JANGHO YANG

University of Waterloo, 200 University Avenue West, Waterloo, ON N2L 3G1

j634yang@uwaterloo.ca

PROFESSIONAL SUMMARY

My research focuses on technological change, productivity dynamics, and firm innovation, integrating information theory, Bayesian modeling, and distributional analysis. I hold positions at the University of Waterloo and the University of Oxford.

CURRENT POSITION

Assistant Professor, University of Waterloo *2020 - Present*
Department of Management Sciences, Faculty of Engineering

· *Affiliated Member*, Waterloo Data and Artificial Intelligence Institute
· *Affiliated Member*, Waterloo Institute for Complexity and Innovation

Research Associate, University of Oxford *2020 - Present*
Institute for New Economic Thinking at the Oxford Martin School

PREVIOUS ACADEMIC POSITION

Postdoctoral Research Fellow, University of Oxford *2018 - 2020*
Oxford Martin Programme on Technological and Economic Change
Institute for New Economic Thinking at the Oxford Martin School

EDUCATION

Ph.D. in Economics *2015 - 2018*
New School for Social Research, New York, NY
Dissertation Title: "Essays on the Statistical Equilibrium Model of Technical Change"
Dissertation Committee: Duncan Foley (Chair), Paulo dos Santos, Mark Setterfield, Deepankar Basu

Master's in Economics *2013 - 2015*
New School for Social Research, New York, NY

Bachelor in Western History *2005 - 2010*
Seoul National University, Seoul, Korea

RESEARCH INTERESTS

Economics of technological change; productivity distribution and firm-level dynamics; information-theoretic approaches in economics; Bayesian multilevel modeling; power-law patterns in economic data.

TEACHING EXPERIENCE

Department of Management Sciences, University of Waterloo: *Quantitative Data Analysis* (2021-2023); *Statistical Methods for Data Analytics* (2022-2025); *Engineering Economics: Financial Management for Engineers* (2021-2023)

Department of Economics, New School for Social Research: *Advanced Econometrics* (TA and lab consultant , Fall 2017, Spring 2017, Spring 2016)

PEER-REVIEWED JOURNAL PUBLICATIONS

1. Bonwoo Koo, **Jangho Yang**, and Brian D. Wright (2025), "Protecting Intermediate Innovations When Ideas Are Scarce: Patents or Secrecy?," *Journal of Economics & Management Strategy.* DOI: `10.1111/jems.70001`

2. **Jangho Yang**, Brian Cozzarin, and Torsten Heinrich (2025), "Productivity Dispersion and Investment Slowdown in Canada," *Journal of Evolutionary Economics.* DOI: `10.1007/s00191-025-00891-z`

3. **Jangho Yang**, Torsten Heinrich, Julian Winkler, Franois Lafond, Pantelis Koutroumpis, and J. Doyne Farmer (2024), "Measuring Productivity Dispersion: A Parametric Approach Using the Lvy Alpha-Stable Distribution," *Industrial and Corporate Change.* DOI: `10.1093/icc/dtae021`

4. Ilan Strauss and **Jangho Yang** (2024), "Testing for secular stagnation in investment rates using a Bayesian multilevel model," *Structural Change and Economic Dynamics.* DOI: `10.1016/j.strueco.2024.03.011`

5. **Jangho Yang** (2022), "Information-Theoretic Model of Induced Technological Change: Theory and Empirics," *Metroeconomica.* DOI: `10.1111/meca.12399`

6. Torsten Heinrich, **Jangho Yang**, and Shuanping Dai (2021), "Levels of structural change: An analysis of Chinas development push 19982014," *Journal of Evolutionary Economics.* DOI: `10.1007/s00191-021-00740-9`

7. Ilan Strauss and **Jangho Yang** (2021), "Slowing investment rates in developing economies: Evidence from a Bayesian hierarchical model," *International Review of Financial Analysis.* DOI: `10.1016/j.irfa.2021.101843`

8. **Jangho Yang** and Adrin Carro (2020), "Two Tales of Complex System Analysis: MaxEnt and Agent-Based Modeling," *European Physical Journal Special Topics.* DOI: `10.1140/epjst/e2020-900137-x`

9. Ellis Scharfenaker and **Jangho Yang** (2020), "Maximum Entropy Economics," *European Physical Journal Special Topics.* DOI: `10.1140/epjst/e2020-000029-4`

10. Paulo dos Santos and **Jangho Yang** (2020), "Capital Mobility, Quasi-rents, and the Competitive Self-organization of Distributions of Profitability," *Advances in Complex Systems.* DOI: `10.1142/S0219525920500034`

11. Paulo dos Santos and **Jangho Yang** (2019), "The persistent and informative distribution of returns on capital," *Economics and Business Letters.* DOI: `10.17811/ebl.8.3.2019.156-165`

12. **Jangho Yang** and Luis Daniel Torres Gonzales (2019), "The Persistent Statistical Structure of the US InputOutput Coefficient Matrices: 19632007," *Economic Systems Research.* DOI: `10.1080/09535314.2018.1561425`

13. **Jangho Yang** (2018), "A Quantal Response Statistical Equilibrium Model of Induced Technical Change in an Interactive Factor Market: Firm-Level Evidence in the EU Economies," *Entropy.* DOI: `10.3390/e20030156`

14. **Jangho Yang** (2018), "Information-Theoretic Approaches in Economics," *The Journal of Economic Surveys.* DOI: `10.1111/joes.12226`

WORKING PAPERS (UNDER REVIEW AND R&R)

1. **Jangho Yang** and Ilan Strauss, "Developing Dynamic Capabilities Through Acquisitions: A patent lens on M&A's impact on Big Tech's technological profile," URL: `https://www.ucl.ac.uk/bartlett/public-purpose/wp2024-01`

2. **Jangho Yang**, Ilan Strauss, and Mariana Mazzucato, "Rich-Get-Richer? Analyzing Content Creator Earnings Across Large Social Media Platforms," *Under review*. URL: `https://ssrn.com/abstract=5253032`

3. **Jangho Yang** and Christian Schoder, "Impact of Temperature Uncertainty on Firm Growth: A Grid-Level Analysis," *Under review*. URL: `https://hdl.handle.net/10986/42644`

4. Sujung Jee, **Jangho Yang**, Torsten Heinrich, and Kejia Zhu, "Flexibility Stigma and Gender in Innovation: Evidence from Inventors During Lockdown," *Under review*.

5. Ilan Strauss, **Jangho Yang**, Tim O'Reilly, Sruly Rosenblat, and Isobel Moure, "The Attribution Crisis in LLM Search Results: Estimating Ecosystem Exploitation," *Under review*. ARXIV: `2508.00838`

RESEARCH GRANTS

New Frontiers in Research Fund - Special Call. $241,500 CAD. Feb 2023 - Jan 2026 (with one year automatic extension).
PI: **Jangho Yang**. Co-PIs: Su Jung Jee, Torsten Heinrich, Kejia Zhu.

UW-SSHRC Explore Grant. $7,000 CAD Jan 2023 - Dec 2024 (with one year automatic extension).
PI: **Jangho Yang**.

International Research Partnership Grant, University of Waterloo. $20,000 CAD. Mar 2022 - Feb 2023.
PI: **Jangho Yang**.

Economic Security Project. $25,000 USD. Mar 2022 - Feb 2023.
PIs: **Jangho Yang** and Ilan Strauss.

Treasury Board Secretariat, Canada. $27,000 CAD. Mar 2022 - Feb 2023.
PIs: **Jangho Yang** and Brian Cozzarin.

Starter Grant, University of Waterloo. $45,000 CAD.

SELECTED CONSULTING AND ADVISORY WORK

Short-Term Consultant, World Bank *2023 – 2024*
Conducted empirical analysis of climate-related uncertainty and its effects on firm investment behavior, drawing on firm-level panel data and econometric modeling.

AWARDS

Edith Henry Johnson Memorial Award in Economics, Civil Affairs, And Education *2018*
awarded for the dissertation "Essays on the Statistical Equilibrium Model of Technical Change"

Eugene Lang College Social Science Fellowship *2017-2018*

Outstanding Graduate Student Teacher Award *2016*

New School for Social Research Prize Fellowship *2015-2018*
full-funding for a PhD program

SUPERVISION

Current PhD Students
(Co-supervision indicated by names in parentheses)

Jihae Hwang (Stan Dimitrov), Management Science and Engineering, Aug 2024 – Present

Ho Yi Wong (Bonwoo Koo), Management Science and Engineering, Aug 2024 – Present

Julia DAlessandro (Bonwoo Koo), Management Science and Engineering, Aug 2023 – Present

Wendy de Gomez (Kejia Zhu), Management Science and Engineering, May 2023 – Present

Bolaji Vincent (Stan Dimitrov), Management Science and Engineering, Sep 2021 – Present

Current MASc Students

Yuhan Zhang (Kejia Zhu), Management Science and Engineering, Aug 2024 – Present

Lida Ghasemi (Stan Dimitrov), Management Science and Engineering, May 2023 – Present

Eugene Kayal, Management Science and Engineering, Jan 2025 – Present

Current Undergraduate Research Assistants

Bhuvnesh Nagpal, Software Engineering, Sep 2024 – Dec 2024 (Presidents Research Award, URA)

Nina Do, Systems Design Engineering, Sep 2024 – Dec 2024 (Presidents Research Award, URA)

Previous PhD Students

Kirsten Wright (Sean Geobey), Systems Design Engineering, Sep 2021 – 2024 (Graduated)

Previous Undergraduate Research Assistants

Joanna Yang, Management Science and Engineering, Sep 2023 – Dec 2023 (NSERC-USRA)

Mick Wang, Computer Science, May 2023 – Aug 2023 (NSERC-USRA)

Fuyang Deng, Mathematical Finance, May 2023 – Aug 2023 (NSERC-USRA)

Edward Jeong, Management Science and Engineering, Jan 2023 – Apr 2023 (ENG URI)

Elisha Matharu, Computer Engineering, Jan 2023 – Apr 2023 (ENG URI)

Samantha Raven Kobes, Biochemistry, Jan 2021 – Apr 2021 (URA)

Hao Xiang Bian, Actuarial Science & Statistics, Jan 2021 – Apr 2021 (URA)

CONFERENCE PRESENTATION

2025	Canadian Economic Association, Montreal, Canada
2024	Info-Metric Workshop, Washington D.C., US
2023	Canadian Economic Association, Winnipeg, Canada
2022	Canadian Economic Association, Ottawa, Canada
2019	Nuffield College Postdoctoral Seminar, Oxford, UK Workshop on Economic Science with Heterogeneous Interacting Agents, London, UK International Input-Output Conference, Glasgow, UK Eastern Economic Association Conference, New York, US
2018	European Association for Evolutionary Political Economy, Nice, France

PROFESSIONAL SERVICE

Editorial Service   *2019 - 2020*

Guest Editor, European Physical Journal Special Topics

Co-editing the special issue on "Maximum Entropy Economics: Foundations and Applications," with Ellis Scharfenaker.

Referee Service

Oxford University Press, Journal of Economic Growth, Cambridge Journal of Economics, OMEGA, International Journal of Technology Management, Economic Systems Research, European Physical Journal Special Topics, Metroeconomica, International Review of Financial Analysis, Structural Change and Economic Dynamics, Journal of Economic Interaction and Coordination, Journal of Evolutionary Economics, Review of Social Economy, Sustainability, Big Data and Cognitive Computing