# Application for NBER Innovation Research Boot Camp 2025

Zenne Hellinga
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*6th of February 2025*

National Bureau of Economic Research (NBER)
Innovation Research Boot Camp Committee
1050 Massachusetts Avenue
Cambridge, MA 02138

Dear Selection Committee,

I am writing to apply for the NBER Innovation Research Boot Camp 2025. I am currently a PhD candidate in Economic Geography at Utrecht University with a strong interest in innovation.

Please find below my curriculum vitae, including a list of my PhD courses, and an essay describing my current and future research as well as my motivation for attending the research boot camp. My recommendation letter will be provided by Andrea Morrison, who is my current supervisor.

Thank you for considering my application. I look forward to hearing from you.

Sincerely,
Zenne Hellinga

# Curriculum Vitae

Zenne Hellinga
Department of Human Geography & Spatial Planning, Utrecht University
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## Education:

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|---|---|
| PhD student in Economic Geography<br>*Utrecht University, Utrecht, The Netherlands* | Aug. 2023 – present |
| Visiting PhD in Business Administration & Management<br>*Bocconi University, Milan, Italy* | Sep. 2023 – Jun. 2024 |
| MSc. Urban & Economic Geography (Research Master)<br>*Utrecht University, Utrecht, The Netherlands* | Sep. 2021 – Jul. 2023 |
| BSc. Human Geography & Spatial Planning<br>*Utrecht University, Utrecht, The Netherlands* | Sep. 2017 – Jul. 2021 |

## Working experience

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|---|---|
| Academic Writing Coach<br>*Utrecht University, Utrecht, The Netherlands* | Feb. 2022 – Jul. 2023 |
| Internship Research Fellow<br>*Austrian Institute of Economic Research, Vienna, Austria* | Sep. 2022 – Dec. 2022 |
| Teaching Assistant for Economics of Cities<br>*Utrecht School of Economics, Utrecht, The Netherlands* | Apr. 2022 – Jun. 2022 |

## Participation in conferences/workshops:

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|---|---|
| PhD Workshop in Economics of Innovation, Complexity and Knowledge<br>*Collegio Carlo Alberto, Turin, Italy* | 12-13 Dec. 2024 |
| Summer School on Data and Algorithms for Science, Technology & Innovation Studies<br>*KU Leuven, Antwerp, Belgium* | 11-13 Sep. 2024 |
| Geography of Innovation Winter School<br>*University of Pavia, Pavia, Italy* | 15-19 Jan. 2024 |

## Invited talks:

Innovation Information Initiative Working Group Meeting — 6-7 Dec. 2024
*NBER, Cambridge, MA, US*

Duke PhD Brown Bag Sessions — 5 Nov. 2024
*Fuqua School of Business, Duke University, NC, US*

Future of Work Conference — 27 Jun. 2024
*Utrecht University, Utrecht, The Netherlands*

**PhD Courses:**

Introductory Econometrics for Business Studies — Oct. 2023 – Jan. 2024
*Instructor: Luisa Gagliardi, Bocconi University*

Advanced Econometrics for Business Studies — Feb. 2024 – Mar. 2024
*Instructor: Miguel Espinosa, Bocconi University*

Innovation — Feb. 2024 – Mar. 2024
*Instructor: Myriam Mariani, Bocconi University*

Applied Business Studies — Mar. 2024 – May 2024
*Instructor: Alfonso Gambardella, Bocconi University*

**Publications and Working Papers**

Hellinga, Z., Bachtrögler-Unger, J., Balland, P. & Boschma, R. (2025). Beyond the Blueprint: From Smart Specialization Strategies to R&I funding. *Papers in Evolutionary Economic Geography*. https://peeg.wordpress.com/2025/01/20/25-02-beyond-the-blueprint-from-smart-specialization-strategies-to-ri-funding/

Breschi, S., Hellinga, Z., Morrison, A., Prakash-Nagar, J. & Tarasconi, G. (2025) [Unpublished manuscript]. Novel Dataset for Historical Innovation Studies: Linking USPTO Patents and US Census Data from 1840 to 1950. Available from: https://www.dropbox.com/scl/fi/czvmajjjbazrb7mkwc808/BHMNT.pdf?rlkey=yj1d5wod1awj3t2m58043tyzg&st=f69kky6k&dl=0

Breschi, S., Cornejo-Costas, B., Diodato, D., Hellinga, Z., Morrison, A., Petralia, S., Prakash-Nagar, J. & Tarasconi, G. (2025) [Forthcoming]. Historical patent data for migration and innovation studies: evidence from the US. In Lissoni, F. & Morrison A. (Eds.), *Migration & Innovation*.

Breschi, S., Hellinga, Z. & Morrison, A. (2025) [Forthcoming]. The geography of high skilled migration and innovation. In Hansen, H. K. & Eriksson R. (Eds.), *Handbook for Labour Mobility*.

**Technical Skills**

Microsoft Office (advanced), Python (intermediate), R (advanced), and Stata (intermediate).

## Languages

Dutch (native), English (proficient), and German (intermediate).

## My research interests and motivation for attending the NBER Boot Camp

As a second-year PhD candidate in Economic Geography at Utrecht University, my research focuses on the impact of migration on knowledge diffusion and innovation. Specifically, I study the period from 1850 to 1950, often referred to as the Age of Mass Migration. During this era, over 30 million Europeans emigrated to the United States, bringing with them valuable knowledge that helped transform the US from a developing nation into a global technological leader. To better understand how migration affects innovation, my research focusses on the pivotal role these migrants played in shaping this trajectory.

To advance this work, I am currently developing a dataset in collaboration with Stefano Breschi (Bocconi University), Andrea Morrison (Bocconi University and University of Pavia), and Gianluca Tarasconi (ipQuants). This dataset links inventors on historical USPTO patents to individuals recorded in US census data from 1850 to 1950. Using machine learning techniques, we are able to link more than 1.5 million patent-inventors to individuals in the Census. This linkage allows us to track inventors over time and analyze a rich set of economic and demographic characteristics, including their place of birth, family ties, and occupation. While we are still refining the dataset, we plan to make it publicly available upon completion (see the publications list on my CV for draft manuscript of this work). Recently, I had the privilege to present this work at the Innovation Information Initiative Technical Working Group Meeting hosted by Matt Marx at the National Bureau of Economic Research.

In addition to my historical research, I am interested in how policy can stimulate innovation. I recently completed a working paper, currently under review at *Economic Geography*, that examines the implementation of the Smart Specialization Strategy, a European investment policy aimed at enhancing regional innovation. In this study, I combine patent data, regional policy documents, and R&I funding data to analyze the extent to which regional innovation investment plans align with regional technological capabilities. Furthermore, the research investigates whether these investment plans translate into actual R&I investments (for more details, please see the working paper listed on my CV).

Attending the NBER Innovation Research Boot Camp would offer a valuable opportunity to deepen my understanding of foundational concepts and emerging questions in the economics of innovation. Additionally, it would allow me to broaden my network within this field, particularly by engaging with leading researchers like Ina Ganguli and Pierre Azoulay, whose work on migration and innovation closely aligns with my own interests.

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DI PAVIA

Pavia, 04/02/2025


| | |
|---|---|
| Your reference | Andrea Morrison |
| Phone | +39 0382 984427 |
| Email | andrea.morrison@unipv.it |


To: Selection committee

**Subject: Recommendation letter for Mr Zenne Hellinga**

I am pleased to recommend Zenne Hellinga for the NBER Innovation Research Boot Camp 2025. As his thesis supervisor, I have worked closely with Zenne over the last two years and have come to appreciate his work ethic. Zenne is a dedicated, hardworking researcher, highly motivated, and extremely curious.

Zenne's PhD thesis investigates the contributions of immigrant inventors in the US during the age of mass migration. For this, he has built a novel dataset by combining various data sources and using advanced machine learning tools. He has conducted this work in collaboration with researchers at Bocconi University and computer scientists at IpQuants SA. His contribution has been recognized as highly valuable.

Despite his junior position, he has been actively engaged with the international academic community. For instance, he has recently presented at the NBER 3I Working Group in Boston and at the Duke brown bag seminar. Last year, he also spent a one-year visiting period at Bocconi University.

For these reasons, I firmly believe Zenne is an excellent candidate for your course. I strongly recommend him and am confident he will actively participate and contribute at the NBER Innovation Research Boot Camp 2025.

Yours faithfully

Andrea Morrison


Associate Professor of Applied Economics, University of Pavia

Adjunct Professor of Growth, Innovation and Sustainability, Bocconi University

Research Affiliate, Department of Human Geography and Planning, Utrecht University