dynamical History of HAT-P-11 . <i>ApJ</i> 979 , 218	
	[3] Lu, T. , Hernandez, D.M. and Rein, H., 2024. TRACE: a Time-Reversible Algorithm for Close Encounters . <i>MNRAS</i> 533 , 3708	
	[2] Lu, T. , Rein, H., Tamayo, D., Hadden, S., Mardling, R., Millholland, S.C. and Laughlin, G., 2023. Self-Consistent Spin, Tidal and Dynamical Equations of Motion in the REBOUNDx Framework . <i>ApJ</i> 948 , 41	
	[1] Lu, T. and Laughlin, G., 2022. Tilting Uranus via Secular Spin-Orbit Resonance with Planet 9 . <i>PSJ</i> 3 , 221	
	SIGNIFICANT CONTRIBUTION	
	[5] Cassese, B., Rice, M. and Lu, T. , 2025. A High-Precision, Differentiable Code for Solar System Ephemerides . <i>PSJ</i> , in press	
	[4] Liu, Y., Lu, T. and Rice, M., 2025. The Formation of Double Hot Jupiter Systems Through ZLK Migration . <i>ApJ</i> 986 , 103	
	[3] An, Q., Lu, T. , Brandt, G.M., Brandt, T. and Li, G., 2025. Significant Mutual Inclinations Between the Stellar Spin and the Orbits of Both Planets in the HAT-P-11 System . <i>AJ</i> 169 , 22	
	[2] Cassese, B., Vega, J., Lu, T. , Rice, M., Poddar, A. and Kipping, D., 2024. squishyplanet: Modeling transits of non-spherical planets in JAX . <i>JOSS</i> 9 , 100	
	[1] Wahl, S., Thorngren, D., Lu, T. and Militzer, B., 2021. Tidal Response and Shape of Hot Jupiters . <i>ApJ</i> 921 , 105	

OTHER CO-AUTHOR

- [2] Bardalez Gagliuffi, D.†, Balmer, W.†, Pueyo, L., et al. (inc. **Lu, T.**) 2025. [JWST Coronagraphic Images of 14 Her c: a Cold Giant Planet in a Dynamically Hot, Multi-planet System](#). *ApJL* **988**, L18
- [1] Wang, N., Lu, L.Y., Liu, H.G., et al. (inc. **Lu, T.**) 2025. [Development of Gravity Theories in the View of TRAPPIST-1e](#). *RAA* **25**, 015003

WHITEPAPERS

- [1] Levine, W. G., Gerbig, K., Louden, E., **Lu, T.**, Hsieh, C., O'Connor, C., Li, R. and Dong, J., 2024. [Emerging Researchers in Exoplanetary Science \(ERES\): Lessons Learned in Conference Organization for Early-Career Researchers](#). Bulletin of the AAS **56**, 2024i004

†: Joint first author

AWARDS & FELLOWSHIPS

- DDA/AAS Raynor L. Duncombe Student Research Prize 2025
- Flatiron Research Fellowship 2025
- Flipped Science Fair Best Poster Explanation 2024
- AAS International Travel Grant 2024
- Graduate Student Assembly Conference Travel Fellowship 2024
- National Science Foundation GRFP (*Honorable Mention*) 2022
- Joan and Arnold Seidel Griffith Observer Science Writing Contest (*Second Place*) 2022
- Alan Porter Memorial Foundation Fellow 2019
- Summer Undergraduate Research Fellow 2018

ORAL

PRESENTATIONS & TALKS

- 246th AAS Meeting Dissertation Talk (*Anchorage, AK*) Jun 2025
- Boston Area Planetary Science Meeting, MIT (*Cambridge, MA*) May 2025
- New York Area Exoplanets Meeting II, CCA (*New York City, NY*) May 2025
- 56th DDA Meeting, Georgia Institute of Technology (*Atlanta, GA*) May 2025
- ML in Planetary Dynamics Workshop, CCA (*New York City, NY*) Apr 2025
- Tea Talk, Indiana University (*Bloomington, IN*) Feb 2025
- ITC Luncheon, Harvard University (*Cambridge, MA*) Jan 2025
- Exoplanet Pizza Lunch, Harvard University (*Cambridge, MA*) Jan 2025
- Exoplanet Seminar, Princeton University (*Princeton, NJ*) Nov 2024
- Planetary Lunch Seminar, Massachusetts Institute of Technology (*Cambridge, MA*) Nov 2024
- Astronomy Seminar, Columbia University (*New York City, NY*) Oct 2024
- Astronomy Seminar, Stony Brook University (*Stony Brook, NY*) Oct 2024
- CRA Seminar, Georgia Institute of Technology (*Atlanta, GA*) Oct 2024
- Planetary Science Seminar, California Institute of Technology (*Pasadena, CA*) Oct 2024
- Lunch Seminar, UCLA (*Los Angeles, CA*) Sep 2024
- Exoplanet Group Meeting, UCSB (*Santa Barbara, CA*) Sep 2024
- FLASH Talk, UCSC (*Santa Cruz, CA*) Sep 2024
- Star and Planet Lunch, University of Hawai'i (*Honolulu, HI*) Aug 2024
- CT Exoplanet Picnic, Wesleyan College (*Wesleyan, CT*) Jul 2024
- Emerging Researchers in Exoplanet Science IX, Cornell University (*Ithaca, NY*) Jul 2024
- REBOUND 24 Meeting* (*Virtual Arbitrary ODE Workshop*) Jul 2024
- REBOUND 24 Meeting* (*Virtual tides_spin*) Jul 2024
- New York Area Exoplanets Meeting I, CCA (*New York City, NY*) May 2024
- 55th DDA Meeting, University of Toronto (*Toronto, Canada*) May 2024
- Makino Lab Seminar, Kobe University (*Kobe, Japan*) Jul 2023
- Exoplanet Seminar, Nanjing University (*Nanjing, China*) Jul 2023
- 54th DDA Meeting, Michigan State University (*East Lansing, MI*) May 2023
- Exoplanet Seminar, Princeton University (*Princeton, NJ*) Mar 2023
- Astronomy Seminar, Monash University (*Monash, Australia*) Feb 2023
- 240th AAS Meeting (*Pasadena, CA*) Jun 2022

**Invited Talk*

POSTER

PRESENTATIONS

- Emerging Researchers in Exoplanet Science, Princeton University (*Princeton, NJ*) Jun 2025

	<ul style="list-style-type: none"> ▪ Exoplanets V Meeting (<i>Leiden, The Netherlands</i>) ▪ Extreme Solar Systems (<i>Christchurch, New Zealand</i>) ▪ 2022 AGU Meeting (<i>Chicago, IL</i>) ▪ Exoplanets IV Meeting (<i>Las Vegas, NV</i>) ▪ 2019 AGU Meeting (<i>San Francisco, CA</i>) ▪ 233rd AAS Meeting (<i>Seattle, Washington</i>) 	
TEACHING	ASTR 210: Stars and Their Evolution Yale University Teaching Fellow	New Haven, CT, USA Spring 2023
	ASTR 160: Frontiers and Controversies in Astrophysics Yale University Teaching Fellow	New Haven, CT, USA Fall 2022
	ASTR 160: Frontiers and Controversies in Astrophysics Yale University Teaching Fellow	New Haven, CT, USA Spring 2021
	ASTR 155: Introduction to Astronomical Observing Yale University Teaching Fellow	New Haven, CT, USA Fall 2021
	Dean's Tutor Tutoring Caltech students in Physics, Astronomy and Computer Science	Pasadena, CA, USA 2017-2020
OUTREACH	Warrior-Scholar Program Research Project Leader <i>One week intensive boot camp preparing military veterans for undergraduate degrees</i>	New Haven, CT, USA Summer 2023
	Yale OpenLabs Local outreach organization dedicated to educating middle school children on STEM topics. Recipient of the Seton Elm-Ivy Award.	
	<ul style="list-style-type: none"> ▪ Public Relations Officer ▪ Regular Outreach Speaker <ul style="list-style-type: none"> • Science Cafe 2024 Speaker: <i>What if 'Cotton Candy' Planet are Actually Ring Pops?</i> • Flipped Science Fair Best Poster Explanation: <i>Probing the Shapes of Planets</i> • Science Cafe 2022 Speaker: <i>How We Discover Exoplanets</i> 	2023 2022 – 2025
	Astronomy on Tap New Haven branch of outreach program aimed at engaging local community with astronomy research	
	<ul style="list-style-type: none"> ▪ Social Media Director 	2022
	Science in the News Local outreach organization dedicated to educating the greater community on STEM topics.	
	<ul style="list-style-type: none"> ▪ Outreach Speaker <ul style="list-style-type: none"> • <i>Hidden Things: Pulling Back the Veil on the Universe</i> 	2021
MENTORING	Haedam Im* Yale Hofferleit Fellow Project: <i>Hunting for a Hidden Planet in the GJ 436 System</i>	May 2025 – Massachusetts Institute of Technology
	Yurou (Nina) Liu* Alexander P. Hixon Summer Undergraduate Research Fellow Project: <i>The Formation of Double Hot Jupiter Systems Through ZLK Migration</i>	Jun 2023 – Yale University
	Jeremiah Reynoso Summer Undergraduate Research Fellow Project: <i>Dissipation due to Inelastic Planetesimal Collisions in Differentially Precessing Debris Disks</i>	Jun 2023 – Oct 2023 Morehouse College
	Chris Santiago Astro Sibs	2022 – 2024 Yale University
	Kylyn Smith Astro Sibs	2023 – 2024 Yale University
	Sally Jiang (current Ph.D. Candidate, Columbia University) Astro Sibs	2022 – 2023 Yale University

*Primary Research Advisor

TELESCOPE PROPOSALS (CO-I)	Keck Observatory (HIRES) – 2 nights <i>The Search for Double Hot Jupiter Systems</i>	Yale 2024B
	Keck Observatory (HIRES) – 2 nights <i>Probing the Exoplanet Mass Discrepancy Between the Radial Velocity and Transit Timing Methods with the Anomalously Low Density Planet Sample and Keck-HIRES (Phase 2)</i>	Yale 2023A
	Keck Observatory (HIRES) – 2 nights <i>Probing the Exoplanet Mass Discrepancy Between the Radial Velocity and Transit Timing Methods with the Anomalously Low Density Planet Sample and Keck-HIRES (Phase 1)</i>	Yale 2022B
	Science Organizing Committee – 57th DDA Meeting <i>Division of Dynamical Astronomy, University of Chicago</i>	June 2026
PROFESSIONAL SERVICE	Science Organizing Committee Chair – DSPS <i>A Dynamical Synthesis of Planetary Systems, New Haven</i>	Jan 2026
	Organizing Committee – ERES X <i>Emerging Researchers in Exoplanet Science Symposium, Princeton University</i>	July 2025
	Science Organizing Committee – ERES VIII <i>Emerging Researchers in Exoplanet Science Symposium, Yale University</i>	June 2023
	Reviewer <i>NASA Solar System Workings Panel, A&A, AJ, ApJ, MNRAS</i>	2024 – Present
	Main Co-Organizer – Yale Exoplanets and Stars Seminar <i>Weekly Seminar Series</i>	2023 – 2025
	Committee Member – ACDC <i>Yale University Astronomy Climate and Diversity Committee</i>	2022 – 2025
MEDIA	Yale Daily News New study offers a double dose of ‘hot Jupiters’	Jun 2025
	Popular Science What if ‘cotton candy’ planets are actually Ring Pops?	Oct 2024
	AAS Author Journal Series Tilting Uranus via Secular Spin-Orbit Resonance with Planet 9	Nov 2022
	New Haven Road Runners – New Haven, CT, USA <i>Local USATF sanctioned running club</i>	
COMMUNITY ENGAGEMENT	▪ Public Relations Officer	Jul 2023 – Jul 2024
	▪ Racing Team Director / Elite Athlete Coordinator	Jul 2022 – Jun 2025
	NCAA Athlete – Pasadena, CA, USA <i>NCAA Division III Cross Country/Track & Field at Caltech</i>	2016 – 2020
	Avery House – Pasadena, CA, USA <i>Student Government</i>	
	▪ Athletics Manager	2017 – 2018
	▪ Underclassmen Counselor	2017 – 2020

[CV compiled on 2025-09-30]