

Teo A. Lara

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EDUCATION

Massachusetts Institute of Technology (MIT), Cambridge, MA 2022–2026

4.96 GPA, B.S. Physics & Mathematics

Relevant Coursework: Numerical Methods for PDEs, Quantum Field Theory, Quantum Mechanics, Classical Mechanics, General Relativity, Complex Analysis, Real Analysis

Decatur High School, Decatur, GA

2018–2022

IB Diploma Alum 2022, GPA: 4.98

Relevant Coursework: Linear Algebra, Multivariable Calculus, Statistics

RESEARCH

MIT Dunkel Group

May 2025–Current

Faculty Supervisor: Jörn Dunkel

Developing high-fidelity fluid–structure interaction simulations in IBAMR to analyse jellyfish propulsion and feeding efficiency.

MIT/UC Berkeley Kamrin Group

October 2023–Current

Faculty Supervisor: Ken Kamrin

Developing advanced Eulerian computational frameworks to model soft solid–fluid interactions using reference map techniques.

LBNL Center for Computational Sciences and Engineering

June 2024–August 2024

Faculty Supervisors: Saurabh Sawant and Andy Nonaka

Implemented Non-Equilibrium-Green’s Function (NEGF) formalism to simulate quantum transport in carbon nanotubes.

MIT Kavli Institute

March–September 2023

Faculty Supervisor: Sarah Millholland

Investigated planetary system dynamics by modelling exoplanet resonance chains and obliquity evolution during migration phases using the REBOUNDx n-body integrator.

MIT Bush Applied Mathematics Laboratory

November 2022–September 2023

Faculty Supervisor: Bauyrzhan Primkulov and John Bush

Developed a deep-learning image recognition pipeline to track and analyse trajectories of fluid droplets in “walking droplet” hydrodynamics experiments.

PUBLICATIONS

Lara T., Kamrin K. “Unified Eulerian method for fluid-immersed self- and multi-body solid contact.” *Computer Methods in Applied Mechanics and Engineering*, Volume 437, March 2025.

Millholland S., Lara T., Toomlaid J. “Spin dynamics of planets in resonant chains.” *The Astrophysical Journal*, Volume 961, Number 2. January 2024.

Lara T., Galvan A. “Optimizing airfoil shape for small, low speed, unmanned gliders: A homemade investigation.” *Journal of Emerging Investigators*, Volume 6, March 2023.

HONOURS AND AWARDS

MIT SPUR Research Program Participant	2025
John Reed UROP Fund Recipient	2025
Paul E. Gray UROP Fund Recipient	2024
John P. Perry Memorial Fund Scholarship	2023
Georgia Scholar Honouree	2022
College Board Hispanic Recognition Award	2022
HSF Youth Leadership Institute	2021
Georgia Certificate of Merit	2021

LEADERSHIP EXPERIENCE

MIT French House Living Group - President	2025–Current
Leads a 40-member residential community, overseeing operations, budgeting, event planning, and community engagement. Serves as liaison between French House and broader MIT residential and cultural networks.	
MIT Climbing Team - Team Captain/Coach	2023–2025
Directed weekly practices, mentored team members, and coordinated logistics for competitions and training programs.	
MIT Video Game Orchestra - Arranging Chair	2022–2024
Curated musical arrangements and helped organise concerts for MIT’s largest student-run musical group. Managed event planning and streamlined day-to-day operations to maintain a vibrant, collaborative music community.	
OrigamiMIT - Executive Member	2022–2023
Planned and executed club meetings and events, including the 2022 OrigamiMIT Convention, featuring 100+ attendees and dozens of workshops.	

SKILLS AND INTERESTS

Technology Skills: Matlab, Python, Mathematica, C++, LaTeX, GNUplot, VisIt, Paraview

Language Skills: Fluent English, Fluent Spanish, Proficient French

Interests: Rock Climbing, Music Performance, Origami, Board Games, Culinary Arts