

# RUBEN GAETANI

April 2023

## University of Toronto

St. George Campus

Joseph L. Rotman School of Management

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Canada

&

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## ACADEMIC POSITIONS

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2016 – Present: Assistant Professor of Strategy, University of Toronto  
Department of Management at UT Mississauga, cross-appointed to the  
Institute for Management and Innovation and the Rotman School of  
Management

## PERSONAL INFORMATION

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Citizenship: Italian. Canadian Permanent Resident.

## RESEARCH FIELDS

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Economics of Innovation, Urban Economics, Economic Growth

## EDUCATION

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Ph.D., Economics, Northwestern University, Evanston, Illinois, 2016

Dissertation: “Essays on the Economics of Innovation and Economic Growth”

Committee Chairperson: Professor Matthias Doepke

M.A.: Economics, Northwestern University, Evanston, Illinois, 2011

M.Sc.: Economics, Bocconi University, Milan, Italy, 2010, *Summa Cum Laude*

B.A.: Economics, Bocconi University, Milan, Italy, 2007, *Summa Cum Laude*

## FELLOWSHIPS AND AWARDS

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2021 Austin Robinson Memorial Prize for the paper “The Geography of Unconventional Innovation”, with Enrico Berkes. Awarded by the Royal Economic Society to the best paper published in the Economic Journal by authors within five years from receiving the PhD

Northwestern University Dissertation Scholarship, 2015  
Travel Grant, Econometric Society World Congress, 2015  
Distinguished Teaching Assistant Award, Northwestern University, 2014  
Nominated for Weinberg College Award for Outstanding Grad. Student Teaching, 2014  
Bank of Italy “Giorgio Mortara” Scholarship, 2011-2012  
Northwestern University Fellowship, 2010-2015

## **TEACHING EXPERIENCE**

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### **Instructor, University of Toronto Mississauga, 2017-2023:**

Management of Technology (MMI), Management of Technological Innovation (MBiotech),  
Introduction to Strategic Management (Undergraduate), Strategic Management in a  
Competitive Environment (Undergraduate)

### **Teaching Assistant, Northwestern University, Years 2012-2016:**

Macroeconomics (Executive MBA Kellogg Miami, Prof. Janice Eberly)  
Advanced Workshop for Central Bankers, Northwestern University  
Macroeconomics (Graduate, Prof. Matthias Doepke)  
Macroeconomics (Undergraduate, Prof. Guido Lorenzoni, Prof. David Berger); International  
Finance (Adv. Undergraduate, Prof. Aldo Heffner); International Trade (Adv. Undergraduate,  
Prof. Kiminori Matsuyama); Macroeconomics (Adv. Undergraduate, Prof. Lawrence  
Christiano)

## **RESEARCH AND WORK EXPERIENCE**

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Visiting Scholar (Dissertation Intern), Federal Reserve Bank of St. Louis. June-July 2014  
Mediobanca Research Department, Milan, Italy, 2009

## **PRESENTATIONS**

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2023: SED Meeting (scheduled), Federal Reserve Bank of Philadelphia (scheduled)  
2022: Georgetown University, WEAI 2022, ESEM 2022, University of Southern California Macro  
Day  
2021: University of Pittsburgh, ASSA Meetings (\*), 10th European Meeting of the Urban  
Economics Association, 15th North American Meeting of the Urban Economics Association,  
Barcelona GSE Summer Forum 2021, Centre for Real Estate Annual Real Estate/Urban  
Conference, SED Meeting

- 2020: Federal Reserve Bank of Chicago, NBER Summer Institute Urban Economics (\*), VMACS Junior Macro Conference, Urban Economics Association Virtual Meetings, World Congress of the Econometric Society
- 2019: Ohio State University, Rotman TD Research Roundtable MDAL Research Roundtable on “Frontiers of Data Analytics”
- 2018: Rotman Research Roundtable on Innovation Policy, NBER Trade and Geography Conference, New York University Schack Panel on “University and the City”, European Meeting of the Urban Economic Association in Dusseldorf, SED Meeting in Mexico City, North American Econometric Society Summer Meeting in Davis, NBER Summer Institute Innovation, NBER Summer Institute Income Distribution and Macroeconomics (\*), Duke Fuqua Junior Strategy Conference in Durham
- 2017: University of Toronto (Rotman, Strategy Lunch), Ryerson University, North American Meeting of the Regional Science Association in Vancouver, European Meeting of the Urban Economic Association in Copenhagen (\*)
- 2016: Ohio State University, Collegio Carlo Alberto, Toulouse School of Economics, Cornerstone Research in Chicago, University of Toronto (Rotman), Federal Reserve Bank of Atlanta, Federal Reserve Board, Bates White in Washington DC, University of Toronto (Macroeconomics Workshop), University of Toronto (CEPA Lunch), Workshop for Junior Faculty in Economics at McMaster University
- 2015: Federal Reserve Bank of Chicago M&M Workshop, SED Meeting in Warsaw, Northwestern Macro Lunch, World Congress of the Econometric Society in Montreal
- 2014: North American Econometric Society Summer Meeting in Minneapolis (\*), Federal Reserve Bank of St. Louis, Northwestern Macro Lunch, Conference of Swiss Economists Abroad in Zurich (\*)

## PROFESSIONAL ACTIVITIES

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Faculty Fellow, Centre for Real Estate and Urban Economics, Rotman School of Management

*Refereeing:* Review of Economic Dynamics; The B.E. Journal of Macroeconomics; Journal of Economics and Management Strategy; Journal of Law, Economics and Organization; Management Science; Journal of the European Economics Association; European Economic Review; PLOS One; Strategic Entrepreneurship Journal; Managerial and Decision Economics; Journal of Urban Economics; Economic Journal; Research Policy; Journal of Economics and Business; Review of Economics and Statistics; British Journal of Political Science; Journal of Labor Economics; Journal of Political Economy: Macroeconomics; Quarterly Journal of Economics

Co-organizer, Frontiers in the Economics of Markets and Organizations workshop, University of Toronto Mississauga (with El Hadi Caoui, Hyesung Yoo, and Matthew Osborne), 2023

Co-organizer, IMI Junior Workshop in Health and Labor Economics (with Laura Derksen and Michel Serafinelli), 2017

Co-organizer, Rotman Strategy Seminar Series (with Mitch Hoffman), 2018-2019

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\* Co-presented or presented by coauthor.

Organizer, Seminar Series on Real Estate and Urban Economics, University of Toronto, 2019-2020, 2020-2021, (with Yue Yu) 2021-2022

## PUBLICATIONS

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**“Lockdowns and Innovation: Evidence from the 1918 Flu Pandemic”** with Enrico Berkes, Olivier Deschenes, Jeffrey Lin, Christopher Severen - *Accepted, The Review of Economics and Statistics*

- Does social distancing harm innovation? We estimate the effect of non-pharmaceutical interventions (NPIs)—policies that restrict interactions in an attempt to slow the spread of disease—on local invention. We construct a panel of issued patents and NPIs adopted by 50 large US cities during the 1918 flu pandemic. Difference-in-differences estimates show that cities adopting longer NPIs did not experience a decline in patenting during the pandemic relative to short-NPI cities, and recorded higher patenting afterward. Rather than reduce local invention by restricting localized knowledge spillovers, NPIs adopted during the pandemic may have better preserved other inventive factors.

**“Income Segregation and the Rise of the Knowledge Economy”** with Enrico Berkes – *American Economic Journal: Applied Economics, Volume 15, No. 2, April 2023, Pages 69-102*

- We analyze the effect of an increase in knowledge-intensive activities on spatial inequality in U.S. cities. We leverage a predetermined network of patent citations to instrument for local innovation trends. Between 1990 and 2010, a one standard deviation increase in patent growth increases income segregation by 0.65 Gini points, corresponding to 0.31 standard deviations of the over-time change in income segregation. This effect mainly arises from the sorting of residents by income, occupation, and education. Local shocks to innovation induce a clustering of knowledge intensive jobs and residents, amplified by the response of rents and amenities.

**“The Geography of Unconventional Innovation”** with Enrico Berkes - *The Economic Journal, Volume 131, Issue 636, May 2021, Pages 1466–1514 (Awarded the 2021 Austin Robinson Memorial Prize)*

- Using a newly assembled dataset of U.S. patents, we show that innovation activity is less concentrated in high-density locations than commonly believed. Yet, inventions based on atypical combinations of knowledge are indeed more prevalent in high-density urban centers. To interpret this relation, we propose that informal interactions in densely populated areas help knowledge flows between distant fields, but are less relevant for flows between close fields. We build a model of innovation in a spatial economy that endogenously generates the pattern observed in the data: specialized clusters emerge in low-density areas, whereas high-density locations diversify and produce unconventional ideas.

**“The University's Janus Face: The Innovation-Inequality Nexus”** with Richard Florida - *Managerial and Decision Economics, 41, 6, 1097-1112, 2020 (Special Issue on "Managing Campus Entrepreneurship")*

- The university is a key source of talent and a key driver of innovation and economic growth in a knowledge-based economy. But, in performing these economic functions, it also contributes to economic and spatial inequality. Our research uses a variety of new data to examine this Janus face of the university in innovation and inequality across U.S. metro areas. We find evidence that the university plays a role in both regional innovation, boosting local patenting and startup companies, and in economic inequality, with higher rates of income and occupational segregation in metros with highly rated universities.

## WORKING PAPERS

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**“Why Didn't the College Premium Rise Everywhere? Employment Protection and On-the-Job Investment in Skills”** with Matthias Doepke – *Revise and Resubmit, American Economic Journal: Macroeconomics*

- Why has the college wage premium risen rapidly in the United States since the 1980s, but not in European economies such as Germany? We argue that differences in employment protection can account for much of the gap. We develop a model in which firms and workers make relationship-specific investments in skill accumulation. The incentive to invest is stronger when employment protection creates an expectation of long-lasting matches. We argue that changes in the economic environment have reduced relationship-specific investment for less-educated workers in the United States, but not for better-protected workers in Germany

**“Technological Waves and Local Growth”** with Enrico Berkes and Marti Mestieri

- We develop a spatial model of economic growth to study the effect of changes in the technological landscape on the spatial distribution of economic activity. In the model, innovation via frictional idea diffusion makes cities' growth trajectories sensitive to "technological waves," defined as long-term shifts in the importance of different knowledge fields. We calibrate the model using a new dataset of historical geolocated patents, and find that cities' differential exposure to technological waves explains 15%-20% of the variation in local population growth in the United States over the twentieth century. Counterfactual experiments suggest large geographical effects of future technological scenarios.

**“The Economic Effects of Scientific Shocks”** with Matteo Li Bergolis

- We combine data on scientific publications from the Web of Science, patent records from the USPTO and balance sheet information on publicly traded companies to measure firm-level response to the greatest scientific discoveries of our time. The publication of a groundbreaking paper is followed by a significant resource reallocation and output increase for responding firms. Measures of profitability are not affected on average, but this fact conceals large heterogeneity across different episodes. To explain these findings, we develop an endogenous growth model in which the returns to R&D investment are subject to information frictions. The model delivers a simple restriction that can be imposed on the data to separate breakthroughs from dead-end scientific discoveries. We test the model's implications against our data: the empirical results support the idea that initial uncertainty systematically permeates the early stages of a new technology. Nevertheless, discoveries that are unprofitable for responding firms can produce positive aggregate effects through dynamic technological spillovers.

## WORK IN PROGRESS

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**“The Impact of Innovation Shocks on Migration and Local Labor Markets”** with Enrico Berkes

**“A quantitative model of income segregation in a knowledge economy”** with Enrico Berkes

**“Headquarter Relocation and Local Spillovers: Evidence from the Stock Market”**

## LANGUAGES

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English (fluent), Italian (native), Spanish (good)