

Short CV

Contact details

Prof. Dr. Philipp Otto
 Institut für Kartographie und Geoinformatik
 Leibniz Universität Hannover

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Scientific career

- 04.2020 – 03.2021 **Stand-in professor (W3)**: “Spatial Data Analysis and Statistical Learning”, Faculty of Economics, University of Göttingen
- since 09.2018 **Junior professor (W1)**: “Big Geospatial Data“, Institute of Cartography and Geoinformatics, Faculty of Civil Engineering and Geodesy, Leibniz University Hannover
- 01.2017 – 12.2018 **Junior research group leader**: “Detection and Surveillance of Spatial and Spatiotemporal Clusters“, European University Viadrina

Education

- 04.2012 – 11.2016 **Dr. rer. pol.**: Chair of Quantitative Methods, esp. Statistics, Prof. Dr. Wolfgang Schmid, European University Viadrina, Frankfurt (Oder), Title of the dissertation: “*Spatial and Spatiotemporal Stochastic Processes - Modelling and Detection of Spatial Structural Breaks with Applications in Economics and Biometrics*“ (summa cum laude)
- 10.2008 – 09.2011 **Bachelor of Science**: European University Viadrina, “International Economics”

Memberships in scientific societies, journal reviews

- since 02.2013 **Treasurer** of the German Statistical Society
- since 08.2020 **Associate editor** of AStA - Advances in Statistical Analysis, Environmetrics
- since 01.2017 **Reviewer** for Journal of Econometrics, Environmetrics, Computational Statistics, Stochastic Environmental Research and Risk Assessment, Annals of Regional Science i.a.
- since 01.2010 **Member** of the DMV, DStatG, Fachgruppe Stochastic, ASA, TIES, IASC, GDS, Rotary Frankfurt (Oder) among others

Publications in peer-reviewed journals and book chapters

- 2021 Otto, P., Piter, A., Gijssman, R.: Statistical Analysis of Beach Profile Evolution and External Influences: Applying a Spatiotemporal Functional Approach. Coastal Engineering (online first)

- Merk, M., Otto, P.: Estimation of the spatial weighting matrix for regular lattice data – An adaptive lasso approach with cross-sectional resampling. *Environmetrics* (online first)
- Merk, M., Otto, P.: Directional spatial autoregressive dependence in the conditional first- and second-order moments. *Spatial Statistics* (online first)
- Malinovskaya A., Otto, P.: Online network monitoring. *Statistical Methods & Applications, Special Issue on Network Modelling* (online first)
- Malinovskaya A., Otto, P., Peters, T.: Statistical learning for change point and anomaly detection in graphs. arXiv:2011.06080 (accepted: Springer Handbook on Artificial Intelligence, Big Data, Data Science and Machine Learning in Statistics)
- 2020 Merk, M., Otto, P.: Estimation of Anisotropic, Time-Varying Spatial Spillovers of Fine Particulate Matter Due to Wind Direction. *Geographical Analysis* 52(2).
- Otto, P., Otto, P.: Impact of academic authorship characteristics on article citations. *REVSTAT* (online first)
- Otto, P.: Parallelized Monitoring of Dependent Spatiotemporal Processes. *Frontiers of Statistical Quality Control* 13.
- Garthoff, R., Otto, P.: Spatiotemporal procedures for the statistical surveillance of spatial autoregressive models with heavy tails. *Communications in Statistics - Simulation and Computation* (online first)
- 2019 Antoniuk, A., Merk, M., Otto, P.: Spatial Statistics, or how to extract knowledge from data. *Handbook of Big Geospatial Data. Springer Handbook Series in Computer Science*
- Otto, P.: spGARCH: An R-Package for Spatial ARCH and GARCH Models. *The R Journal* 11(2). S. 401-421.
- Otto, P., Schmid, W., Garthoff, R.: Stochastic Properties of Spatial and Spatiotemporal ARCH Models. *Statistical Papers*. S. 1-16.
- 2018 Otto, P., Schmid, W., Garthoff, R.: Generalised Spatial and Spatiotemporal Autoregressive Conditional Heteroscedasticity. *Spatial Statistics* 26
- Otto, P., Schmid, W.: Spatiotemporal Analysis of German Real Estate Prices. *The Annals of Regional Science* 60(1). S. 41–72.
- Otto, P., Schmid, W.: Discussion of “Statistical methods for network surveillance” by Daniel Jeske, Nathaniel Stevens, Alexander Tartakovsky, and James Wilson. *Applied Stochastic Models in Business and Industry* 34(4), S. 452-456.
- Garthoff, R., Otto, P.: Verfahren zur Überwachung räumlicher autoregressiver Prozesse mit externen Regressoren. *AStA Wirtschafts- und Sozialstatistisches Archiv*
- Garthoff, R., Otto, P.: Control charts for multivariate spatial autoregressive models. *AStA - Advances in Statistical Analysis* 101(1). S. 67-94.
- 2016 Otto, P., Schmid, W.: Detection of Spatial Change Points in the Mean and Covariances of Multivariate Simultaneous Autoregressive Models. *Biometrical Journal* 58(5). S. 1113-1137.

Lange, A.-L., Otto, P.: Bayes'sche Statistik in der Dienstleistungsforschung. AStA Wirtschafts- und Sozialstatistisches Archiv 10(4). S. 247–267.

2015 Otto, P.: A Note on Efficient Simulation of Multidimensional Spatial Autoregressive Processes. Communications in Statistics - Simulation and Computation 46(6). S. 4547-4558.

Statistical Software

2018 Otto, P.: R-Package **spGARCH**. A collection of functions to deal with spatial and spatiotemporal autoregressive conditional heteroscedasticity (spatial ARCH and GARCH models).

Text books

2017 Otto, P., Lange, A.-L.: Arbeitsbuch der Angewandten Statistik - Mit Aufgaben zur Software R und detaillierten Lösungen. Springer & Gabler, Heidelberg