

Nikolas Kuschnig

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Education

- **Ph.D.**, Economics (ongoing)
Vienna University of Economics and Business
- **M.Sc.**, Economics (2019)
Vienna University of Economics and Business
- **B.Sc.**, Business, Economics and Social Sciences (2017)
Vienna University of Economics and Business, exchange at Copenhagen Business School

Research interest

Bayesian econometrics, applied econometrics, environmental economics

Publications

Journal articles

1. **Kuschnig, N.** and Vashold, L. (2021). BVAR: Bayesian vector autoregressions with hierarchical prior selection in R. *Journal of Statistical Software*, 100(14):1–27, DOI: [10.18637/jss.v100.i14](https://doi.org/10.18637/jss.v100.i14).
2. **Kuschnig, N.**, Crespo Cuaresma, J., Krisztin, T., and Giljum, S. (2021). Spillover effects in agriculture drive deforestation in Mato Grosso, Brazil. *Scientific Reports*, 11(1):1–9, DOI: [10.1038/s41598-021-00861-y](https://doi.org/10.1038/s41598-021-00861-y).
3. **Kuschnig, N.** (2021). Inadequate methods undermine a study of malaria, deforestation and trade. *Nature Communications*, 12(1):1–3, DOI: [10.1038/s41467-021-22514-4](https://doi.org/10.1038/s41467-021-22514-4).
4. Bruckner, M., Wood, R., Moran, D., **Kuschnig, N.**, Wieland, H., Maus, V., and Börner, J. (2019). FABIO — the construction of the food and agriculture biomass input-output model. *Environmental Science & Technology*, 53(19):11302–11312, DOI: [10.1021/acs.est.9b03554](https://doi.org/10.1021/acs.est.9b03554).

Working papers

1. Giljum, S., Wegner Maus, V., **Kuschnig, N.**, Luckeneder, S., Tost, M., Sonter, L., and Bebbington, A. (2021). A pan-tropical assessment of deforestation caused by industrial mining. *under review at Proceedings of the National Academy of Sciences*.
2. **Kuschnig, N.** (2021). Bayesian spatial econometrics and the need for software. *under review at Journal of Spatial Econometrics*, DOI: [10.13140/RG.2.2.11269.68328](https://doi.org/10.13140/RG.2.2.11269.68328).
3. **Kuschnig, N.**, Zens, G., and Crespo Cuaresma, J. (2021). Hidden in plain sight: influential sets in linear models. *Working Paper*, DOI: [10.13140/RG.2.2.30682.47042](https://doi.org/10.13140/RG.2.2.30682.47042).

Work in progress

- Zens, G. and **Kuschnig, N.**: A multinomial ICAR model for predicting land use.
- **Kuschnig, N.**: Shrinkage in space — Bayesian spatial econometrics.
- **Kuschnig, N.** and Vashold, L.: The economic impacts of malaria: future, present, past.

Conferences

- **Kuschnig, N.** (2021). Shrinkage in space — Bayesian spatial econometrics. In *BaYSM 2021*, [online](#).
- **Kuschnig, N.** and Vashold, L. (2020). BVAR: Bayesian vector autoregression with hierarchical prior selection in R. In *useR! 2020 The R User Conference*, St. Louis, United States / [online](#).
- **Kuschnig, N.** (2019). Assessing the impacts of agriculture on deforestation in Mato Grosso. In *13th Conference of the Socio-Economic Metabolism Section (SEM) of the International Society for Industrial Ecology (ISIE)*, Berlin, Germany.

Software

- **Kuschnig, N.** (2021). bsreg: Bayesian spatial regression models. R package, available on [CRAN](#); accompanying paper available at DOI: [10.13140/RG.2.2.11269.68328](#).
- **Kuschnig, N.** and Vashold, L. (2021). BVAR: hierarchical Bayesian vector autoregression. R package, available on [CRAN](#); accompanying paper available at DOI: [10.18637/jss.v100.i14](#).
- **Kuschnig, N.** (2020). sanic: solving $Ax = b$ nimbly in C++. R package, available on [CRAN](#).
- Vashold, L. and **Kuschnig, N.** (2020). BVARverse: tidy Bayesian vector autoregression. R package, available on [CRAN](#).

Professional activities

Referee service

Referee for: *Journal of Statistical Software*, *Global Environmental Change*, *Empirica*.

Teaching

- **Econometrics II**, lecturer, B.Sc. level at WU (WS20/21, WS21/22)
- **Applied Econometrics**, lecturer, B.Sc. level at WU (SS21)
- **Econometrics 2**, teaching assistant, M.Sc. level at CEU (SS22)
- **Reading Circle**, lecturer, elective at WU (SS21, WS21/22)
- **Bayesian Macroeconometrics**, lecturer, M.Sc. level at WU (SS22)

Supervision

- Murauer, M. (2021): "The impacts of Amazon deforestation on human health". (B.Sc.)
Awarded a 1,000 EUR prize for climate research by Europaplattform.
- Heinze, M. (*in progress*). (B.Sc.)
- Bürscher, T. (*in progress*). (M.Sc.)

Presentations

- Ecosta 2022, Kyōto (JPN) (2022)
- BaYSM 2021, online (2021)
- useR! 2020 The R User Conference, St. Louis (USA), *moved online* (2020)
- Wageningen UR, Research Seminar, Wageningen (NLD), *cancelled* (2020)
- IIASA, Research Seminar, Laxenburg (AUT) (2019)
- 13th ISIE-SEM Conference, Berlin (GER) (2019)
- WU, Research Seminars, Vienna (AUT) (2019–2021)

Grants and awards

- Heinrich Graf Hardegg Stiftung, project grant (5,500 EUR) (2022–)
- WU Small Project, project grant (2,000 EUR) (2021–2022)
- WU Small Project, project grant (4,000 EUR) (2020–2021)
- IIASA Young Scientists Summer Programme, accepted (2020)
- Nowotny Mobility Grant, grant for conference participation (900 EUR) (2020)
- Best Master's Thesis at the WU Economics Department, award (2019)
- Merit Scholarships at WU, award (1,000 EUR each) (2018–2021)

Research experience

- **Research and Teaching Associate**, WU Department of Economics (2020–)
Research on Bayesian econometric methods. Located at the Institute for Macroeconomics.
- **Research Associate**, WU Institute for Ecological Economics (2019–)
Research on commodity-driven deforestation; uncertainty in input-output modelling, and reproducible material flow analysis. Located within the ERC and FWF projects [FINEPRINT](#) on spatially explicit modelling of material flows and impacts and [MF-GLOBE](#) on multi-regional physical supply and use accounts for material and energy flows.
- **Research Assistant**, WU Institute for Ecological Economics (2018–2019)
Research on agricultural drivers of deforestation; management of IT infrastructure. Located within the ERC project [FINEPRINT](#) on spatially explicit modelling of material flows and impacts.
- **Student Support**, RBI Raiffeisen Research (2017–2018)
Financial analysis, automation, discovered a bug inflating bond-volumes by over 50bn EUR per year. Located at the departments for Fixed Income as well as Market Strategy & Quantitative Research.

Skills

- **Languages:** German (native), English (proficient), Italian (intermediate), Spanish (basic)
- **Programming:** R (+), C++, Python, Matlab, Stata, C, VBA, Fortran
- **Other:** Git (+), Linux (+), Excel (+), Office, GIS, Docker, \LaTeX , PostgreSQL, Skiing, ...

References

Available upon request.