

Department of Mathematics,
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U.S.A

Tung T. LAM

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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