

Curriculum Vitae

Dr. Sebastian Block

Computational Social Scientist

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Contact Information

Google Scholar: <https://scholar.google.de/citations?user=1nShVPoAAAAJ&hl=de&oi=ao>

LinkedIn: <https://www.linkedin.com/in/sebastian-block-29474b375/>

Profile

I am a computational social scientist driven by a fascination for making abstract social and philosophical concepts measurable. What drives me is finding the signal in the noise by linking theory and empirical analysis and turning complex questions from a broad range of social science research areas such as societal inequality, collective decision making, and trust into testable research. My work combines quantitative and computational methods such as survey analysis and text-as-data approaches, including geotagging and measures of text complexity, and extends to human-AI interaction, calibration, and uncertainty estimation to improve transparency and interpretability. I am especially interested in artificial intelligence both as a methodological tool for social science research and as a social phenomenon in itself, examining its impact on society and how it may reinforce or mitigate inequalities, for example through differences in AI literacy and the widening digital divide, as well as how it shapes information processes and trust in AI.

Research Interests

measurement of abstract and theoretical concepts • computational content analysis • connecting survey and digital trace data • human–AI collaboration • AI attitudes and trust • social inequality

Key Methodological Competencies

- **Survey & microdata analysis:** questionnaire design, sampling and weighting, scale construction, data linkage and cleaning, handling of missing data.
- **Longitudinal and multilevel analysis:** panel data, fixed and random effects models.
- **Causal inference approaches:** familiarity with quasi-experimental designs (e.g., matching & instrumental variables) and their theoretical foundations.
- **Experimental methods:** strong understanding of survey and embedded experiments (e.g. survey experiments), including design logic, randomization principles, and analytical evaluation
- **Text-as-data & digital trace analysis:** corpus construction, annotation, text classification and measurement from text, multimodal data integration.
- **Measurement & validation:** operationalization of theoretical constructs, reliability and validity testing.
- **Programming languages:** R (advanced), Python (advanced), Stata (working knowledge).

Academic Positions

- 04/2026 – today **Postdoc**, Booster Research Unit “Social, Computational, and Ethical Premises of Trust and Informational Cohesion” – SCEPTIC, Carl von Ossietzky Universität Oldenburg Ludwig-Maximilians-Universität München
Chair: AG Sociology of Social Inequalities (Prof. Dr. Gundula Zoch)
- 10/2024 – 03/2024 **Postdoc**, Institute of Sociology, Ludwig-Maximilians-Universität München
Chair: Computational Social Science (Prof. Dr. Carsten Schwemmer)
- Researches AI attitudes, trust, and literacy through the lens of individual characteristics, focusing on generational and ideological differences and inequalities in AI use and trust.
 - Combines the aforementioned with methodological work on human–AI interaction, transparency, and uncertainty calibration to make AI systems more interpretable and usable.
 - Develops computational text-as-data methods for social science research, including approaches for geotagging and developing measures of text complexity in sociological analysis.
 - Involved in interdisciplinary grant development, international journal publications, and coordination of student research assistants.
 - Teaches substantive and methodological courses in computational social science, including lectures and seminars on quantitative and computational research approaches.
- 10/2022 – 09/2024 **Research Associate**, Institute of Political Science, Leibniz Universität Hannover
Chair: Quantitative Methods (Prof. Dr. Dominic Nyhuis)
- Conducted research in computational social science, applying quantitative, machine-learning, and NLP approaches to large-scale social science datasets.
 - Developed a method to identify the most impactful words in texts, forming the basis for a new measure of issue salience in political party manifestos and enabling large-scale measurement at the German local level.
 - Originated and co-developed an interdisciplinary grant proposal combining game theory and computer science via deep reinforcement learning to model strategic interaction dynamics.
 - Published single- and co-authored papers in international peer-reviewed journals, supervised student assistants, taught and supervised theses in quantitative and computational methods at BA and MA level.
- 01/2020 – 09/2022 **Research Associate**, Geschwister-Scholl-Institute, Ludwig-Maximilians-Universität München
DFG project: Representation and inequality in local politics (PD Dr. Martin Gross, LMU/ Dr. Dominic Nyhuis, UNC)
- Conducted research on political representation, social inequality, and local politics, combining quantitative and computational approaches to study local political actors and decision-making.
 - Developed a human-AI collaboration approach for text classification, using calibrated ensemble classifiers and simulation-based quality estimation to identify cases requiring human validation.
 - Built large-scale datasets from municipal council information systems through automated web scraping, cleaning, and harmonization, and automatically topic-coded the collected documents.
 - Coordinated a team of 5 student assistants, organized training workshops, and contributed to project publications and the DFG project report.
 - Taught undergraduate seminars on representation and political participation linking theoretical and empirical comparative perspectives.

Education

- 03/2021 – 05/2024 PhD Candidate, Geschwister-Scholl-Institute, Ludwig-Maximilians-Universität München
Dissertation: “*Computational Science Methods In Social Science Research*”
Grade: Summa cum laude
Supervisors: PD Dr. Martin Gross (LMU) & Prof. Dr. Carsten Schwemmer (LMU)
- 04/2017 – 12/2019 M.A. Democratic Governance and Civil Society, Universität Osnabrück
Grade 1,0 with honours
- 10/2013 – 03/2017 B.A. Communications & Political Science, Johannes Gutenberg-Universität Mainz
Grade 1,8

Non-Academic Career

- 08/2009 – 12/2012 Paramedic, German Red Cross, Reutlingen

Scholarship

- 05/2017 – 08/2019 Academic Scholarship „Grundförderung für Deutsche und Bildungsinländer_Innen“ from the Friedrich-Ebert-Foundation

Additional Training

- 12/2022 Workshop, AI-Humanity-Society: LMU-TAU Workshop for Early-Career Researchers 2022
Led by Stefanie Walter (TUM) and Lior Zalmanson (TAU)
- 06/2021 Summer School, EITM Europe 2021 Summer Institute (auditor)
Courses: Statistical Foundations of EITM (James Lo; University of Southern California), Quantitative Text Analysis Using R (Ken Benoit; LSE), Linking Theory with Text as Data (Nicole Baerg; University of Essex)
- 12/2020 Workshop, LMU Munich
Course: Academic writing in English – The Politics of Publishing Politics: How to Get Your Research into Academic Journals for Political Science

Publications

Articles with peer review

Block, Sebastian. 2024. Parliamentary questions as an intra-coalition control mechanism in mixed regimes. *European Political Science Review* 16 (2), 298–314.

Block, Sebastian. 2025. Legislative Oversight and Control of Independent Portfolios: Government and Opposition Dynamics. *Government and Opposition* 60 (2), 517–538.

Gross, Martin, Dominic Nyhuis, **Sebastian Block**, and Jan A. Velimsky. 2024. Electoral Campaigns and Parliamentary Practice: Do Parties Pursue the Issues They Campaigned On? *Swiss Political Science Review* 30 (2), 89–107.

Gross, Martin, Dominic Nyhuis, **Sebastian Block**, and Jan A. Velimsky. 2025. The Impact of Institutional and Financial Constraints on Party Behaviour in Local Politics. *Swiss Political Science Review* 31 (2), 287–306.

Harmening, Morten, Jona-Frederik Baumert, **Sebastian Block**, Martin Gross, Dominic Nyhuis, and Jan A. Velimsky. 2025. Geographic representation in local politics: Evidence from parliamentary questions in German city councils. *European Journal of Political Research* 64 (2), 1999–2017.

Huber, Merle, **Sebastian Block**, and Tomas Ruiz. 2026. Incentivised Engagement: How Party Characteristics and Individual Factors Shape Politicians' TikTok Use. *Social Media + Society (Online First)*, 1–16.

Nyhuis, Dominic, **Sebastian Block**, Morten Harmening, and Mathias Henneke. 2025. Geographic representation in parliamentary questions: the benefits of Wikipedia for automated analyses of legislative text. *The Journal of Legislative Studies (Online First)*, 1–13.

Nyhuis, Dominic, **Sebastian Block**, Morten Harmening, and Tilko Swalve. 2026. Campaign Spending in Mixed Member Proportional Systems: How Political and Institutional Context Shapes Party Strategy. *Electoral Studies* (99), 1–14.

Nyhuis, Dominic, Jona-Frederik Baumert, Jinhyeok Choi, **Sebastian Block**, and Morten Harmening. 2025. Modeling Issue Competence over Time: A Bayesian Framework for Estimating Dynamic Issue Ownership. *Political Science Research and Methods (Online First)*, 1–18.

Velimsky, Jan A., **Sebastian Block**, Martin Gross, and Dominic Nyhuis. 2025. The impact of occupational background on issue representation. *West European Politics* 48 (3), 645–668.

Velimsky, Jan A., **Sebastian Block**, Martin Gross, and Dominic Nyhuis. 2024. Probing the Effect of Candidate Localness in Low-Information Elections: Evidence from the German Local Level. *Political Studies* 72 (3), 1090–1111.

Articles (non-refereed)

Block, Sebastian, Dominic Nyhuis, Martin Gross, Morten Harmening, and Jan A. Velimsky. 2024. Classifying Documents with Human-AI-Collaboration: Introducing the Human-AI Collaboration in Classification Utility Framework. *OSF Preprints* (<https://doi.org/10.31219/osf.io/5m8vx>).

Pollex, Jan, **Sebastian Block**, Martin Gross, Dominic Nyhuis, and Jan A. Velimsky. 2021. Ein zunehmend bunter Freistaat: Die Analyse der bayerischen Kommunalwahlen im März mit einem besonderen Fokus auf die kreisfreien Städte. *Zeitschrift für Parlamentsfragen* 52 (1), 78–94.

Dominic Nyhuis, Jan A. Velimsky, **Sebastian Block**, and Martin Gross. 2021. Die Kommunalwahlen in Nordrhein-Westfalen im September 2020: Starke Grüne und weiterer Absturz der SPD im Zeichen der Covid-19-Pandemie. *Zeitschrift für Parlamentsfragen* 53 (1), 120–134.

Third-Party Funding & Proposal Contributions

TRUST-MM (Trustworthy, Reliable, Uncertainty-Sensitive, and Transparent Multimodal Model).

Principal Investigator: **Sebastian Block**; Co-Investigators: Tomas Ruiz, Renata Topinková, and Carsten Schwemmer. Funding program: AI.BAY – Bavarian Initiative for Multimodal AI Foundation Models from the Bavarian State Ministry of Science and the Arts (currently under consideration).

Multi-Agent Deep Reinforcement Learning for Modeling Strategic Political Interactions.

Principal Investigators: **Sebastian Block**, Alexander Dockhorn, and Dominic Nyhuis. Funding program: Volkswagen Foundation – “Open Up” (Distributed Peer Review and Panel Review). Status: not funded 2024/25 round; DPR ranking score 3.38 (smaller is better), placing the proposal in the top quartile (~top 20–25%) of 140 submissions.

Teaching

Teaching evaluations (2023–2025): average overall grade 1.64 (EvaSys, scale 1–5 | 1 = very good).

Summer Term 2025:

- Lecture: Introduction to Computational Social Science (BA module: Fields of Sociology) (LMU)
- Seminar: Quantitative Text Analysis for the Social Sciences (MA module: Advanced Methods of Inequality Research) (LMU)

Winter Term 2024/2025:

- Lecture: Introduction to Computational Social Science (BA module: Fields of Sociology) (LMU)
- Seminar: Introduction to Data Scraping (MA module: Data Collection) (LMU)

Summer Term 2024:

- Seminar: Computational Social Science and the Analysis of Political Texts (BA & MA modules: Political Science Research Methods) (LUH)
- Seminar: Qualitative Content Analysis (BA & MA modules: Political Science Research Methods) (LUH)

Winter Term 2023/2024:

- Seminar: Manual Quantitative Text Analysis (BA & MA modules: Political Science Research Methods) (LUH)

Summer Term 2022:

- Seminar: Automatic Text Analysis (BA & MA modules: Political Science Research Methods) (LUH)

Winter Term 2022/2023:

- Seminar: Quantitative Content Analysis (BA & MA modules: Political Science Research Methods) (LUH)

Summer Term 2022:

- Seminar: Parliamentary Representation and Political Participation in International Comparison (BA module: Introduction to Comparative Politics) (LMU)

Winter Term 2021/2022:

- Seminar: Participation and Representation (BA module: Introduction to the German Political System) (LMU)

Summer Term 2021:

- Seminar: Participation and Representation in Empirical Comparison (BA module: Introduction to Comparative Politics) (LMU)

Referee Peer-Review

European Journal of Political Research; Political Analysis; Politische Vierteljahresschrift; Soziale Welt

Conference Participation

AK Wohlfahrtsstaatsforschung (DVPW): 2021

AK Methoden (DVPW): 2022 & 2023

DVPW: 2021; 2024

ECPR: 2021; 2022; 2023

ECPR Standing Group on Parliaments: 2023

EPSA: 2021; 2022; 2023

PSAI: 2021

SVPW: 2021

Venice Seminar (Analytical Sociology): 2024

Languages

German (native), English (C2: fluent in academic writing, teaching, and collaboration)

References:

Prof. Dr. Gundula Zoch: Carl von Ossietzky Universität Oldenburg, Institute of Social Science, AG Sociology of Social Inequalities, Ammerlaender Herrstr. 114-118, D-26169 Oldenburg, gundula.zoch@uni-oldenburg.de

Prof. Dr. Carsten Schwemmer: Ludwig-Maximilians-Universität München, Institute of Sociology, Chair of Computational Social Science, Konradstr. 6, D-80801 München, carsten.schwemmer@lmu.de

PD Dr. Martin Gross: Ludwig-Maximilians-Universität München, Geschwister-Scholl-Institute, Chair of Political Systems and European Integration, Oettingenstr. 67, D-80538 München, martin.gross@gsi.uni-muenchen.de

Berlin, 03.04.2026



Sebastian Block