

# SOFIA PRIAZHKINA

## CONTACT INFORMATION

Bank of Canada  
Financial Stability Department  
234 Wellington Street West  
Ottawa, ON Canada  
K1A 0G9

Email: [pria@bankofcanada.ca](mailto:pria@bankofcanada.ca)

Phone: [+1-343-575-8497](tel:+1-343-575-8497)

## BANK OF CANADA EMPLOYMENT

<i>Principal Researcher, Financial Stability Department</i>	6/2022 – current
<i>Senior Economist, Research, Banking and Payments Department</i>	1/2022 – 6/2023
<i>Senior Economist, Model Development and Research, Financial Stability Department</i>	8/2016 – current

## EDUCATION

<i>Ph.D. Economics, Indiana University, USA</i>	2010 – 2016
<i>M.A. Economics, Indiana University, USA</i>	2010 – 2012
<i>Specialist in Mechanics and Mathematics (Cum Laude)</i>	
<i>Moscow State University, Russia</i>	2005 – 2010

**SPECIALIZATION:** banking, payments, CBDC, stress testing, regulatory policy, computational methods, financial and economic networks, applied game theory

## RESEARCH

### Peer reviewed journals:

- “*Information sharing and bargaining in buyer-seller networks*” with Frank H. Page  
Journal of Economic Theory, 2016
- “*Quantum Monte Carlo for Economics: Stress Testing and Macroeconomic Deep Learning*”  
with Vladimir Skavysh, Diego Guala, Thomas Bromley, Journal of Economic Dynamics and Control, 2023

### Bank of Canada publications:

- “*Regulatory requirements of banks and arbitrage in the post-crisis Federal Funds market*” with Rodney Garratt, Bank of Canada Staff Working Paper, 2022
- “*Stressed but not helpless: strategic behavior of banks under adverse market conditions*” with Grzegorz Halaj, Bank of Canada Staff Working Paper, 2021
- “*Modelling the macrofinancial effects of a house price correction in Canada*” with Thibaut Duprey, Xuezhi Liu, Cameron MacDonald, Maarten van Oordt, Xiangjin Shen, Joshua Slive, *BoC SAN* 2018

## **Work in progress:**

- “*Centralization in Lightning Network: economics of fees and network formation*” with James Chapman
- “*CBDC design and bank runs in non-cashless society: information and dynamic regulation*”
- “*Cryptocurrency payments in networks: theory and quantum algorithm*” with Pablo Martin, Roman Orus, Samuel Palmer, Samuel Mugal, Vladimir Skavysh
- “*Liquidity management and tiered participation in large-value payment systems*” with Anneke Kosse and Zhentong Lu

## **BANK OF CANADA MODELS AND POLICY**

- CBDC Policy Analysis
- Macro Financial Risk Assessment Framework
- Dynamic Balance Sheet Banking Model
- Fire-Sales Price Response Curves Tool

## **CONFERENCES/SESSIONS/VISITS ORGANIZED**

- Organized Bank of Canada Conference “Networks in Modern Financial and Payments Systems” (key organizer, with Janet Jiang and Jonathan Chiu)
- Co-organized session at CEBRA Conference
- Organized Fifth Meeting of the Network on Modelling Systemic Financial Macro Risks (with Thibaut Duprey)
- Organized Bank of Canada Session at the Canadian Economic Association Meeting
- Helped organize conference “Network Models and Stress Testing for Financial Stability” by the Bank of Canada and the Bank of Mexico (with Virginie Traclet and Grzegorz Halaj)
- Organized visits of seven researchers to the Bank of Canada during various years (Matt Jackson, Todd Keister, Falko Fecht, Ken Judd, Ben Craig, Toni Ahnert)
- Co-hosted Research Tasting Menus Meetings

## **OTHER SERVICE**

- Reviewer at NSF, JEDC, EER, JEBO
- Ph.D. Recruitment campaigns
- BoC M.A. Scholarships campaigns

## **TEACHING EXPERIENCE**

*Associate Instructor (full teaching responsibilities), Department of Finance, Indiana University*

- F335 Security Trading & Market Making

*Associate Instructor (full teaching responsibilities), Department of Economics, Indiana University*

- E305 Money and Banking
- E370 Statistical Analysis for Business and Economics
- E303 Survey of International Economics
- E201 Intro to Microeconomics

*Teaching Assistant, Department of Economics, Indiana University*

- E201 Intro to Microeconomics
- E370 Statistical Analysis for Business and Economics

### **SHORT RESEARCH VISITS**

- Banque de France, Paris, France 2-3/2019
- Federal Reserve Bank of Cleveland, Cleveland, USA 5 – 6/2015, 8/2015
- Systemic Risk Centre, London School of Economics, London, UK 6/2015
- Max Planck Institute of Economics, Jena, Germany 7/2012 – 8/2012

### **CONFERENCES AND WORKSHOPS**

**(presenter/discussant)**

2023

- CEBRA Conference, New York, US
- Canadian Economic Association Conference
- Coalition Theory Network Conference, Germany
- Bank of Canada Fellowship Learning Exchange, Canada

2022

- 28th International Conference on Computing in Economics and Finance, Dallas, USA
- Canadian Economic Association Conference
- Bank of Canada Fellowship Learning Exchange, Canada (Poster)
- Seventh Annual Conference on Network Science and Economics, Chicago, USA

2021

- Qubits Conference (keynote presentation)

2019

- Bank of Japan, Tokyo, Japan
- Bank of England, London, UK
- Federal Reserve Board, Washington DC, USA
- IBEFA-WEAI Conference, Tokyo, Japan
- Canadian Economic Association Meeting, Banff, Canada

2018

- International Monetary Fund, Washington DC, USA
- Bank of England, London, UK

2017

- Deutsche Bundesbank, Frankfurt, Germany
- Bank of Canada Fellowship Learning Exchange, Canada
- 3rd IWH-FIN-FIRE Workshop on “Challenges to Financial Stability”, Halle Institute for Economic Research and Frankfurt School of Finance and Management, Germany
- BIS, CRTF/CEPR conference “The impact of banking regulation on financial markets”, Basel
- International Atlantic Economic Association Meeting, Montreal, Canada
- Network Models and Stress Testing for Financial Stability, Mexico City, Mexico
- XII Annual Seminar on Risk, Financial Stability and Banking of the Banco Central do Brasil, Sao Paulo, Brazil

2016

- Bank of Canada--Payments Canada Workshop, Canada

2015

- 15th SAET Conference on Current Trends in Economics, Cambridge, UK
- Shadow Conference, University of Exeter, UK
- Federal Reserve Bank of Cleveland, USA

2014

- 19th Coalition Theory Network Workshop, Brussels, Belgium
- Midwest Economic Theory Conference, Indianapolis, USA
- Centre d'Economie de la Sorbonne, Paris, France

## **AWARDS AND NOMINATIONS**

### **Research grants**

- College of Arts and Sciences Dissertation Year Research Fellowship for 2014-2015
- Department of Economics Fellowship for 2010-2011
- Grants of Russian Foundation for Basic Research for 2007, 2008, 2009
- Fellowship of Moscow State University

### **Travel grants**

- CAERP Grant to Federal Reserve Bank of Cleveland
- Travel Grant of Max Planck Institute in Economics
- College of Arts and Sciences Travel Award
- University of Exeter Visiting grant

### **Awards:**

- Best Third Year Paper Award for the Class of 2010

### **Bank of Canada Nominations:**

- Award of Excellence 2019
- Award of Excellence 2018

## **RESEARCH IN APPLIED MATHEMATICS**

### Articles:

- “*On return motion of mechanical systems*” with E.I. Kugushev, Applied Mathematics and Mechanics, 74, № 5, p. 824-831 (Russian edition)
- “*Equations of motion of mechanical systems with non-smooth Lagrangians*” with E.I.Kugushev, Collected Papers of the Conference for Young Scientists, 2008, 2009

### Presentations:

- Stability and Oscillations of Nonlinear Control Systems (XI), Moscow, Russia 6/2010
- International Scientific Conference “Lomonosov-2010”, Moscow, Russia 6/2010
- Conference for Young Scientists, Moscow, Russia 4/2010
- Conference for Young Scientists, Moscow, Russia 4/2009

**PERSONAL:** married and have a toddler daughter