Philipp Koch, Ph.D

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Email: philipp.koch@ecoaustria.ac.at **ORCID**: 0000-0002-3248-9686 **Website**: kochphilipp.com

Professional

Senior Researcher - Head of Data Science Jan. 2025 – Present
EcoAustria - Institute for Economic Research Vienna, Austria

Lecturer in Macroeconomics Oct. 2024 – Present
Vienna University of Economics and Business Vienna, Austria

Researcher Sep. 2022 – Dec. 2024
EcoAustria - Institute for Economic Research Vienna, Austria

Visiting PhD Student Sep. 2022 – Jan. 2023
Complexity Science Hub Vienna, Austria

Junior Researcher Aug. 2020 – Aug. 2021
EcoAustria - Institute for Economic Research Vienna, Austria

Intern Jul. 2019 – Dec. 2019
Austrian National Bank - Division for Economic Studies Vienna, Austria

Research Assistant March 2018 – Jul. 2020
EcoAustria - Institute for Economic Research Vienna, Austria

Lecturer in the Fundamentals of Economics Feb. 2018
Vienna University of Economics and Business Vienna, Austria

Education

PhD in Applied Mathematics Sep. 2021 – Oct. 2024
Center for Collective Learning, ANITI, Université de Toulouse Toulouse, France
Thesis: *Machine Learning for Economic History*
Supervisor: César A. Hidalgo

MSc in Economics (Science Track) Oct. 2018 – Jul. 2020
Vienna University of Economics and Business Vienna, Austria
Thesis: *Revisiting Economic Complexity using value-added exports*
Supervisor: Jesús Crespo Cuaresma

BSc in Psychology Oct. 2015 – Present
University of Vienna Vienna, Austria

BSc in Economics & Social Sciences Oct. 2014 – Jan. 2018
Vienna University of Economics and Business Vienna, Austria

Working paper

Koch, P. & A. Posztos (2026). Grokipedia stretches the US political spectrum..

Publications (peer-reviewed)

9. Hidalgo, C., Koch, P., Coll, E. & V. Stojkoski (2025). Trading Bits for Atoms: How Digital Products Are Reshaping the Global Economy. *Communications of the ACM, 68*, 34-36.

8. Schwarzbauer, W., Bittó, V., Koch, P. & J. Steininger (2025). Mapping CO2 emissions in Global Value Chains: Does a value-added smile curve imply an emissions frown curve?. *Structural Change and Economic Dynamics, 75*, 332-348.

7. Koch, P., Stojkoski, V. & C. A. Hidalgo (2024). Augmenting the availability of historical GDP per capita estimates through machine learning. *Proceedings of the National Academy of Sciences (PNAS), 121*(39), e2402060121.

6. Stojkoski, V., Koch, P., Coll, E. & C. A. Hidalgo (2024). Estimating digital product trade through corporate revenue data. *Nature Communications*, 15, 5262.

5. Koch, P., Stojkoski, V. & C. A. Hidalgo (2023). The Role of Immigrants, Emigrants, and Locals in the Historical Formation of European Knowledge Agglomerations. *Regional Studies*, *58*(9), 1659–1673.

4. Stojkoski, V., Koch, P. & C. A. Hidalgo (2023). Multidimensional economic complexity and inclusive green growth. *Communications Earth & Environment, 4*, 130.

3. Schwarzbauer, W., Koch, P. & M. Wolf (2022). Park & Ride facilities and suburban sprawl. *European Planning Studies, 30*, 7, 1378-1398.

2. Koch, P. & W. Schwarzbauer (2021). Yet another space: Why the Industry Space adds value to the understanding of structural change and economic development. *Structural Change and Economic Dynamics, 59*, 198-213.

1. Koch, P. (2021). Economic Complexity and Growth: Can value-added exports better explain the link? *Economics Letters, 198*, 109682.

Awards

2025: Best Parallel Talk Award at the 11th International Conference on Computational Social Science (IC2S2) at Linköping University, Sweden.

Talks, Conferences & Visits

2026: 8th Geography of Innovation Conference, Corvinus University Budapest; Conference on Economic Complexity, Istanbul; EconNet Workshop, University of University of Pécs, Hungary.

2025: 11th International Conference on Computational Social Science IC2S2, Linköping University, Sweden; Annual Conference of the Regional Studies Association, University of Porto; Conference on Economic Complexity, University of Toulouse; Geoffrey J.D. Hewings Regional Economics Workshop, WIFO Vienna; 4th Conference on Robots and Automation - CORA, WU Vienna.

2024: Invited seminar speaker at IAST at the Toulouse School of Economics; Conference on Economic Complexity, Corvinus University Budapest; 7th Geography of Innovation Conference, University of Manchester; 16th FIW Research Conference International Economics; European Public Choice Society Conference, Vienna University of Economics and Business; Invited seminar speaker at the University of Pécs, Hungary.

2023: Invited speaker at the workshop on the Emergence of Innovation, University of Chicago; 2nd International Conference on the Science of Science and Innovation, Northwestern University; NetSci 2023, University of Vienna; Annual Meeting of the Austrian Economic Association (NoEG), Paris Lodron University Salzburg; 14th Geoffrey J.D. Hewings Regional Economics Workshop, WIFO Vienna; PhD Workshop on Mathematics and Statistics, Toulouse School of Economics.

2022: Seminar talk at the Complexity Science Hub, Vienna; WICK10 PhD Workshop in Economics of Innovation, Complexity and Knowlegde, Collegio Carlo Alberto, Turin; 13th Geoffrey J.D. Hewings Regional Economics Workshop, WIFO Vienna; 6th Geography of Innovation Conference, Bocconi University, Milan; International PhD Course in Economic Geography, University Utrecht.

2021: WIFO Research Seminar; 13th FIW Research Conference International Economics.

2020: Harvard Growth Lab Research Seminar.

Reviewing

I reviewed research articles for npj Urban Sustainability, The World Economy, EPJ Data Science, International Journal of Data Science and Analytics, Structural Change and Economic Dynamics, Energy Policy, Scientific Reports, Journal of Business Research, European Planning Studies, Applied Economics, and Empirica.

Media

My research has been covered in several media outlets: I was invited to talk about our PNAS paper on estimating historical GDP per capita on live radio (Ö1 Punkt Eins) and write a column for the Frankfurter Allgemeine Zeitung. Our research on historical migration has been covered in Danish newspaper Weekendavisen and the podcast The Geography of Everything.

Policy Reports (selected, german)

Koch, P. (2026). Economic effects of data centres. *Study commissioned by the Vienna Business Agency.*

Graf, N., Koch, P. & M. Köppl-Turyna (2026). Deregulation and the reduction of bureaucracy in Austria. *Study commissioned by the Federal Ministry for European and International Affairs.*

Koch, P., Graf, N. & S. Rabong (2026). Computing capacity as a driver of digital competitiveness. *EcoAustria Policy Note 66.*

Koch, P., Bittó, V., Gillesberger, M., Graf, N. & W. Schwarzbauer (2025). Technological change with AI: Effects on international trade of Austrian firms. *Study commissioned by the Austrian Federal Ministry of Economy.*

Koch, P. & N. Graf (2025). The impact of AI on Austria's economy. *Wirtschaftspolitische Blätter, Volume 2025.*

Graf, N., Koch, P. & M. Köppl-Turyna (2025). AI Revolution: Impact on and Chances for Austria. *Study commissioned by the Austrian Federal Chancellery.*

Bittó, V., Koch, P. & W. Schwarzbauer (2024). Future perspectives on Austria's export portfolio. *Study commissioned by the Austrian Federal Ministry of Labor and Economy.*

Bittó, V., Koch, P. & W. Schwarzbauer (2023). Considering the interdependencies between industrial policy, innovation policy and climate policy. *EcoAustria Policy Note 53.*

Schwarzbauer, W., Bittó, V. & P. Koch (2023). Economic potentials of trade relationships between Austria and South Korea. *Study commissioned by Samsung.*

Schwarzbauer, W. & P. Koch (2021). On the significance of free trade and global value chains for Germany and Austria. *List Forum für Wirtschafts- und Finanzpolitik, 46*, 451-470.

Köppl-Turyna, M., Koch, P. & W. Schwarzbauer (2021). Estimating the insolvency backlog and the share of firms with long-term negative equity after COVID-19 in Austria. *Study commissioned by the Austrian Federal Ministry of Digitalization and Economy.*

Koch, P. & M. Köppl-Turyna (2021). Internationally mobile workforce: A new view on competitiveness. *EcoAustria Policy Note 47.*

Köppl-Turyna, M. et al. (2021). COVID-19 measures: International comparison of COVID-19 support measures given the country-specific importance of automatic stabilizers. *Study commissioned by the Austrian Federal Ministry of Finance.*

Schwarzbauer, W. & P. Koch (2021). Austria's potential for a more environmentally friendly manufacturing industry. *EcoAustria Analysis 12.*

Thomas, T., Koch, P. & W. Schwarzbauer (2020). Tenant's paradise Austria? Myth and reality. *List Forum für Wirtschafts- und Finanzpolitik, 45*, 319-346.

References

César A. Hidalgo
Professor and Director of CCL
Toulouse School of Economics
cesifoti@gmail.com

Jesús Crespo Cuaresma
Chair of the Department of Economics
Vienna University of Economics and Business
jcrespo@wu.ac.at

Andrea Morrison
Associate Professor
University of Pavia
andrea.morrison@unipv.it

Ina Ganguli
Professor of Economics
University of Massachusetts Amherst
iganguli@umass.edu

Balázs Lengyel
Head of the ANETI Lab
ELTE University & Corvinus University
lengyel.balazs@krtk.mta.hu