




Kirill Rudov

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ACADEMIC POSITIONS

CAMSE Postdoctoral Fellow in Economics, UC Berkeley, USA 2023 – present

EDUCATION

Ph.D. in Economics, Princeton University, USA 2017 – 2023

M.A. in Economics (summa cum laude), New Economic School, Moscow, Russia 2014 – 2016

B.A. in Economics (cum laude), M.V. Lomonosov Moscow State University, Moscow, Russia 2010 – 2014

RESEARCH AND TEACHING FIELDS

Primary **Microeconomic Theory**

Secondary **Market Design**

WORKING PAPERS

· **Fragile Stable Matchings**

Abstract. We show how fragile stable matchings are in a decentralized one-to-one matching setting. The classical work of Roth and Vande Vate (1990) suggests simple decentralized dynamics in which randomly-chosen blocking pairs match successively. Such decentralized interactions guarantee convergence to *a* stable matching. Our first theorem shows that, under mild conditions, *any* unstable matching—including a small perturbation of a stable matching—can culminate in *any* stable matching through these dynamics. Our second theorem highlights another aspect of fragility: stabilization may take a long time. Even in markets with a unique stable matching, where the dynamics always converge to the same matching, decentralized interactions can require an exponentially long duration to converge. A small perturbation of a stable matching may lead the market away from stability and involve a sizable proportion of mismatched participants for extended periods. Our results hold for a broad class of dynamics.

· **Dominance Solvability in Random Games** (with Noga Alon and Leeat Yariv)

Abstract. We study the effectiveness of iterated elimination of strictly-dominated actions in random games. We show that dominance solvability of games is vanishingly small as the number of at least one player's actions grows. Furthermore, conditional on dominance solvability, the number of iterations required to converge to Nash equilibrium grows rapidly as action sets grow. Nonetheless, at least when one of the players has a small action set, iterated elimination simplifies the game substantially by ruling out a sizable fraction of actions. This is no longer the case as both players' action sets expand. Technically, we illustrate the usefulness of recent combinatorial methods for the analysis of general games.

· **Decentralized Foundation for Stability of Supply Chain Networks**

Abstract. This paper proposes simple dynamics generating a stable supply chain network. We prove that for any unstable network, there exists a finite sequence of successive myopic blocking chains leading to a stable network. Our proof suggests an algorithm for finding a stable network that generalizes the classical Gale and Shapley (1962)'s deferred acceptance algorithm.

PUBLISHED PAPERS

- **Centralized Matching with Incomplete Information** (with Marcelo A. Fernandez and Leeat Yariv)
American Economic Review: Insights, 2022, Volume 4(1), 18-33.
Abstract. We study the impacts of incomplete information on centralized one-to-one matching markets. We focus on the commonly used Deferred Acceptance mechanism (Gale and Shapley, 1962). We show that many complete-information results are fragile to a small infusion of uncertainty about others' preferences.

WORK IN PROGRESS

- **Fragile Stable Supply Chain Networks**
- **Searching by Trial and Error with Correlated Sources**

TEACHING EXPERIENCE

Princeton University	TA, <i>Microeconomic Theory: A Mathematical Approach</i> [UG] for Prof. Can Urgan	2020 – 2021
	TA, <i>Microeconomic Theory</i> [UG] for Prof. Andrea Wilson	Fall 2019
New Economic School	Instructor, <i>Matching Theory</i> [G]	Fall 2023
	TA, <i>Microeconomics I–V</i> [G], <i>Microeconomics in Finance</i> [G], <i>Political Economics II</i> [G], <i>Institutional Economics</i> [G], <i>Asset Pricing</i> [G], <i>Investments</i> [G] Best TA Award (2016, 2017)	2015 – 2017
HSE University	TA, <i>Decision Theory</i> [UG] Best TA Award	Fall 2016

SEMINARS AND CONFERENCES

2023	Royal Holloway, Higher School of Economics, New Economic School, Queen Mary University of London, University of Bonn, University of Vienna, Durham University, Algorithms, Combinatorics and Optimization Center at UC Irvine, NBER New Directions in Market Design Conference (participant), Becker Friedman Institute Theory Conference at University of Chicago, UC Berkeley (scheduled)
2022	Stony Brook International Conference on Game Theory, Young Economist Symposium, Stony Brook Theory Workshop, Princeton Microeconomic Theory Seminar
2019-2022	Princeton Microeconomic Theory Student Seminar

PROFESSIONAL ACTIVITIES

Referee for	<i>AEJ: Micro</i> , <i>American Economic Review</i> , <i>Econometrica</i> , <i>Games and Economic Behavior</i> , <i>Journal of Economic Theory</i> , <i>Theoretical Economics</i>
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ADDITIONAL RESEARCH EXPERIENCE

Junior Research Fellow at Centre for Economic and Financial Research, Moscow, Russia	Fall 2016
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AWARDS

Stephen Goldfeld Memorial Graduate Summer Fellowship	2021
William S. Dietrich II Economic Theory Center Summer Research Grant	2020 – 2022
Richard S. Simmons '51 Graduate Fellowship	2018
Princeton University Graduate Fellowship	2017 – 2022
Best Teaching Assistant Award, New Economic School	2016, 2017
Best Teaching Assistant Award, HSE University	2017
Don Patinkin Prize	2016
Outstanding Student Paper Award, Outstanding Student in Data Analysis Award, Outstanding Student in Finance Award, New Economic School	2016
New Economic School Academic Fellowship	2014 – 2016

OTHER

NBA Hackathon	Second Place Team, Basketball Analytics	2019
	Finalist Team, Basketball Analytics	2017, 2018