

# Jan-Ole Koslik

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## EDUCATION

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| <b>Research Stay</b><br>University of British Columbia, Vancouver, Canada  | March-April 2025 |
| <b>PhD in Statistics</b><br>Bielefeld University, Bielefeld, Germany   | 2023 – today     |
| <b>MSc Statistical Science</b><br>Bielefeld University, Bielefeld, Germany<br><i>Grade: 1.0; graduated first of my class</i> | 2021 – 2023      |
| <b>BSc Economics</b> (intermediate studies)<br>Bielefeld University, Bielefeld, Germany                                      | 2020 – 2021      |
| <b>Study Abroad</b><br>Budapest Business School, Budapest, Hungary   | 2019             |
| <b>BA Business Administration</b><br>Bielefeld University of Applied Sciences, Bielefeld, Germany<br><i>Grade: 1.4</i>       | 2017 – 2020      |

## EMPLOYMENT

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| <b>Research Associate</b> Statistics and Data Analysis Group<br>Bielefeld University, Bielefeld, Germany | 2023 – today |
| <b>Research Assistant</b> Statistics and Data Analysis Group<br>Bielefeld University, Bielefeld, Germany | 2022 – 2023  |
| <b>Working Student</b> Pricing Intelligence<br>CLAAS KGaA mbH, Harsewinkel, Germany                      | 2021 – 2022  |
| <b>Intern</b> Market Intelligence<br>CLAAS KGaA mbH, Harsewinkel, Germany                                | 2020         |

## PUBLICATIONS

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3. **Koslik, J.-O.** (2025). Hidden semi-Markov models with inhomogeneous state dwell-time distributions. *Computational Statistics & Data Analysis*, 108171.
2. Dyck, J., **Koslik, J.-O.**, Sauzet, O. (2025). EgoCor: an R package to fit exponential semi-variograms to model the local spatial correlation structure of health outcomes. *Journal of Open Research Software*, 13, 1.
1. Michels, R., **Koslik, J.-O.** (2024). On the combination of data smoothing and Markov-switching models. *Journal of the Royal Statistical Society – Series C: Applied Statistics*, qlad110.

## PREPRINTS

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**Koslik, J.-O.** (2024) Efficient smoothness selection for nonparametric Markov-switching models via quasi restricted maximum likelihood. Preprint, arXiv:2411.11498

Bachons, R., **Koslik, J.-O.**, Michels, R., Ötting, M. (2024). PEP: a tackle value measuring the prevention of expected points. Preprint, arXiv:2407.08508.

Mews, S., **Koslik, J.-O.**, Langrock, R. (2024). How to build your latent Markov model — the role of time and space. Preprint, arXiv:2406.19157.

**Koslik, J.-O.**, Feldmann, C.C., Mews, S., Michels, R., Langrock, R. (2023). Inference on the state process of periodically inhomogeneous hidden Markov models for animal behaviour. Preprint, arXiv:2312.14583.

## SOFTWARE

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I have developed and participated in developing software packages for the R programming language:

- **LaMa**: Fast and convenient likelihood evaluation for latent Markov models like HMMs, HSMMs, SSMs and point processes. <https://cran.r-project.org/package=LaMa>
- **EgoCor**: Simple Presentation of Estimated Exponential Semi-Variograms. <https://cran.r-project.org/package=EgoCor>

## TEACHING

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### Workshops

*Using hidden Markov models to uncover ecological state dynamics from biologging data*  
One-day workshop in Tokyo, Japan.

March 2024

### Tutorials

Bielefeld University

2023 – today

- Mathematics (Bachelor level)
- Hidden Markov Models (Master level)
- Statistical Consulting (Master level)
- Generalised Linear Models (Master level)

Bielefeld University of Applied Sciences

2018 – 2020

- Statistics for Economists (Bachelor level)
- Mathematics for Economists (Bachelor level)

## GRANTS AND AWARDS

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**German public-private scholarship** (Deutschlandstipendium)

2019 – 2020 and 2022 – 2023

**Mobility grant of the Bielefeld Graduate School in Theoretical Sciences (BGTS)**

## PRESENTATIONS

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*Efficient smoothness selection for nonparametric Markov-switching models via quasi restricted maximum likelihood*

Invited talk, University of St Andrews, Scotland, February 2025

*Efficient smoothness selection for nonparametric Markov-switching models via quasi restricted maximum likelihood*

Invited talk, University of Göttingen, Germany, September 2024

*Exploring hidden dynamics: statistical inference in periodically inhomogeneous hidden Markov models for animal behaviour*

Talk at the Royal Statistical Society Conference (RSS), Brighton, UK, September 2024

*Inference on the state process of periodically inhomogeneous hidden Markov models for animal behaviour*

Talk at the International Statistical Ecology Conference (ISEC), Swansea, Wales, July 2024

*Mitigating consequences of the Markov assumption*

Poster at the 18. doctoral workshop of the Bielefeld Graduate School of Economics and Management (BiGSEM), Bielefeld University, Germany, December 2023

*Mitigating consequences of the Markov assumption*

Talk at the Center for Statistics, Bielefeld University, Germany, October 2023

## COMMUNITY INVOLVEMENT

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### Reviewer

- Journal of Computational and Graphical Statistics
- Journal of the Royal Statistical Society Series C
- Computational Statistics and Data Analysis
- Methods in Ecology and Evolution
- Movement Ecology
- TEST

## SKILLS

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- **Programming:** R (including Rcpp), C++, Python
- **Tools:** LaTeX, git, SQL
- **Languages:** German, English

## VOLUNTEERING

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| <b>Member of the student council</b> (Data Science & Statistical Science)<br>Bielefeld University, Germany | 2021-2023 |
| <b>Representing the interests of student assistants</b> (SHK-Rat)<br>Bielefeld University, Germany         | 2022      |
| <b>Voluntary service</b><br>AWO nursery school Werther, Germany  | 2016-2017 |