

# ALEKSANDRA LUKINA

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The University of Chicago Harris School of Public Policy  
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## • Professional Positions:

**September 2023 – present:** Research Associate at the Stone Center for Research on Wealth Inequality and Mobility, Harris School of Public Policy, University of Chicago.

**September 2019 – August 2023:** Postdoctoral Researcher at the Harris School of Public Policy, University of Chicago.

**September 2018 – May 2019:** Visiting Lecturer and Postdoctoral Associate at the Cornell University Department of Economics.

**June – August 2018:** Postdoctoral Research Fellow at the University of Wisconsin-Madison.

**January – May 2018:** Postdoctoral Associate at the Cornell University Department of Economics.

**September – December 2017:** Postdoctoral Research Fellow at the University of Wisconsin-Madison.

**2015 – 2018:** Senior Lecturer at Saint Petersburg State University, Faculty of Applied Mathematics and Control Processes, Department of Mathematical Theory of Economic Decision Making.

**2011 – 2017:** Teacher of Additional Education at Lycee №281, Saint Petersburg.

## • Education & Qualifications:

**2016:** Saint Petersburg State University, PhD in Applied Mathematics. Thesis title, “Mathematical Modeling of International Labor Migration”. (Russian Scientific Degree “Candidate of Science in Physics and Mathematics”.)

**2014:** European University at Saint Petersburg, Master’s Diploma with honors, area of specialization: Economics. Additional certificate of completion “Welfare Economics” [in English] (an excellent mark).

**2012:** Saint Petersburg State University, Diploma with conferring the qualification (academic degree) of Mathematician, Specialist level (Level 5A in ISCED classification of UNESCO), area of specialization: Partial Differential Equations.

- **Scientific Interests:**

**Primary:**

Income inequality, intergenerational mobility, human capital formation, economic growth.

**Secondary:**

Demography, international labor migration.

- **Papers:**

**In progress:**

1. [“Immobility as Memory: Some New Approaches to Characterizing Intergenerational Dependence via Markov Chains”](#) (NBER WP w33166, Review & Resubmit at “**Sociological Methods and Research**”), with Lawrence Blume, Neil Cholli and Steven Durlauf.

Abstract

This paper proposes some new measures of intergenerational persistence based on the idea of characterizing the memory of origin in the stochastic process that links the socioeconomic classes of parents and children. We introduce “memory curves” for all future generations given any initial condition of class for a family dynasty, which reveal how initial conditions interact with the transition process between parents and children to create mobility and persistence. We also propose ways to aggregate information across different classes to produce overall characterizations of mobility in the population. To illustrate our measures, we estimate occupational “memory curves” using U.S. survey data. Our findings show that, on average, the memory of initial conditions dissipates largely within three generations, though there is meaningful heterogeneity in mobility rates across dynasties originating from different occupational classes.

2. “Economic Growth in the Short Run. Optimally Approaching the Turnpike”, with Lawrence Blume. *Draft available upon request.*

Abstract

Recent history has focused our attention on the consequences of complex production networks: the supply chain problem. Efficient paths in infinite-horizon growth models are often characterized by a price turnpike, a single ray of current-value prices to which competitive prices will converge even though consumption paths may be much less well-behaved. Convergence times, when addressed at all, are described with asymptotic convergence rates. Our interest is in the fragility of growth paths, by which we mean how difficult it is to approach the turnpike. Fragility is not just about long-run convergence rates, but also about the short- and middle-run behavior of price paths, and how long the short and middle run are. We address these questions for economies with constant-returns-to-scale production technologies. We bound worst-case rates of convergence to the turnpike, relate the bounds to properties of the production network topology, and demonstrate that the short-run behavior of competitive price paths can be quite wild far from the long-run steady state.

3. “Intergenerational Mobility and Status Traps in Markov Models of the Evolution of Wealth”, with Lawrence Blume. *Draft available upon request.*

#### Abstract

This paper studies the evolution of wealth in one-parent, one-child families, where parents invest in their child’s human capital. These investments stochastically determine the child’s future wealth. The production of wealth from parental investment is modeled using a stepping-stone technology, which captures the idea that human capital thresholds must be met to achieve distinct wealth levels. Without shocks, the model leads to multiple attractors, interpreted as status traps. In stochastic environment, mobility is possible in any given period. A unique stationary distribution characterizes the “long-term” fractions of time families spend in various wealth classes. We relate the shape of this distribution, when noise is small, to the behavior of the zero-shock system. Our analysis shows that attractors in the zero-shock system play a fundamental role in shaping the stationary distribution and that typically only one attractor is more robust, dominating other attractors under slight stochastic perturbations. This result challenges certain approaches in development and macroeconomic literature that rely on deterministic dynamic system intuition.

4. “Dynastic Competition in Intergenerational Model of the Distribution of Wealth”, with Lawrence Blume and Steven Durlauf.

5. “Statistical Models of Intergenerational Mobility” for the first Handbook of Intergenerational Mobility, with Steven Durlauf and Kristina Butaeva.

#### Published (selected):

6. Blume L., Lukina A. [“A Note on Migration Perturbation and Convergence Rates to a Steady State”](#) // Program Systems: Theory and Applications, Vol. 11, No. 4(47), 2020, pp. 17-30.

7. Blume L., Durlauf S., Lukina A. [“Poverty Traps in Markov Models of the Evolution of Wealth”](#) // WZB Discussion Paper, No. SP II 2020-303.

8. Popov I., Krylatov A., Lukina A. [“Pricing Mechanisms for Day-ahead Demand Management in Multi-Generator Power Grid”](#) // 2016 International Conference on Recent Advances and Innovations in Engineering (ICRAIE).

9. Lukina A., Prasolov A. “The Labor Immigration Control” // International Journal of Pure and Applied Mathematics, Vol. 108, No. 3, 2016, pp. 659–669.

10. Lukina A., Prasolov A. “The Model of One-Way Migration Flow “Donor-Recipient” **[in Russian]** // International Conference “Government and Business, Modern Economic Problems” Proceedings, 2016, pp. 71-76.

11. Lukina A. “About Labor Immigration Control in the Russian Federation” **[in Russian]** // Finances and Business, No. 2, 2015, pp. 41-56.

12. Lukina A., Prasolov A. “Analysis and Mathematical Modeling of International Labor Migration” **[in Russian]** // Administrative Consulting, No. 10, Is. 82, 2015, pp. 146–156.

13. Arkhipova A., Lukina A. [“Regularity of Weak Solutions to the Model Venttsel Problem for Linear Divergence Elliptic Operators in Campanato Spaces”](#) // Journal of Mathematical Sciences, 2013, Vol. 195, Is. 5, pp. 609-621.

14. Arkhipova A., Lukina A. [“Estimates for solutions to the model Venttsel problem in Campanato spaces”](#) // Journal of Mathematical Sciences, 2013, Vol. 191, Is. 2, pp. 150-161.

- **Grants and Awards:**

**2022 – present:** Project title: “Resilience of Economic Systems”, with Lawrence Blume, Martin Meier and Leopold Sögner.

**2018 – 2021:** Russian Foundation for Basic Research. Project title: “Modeling of demographic and economic processes interaction in a society with a migration inflow”.

**2017 – 2018:** Carnegie Corporation of New York postdoctoral research fellowship at the University of Wisconsin-Madison.

**2013 – 2015:** Presidential scholarship, Saint Petersburg State University.

**2013:** Gazprombank scholarship, European University at Saint Petersburg.

- **Teaching:**

Intergenerational Mobility: Theoretical and Empirical Overview (graduate course) and Introduction to Intergenerational Mobility (undergraduate course), Harris School of Public Policy, University of Chicago.

Intermediate Mathematical Economics I (PhD course), Cornell University.

Modeling of Socioeconomic Systems, Mathematical Modeling in Economics, Introduction to Econometrics, Mathematical Analysis (all undergraduate); Nonlinear Dynamical Systems (graduate course), Saint Petersburg State University.

- **Presentations (selected):**

1. UChicago Conference “Recent Advances in Inequality and Mobility”, October 18-19, 2024.
2. “Economics of Intergenerational Mobility” at the Federal Reserve Bank of Chicago, August 27-28, 2024.
3. UChicago Conference on New Methods to Measure Intergenerational Mobility, November 10-11, 2023.
4. 10th meeting of the Society for the Study of Economic Inequality, July 10-12, 2023.
5. 29th International Conference, Computing in Economics and Finance, July 3-6, 2023.
6. Central European Program in Economic Theory, June 22-23, 2023.
7. Midwest Economic Theory Conference, April 28-30, 2023.
8. St. Petersburg Seminar in Economic Theory, Econometrics and Mathematical Economics, January 20, 2022.
9. St. Petersburg Economic Seminar (HSE, EU, PDMI), January 16, 2020.
10. UChicago Conference on New Approaches to Intergenerational Mobility, December 11-12, 2020.
11. 5th International Workshop on Economic Growth, Environment and Natural Resources, St. Petersburg, May 31-June 1, 2019.

12. International Workshop “Social Interaction and Human Capital”, European University at St. Petersburg, May 21, 2018.
13. The Cambridge-INET Institute Theory Workshop, May 1-3, 2018.
14. NES-HCEO Summer School on Socioeconomic Inequality, Moscow, August 28-September 2, 2017.
15. IV NES CSDSI winter school “Cultural Diversity and Income Inequality”, Yekaterinburg, December 15-19, 2016.
16. Institute of Applied Mathematical Research of Karelian Research Center of the Russian Academy of Sciences, December 22, 2015.
17. The II NES CSDSI summer school “Culture, Institutions and Diversity”, Baikal, June 22-27, 2015.

- **Professional Service:**

Reviewer for the American Journal of Sociology, Sociological Methods and Research, Applied Mathematical Modelling.

Program Committee, Internet Science Conference 2018 (organized by Saint Petersburg State University).

- **Professional Membership:**

ECINEQ (the Society for the Study of Economic Inequality), Econometric Society, American Economic Association (AEA), and CEF (Computing in Economics and Finance) active member.

- **Languages:**

English (fluent), Russian (native).

- **References:**

Lawrence E. Blume  
Cornell University  
Economics; Information Science  
[lb19@cornell.edu](mailto:lb19@cornell.edu)

Steven N. Durlauf  
University of Chicago  
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