

Bo Lin

CONTACT INFORMATION

School of Mathematics
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EMPLOYMENT HISTORY

Visiting assistant professor, School of Mathematics, Georgia Institute of Technology, January 2019 - .

Lecturer, Dept. of Mathematics, University of Texas, Austin, July 2018 - December 2018.

Postdoctoral fellow, Institute of Mittag-Leffler (Sweden), February 2018 - April 2018.

Simons postdoctoral fellow, University of Texas, Austin, September 2017 - April 2018.

RESEARCH INTERESTS

Mathematical Biology, Tropical Geometry, Combinatorics, Convex Geometry.

EDUCATION

University of California, Berkeley

Ph.D. in Mathematics, August 2017.

- Advisor: Bernd Sturmfels.
- Dissertation Title: combinatorics and computations in tropical mathematics.

Peking University, Beijing, China

B.S. in Mathematics, July, 2013

PUBLICATIONS

Optimizing coordinate choice for locomotion systems with toroidal shape spaces., with Baxi Chong et al. *IROS (2020)*. To Appear.

Two-player incentive compatible outcome functions are affine maximizers, with N. Tran. *Linear Algebra and its Applications*, **578** (2019) 133-152.

Tropical Fermat-Weber Points, with R. Yoshida. *SIAM Journal on Discrete Mathematics*, **32** (2018) 1229–1245.

Computing Linear Systems on Metric Graphs, *Journal of Symbolic Computation*, **87** (2018) 54-67.

Convexity in Tree Spaces, with B. Sturmfels, X. Tang and R. Yoshida, *SIAM Journal on Discrete Mathematics* **31** (2017) 2015-2038.

Tropical Hodge Bundle, with M. Ulirsch, *Combinatorial Algebraic Geometry*, 353-368, Fields Institute Communications (2017), Volume 80, Springer 2017, Editors: Greg Smith and Bernd Sturmfels.

Almost-toric Hypersurfaces, *Beiträge zur Algebra und Geometrie*, **57** (2016) 343-359.

PREPRINTS

Linear and Rational Factorization of Tropical Polynomials, with N. Tran.

Tropical Geometry of Phylogenetic Tree Space: A Statistical Perspective, with A. Monod, Q. Kang and R. Yoshida.

Tropical Optimal Transport and Wasserstein Distances in Phylogenetic Tree Space, with W. Lee, W. Li and A. Monod.

TEACHING
EXPERIENCES

Math 2603 - Introduction to Discrete Mathematics at Georgia Tech. Instructor, Fall 2019.
Math 325K - Discrete Mathematics at UT Austin. Instructor, Fall 2018. **Math 328K - Introduction to Number Theory** at UT Austin. Instructor, Summer 2018. **Math 10B - Methods of Mathematics: Calculus, Statistics, and Combinatorics** at UC Berkeley. Graduate Student Instructor (GSI), Spring 2017.
Math 10A - Methods of Mathematics: Calculus, Statistics, and Combinatorics at UC Berkeley. GSI, Fall 2015.
Math 32 - Precalculus at UC Berkeley. GSI, Fall 2014.
Math 32 - Precalculus at UC Berkeley. GSI, Spring 2014.
Math 54 - Linear Algebra and Differential Equations at UC Berkeley. GSI, Fall 2013.

SELECTED INVITED
TALKS

The application of persistent homology in the search of waveshape patterns of snakes
Topology Seminar, University of Florida, November 2019.

Geometry of Phylogenetic Tree Spaces

SIAM Annual Meeting, Portland, Oregon, July 2018.
Stochastic Colloquium, University of Göttingen (Göttingen, Germany), April 2018.

Computing Linear Systems on Metric Graphs.

Algorithms and Effectivity in Tropical Mathematics and Beyond, Schloss Dagstuhl, November 2016.
AMS Sectional Meeting, University of St. Thomas, October 2016.
SIAM Discrete Math Conference, Georgia State University, June 2016.
Student Tropical Algebraic Geometry Seminar, Yale University, June 2016.

Tropical Hodge Bundle

Workshop on Tropical varieties and amoebas in higher dimension, Royal Institute of Technology (Stockholm, Sweden), April 2018.
Saxonian Geometry Day, Technische Universität Chemnitz (Chemnitz, Germany), December 2016.

Tropical Fermat-Weber Points

CombinaTexas, Texas A&M University, February 2018.
SIAM Applied Algebraic Geometry Conference, Georgia Institute of Technology, August 2017.
Graduate Student Combinatorics Conference, University of Kansas, April 2017.

HONORS AND
AWARDS

Max-Planck-Institute for Mathematics in the Sciences, Visiting Scholar, Fall 2016
Coleman Fellowship in Mathematics, Spring 2016
Title of Excellent Student of Peking University, 2010-2012
Meritorious Winner of The Interdisciplinary Contest in Modeling (ICM), 2012
Gold Medalist of International Mathematics Olympiad, 2009

ACADEMIC EVENTS
CO-ORGANIZED

Mathematical Biology Seminar, Georgia Institute of Technology, Fall 2019.
Algebra Seminar, Georgia Institute of Technology, Fall 2019.

OTHERS SERVICES

Atlanta Science Festival, Representative of SCMB, Atlanta, Georgia, March 2019.
CNS Family Day, Representative of Dept. of Math, University of Texas, Austin, October 2017.