# Ruben Lukas Bach

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February 2022

## AFFILIATIONS
***Project Director***. Mannheim Centre for European Social Research (MZES, since 07/2020).
***Postdoctoral Researcher***, School of Social Sciences, University of Mannheim and Collaborative Research Center SFB 884 "Political Economy of Reforms", University of Mannheim (since 01/2018).

## PREVIOUS POSITIONS
***Assistant Research Professor***. College of Behavioral and Social Sciences, Joint Program in Survey Methodology, University of Maryland, College Park, MD (08/2020 - 01/2021; 08/2021 - 01/2022).
***Visiting Scholar***, Institute for Social Research, University of Michigan-Ann Arbor (09 - 12/2017).
***Research Associate & PhD Student***, Statistical Methods Department, Institute for Employment Research (IAB), Nuremberg and Joint Graduate Program (IAB and University of Erlangen-Nuremberg) (02/2015 - 01/2018).

## AREAS OF INTEREST & EXPERTISE
Social impact of AI, Big Data, Fair Machine Learning, New Data Sources for Social Research (Web Logs, Search Queries, Reddit), Political Communication (Online News Exposure, Alternative News), Survey Methodology.

## EDUCATION
***Dr. rer. soc.*** *(Sociology)*, University of Mannheim (03/2018).
***M.Sc.*** *(Socio-Economics)*, Friedrich-Alexander University Erlangen-Nuremberg (01/2015).
***B.A.*** *(Social Sciences)*, Heinrich-Heine University Düsseldorf (09/2012).

## PUBLICATIONS
***Peer Reviewed Journal Articles***

2022 Gerdon, F., **Bach, R.**, Kern, C., and Kreuter, F. Social Impacts of Algorithmic Decision-Making: A Research Agenda for the Social Sciences. *Big Data & Society*. Forthcoming.

2021 Amaya, A., **Bach, R.**, Keusch, F., and Kreuter, F. New Data Sources in Social Science Research: Things to Know Before Working with Reddit Data. *Social Science Computer Review*. 39(5), 943–960. (`https://doi.org/10.1177/0894439319893305`)

**Bach, R.**, Kern, C., Amaya, A., Keusch, F., Kreuter, F., Hecht, J., and Heinemann, J. Predicting Voting Behavior Using Digital Trace Data. *Social Science Computer Review*. 39(5), 862–883. (`https://doi.org/10.1177/0894439319882896`)

Eckman, S. and **Bach, R.** Panel Conditioning in the U.S. Consumer Expenditure Survey. *Journal of Official Statistics*, 37(1), 53–69. (`https://doi.org/10.2478/jos-2021-0003`)

Gerdon, F., Nissenbaum, H., **Bach, R.**, and Kreuter, F. Individual Acceptance of Using Health Data for Private and Public Benefit: Changes During the COVID-19 Pandemic. *Harvard Data Science Review*, Special Issue 1 - COVID-19: Unprecedented Challenges and Chances. (`https://doi.org/10.1162/99608f92.edf2fc97`)

Gummer, T., **Bach, R.**, Daikeler, J., and Eckman, S. The relationship between response propensities and data quality in grid questions. *Survey Research Methods*, 15(1), 65–77. (`https://doi.org/10.18148/srm/2021.v15i1.7727`)

Haas, G.-C., Eckman, S., and **Bach, R.**. Comparing Response Burden between Paper and Web Modes in Establishment Surveys. *Journal of Official Statistics*, 37(4), 907–930.

Müller, P. and **Bach, R.**. Populist Alternative News Use and Its Role for Elections: Web-Tracking and Survey Evidence from Two Campaign Periods. *New Media & Society*. Online first. (https://doi.org/10.1177/14614448211032969)

2020 Altmann, S., Milsom, L., Zillessen, H., Blasone, R., Gerdon, F., **Bach, R.**, Kreuter, F., Nosenzo, D., Toussaert, S., and Abeler, J. (2020) Acceptability of app-based contact tracing for COVID-19: Cross-country survey evidence. *JMIR mHealth and uHealth*, 8(8), e19857. (https://doi.org/10.2196/19857)

**Bach, R.** and Eckman, S. Rotation Group Bias in Reporting of Household Purchases in the U.S. Consumer Expenditure Survey. *Economic Letters*, 187. (https://doi.org/10.1016/j.econlet.2019.108889)

**Bach, R.**, Eckman, S., and Daikeler, J. Misreporting Among Reluctant Respondents. *Journal of Survey Statistics and Methodology*, 8(3), 566–588. (https://doi.org/10.1093/jssam/smz013)

**Bach, R.** and Wenz, A. Studying health-related internet and mobile device use using web logs and smartphone records. *PLOS One*, 15(6), e0234663. (https://doi.org/10.1371/journal.pone.0234663)

Daikeler, J., **Bach, R.**, Eckman, S., and Silber, H. Motivated Underreporting in Mobile Phone Surveys. *Social Science Computer Review*. Online first. (https://doi.org/10.1177/0894439319900936)

2019 **Bach, R.** and Eckman, S. Participating in a Panel Study Changes Respondents' Labour Market Behaviour. *Journal of the Royal Statistical Society: Series A (Statistics in Society)*, 182(1), 263–281. (https://doi.org/10.1111/rssa.12367)

2018 **Bach, R.** and Eckman, S. Motivated Misreporting in Web Panels. *Journal of Survey Statistics and Methodology*, 6(3), 418—430. (https://doi.org/10.1093/jssam/smx030)

### Book Chapters
2021 **Bach, R.** A Methodological Framework for the Analysis of Panel Conditioning Effects. In Cernat, A. and Sakshaug, J. (Eds.). *Measurement Error in Longitudinal Data*. Oxford: Oxford University Press, 19–41. (https://doi.org/10.1093/oso/9780198859987.003.0002)

2020 Amaya, A., **Bach, R.**, Keusch, F. and Kreuter, F. (2020). Measuring Attitude Strength in Social Media Data. In Hill, C.A., et al. (Eds.) *Big Data Meets Survey Science*. Hoboken, NJ: Wiley, 163–192. (https://doi.org/10.1002/9781118976357.ch5)

### Working Papers
2021 Kern, C., **Bach, R.**, Mautner, H. and Kreuter, F. Fairness in Algorithmic Profiling: A German Case Study *arXiv*, 2108.04134. (https://arxiv.org/abs/2108.04134)

Kuppler, M., Kern, C., **Bach, R.**, and Kreuter, F. Distributive Justice and Fairness Metrics in Automated Decision-Making: How Much Overlap Is There? *arXiv*, 2105.01441. (https://arxiv.org/abs/2105.01441)

2020 Abeler, J., Altmann, S., **Bach, R.**, Gerdon, F., Kreuter, F., Milsom, L., Toussaert, S. and Zillessen, H. Akzeptanz App-basierter Kontaktnachverfolgung von Covid-19. (https://osf.io/z6ws4/)

Altmann, S., Milsom, L., Zillessen, H., Blasone, R., Gerdon, F., **Bach, R.**, Kreuter, F., Nosenzo, D., Toussaert, S. and Abeler, J. Acceptability of app-based contact tracing for COVID-19: Cross-country survey evidence. *MedRxiv preprint*. (https://www.medrxiv.org/content/10.1101/2020.05.05.20091587v1

2017 **Bach, R.** and Eckman, S. Does Participating in a Panel Study Change Respondents' Labour Market Behaviour? *IAB Discussion Paper*, 15/2017. (http://doku.iab.de/discussionpapers/2017/dp1517.pdf)

### Manuscripts in Submission
**Bach, R.**, Kern, C., Bonnay, D., and Kalaora, L. Understanding political news media consumption with digital trace data and deep learning. (*R&R, Journal of the Royal Statistical Society: Series A (Statistics in Society)*)

**Bach, R.**, Kern, C., Mautner, H., and Kreuter, F. Statistical profiling of the unemployed: The impact of modeling decisions on prediction performance and beyond. (*Journal of the Royal Statistical Society: Series A (Statistics in Society)*)

### Ongoing Projects

Filter Bubbles, Political Polarization and Selective News Exposure. (with Areal Neto, J.)

Fair Algorithmic Profiling of Job Seekers (with Kern, C. and Kreuter, F.)

Consequences of Artificial Intelligence for Urban Societies (with Eckert, K., Kern, C. Kreuter, F., and Stuckenschmidt, H.)

## INVITED TALKS
Business Intelligence and Data Warehouse Unit, Federal Employment Agency (Nuremberg, 2021). Department of Computational Social Science, GESIS - Leibniz Institute for the Social Sciences (Cologne, 2020). Institute for Social Research, University of Michigan (Ann Arbor, MI, 2017). U.S. Bureau of Labor Statistics (Washington, D.C., 2016). Department of Sociology, Ludwig-Maximilians-University (Munich, 2015).

## CONFERENCE PRESENTATIONS (selection)
AAPOR: 2016, 2017, 2019, 2021; BigSurv: 2018; ESRA: 2015, 2017, 2019; GOR: 2019, 2021; JSM: 2015, 2016, 2021; MOLS II, 2018; RC33: 2021.

## TEACHING
### University of Mannheim
*Longitudinal Data Analysis* (6 ECTS graduate course), Spring Semester (2022). *Research Design: Causal Inference* (6 ECTS graduate course), Fall Semester (2018, 2019, 2021). *Master's Thesis Colloquium Sociology* (3 ECTS graduate course), Spring Semester (2019). *Introduction to Big Data & Analytics*, Summer School, Mannheim Business School (2019, 2020). *Research Practicum: Big Data in the Social Sciences I* (in German; 6 ECTS undergraduate course), Spring Semester (2018, 2020, 2021). *Research Practicum: Big Data in the Social Sciences II*, (in German; 10 ECTS undergraduate course), Fall Semester (2020).

### University of Maryland, College Park
*Fundamentals of Computing and Data Display* (graduate course), Fall Semester (2020, 2021).

### University of Erlangen-Nuremberg
*Introduction to Web Surveys* (in German; 5 ECTS undergraduate course), Winter Semester (2017/2018).

### Theses supervision
*Areal Neto, J. (PhD, Political Science:* Polital Polarization, News Exposure and Negative Political Identities (working title). *Dzajchow, D. (M.Sc. Data Science):* Prediction of User Traits Based on Web Log Data and Online Content Using Machine Learning and Natural Language Processing. *Stukas, M. (M.A. Political Science):* Political Polarization Through Selective Exposure on Social Media and News Portals? *Gerdon, F. (M.A. Sociology):* Should I Share? Normative Foundations of Privacy Behavior and an Empirical Investigation of Contextual Determinants of Sharing Norms. *Kennedy, A. C. G. (M.Sc. Business Informatics):* Machine Learning for Survey Design and Survey Imputation. *Schwerdtfeger, M. (M.A. Sociology):* Broadband Internet Access and Nonresponse in Online Panels.

## GRANTS & AWARDS
"Consequences of Artificial Intelligence for Urban Societies – CAIUS" (VolkswagenStiftung, Co-PI with Kai Eckert, Christoph Kern, Frauke Kreuter and Heiner Stuckenschmidt, 2020-2024, 1,459,000 €, own share 169,500 €), "Filter Bubbles, Alternative News and Political Polarization" (Postdoctoral Fellowship 2020 of the Baden-Württemberg Stiftung, 2021–2023, 159,900 €), "Fairness in Automated Decision Making – FairADM" (Baden-Württemberg Stiftung, Co-PI with Frauke Kreuter and Christoph Kern, 2020–2022, 203,787 €), Best Paper by Young Scholar Award (RC 33 Logic and Methodology in Sociology, 2021, 300 €; Paper: Bach & Eckman, 2019, *JRSS-A*), Lorenz-von-Stein Dissertation Award (MZES, 2019, 1,000 €), Burns "Bud" Roper Fellow Award (AAPOR, 2019, 1,000 $), Travel Awards (BigSurv18, 2018, 1,000 € and AAPOR, 2017, 800 $), Student Paper Award (MOLS II Conference, 2018; Paper: Bach, 2021), Fully-funded three-year PhD Scholarship (IAB, 2015-2017, 47,600 €).