

Thành Nguyen

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Employment

Purdue University, Daniels School of Business

<i>Chair Quantitative Methods Department</i>	2025-
<i>Lewis B. Cullman Rising Star Professor</i>	2023-
<i>Assistant , Associate Professor</i>	2013-2023

Kellogg School of Management, Northwestern University

<i>Postdoctoral Fellow</i>	2010-2013
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Education

<i>Ph.D, Cornell University, Ithaca, NY</i>	2010
<i>Diploma in Mathematics. Eötvös University, Budapest, Hungary</i>	2004

Research Interests

My research focuses on market design, social choice and applications.

Awards & Grants

- **Best Paper Award**, 2025 IEEE International Symposium on Dynamic Spectrum Access Networks (DySPAN)
- **(Purdue)** Ross-Lynn Postdoctoral Scholar Grant on Market-Learning-Optimization (*with W. Sun and M. Tawarmalani*) 2022-2024
- **(DARPA, \$328,000)** Pseudo Markets with Constraints & Uncertainty (*with Rakesh Vohra*) 2018-2019
- **(NSF, \$3,581,912)** Sociotechnical systems to enable smart and connected energy-aware residential communities (*with Panagiota Karava, Ilias Billionis, James E Braun, Leigh Raymond, Torsten Reimer*) 2018-2022
- **(NSF, Co-PI, \$502,945)** Understanding strategic behavior in systems engineering: A theoretical framework based on dynamic network games of incomplete information (*with Illias Billionis and Jitesh Panchal*) 2017-2020
- **(NSF, PI, \$173,000)** Creating an Ecosystem for Spectrum Utilization Through Dynamic Mechanisms 2014-2018
- Jay Ross Young Faculty Scholar Award, Krannert School of Management 2016-2017

- Outstanding Core MBA Teaching Recognition, Krannert School of Management 2015, 2016, 2017, 2018
- US Patent App. 12/714,238: Weighted Proportional Sharing Mechanisms

Publications

Market Design & Economics

Thành Nguyen and Rakesh Vohra, Near Substitutes and Equilibria with Indivisibilities
Journal of Political Economy, 2024

Thành Nguyen and Rakesh Vohra, Near Feasible Stable Matchings with Couples,
American Economic Review, Vol. 108, No. 11, 2018

T. Nguyen, M. Peivandi and R. Vohra, Assignment Problems with Complementarities,
Journal of Economic Theory, Volume 165, 2016

Marquez, R., Nguyen, T., Yavuz, M., Financing Innovative Activity and the Endogeneity of Patenting
Management Science, Vol 70, No 10 2024

Young-San Lin, Hai Nguyen, Thành Nguyen, Kemal Altinkemer,
Allocation with Weak Priorities and General Constraints,
Operations Research (Vol 70, No 5, 2022)

Thành Nguyen, Hai Nguyen, Alex Teytelboym,
Stability in Matching Markets with Complex Constraints,
Management Science (Vol 67, Issue 12, 2021)

Thành Nguyen and Rakesh Vohra,
Stable Matching with Proportionality Constraints,
Operations Research Volume 67, No. 6, 2019

Thành Nguyen, Coalitional Bargaining in Networks,
Operations Research, Volume 63, Issue 3, 2015

Operations Research & Management Science

Haoyu Song, Hai Nguyen, Thanh Nguyen
Learning Choice Functions: A Discrete Fourier Approach
Mathematics of Operations Research, 2026

Young-San Lin, Thành Nguyen and Jiang Tao,
Quantity Competition in Multi-tier Supply Chains,
Naval Research Logistics Volume 69, Issue 3, 2022

Thành Nguyen and Karthik Kannan,
Welfare Implications in Intermediary Networks,
Information Systems Research Vol 32, Issue 2, 2021

R. Berry, M. Honig, T. Nguyen, V. Subramanian and R. Vohra,
The Value of Sharing Intermittent Spectrum,
Management Science Volume 66, No. 11, 2020

T. Nguyen, V. Subramanian and R. Berry,
 Delay in Trade Networks,
Operations Research, Volume 64, Issue 3, 2016

Thành Nguyen,
 Local Bargaining and Supply Chain Instability,
Operations Research, Volume 65, Issue 6, 2017

T. Nguyen, H. Zhou, R. Berry, M. Honig and R. Vohra,
 The Cost of Free Spectrum,
Operations Research, Volume 64, Issue 6, 2016

Thành Nguyen,
 A simple LP relaxation for the Traveling Salesman Problem,
Mathematical Programming, Volume 141, Issue 1, 2013

Berry, Honig, Subramanian, Nguyen, Zhou and Vohra,
 Newsvendor Model of Capacity Sharing,
Performance Evaluation Review, Volume 40, Issue 2, 2012

Thành Nguyen,
 On the Disjoint Paths Problem,
Operations Research Letters, Volume 35, Issue 1, 2007

Computer Science Refereed Proceedings (Selected)

Haoyu Song, Thanh T Nguyen, Young-san Lin
 A few good choices (SODA 2026),

Federico Bobbio, Randall A Berry, Michael L Honig, Thanh Nguyen, Vijay G Subramanian, Rakesh V Vohra,
 Costly Measurements to Incentivize Spectrum Sharing
Best Paper Award, 2025 IEEE International Symposium on Dynamic Spectrum Access Networks (DySPAN)

Riddhiman Bhattacharya, Thanh T Nguyen, Will Wei Sun, Mohit Tawarmalani
 Active Learning for Fair and Stable Online Allocations (extended abstract accepted at ACM EC 2024),

Simon Jantschgi, Thanh Nguyen, Alexander Teytelboym,
 The Competitive Core of Combinatorial Exchange (ACM EC 2025, Presented at NBER Market Design Working Group Meeting)

Thanh Nguyen and Alexander Teytelboym
 Approximate Combinatorial Auctions with Budgets (Submitted, extended abstract accepted at ACM EC 2024)

Thanh Nguyen and Alexander Teytelboym
 Equilibrium in Pseudomarkets (Accepted at ACM EC 2024)

Thanh Nguyen R. Berry, M. Honig, V. Subramanian, and R. Vohra
 On the Nature of Revenue-Sharing Contracts to Incentivize Spectrum-Sharing, **INFOCOM**, 2013

Thanh Nguyen M. Vojnovic
 Weighted Proportional Allocation, **ACM SIGMETRICS**, 2011

Nguyen and E. Tardos
 Approximate pure Nash Equilibria via Lovász Local Lemma, **WINE**, 2009

Nguyen and E. Tardos
Parallel Imaging Problem, **Algorithms-ESA**, 2008

Nguyen and E. Tardos
Approximately maximizing Efficiency and Revenue in Polyhedral Environments, **EC**, 2007

Working Papers

Efficiency, Envy, and Incentives in Combinatorial Assignment
with Alexander Teytelboym and Shai Vardi (**Econometrica**, R&R)

Gergely Csaij and Thanh Nguyen
The core of Kidney Exchange Programs

Thanh Nguyen
Stable Social Choice

Thanh Nguyen and Rakesh Vohra,
Constrained Bayesian Update

Thanh Nguyen and Haoyu Song
The approximate core of Participatory Budgeting

Pseudo-Market for Military Logistics
with Markos Epitropou, Can Kizilkale and Rakesh Vohra

Book Chapters

Externalities, Complementarities and Side Constraints in Matching
Thanh Nguyen and Rakesh Vohra in *Online and Matching-Based Market Design*.
Cambridge University Press. 2022

Teaching

Market Design (PhD Course)	Fall 2023
Optimization in Data Science (Master-Level Course)	Spring 2021
Algorithmic Decision Models (Graduate Course)	Spring 2020
Business Analytics (MBA core course), Purdue University (<i>Distinguished MBA teacher award, Instructor Evaluation 4.7/5- 4.9/5</i>)	Fall 2014-2014
Advanced Spreadsheet Modeling (Undergraduate course)	Spring 2015-2024
Social and Economic Networks (PhD course), Purdue University (<i>Instructor Evaluation 5/5</i>)	Spring 2014

Professional Experiences

Editorial Work: Editorial board for Naval Research Logistics, Economic Design, Operations Research (guest Associate Editor)

Program Committee: EC 2018-2026 (senior member), EC 2013-2023; WINE 2013; AMMA 2015; MATCH-UP 2017, NetEcon (2018, 2019)

Reviewer for Operations Research Journals: Operations Research, Management Science, Mathematics of Operations Research, Information Systems Research, Production and Operations Management, Manufacturing and Service Operations Management, Mathematical Programming, Mathematical Methods of Operations Research, Operations Research Letters, European Operations Research, IEEE/ACM Transactions on Networking.

Reviewer for Economic Journals: Journal of Political Economy, American Economic Review; Econometrica; Journal of Economic Theory, Games and Economic Behavior, American Economic Journal: Microeconomics, Review of Economic Design, Journal of the European Economic Association, International Economic Review

Ph.D Students

Jiang Tao (graduated 2020, Goldman Sachs)

Young-san Lin (graduating summer 2022, Melbourne Business School)

Hai Nguyen (graduating winter 2022, ETH Zurich)

Invited Presentations

Random Demand

Washington University in St. Louis, Feb, 2026

Relaxations in Market Design

KEYNOTE Speaker: Dagstuhl Seminar (Germany, February 2025)

The Competitive Core of Combinatorial Exchange

NBER Market Design Working Group Meeting (Stanford, October 2024)

Market design with Complementarities and General Constraints

Simons Institute, Berkeley 2023, University of California Irvine 2023

Allocation with Weak Priorities and General Constraints

ACM Conference on Economics and Computation 2021 Virtual

Improvement Properties in Preferences and Equilibria with Indivisibilities

ACM Conference on Economics and Computation 2021 Virtual

Pseudo Markets

Industrial and Enterprise System Engineering, UIUC November 2020

The Impacts of Prediction Technologies on Relational Contracts

Inform Seattle 2019; WISE Munich Germany 2019

Stability in Matching Markets with Complex Constraints

EC- Phoenix Arizona 2019; Inform Seattle 2019

The Role of Managers Revisited

Network Science Conference, Bloomington, IN, 2019; Network Science and Economics Conference, Bloomington 2019; Midwest Econ Theory Conference, Nashville 2018; Olin Business School, Washington University in St. Louis, 2018.

The Use of Scarf lemma in Market Design

Economic Department Indiana University, 2018;

Stable Matchings with Proportionality Constraints:

ACM EC 2017, Cambridge MA, NSF/NBER conference, Baltimore October 2016; INFORMS, Nashville November 2016

Near Feasible Stable Matchings with Complementarities:

Economic Department, Rice University (November 2015)
NBER Market Design Working Group Meeting (October 2015)
Chicago Booth (November 2015)
Economic Department, Ohio State University, April 2015;
Cornell University, March 2015;
Duke University, February 2015;

Competing Ad-Networks:

Ad auction workshop, Palo Alto, 2014

One-Sided Matching with Limited Complementarities:

NSF/NBER Decentralization Conference, Stanford, 2014

Delay in Trade Networks

INFORMS 2014; Allerton 2013.

Coalitional Bargaining in Networks:

Duke University, 2012; Kellogg School of Management, 2012; NSF/NBER Math Econ/GE Conference 2011; Microsoft Research New England, 2012; EC 2012

Local Bargaining and Supply Chain Instability:

NSF/NBER Decentralization Conference, California Institute of Technology, 2012; The Econometric Society's North American Summer Meetings 2012, Midwest Econ Theory 2012; EC 2012

The Cost of Free Spectrum:

INFORMS 2012.