

Department of Mathematics,
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Tung T. LAM

Education

2019–Present **Doctor of Philosophy in Mathematics**, *State University of New York at Albany*.

Advisors: Justin Curry and Michael Lesnick.

2017–2019 **Master of Arts in Mathematics**, *The University of Alabama*.

2009–2013 **Bachelor of Science with honors in Mathematics and Computer Science**, *University of Science, Vietnam National University*, Ho Chi Minh City, Vietnam.

Work and Experience

2023–now **Lecturer**, *State University of New York at Albany*.

2022–2023 **Graduate Research Assistant**, *State University of New York at Albany*.

2019–2022 **Graduate Teaching Assistant**, *State University of New York at Albany*.

2017–2019 **Graduate Teaching Assistant**, *The University of Alabama, Tuscaloosa*.

Publications and Preprints

The Universal ℓ^p metrics on merge trees, w/ Robert Cardona, Justin Curry, and Michael Lesnick. SoCG2022. doi:10.4230/LIPIcs.SoCG.2022.24.

Algebraic and Geometric Models for Space Networking, w/ William Bernardoni, Robert Cardona, Jacob Cleveland, Justin Curry, Robert Green, Brian Heller, Alan Hylton, and Robert Kassouf-Short (Under revision). arXiv:2304.01150.

Delaunay Bifiltrations of Functions on Point Clouds, w/ Ángel Javier Alonso, Michael Kerber, and Michael Lesnick. The proceedings of SODA24. doi:10.1137/1.9781611977912.173.

ℓ_p -type Metrics on Reeb graphs, with Robert Cardona. (In preparation).

Bifunction and Interlevel Delaunay Trifiltrations, w/ Ángel Javier Alonso, Michael Kerber, Michael Lesnick, and Abhishek Rathod (In preparation).

“Detecting the Indian Monsoon using Topological Data Analysis”, w/ Enrique G Alvarado, Daniela Beckelhymer, Joshua Dorrington, Tung Lam, Sushovan Majhi, María Sánchez Muniz, Jasmine Noory, Kristian Strommen, ATMCS 2025 (Extended Abstract) arXiv:2504.01022.

Research Interests

Theory and Application of Topological Data Analysis; Persistence Theory; Computational Topology and Geometry; Computational Applied Topology for Time-varying Structure; Topological Machine Learning. Network Analysis.

Conference/Workshop/Summer School Attended

- 2025 Joint Mathematics Meetings - *Seattle*.
- 2024 AMS Northeastern Sectional Meeting, Fall 2024, *Albany*.
- 2024 Workshop on "Computational Persistence" - *online*.
- 2024 AMS-Mathematics Research Communities on Topological Data Analysis, Climate Science and Dynamical Systems Theory - *New York*.
- 2023 Workshop on "Computational Persistence" - *online*.
- 2023 The Computational Geometry Week - *Dallas*.
- 2023 Joint Mathematics Meetings - *Boston*.
- 2021 Workshop on "Metrics in Multiparameter Persistence" (2021) - *online*.
- 2018 Summer School & Workshop on "Theory and Foundations of TGDA", *MBI, OSU*.

Talks

- 2025 **Delaunay Filtrations for Time-varying Data**,
JMM Washington DC 2026 - AMS Special Session on Topological Data Analysis and Non-linear Dynamical Systems. (invited)
- 2025 **Delaunay Filtrations for Functions on Euclidean Point Clouds**,
AMS Southeastern Sectional Meeting, Tulane University, Fall 2025. (invited)
- 2025 **Delaunay Bifiltrations**,
AATRN Online seminar, Summer 2025. (invited)
- 2025 **Delaunay-type Bifiltrations in Dynamical Systems**,
JMM Seattle 2025 AMS-MRC Special Session on Climate Science at the Interface Between Topological Data Analysis and Dynamical Systems Theory, Seattle 2025. (invited)
- 2024 **Delaunay Bifiltration**,
AMS Northeastern Sectional Meeting, Fall 2024 at Albany.(invited)
- 2023 **Delaunay-type Bifiltration**,
SUNY Albany Showcase Presentations, Albany.
- 2023 **ℓ^p -type Metrics on Reeb Graph**,
CGWeek: Workshop on Mobius inversion and Reeb spaces, Dallas.
- 2022 **ℓ^p -type Metric on Merge Trees**,
Workshop on Computational Persistence, online. (invited)
- 2022 **ℓ^p metrics on merge trees**,
Union College
- 2021 **Presentation Based Metrics for Merge Trees**, ATiA seminar, SUNY Albany.

Academic Service

- Spring 2026 Co-organizer, Applied Topology in Algebra (ATiA) Seminar, SUNY at Albany.

Teaching

- Spring 2026 AMAT108 - Elementary Statistics (2 sections), SUNY at Albany.
- Fall 2025 AMAT108 - Elementary Statistics (2 sections), SUNY at Albany.
- Summer 2025 AMAT108 - Elementary Statistics, SUNY at Albany. (online)
- Spring 2025 AMAT108 - Elementary Statistics (2 sections), SUNY at Albany.
- Fall 2024 AMAT108 - Elementary Statistics (2 sections), SUNY at Albany.

Spring 2024 AMAT108 - Elementary Statistics (2 sections), SUNY at Albany.
 Fall 2023 AMAT112 - Calculus 1 (2 sections), SUNY at Albany.
 Spring 2023 AMAT502 - Modern Computing for Mathematician, SUNY at Albany.
 Graduate-level course (Teaching Assistant).
 Fall 2022 AMAT502 - Modern Computing for Mathematicians, SUNY at Albany.
 Graduate-level course (Teaching Assistant).
 Spring 2022 AMAT100 - Precalculus, SUNY at Albany.
 Fall 2021 AMAT100 - Precalculus, SUNY at Albany.
 Summer 2016 Multivariable Calculus, APCS, University of Science, VNU-HCMC.
 (Teaching Assistant)

Awards and Research Supports

Spring 2025 Travel award for AMS Southeastern Sectional Meeting (Declined)
 Spring 2025 NSF travel award for JMM 2025.
 Spring 2025 Travel award for AMS-MRC meeting at JMM. (Declined)
 Fall 2024 Travel award for AMS Southeastern Sectional Meeting - cancelled (Declined)
 Summer 2024 Travel award for AMS-MRC on Topological Data Analysis, Climate Science and
 Dynamical Systems Theory. (Declined)
 Summer 2024 Travel award for SPIRES Workshop, Oxford, UK. (Declined)
 Summer 2023 NSF travel award for CGWeek 2023.
 Winter 2022 NSF travel award for JMM 2023.
 2017 Graduate Council Fellowship, The University of Alabama.
 2009-2013 Awards for Outstanding Students, University of Science, HCMUS.

Languages

Vietnamese (Mother tongue), English, French

Programming Languages

MATLAB/SciLab, Python, C/C++, FORTRAN