Ngoc Mai Tran

Department of Mathematics
RLM 8.100, Speedway 2515 Stop C1200
the University of Texas at Austin
Texas 78712
✉ ntran@math.utexas.edu
🏠 ma.utexas.edu/users/ntran/

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Academic positions

2017–current	**Assistant Professor**, *Mathematics*, University of Texas at Austin, USA.
2015–2017	**W-2 Professor**, *Mathematics*, University of Bonn, Germany.
2013–2015	**Simons Postdoctoral Fellow**, *Mathematics*, University of Texas at Austin, USA.

Education

2009–2013	**PhD**, *Statistics*, University of California at Berkeley, USA. Dissertation: Topics in applied probability and tropical linear algebra Advisor: Bernd Sturmfels
2007–2008	**Bachelor of Science (Honours, First Class)**, *Mathematics and Statistics*, University of Melbourne, Australia. Thesis: An introduction to theoretical properties of functional principal components analysis Advisor: Peter Hall
2005–2007	**Bachelor of Science**, *Mathematics*, University of Newcastle, Australia.

Employment History

2008–2009	**Statistician**, *Brain Resource Company*, Sydney, Australia. Developed new ECG autoscoring algorithms. Analyzed EEG/ECG data in 20,000 subjects.
2006–2017	**Statistician**, *Research and Training Center for Community Development*, Hanoi, Vietnam. Analyzed data for projects funded by the World Health Organization, World Wildlife Foundation, and the Australian Research Council.

Publications

2017	<u>N M Tran</u>, *Enumerating Polytropes*, Journal of Combinatorial Theory, Series A 151 (2017): 1-22.
2017	<u>N M Tran</u> and Jed Yang, *Antibiotics Time Machine is NP-hard*, to appear in the AMS Notices
2016	R Morisson and <u>N M Tran</u>, *Commuting Tropical Variety*, Linear Algebra and its Applications, 507, 300-321
2016	F Baccelli and <u>N M Tran</u>, *Zeros of Random Tropical Polynomials, Random Polygons and Stick-breaking*, Transactions of the American Mathematical Society 368(10), 7281-7303

2016 N M Tran, *HodgeRank is the Limit of Perron Rank*, Mathematics of Operations Research 41(2), 643-647

2015 J Pitman and N M Tran, *Size-biased Permutation of an i.i.d Sequence*, Bernoulli 21(4), 2484–2512

2015 I Fiete and N M Tran, *Linear-complexity denoising of the exponential-capacity grid cell code*, Computational and Systems Neuroscience (COSYNE) 2015

2015 N M Tran, *The PerronRank Family: A Brief Review*, Evolutionary and Institutional Economics Review 12(1), 213-221

2014 I Fiete, D J Schwab and N M Tran, *A binary Hopfield network with $1/\log(n)$ information rate and applications to grid cell decoding*, Workshop on Biological Distributed Algorithms 2014

2014 N M Tran, *Polytropes and Tropical Eigenspaces: Cones of Linearity*, Discrete & Computational Geometry 51(3), 539–558

2013 B Sturmfels and N M Tran, *Combinatorial types of tropical eigenvectors*, Bulletin London Mathematical Society 45, 27-36

2013 N M Tran, *Pairwise ranking: choice of method can produce arbitrarily different rank order*, Linear Algebra and its Applications 438, 1012-1024

2009 M H Pham, T Tran, T D Tran, N M Tran, V D Dao, K P Nguyen, T D Le , *Measuring the risk of catastrophic expenditure: the CATA and IMPOOR indicators of Vietnam during 1993-2004*, Journal of the Central Institute for Medical Science Information of Vietnam, 7 (2009) 17-21

2007 D Cotton, N M Tran and C Waters, *Sunspot number, Southern Oscillation Index and their correlation to rainfall*, Proceedings of the 7th Australian Space Science Conference (2007) 150-161

Preprint

2017 R Mulas and N M Tran, *Minimal Embedding Dimensions of Connected Neural Codes*, arXiv:1706.03999

2017 B Lin and N M Tran, *Linear and Rational Factorization of Tropical Polynomials*, arXiv:1707.03332

2016 F Baccelli and N M Tran, *Iterated Gilbert Mosaics and Poisson Tropical Plane Curves*, arXiv:1610.08533

2016 Robert A Crowell N M Tran, *Tropical Geometry and Mechanism Design*, arXiv:1606.04880

2016 N M Tran and Josephine Yu, *Product-Mix Auctions and Tropical Geometry*, arXiv:1505.05737

2014 N M Tran, M Osipenko and W Haerdle, *Principal Component Analysis in an Asymmetric Norm*, arxiv:1401.3229

2014 N M Tran and C Hillar, *Robust Exponential Memory in Hopfield Networks*, arxiv:1411.4625

Conferences organized

April 2017	Hausdorff Summer School on Large Networks and their applications, Bonn, Germany
May 2016	Hausdorff Summer School on Tropical Geometry and Economics, Bonn, Germany
Mar 2016	DAAD Spring School on Combinatorial Stochastic Processes, Hanoi, Vietnam

Honors and Awards

2017–current	*Honorary Senior Lecturer (Level C)*, Australian National University
2017–current	*Bonn Research Fellow*, Hausdorff Center for Mathematics
2015–2017	*Bonn Junior Fellow*, Hausdorff Center for Mathematics
2013–2015	*Postdoctoral Fellow*, Simons Foundation
2009–2015	*Fellow*, Vietnam Education Foundation
2007	*Dean's List*, University of Newcastle
2006	*Summer Scholar*, Australian National University

Grants awarded

2017	50,000 euro grant from the Hausdorff Center for Mathematics to hold a summer school
2016	50,000 euro grant from the Hausdorff Center for Mathematics to hold a summer school
2016	25,000 euro grant from the DAAD to hold a spring school

Invited Talks

June 2018	Plenary Speaker, 2018 Stochastic Networks conference, Edinburgh
March 2018	AMS Sectional Meeting, Ohio
Feb 2018	Semester program on Tropical Geometry, Mittag-Leffler Institute, Sweden
Feb 2017	Tropical Mathematics and its Applications, Warwick
Nov 2016	Topology and Geometry in Discrete Settings, ICERM, Brown University
Sept 2016	Vanderbilt Mechanism Design Conference, Nashville
Mar 2016	Spring School on Combinatorial Stochastic Processes, Hanoi, Vietnam
Jun 2016	SIAM Conference on Discrete Mathematics, Atlanta
Nov 2015	Workshop on Algebraic and Stochastic Aspects in Graph Theory, Osnabrueck
May 2015	Workshop on Nonlinear Algebra, Berlin
March 2015	Computational and Systems Neuroscience (Cosyne), Salt Lake City
Jan 2015	Session on Graph Theory, Combinatorics and Discrete Geometry, AMS Joint Meeting
Jan 2015	Session on Probability and Applications, AMS Joint Meeting
Aug 2014	Workshop on Mathematics and Economics, Hokkaido, Japan
Jul 2014	Algebraic Geometry and Optimization, Korea
May 2014	Math Colloquium, University of Queensland, Australia
Apr 2014	Plenary Talk, CombinaTexas, Houston
Mar 2014	Seminar on Stochastic Processes, San Diego

Apr 2013	Workshop on Mathematics of Partially Identified Objects, Oberwolfach, Germany
Oct 2012	Workshop for Women in Probability, Duke University
Jun 2012	Tropical Mathematics and its Applications, UK
Oct 2011	SIAM Conference on Applied Algebraic Geometry, North Carolina State
Jul 2011	Kaiserslautern-Saarbruecken joint seminar, Germany
Jan 2011	Algebraic Geometry in the Sciences, Oslo, Norway
May 2011	SIAM Conference on Optimization, Darmstadt, Germany

Classes Taught

Summer 2017	Lecturer, Topics in Exchangeability (graduate class), Department of Mathematics, University of Bonn
Winter 2016	Open Problems in Combinatorial Stochastic Processes (graduate class), Department of Mathematics, University of Bonn
Summer 2016	Combinatorial Stochastic Processes (graduate class), Department of Mathematics, University of Bonn
Winter 2015	Mathematical Neuroscience (graduate class), Department of Mathematics, University of Bonn
Fall 2014	Probabilistic Method (graduate class), Department of Mathematics, UT Austin
Fall 2013	Multivariable Calculus M408D, Department of Mathematics, UT Austin

Professional Services

Associate Editor	Bernoulli
Reviewer	AMS Mathematical Reviews, zbMath, IEEE Transactions on Multimedia, Journal of Combinatorial Theory Series A, Annals of Applied Probability, PLOS One Biology, AISTATS, NIPS
Organizer	Research discussions meetings between graduate students in statistics and social sciences, UC Berkeley, 2013
Organizer	Random Structures Seminar, Department of Mathematics, UT Austin, 2013, 2014, 2015
Organizer	Statistics Graduate Student Association Seminar, 2011, 2012
Active Member	Women In Probability Group, 2013–current