**Lauri Ojala**
535 West 113th Street, 74A
New York City, NY, 10025

January 20th, 2022

Dear Brett Maranjian,
National Bureau of Economic Research

I am writing to apply to be a participant at the Innovation Research Boot Camp 2022. This exciting opportunity was referred to me by my advisor, Professor Gautam Gowrisankaran, who also will be providing a supporting letter for my application.

I am a third-year student at Columbia University with research interests in industrial organization, sustainable development, and urban economics. In on-going work, I study the informational frictions in the adoption of novel food products, the meat substitutes. In this project, I seek to evaluate the impact of different policy interventions on the diffusion of these products. I am also broadly interested in technological change and innovation and how these intersect, and are shaped by, different public policies, such as environmental, industrial or competition policy.

I believe it would be most helpful for me to attend the Boot Camp and benefit from the lectures and the discussions with its instructors, keynote speakers and fellow participants. The prospect of engaging with the frontier research on the economics of innovation, and meeting leading scholars working in the field, is an exciting one and one I expect to have a lasting impact on my development as a scholar.

For your consideration, I have enclosed my CV and the other supporting application materials. I thank you for your time and consideration.

Sincerely,

Lauri Ojala
PhD Economics student
Columbia University

# Lauri Ojala

Department of Economics
Columbia University
1133 International Affairs Building
420 West 118th Street
New York, NY 10027

Email: lko2110@columbia.edu

Last updated: January 2022

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## EDUCATION

| | |
|---|---|
| 2019 – present | PhD in Economics, Columbia University |
| 2018 – 2019 | MSc in Economics, London School of Economics, *with Distinction* |
| 2014 – 2017 | BSc in Economics, London School of Economics, *1st Class Honours* |

## RESEARCH INTERESTS

Industrial Organization , Economics of Innovation, International Trade, Economic Geography

## GRANTS AND AWARDS

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| 2019-2020 | ASLA-Fulbright Graduate Student Scholarship, Fulbright Finland Foundation |
| 2019-2024 | Dean's Fellowship, Graduate School of Arts and Sciences, Columbia University |

## SERVICE TO THE PROFESSION

Association for Graduate Economics Students of Columbia, Co-President, 2021-2022

## OTHER EMPLOYMENT

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| 2017 Sep. – 2018 May | Economist, Finnish Competition and Consumer Authority |
| Summers 2016, 2017, 2018 | Research Intern, VATT Institute for Economic Research |

## SELECTED OTHER PUBLICATIONS (NOT PEER REVIEWED)

Harju, J., Kyyrä, T., Kärkkäinen, O. Matikka, T., Ojala, L. (2018). Modeling labor supply as part of economic policy evaluations. *Finnish Government and Prime Minister's Office Publication Series*, 72/2018

**Courses taken during PhD:**

- 1st year core graduate sequence: Microeconomics (1 year), Macroeconomics (1 year), Econometrics (1 year), Mathematics for Economists (1/2 year), Perspectives in Economic Research (1/2 year)

- with the addition of the following graduate field courses, all of a semester length:

    - International Trade
    - Economic Geography
    - Industrial Organization II
    - Industrial Organization (III) (audited)
    - Industrial Development
    - Machine Learning
    - Micro-econometrics
    - Macro-Labor

I am a third-year PhD Economics student, studying at Columbia University, and I am excited to be considered for the Innovation Research Boot Camp 2022. With most of my coursework done in the fields of international trade, industrial organization and econometrics, the economics of innovation is an area that sits close to my current research interests, but is something I have never had a chance to engage with as a stand-alone topic. I therefore believe that being introduced to the research frontier in the Boot Camp would be greatly beneficial and would broaden my research perspectives.

I hope to participate in the Boot Camp as it represents a unique opportunity to not only be fast-tracked to the frontier of the literature on economics of innovation, but also to get exposure to cutting-edge work that stretches beyond my current immediate areas of concentration. I believe the breadth of expertise on offer at the Boot Camp holds tremendous value. The lectures by Profs Van Reenen and Williams are parts of the program I anticipate with particular excitement. In addition to learning from leading scholars in this field, I also highly value the prospect of getting connected to other juniors with interests in this area.

In an on-going research project, I explore the nature of consumer demand for meat substitutes, an innovative food segment, and the role that incomplete information plays in their diffusion. With the food supply chains accounting for 26% of global GHG emissions, a shift in consumption patterns towards sustainable protein sources is potentially a powerful tool in efforts to mitigate climate change. A key question for policymakers is what the efficacy of different policy interventions is in supporting such a change in consumer behavior. Do promotional advertising campaigns hold more promise than, for example, a tax on meat would? What about the elimination of agricultural subsidies for cattle farming? What does the dynamic transition path of consumer demand for the novel faux meats look like under the different policies?

To make progress on these questions, I will build on literature in economics and marketing (Erdem & Keane, 1996; Ackerberg, 2001; Ackerberg, 2003; Crawford & Shum, 2005) and estimate a dynamic demand model of consumer demand, where the forward-looking agent's knowledge over the characteristics of different products is incomplete. The uncertainty over the quality of alternative meats gives rise to a dynamic

problem, where the history of past choices affects the expected utility of present-day budget choices, and the consumer trades off the exploitation of their current information set with the exploration of new, potentially appealing brands. To identify the parameters of the demand model, I will exploit the differences in brand offerings across different grocery chains, which also change over time as new brands get introduced. This analysis draws on the Nielsen household scanner data, which covers a large panel of US households, and data such as Nielsen AdViews, which allows me to measure consumer exposure to the advertising spending of different products.

Another project of mine zooms in on the economic geography of innovation, and asks whether high-speed transport infrastructure can drive regional innovation. To study this question empirically, I exploit the gradual expansion of high-speed rail in Spain and Germany and estimate the contribution of the opening of a new high-speed rail link on local patenting outcomes with a differences-in-differences estimator design.

In the future, I am interested in further researching how firm innovation and technological change intersect, and are shaped by, environmental, industrial and competition policy. I also am curious about the effects of new innovations that shape the urban environment, such as short-term rental services and micro-mobility services (eg. e-bikes), which facilitate active mobility of individuals. Lastly, there is still much work to do on the industrial organization of renewable energy sources. A solid foundation of the broader research agenda on the economics innovation will be hugely beneficial in guiding my future research agenda.

The NBER's Innovation Research Boot Camp is a thrilling opportunity that would enrich my outlook and research, and allow me to learn from and get connected to a tremendous network of scholars whose work I greatly look up to. I thank you for your time and consideration and look forward to hearing about your decision.

COLUMBIA UNIVERSITY
IN THE CITY OF NEW YORK

ECONOMICS

January 20, 2022

Brett Maranjian
National Bureau of Economic Research

Dear Brett,

I write to you with a letter of recommendation for Lauri Ojala for the 2022 NBER Innovation Research Boot Camp. Lauri is a 3rd year PhD student in the Economics Department at Columbia University. I moved to Columbia University this academic year and I started working with Lauri last fall. He also audited my PhD class in industrial organization last fall, having taken the class from a different instructor last academic year.

Lauri's research interest is in understanding innovation and diffusion in meat alternatives. In my opinion, this is a super interesting topic to study. It is well understood that meat cultivation is an important contributor to deforestation and greenhouse gases such as methane and that meat alternatives are potentially important solution to these problems. Moreover, many new products, notably Beyond Meat and Impossible Meat, have been introduced in the marketplace in recent years. These products have increased their relative market shares rapidly but still account for a very small fraction of total sales relative to meat.

Within this context, Lauri seeks to understand the drivers of the diffusion of meat alternatives. There are at least two potential factors that imply that meat alternatives will diffuse much more in the future relative their present market share, even conditioning on their prices. First, their availability is limited: many varieties of meat alternatives are not available in most retail grocery stores and many grocery stores may simply not carry these products. Second, meat alternatives are an experience good and consumers may not appreciate their attributes until they have tried them. Lauri's goal is to estimate structural models of consumer learning and availability of meat alternatives. He will then use the models to estimate how much changes in availability of meat alternatives versus policies that allow consumers to learn more effectively about meat alternatives could impact the diffusion of these products.

In a separate but related stream of research, Lauri is seeking to understand innovation in the meat alternative market. Here, he is working with data from the industry trade group, to understand how innovation expenditures and efforts have led to new products and through that, to estimate the supply side of innovation in this sector. Ultimately, this project will allow him to understand the marginal return from research expenditures into innovation and the extent of spillovers across companies in this sector.

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Overall, Lauri is applying frontier methods from industrial organization and applied microeconomics to understand an important question in innovation. Moreover, his research questions fit squarely in the middle of the field of innovation research. His results will have important implications for environmental economics and agricultural economics.

While I have not known Lauri for a long time, I believe that he is a very capable and hard-working graduate student. He has a solid grasp of industrial organization methods. He has derived this research question on his own and is very motivated by answering research questions on innovation, particularly ones that address environmental issues. He would benefit from being connected to the broader community of scholars studying research in innovation.

For these reasons, I believe that Lauri would be a very strong candidate for the Innovation Research Boot Camp and I recommend that you select him. Please free to contact me should you have any further questions.

Sincerely yours,



Gautam Gowrisankaran
Professor of Economics
Department of Economics, Columbia University