

# Markus Trunschke

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## Research and Teaching Interests

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Economics of Innovation, Empirical Industrial Organization, Economics of Digitization, Applied Microeconomics, Computational Economics, Structural Modelling

## Current Positions and Affiliations

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| 5.2024-present  | <b>Postdoctoral researcher</b> at the Hoover Institution, Stanford University                                |
| 12.2023-present | <b>Visiting researcher</b> at KU Leuven<br>Department of Managerial Economics, Strategy and Innovation (MSI) |
| 10.2017-present | <b>Member</b> of MaCCI - Mannheim Centre for Competition and Innovation                                      |

## Past Positions and Affiliations

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| 10.2017-4.2024  | <b>Researcher</b> at ZEW – Leibniz Centre for European Economic Research, Mannheim<br>Department of Innovation Economics and Industrial Dynamics |
| 11.-12.2023     | <b>Visiting Scholar</b> at Hoover Institution, Stanford University, invited by Kenneth L. Judd   |
| 10.2017-11.2023 | <b>PhD student</b> at KU Leuven<br>Department of Managerial Economics, Strategy and Innovation (MSI), Supervisor Prof. Dirk Czarnitzki           |
| 8.2022          | <b>Visiting Scholar</b> at Hoover Institution, Stanford University, invited by Kenneth L. Judd   |
| 01.2022-05.2022 | <b>Visiting Scholar</b> at Pennsylvania State University<br>Department of Economics, invited by Prof. Mark Roberts                               |
| 8.2021          | <b>Visiting Scholar</b> at University of Ghent<br>Department of Marketing, Innovation and Organisation, invited by Prof. Maikel Pellens          |
| 2019            | <b>External Lecturer</b> at Baden-Wuerttemberg Cooperative State University, Advanced Microeconomics (undergraduate level)                       |
| 2015-2016       | <b>Research Assistant</b> at GESIS - Leibniz-Institute for the Social Sciences   |

## Education

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| 2017-2023 | <b>PhD in Business Economics</b> at KU Leuven,<br>Department of Managerial Economics, Strategy and Innovation (MSI)  |
| 2019-2020 | <b>Visiting Student</b> at University of Mannheim<br>Department of Economics   |
| 2016-2017 | <b>Master of Science in Economics</b> at KU Leuven<br>Major: Research in Economics (cum laude)<br>Advanced Econometrics, Structural Modeling, Dynamic Methods,<br>Game Theory, Industrial Organization |
| 2013-2016 | <b>Bachelor of Science in Economics</b> at University of Mannheim<br>Economic Theory, Microeconomics, Econometrics, Statistics   |

## Research

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### Discussion Papers and Research in Progress

- Carbon Pricing and Innovation: The Impact of the European Carbon Trading System, [Link](#)
- Choosing Technologies: Benefits of Investing into the Development of Fourth Industrial Revolution Related Technologies, *with Bettina Peters*, [Link](#)
- Efficient Estimation of Likelihood Ratio Confidence Sets, *with Kenneth L. Judd and Gregor Reich*
- Competition from China in the Product and Input Markets and Innovation in Germany, *with Philipp Böing, Pierre Mohnen, and Loren Brandt*
- Pandemic Effects: Do Innovation Activities of Firms Suffer from Long-COVID?, *with Bettina Peters, Dirk Czarnitzki, and Christian Rammer*, [Link](#)
- Measuring Organisation Capital at the Firm Level: A Production Function Approach, *with Christian Rammer and Felix Roth*, ZEW Discussion Paper, [Link](#)
- Industry 4.0 Related Innovation and Firm Growth, *with Vanessa Behrens*, ZEW Discussion paper, [Link](#)

### Contract Research and Projects

- Focus Study on Technology markets (Schwerpunktstudie Technologiemarkte), 2023, [Link](#), *Commission of Experts for Research and Innovation*
- Growth Welfare Innovation and Productivity (GROWINPRO), *European Commission*
- Mannheim Innovation Panel: Innovation Activities of German Enterprises, *German Ministry for Education and Research*
- Swiss Report on Research and Innovation, 2018, *Swiss State Secretariat for Education, Research, and Innovation*

- Investments in New Forms of Knowledge-Based Capital (INFOWIK), *German Ministry for Education and Research*.
- Innovation Activity of Companies in East Germany since Reunification (Innovationstätigkeit der Unternehmen in Ostdeutschland seit der Wiedervereinigung), *Commission of Experts for Research and Innovation*
- Development of Research and Development Expenditure in Germany in an International Comparison (Entwicklung der Forschungs- und Entwicklungsausgaben in Deutschland im internationalen Vergleich), *KfW - Credit Institute for Reconstruction*

### Dissemination

- News article in German business news magazin **Wirtschafts Woche** on *Pandemic Effects* study (14.4.2023), [Link](#)
- **WIPO GII Report** 2022 Chapter - Expert Contribution: Productivity impact of the Fourth Industrial Revolution, *with Bettina Peters*, [Link](#)

## Conference Organisation

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- 9<sup>th</sup> ZEW/MaCCI Conference on the Economics of Innovation and Patenting (Mannheim, Germany), 2022
- 8<sup>th</sup> ZEW/MaCCI Conference on the Economics of Innovation and Patenting (Mannheim, Germany), 2019

## Invited Seminar Presentations

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- CIS seminar series, BETA, University of Strasbourg, 2023

## Research Presentations

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- Comparative Analysis of Enterprise Data (CAED) (State College, USA), 2024
- 50<sup>th</sup> EARIE Annual Conference (Rome, Italy), 2023
- 28<sup>th</sup> Annual Conference of the European Association of Environmental and Resource Economists (EAERE) (Limassol, Cyprus), 2023
- DRUID Conference (Lisbon, Portugal), 2023

- 19<sup>th</sup> CEPR/JIE School on Applied Industrial Organization (Cambridge, England), 2023
- Poster presentation at Munich Summer Institute (Munich, Germany), 2023
- 11<sup>th</sup> Mannheim Conference on Energy and the Environment (Mannheim, Germany), 2023
- 9<sup>th</sup> ZEW/MaCCI Conference on the Economics of Innovation and Patenting (Mannheim, Germany), 2022
- Munich Summer Institute Ph.D Workshop (Munich, Germany), 2022
- Eu-SPRI conference (Utrecht, Netherlands), 2022
- International Industrial Organization Conference (Boston, USA), 2022
- IP and Innovation Virtual Seminar (online), 2022
- Applied Microeconomics Seminar Pennsylvania State University (State College, USA), 2022
- CONCORDi Conference (online), 2021
- 17<sup>th</sup> CAED Conference (Coimbra, Portugal), 2021
- DRUID Conference (Copenhagen, Denmark), 2021
- 16<sup>th</sup> European Policy for Intellectual Property Conference (EPIP) - PhD Workshop (Madrid, Spain), 2021
- 48<sup>th</sup> EARIE Annual Conference (Bergen, Norway), 2021
- 18<sup>th</sup> ISS - International Schumpeter Society Conference (Rome, Italy (online)), 2021
- 9<sup>th</sup> KID 2021 Summerschool on Knowledge Dynamics, Industry Evolution, Economic Development (Nice, France), 2021
- MaCCI IO Day at University of Mannheim (Mannheim, Germany (online)), 2021
- ZEW - Joint PhD Workshop on Innovation, Entrepreneurship and Competition (online), 2020
- 8<sup>th</sup> PhD Workshop Economics of Innovation, Complexity and Knowledge (Turin, Italy (online)), 2020
- CISS, 9<sup>th</sup> Competition and Innovation Summer School (Ulcinj, Montenegro), 2019
- CISS, 8<sup>th</sup> Competition and Innovation Summer School (Ulcinj, Montenegro), 2018

## Referee for Journals

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International Journal of Industrial Organization (IJIO), Research Policy, Journal of Economic Behavior and Organization, European Journal of Political Economy, Industry and Innovation, Eurasian Business Review

## Skills

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**Programming Languages:**

Julia (advanced) | Python (advanced) | Matlab (advanced) | Stata (advanced) |  $\text{\LaTeX}$ (advanced) | R (intermediate) | SQL (basic) | C++ (basic) | Fortran (basic) | HTML (basic).

**Operating Systems:**

Microsoft Windows | Linux (Debian, Ubuntu).

**Further Software:**

Visual Studio Code, Git, Microsoft Office Suite, Mendeley.

**Programming skills:**

Programming quantitative economic and statistical models | numerical optimization | numerical integration | function approximation | simulation methods | parallelization | processing of large data sets | run-time optimization and benchmarking.

**Mathematical and statistical skills:**

Structural economic modeling | structural estimation | dynamic programming models | stochastic models | causal inference models | numerical methods.

## Other

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- YES! - Young Economic Summit, 2018-2019, leading student teams in preparation and competition