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Christoph Kern

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Work Experience

- 06/2018–present **Visiting Assistant Professor**
Joint Program in Survey Methodology (JPSM), College of Behavioral and Social Sciences, University of Maryland
- 06/2018–08/2018 **Visiting Researcher**
Center for Data Science and Public Policy (DSaPP), University of Chicago
- 02/2017–present **Post-Doctoral Researcher**
Professorship for Statistics and Methodology (Prof. Dr. F. Kreuter, Prof. Dr. F. Keusch), Department of Sociology, University of Mannheim (on leave 06/2018–12/2018)
- 02/2014–09/2016 **Research Associate**
Research project “*Modeling dyadic decision-making processes of regional mobility and their labour market outcomes*”, funded by the German Research Foundation (DFG) ([STE 1054/6-1](#)), University of Duisburg-Essen
- 04/2011–03/2017 **Research Associate**
Chair of Empirical Social Research and Statistics (Prof. Dr. P. Stein), Institute of Sociology (IfS), University of Duisburg-Essen
- 04/2011–08/2011 **Research Associate**
Research Unit “Flexibility and Security” (FLEX), Institute for Work, Skills and Training (IAQ), University of Duisburg-Essen
- 10/2009–02/2011 **Undergraduate Research Assistant**
Chair of Empirical Social Research and Statistics (Prof. Dr. P. Stein), Institute of Sociology (IfS), University of Duisburg-Essen

Education

- 12/2016 **Dr. rer. pol. (Ph.D.)** (summa cum laude)
Dissertation “*Dyadische Modellierung des Entscheidungsprozesses regionaler Arbeitsmarktmobilität*” (“*Modeling dyadic decision-making processes of regional mobility*”); Primary adviser: Prof. Dr. P. Stein, secondary adviser: Dr. B. Weiß, University of Duisburg-Essen
- 10/2005–02/2011 **Dipl. Soz.-Wiss. (Bachelor & Masters in Sociology)** (1,3)
Major in Methods for Empirical Social Science Research, Minors in Analysis of Social Structures, Sociological Theory and Psychology, University of Duisburg-Essen

Training

- 07/2018 JSM Continuing Education Course “Master the Tidyverse: An Introduction to R for Data Science”, Vancouver (Canada)
- 07/2017 ESRA Short Course “Applications of Big Data to Social Sciences”, Lisbon (Portugal)
- 08/2016 JSM Continuing Education Course “A Statistical Approach to Machine Learning: Boosting, Nearest Neighbors, Random Forests and Support Vector Machines”, Chicago (USA)
- 07/2015 ESRA Short Course “Multilevel Structural Equation Modeling”, Reykjavik (Iceland)
- 08/2014 GESIS Summer School “Sampling, Weighting and Estimation”, Cologne (Germany)
- 09/2012 GESIS Spring Seminar “Mathematical Tools for Social Scientists”, Cologne (Germany)
- 09/2011 Datalab “Analysis of longitudinal data”, Bielefeld (Germany)

Research Grands & Awards

- 2017 Best Doctoral Dissertation Award awarded by the Sparkasse Duisburg for the dissertation “*Dyadische Modellierung des Entscheidungsprozesses regionaler Arbeitsmarktmobilität*”
- 2015 Early Career Award provided by the European Survey Research Association for the paper “*Comparing coefficients of nonlinear multivariate regression models between equations*” (jointly with Petra Stein)
- 2014 Research Grant awarded by the German Research Foundation (DFG) for the proposal “*Modeling dyadic decision-making processes of regional mobility and their labour market outcomes*” (jointly with Petra Stein), €111,800
- 2013 Research Grant awarded by the Main Research Area “Transformation of contemporary societies” of the University of Duisburg-Essen, €6,900

Reviews for Journals

Zeitschrift für Soziologie (ZfS)

Professional Affiliations

UseR Group Bochum/Ruhr

American Statistical Association (ASA)

American Association for Public Opinion Research (AAPOR)

European Survey Research Association (ESRA)

Sektion Methoden der empirischen Sozialforschung der Deutschen Gesellschaft für Soziologie (DGS)

Publications

Books

- [1] Kern, C. (2017). Dyadische Analyse regionaler Arbeitsmarktmobilität. Modellierung von Entscheidungsprozessen im Mehrebenenkontext. Wiesbaden: Springer VS. doi:[10.1007/978-3-658-17435-4](https://doi.org/10.1007/978-3-658-17435-4)

Refereed Journal Articles

- [2] Kern, C. and Stein, P. (2018). Modelling Decision-Making Processes of Regional Mobility in a Dyadic Framework. *European Sociological Review* 34 (4), 433–451. doi:[10.1093/esr/jcy012](https://doi.org/10.1093/esr/jcy012)
- [3] Kern, C. and Stein, P. (2015). Comparing coefficients of nonlinear multivariate regression models between equations. *Survey Research Methods* 9 (3), 159–167. doi:[10.18148/srm/2015.v9i3.6211](https://doi.org/10.18148/srm/2015.v9i3.6211)
- [4] Kern, C. (2015). Modeling Mobility Dispositions from a Multilevel Perspective. *Schmollers Jahrbuch – Journal of Contextual Economics* 135 (1), 23–34. doi:[10.3790/schm.135.1.23](https://doi.org/10.3790/schm.135.1.23)

Book Chapters

- [5] Stein, P. and Kern, C. (2018). Konzeption eines dyadischen Modells zur Analyse von Entscheidungsprozessen räumlicher Arbeitsmarktmobilität im Mehrebenenkontext. In: Quack, S., Schulz-Schaeffer, I., Shire, K., Weiß, A. (Eds.): *Transnationalisierung der Arbeit*. Wiesbaden: Springer VS. doi:[10.1007/978-3-658-20939-1](https://doi.org/10.1007/978-3-658-20939-1)
- [6] Stein, P. and Kern, C. (2015). Dyadische Modellierung regionaler Arbeitsmarktmobilität. In: Lessenich, S. (Ed.): *Routinen der Krise – Krise der Routinen*. Verhandlungen des 37. Kongresses der Deutschen Gesellschaft für Soziologie in Trier 2014.

Conference / Working Papers

[7] Kern, C. and Stein, P. (2016). Effect Comparison in Multilevel Structural Equation Models with Non-Metric Outcomes. *JSM Proceedings, Social Statistics Section*. Alexandria, VA: American Statistical Association. 3892–3901.

[8] Kern, C. (2014): Regional structures and mobility dispositions: A multilevel proportional- & partial-proportional odds approach. *SOEP-papers on Multidisciplinary Panel Data Research* 681. DIW Berlin. doi:[10.2139/ssrn.2493094](https://doi.org/10.2139/ssrn.2493094)

Book Reviews

[9] Stein, P. and Kern, C. (2016). Rezension: Friedrichs, J. and Nonnenmacher, A. (Eds.), 2014: *Soziale Kontexte und Soziale Mechanismen*. *Soziologische Revue* 39 (3), 480–484. doi:[10.1515/srsr-2016-0064](https://doi.org/10.1515/srsr-2016-0064)

Presentations

2018 Kern, C. (2018). Predicting Panel Drop-Outs with Machine Learning. *JSM 2018, Invited Session: Improving Survey Data Quality with Machine Learning Techniques*, Vancouver.

Weiß, B., Kolb, J.-P. and Kern, C. (2018). Using Predictive Modeling in Survey Methodology to Identify Panel Nonresponse. *JSM 2018, Speed Session: Missing Survey Data: Analysis, Imputation, Design, and Prevention*, Vancouver.

Kern, C. (2018). Data-driven Prediction of Panel Attrition. *AAPOR Conference 2018, Session: Tinkering with Tradition: Using Machine Learning Methods and Big Data to Refine Survey Designs and Improve Survey Participation*, Denver.

2017 Kern, C. (2017). Modeling decision-making processes of regional mobility in a dyadic framework. *MZES AB A-Colloquium*, Mannheim.

Kern, C. (2017). Data-driven Prediction of Panel Nonresponse. *GESIS Panel Research Colloquium*, Mannheim.

Kern, C. (2017). Data-driven Prediction of Panel Nonresponse. *ESRA Conference 2017, Session: Different methods, same results?* Lisbon.

Kern, C. and Stein, P. (2017). Effect Comparison in Multilevel Structural Equation Models with Non-Metric Outcomes. *Meeting of the Working Group Structural Equation Modeling*, Ghent.

2016 Kern, C. and Stein, P. (2016). Dyadische Modellierung des Entscheidungsprozesses räumlicher Mobilität im Mehrebenenkontext. *DGS-Kongress 2016, Ad-hoc-Gruppe: Dyadische Datenanalyse*, Bamberg.

Kern, C. and Stein, P. (2016). Effect comparison in nonlinear dyadic mixed-effects models between equations. *ASA 2016, Session: Quantitative Methodology*, Seattle.

Kern, C. and Stein, P. (2016). Effect comparison in nonlinear dyadic mixed-effects models between equations. *JSM 2016, Speed Session: Statistics for Education and Social Sciences Research*, Chicago.

- Kern, C. (2016). Effektvergleiche in dyadischen Mehrebenenmodellen mit nicht-metrischen abhängigen Variablen. Frühjahrstagung der DGS-Sektion Methoden der empirischen Sozialforschung, Duisburg.
- Kern, C. and Stein, P. (2016). Implicit rescaling in multivariate mixed-effects models with nonmetric outcomes. DAGStat 2016 – Statistics under one umbrella, Session: Structural Equation Modelling, Göttingen.
- 2015 Stein, P. and Kern, C. (2015). Effect comparison in nonlinear dyadic models. ESA Conference 2015, Session: RN21 Quantitative Methods, Prague.
- Kern, C. and Stein, P. (2015). Comparing coefficients of nonlinear multivariate regression models between equations. ESRA Conference 2015, Session: Interaction effects and group comparisons in nonlinear models, Reykjavik.
- 2014 Stein, P. and Kern, C. (2014). Dyadische Modellierung regionaler Arbeitsmarktmobilität. DGS-Kongress 2014, Sektion: Methoden der empirischen Sozialforschung, Trier.
- Stein, P. and Kern, C. (2014). Modellierung von dyadischen Entscheidungsprozessen räumlicher Mobilität und ihren Konsequenzen. Poster presentation, DGS-Kongress 2014, Trier.
- Stein, P. and Kern, C. (2014). Regional structures and mobility dispositions: A multilevel proportional- & partial-proportional odds approach. 11th International German Socio-Economic Panel User Conference, Berlin.
- Stein, P. and Kern, C. (2014). Modeling Dyadic Decision-making Processes of Regional Mobility and their Labor Market Outcomes. Workshop Transnational Labor Markets: Bridging Different Regulatory and Cultural Contexts, Duisburg.

Teaching

Courses

University of Mannheim

FSS 2018 *Machine Learning in the Social Sciences*

HWS 2017 *Research Practicum II* (in German)

FSS 2017 *Machine Learning in the Social Sciences*

FSS 2017 *Research Practicum I* (in German)

University of Duisburg-Essen

WS 2016/17 *An Introduction to Machine Learning in R* (in German)

SS 2016 *Advanced Regression Methods in R* (in German)

SS 2014, 2015 *Regression Models for Categorical Dependent Variables* (in German)

SS 2013 *Essential Mathematics for Social Research* (in German)

SS 2012	<i>An Introduction to Stata and R</i> (in German)
SS 2012	<i>Research Practicum II</i> (in German)
WS 2011/12	<i>Research Practicum I</i> (in German)
WS 2011/12 – WS 2015/16	<i>Data Analysis Programmes</i> (in German)
	Short Courses
03/21/2018 – 03/22/2018	<i>Machine Learning for Social Science</i> , Workshop w. M. Schierholz and J. Geßendorfer, IAB Nürnberg
02/06/2018 – 02/07/2018	<i>Machine Learning for Social Science</i> , Workshop w. M. Schierholz and J. Geßendorfer, IAB Nürnberg
10/2017 – 12/2017	<i>Applied Data Analytics</i> (https://coleridgeinitiative.org/), Teaching Assistance for Module 1, 2 and 4 at the University of Maryland
11/15/2017 – 11/17/2017	<i>Big Data Analysis</i> , Workshop w. F. Kreuter, M. Schierholz and S. Sternberg, Bundesbank Frankfurt
10/20/2017	<i>Introduction to Web Scraping and Machine Learning</i> , Workshop w. M. Schierholz at the University of Bremen
04/08/2017	<i>CART and Random Forests in R</i> , Short Tutorial at DataFest 2017, Mannheim
01/16/2017 – 01/17/2017	<i>An Introduction to R</i> (in German), Workshop at Sozialwissenschaftliches Umfragezentrum (SUZ), Duisburg
11/24/2015	<i>Objects, Matrices and Simulations in R</i> (in German), Short course at the University of Duisburg-Essen
05/16/2013	<i>An Introduction to R</i> (in German), Short course at the University of Duisburg-Essen
	Tutoring
	University of Duisburg-Essen
WS 2010/11	<i>Multivariate Data Analysis</i> (in German)
SS 2010	<i>Longitudinal Data Analysis</i> (in German)
SS 2010	<i>Statistical Classification in the Social Sciences</i> (in German)
WS 2009/10	<i>Latent Variable Models</i> (in German)