PAUL-CHRISTIAN BÜRKNER

GENERAL INFORMATION

Date of Birth	16 June 1991
Place of Birth	Marburg, Germany
Work Address	Vogelpothsweg 87, 44227 Dortmund, Germany
Email	paul.buerkner@gmail.com
Website	https://paulbuerkner.com

KEY SCIENTIFIC METRICS

Publications	129 (peer-reviewed only)
Funding	1,615,000 € (third-party only)
Citations	28,385 (source: GoogleScholar)
h-index	48 (source: GoogleScholar)

WORK EXPERIENCE

since 2023 — **Full Professor for Computational Statistics**

TU Dortmund University

Full Professor of Computational Statistics, Department of Statistics, TU Dortmund University, Germany.

2020-2023 — **Independent Junior Research Group Leader**

University of Stuttgart

Independent Junior Research Group Leader for Bayesian Statistics at the Cluster of Excellence SimTech, University of Stuttgart, Germany.

2019-2020 — **Postdoctoral Researcher**

Aalto University

Postdoctoral researcher at the chair of Computational Probabilistic Modeling (Prof. Dr. Vehtari), Aalto University, Department of Computer Science, Finland.

2014-2019 — **Research Associate**

University of Münster

Research associate at the chair of Statistics and Methods (Prof. Dr. Holling), University of Münster, Department of Psychology, Germany.

HIGHER EDUCATION

2014-2017 — **University of Münster**

PhD in Psychology

Grade: Summa Cum Laude · Institute of Psychology
Title: *Optimal Design and Bayesian Data Analysis*.
Received multiple awards (see the Awards section).

2014-2017 — **University of Hagen**

Master of Mathematics

Grade: 1.3 · Institute of Mathematics
Thesis: *On the Statistics of Curie–Weiss–Distributed Random Variables*.

2013-2014 — **University of Münster**

Master of Psychology

Grade: 1.1 · Institute of Psychology
Thesis: *Adaptive Designs for Logistic Models with False Answers*.

2011-2014 — **University of Hagen**

Bachelor of Mathematics

Grade: 1.7 · Institute of Mathematics
Thesis: *A Hull Operator for Complex Matroids*.

2010-2013 — **University of Münster**

Bachelor of Psychology

Grade: 1.2 · Institute of Psychology
Thesis: *Testing for Publication Bias in Diagnostic Meta-Analysis: A Simulation Study*.

RESEARCH FUNDING

DFG — Fried et al. (2024). Spatio-temporal Statistics for the Transition of Energy and Transport (Collaborative Research Center). *Funder: German Research Foundation (DFG)*. Total: 12,540,000 €. Own share: **312,000 €**.

DFG — Bürkner P. C. & Radev S. T. (2023). BayesFlow: Simulation Intelligence with Deep Learning. *Funder: German Research Foundation (DFG)*. **353,000 €**.

DFG — Bürkner P. C. (2022). Intuitive Joint Priors for Bayesian Multilevel Models. *Funder: German Research Foundation (DFG)*. **238,000 €**.

DFG — Bürkner P. C. (2022). Bayesian Distributional Latent Variable Models. *Funder: German Research Foundation (DFG)*. **238,000 €**.

DFG — Bürkner P. C. & Bulling A. (2022). Amortized Bayesian Inference for Multilevel Models. *Funder: German Research Foundation (DFG)*. **232,000 €**.

EXC SimTech — Guthke A. & Bürkner P. C. (2022). Data-Integrated Training of Surrogate Models for Uncertainty Quantification and Diagnostics of Complex Biological Systems. *Funder: Cluster of Excellence SimTech*. **285,000 €**.

Cyber Valley — Bürkner P. C. (2021). Meta-Uncertainty in Bayesian Model Comparison. *Funder: Cyber Valley Research Fund*. **242,000 €**.

EXC SimTech — Bürkner P. C. & Sedlmair M. (2021). Machine Learning for Bayesian Model Building. *Funder: Cluster of Excellence SimTech*. **285,000 €**.

EXC SimTech — Bulling A. & Bürkner P. C. (2021). Bayesian Intent Prediction for Human-Machine Collaboration. *Funder: Cluster of Excellence SimTech*. **175,000 €**.

ELLIS — Bulling A. Bürkner P. C., Kuchenbecker J. K., Pradel M., Schulte im Walde S., Staab S., Steinwart I., & Vu T. (2021). Stuttgart ELLIS Unit. *Funders: ELLIS Society and University of Stuttgart*.

SELECTED AWARDS

GCPR — 2023 · **Best paper honorable mention award** at the German Conference of Pattern Recognition (GCPR).

SIPS — 2020 · **Mission award** of the Society for Improving Psychological Science (SIPS) for brms.

SIPS — 2020 · **Commendation award** of the Society for Improving Psychological Science (SIPS) for brms.

University of Münster — 2018 · **Award for the best dissertation** 2017-2018 in Psychology at the University of Münster.

German Society for Psychology — 2017 · Gustav A. Lienert **Award for the best methodological dissertation** in Psychology awarded by the German Society for Psychology (DGPs).

University of Münster — 2017 · **Award for the best lecture** at the Institute of Psychology in Münster.

German National Acad. Foundation — 2014 · **Scholarship** of the German National Academic Foundation (Studienstiftung des deutschen Volkes).

OPEN-SOURCE SOFTWARE

brms — Lead author · An R package for Bayesian regression models using Stan. Received multiple awards (see the Awards section).

posterior — Lead author · An R package for working with posterior distributions.

thurstonianIRT — Lead author · An R Package for fitting Thurstonian IRT models.

BayesFlow — Author · A Python library for simulation-based Bayesian inference.

posteriordb — Author · A Posterior Database for Bayesian Inference.

loo — Author · An R package for approximate leave-one-out cross-validation.

ggsimplex — Author · An R package for simplex visualizations with ggplot2.

bayesim	Author · An R package for simulations with Bayesian models.
bayehear	Author · An R package for metrics to evaluate Bayesian models.
bayesfam	Author · An R package for custom brms families.
bayesian	Author · An R package to interface brms and tidymodels.
rstan	Contributor · An R Interface to Stan.
bayesplot	Contributor · An R package for visualizing Bayesian models.
projpred	Contributor · An R package for projection predictive variable selection.
emmeans	Contributor · An R package for estimating marginal means.

SELECTED PROFESSORSHIP CALLS

Full Professorship 2022 · Call for the Full Professorship (W3) in Computational Statistics, Department of Statistics, TU Dortmund University, Germany. **Accepted**.

Full Professorship 2022 · Call for the Full Professorship (W3) in Data Analytics and Computational Statistics, Department of Computer Science, University of Konstanz, Germany.

SELECTED SCIENTIFIC INVOLVEMENT

Editor since 2025 · Editor of the Journal of Robustness Reports.

Member since 2024 · Member of the comittee for the re-accreditation of Data Science studies at TU Dortmund University.

Founding Member 2024 · Founding member of the Computational Clinical Psychology and Psychotherapy Network (https://ccpp.network/) funded by the DFG.

Chairman 2024 · Chairman of the appointment committee for the associate professorship in Causality at TU Dortmund University.

Reviewer since 2024 · Reviewer in appointment procedures for professorships.

Organizer 2022 · Organizer of the 1st International SimTech Summer School, University of Stuttgart. Co-Organizers: Benjamin Unger and Kristyna Pluhackova.

Reviewer since 2022 · Reviewer for major funding agencies. *Selection*: German Research Foundation (DFG), European Research Council (ERC), Dutch Research Council (NWO)

Member since 2021 · Member of the ELLIS Society (https://ellis.eu/).

Member 2021 – 2024 · Member of Cyber-Valley (https://cyber-valley.de/en).

Faculty Member 2021 – 2023 · Faculty Member of the International Max Planck Research School for Intelligent Systems (IMPRS-IS; https://imprs.is.mpg.de/).

Founding Member 2021 – 2023 · Founding member of the Stuttgart ELLIS Unit (https://ellis.eu/units/stuttgart).

Member since 2018 · Member of the Stan Development Team (https://mc-stan.org/).

Consultant since 2018 · Academic consultant in industry. Selection: Bayer (2018), Novartis (since 2021), Axem (since 2022).

Editor 2018 – 2020 · Associate editor of Biostatistics.

Reviewer since 2014 · Reviewer for international journals and conferences. *Selection*: AISTATS, Bayesian Analysis, Behavior Research Methods, Biometrical Journal, ICML, ICLR, Journal of Machine Learning Research, Journal of Probability and Statistics, Journal of Statistical Software, Journal of the Royal Statistical Society, Nature, Nature Ecology & Evolution, Nature Human Behaviour, NeurIPS, Philosophical Transactions, Psychological Methods, Psychometrika, Psychonomic Bulletin and Review, Statistics in Medicine.

SELECTED TALKS

Bayescomp 2025 · Singapore · Contributed Talk
Title: *Robust Amortized Bayesian Inference with Self-Consistency Losses*.

One World ABI Seminar	2025 · online · Invited Talk Title: *Amortized Mixture and Multilevel Models*.
Cyber Valley	2025 · Stuttgart · Invited Talk Title: *Meta-Uncertainty in Bayesian Model Comparison*.
University of Bielefeld	2025 · online · Invited Talk Title: *The future of Bayes and brms with application in biology*.
Stan Conference	2024 · Oxford · Contributed Talk Title: *Generative Bayesian Modeling with Implicit Priors*.
PHYSTAT-SBI Workshop	2024 · Munich · Invited Talk Title: *A Statistical Perspective on Simulation-Based Inference*.
Bayes on the Beach Conference	2024 · Gold Coast · Keynote Title: *Does Bayes have to be slow? A glimpse into amortized Bayesian inference*.
Oxford University	2023 · Oxford · Keynote Title: *Probabilistic Modeling for Ecology*.
Princeton University	2023 · online · Invited Talk Title: *An Introduction to Bayesian Statistics*.
DagStat Conference	2022 · Hamburg · Contributed Talk Title: *The sparse polynomial chaos expansion: a fully Bayesian approach with joint priors on the coefficients and global selection of terms*.
Psychoco Conference	2021 · online · Keynote Title: *Bayesian Item Response Models*.
Oslo UseR Group	2021 · online · Invited Talk Title: *Bayesian multilevel modeling with brms*.
Oxford University	2020 · online · Invited Talk Title: *Bayesian regression modeling*.
Turku University	2020 · online · Invited Talk Title: *Bayesian multilevel modeling with brms*.
TU Dortmund University	2020 · online · Invited Talk Title: *Bayesian multilevel modeling with brms*.
Bayer	2020 · online · Invited Talk Title: *Bayesian multilevel modeling with brms*.
Stat. Methods for Linguistics	2019 · Potsdam · Keynote Title: *A Principled Bayesian Workflow for Data Analysis*.
University of Duisburg-Essen	2019 · Essen · Invited Talk Title: *A Principled Bayesian Workflow for Data Analysis*.
DGPs Conference	2019 · Kiel · Contributed Talk Title: *Improving Convergence Diagnostics for MCMC Sampling Algorithms*.
Stan Conference	2019 · Cambridge · Contributed Talk Title: *Leave-Future-Out Cross-Validation for Bayesian Time-Series Models*.
Multilevel Conference	2019 · Utrecht · Keynote Title: *Bayesian Multilevel Modeling with brms and Stan*.
DagStat	2019 · Munich · Contributed Talk Title: *Leave-Future-Out Cross-Validation for Bayesian Time-Series Models*.
Stan Conference	2018 · Helsinki · Contributed Talk Title: *Custom Response Distributions in brms*.
EAM Conference	2018 · Jena · Contributed Talk Title: *Handling Ordinal Predictors in Regression Models via Monotonic Effects*.
Bayes@Lund	2018 · Lund · Keynote Title: *Why Not to be Afraid of Priors*.
DGPs Conference	2017 · Tübingen · Keynote Title: *Optimal Design and Bayesian Data Analysis*.
eRum Conference	2016 · Poznan · Contributed Talk Title: *brms: An R Package for Bayesian Multilevel Models using Stan*.

Int. Workshop on Simulation	2015 · Vienna · Contributed Talk Title: *Adaptive Designs for Logistic Models with False Answers*.
DGPs Conference	2015 · Jena · Contributed Talk Title: *Optimal Design of Non-Parametric Two-Sample Tests*.

SELECTED WORKSHOPS

Oxford University	2023 · Department of Biology · 1 day Title: *Bayesian modeling for biologists using brms*.
University of Tübingen	2023 · Center of Methods · 2 days Title: *Bayesian modeling with the brms package*.
TU Dortmund University	2022 · Department of Statistics · 2 days Title: *Bayesian Statistics*.
University of Salzburg	2022 · Department of Psychology · 2 days Title: *Introduction to Bayesian Data Analysis*.
Oxford University	2021 · Department of Zoology · 4 days Title: *Bayesian Regression Modelling for Biologists*.
Research Cluster SMiP	2020 · Mannheim · 2 days Title: *Introduction to Stan: A Probabilistic Programming Language for Bayesian Inference*.
University of Aarhus	2020 · Department of Economics and Business Economics · 1 day Title: *Bayesian Model and Variable Selection*.
MPI for Human Development	2019 · Göttingen · 1 day Title: *Bayesian Multilevel Modeling*.
MPI for Emp. Aesthetics	2019 · Frankfurt · 2 days Title: *Bayesian Multilevel Modeling*.
Multilevel Conference	2019 · Utrecht · 1 day Title: *Introduction to Bayesian Data Analysis*.
DagStat Conference	2019 · Munich · 1 day Title: *Bayesian Data Analysis using Stan*.
University of Lausanne	2018 · Department of Psychology · 2 days Title: *Introduction to Meta-Analysis*.
University of Magdeburg	2018 · Department of Psychology · 4 days Title: *Introducing Basic and Advanced Bayesian Modelling*.
University of Aarhus	2018 · 4 days Title: *Advanced Bayesian Statistical Modeling*.
ETH Zurich	2018 · 1 day Title: *Classical and Bayesian Multi-Level Models in R*.
University of Hamburg	2017 · Department of Psychology · 2 days Title: *Fitting Multi-Level Models in R*.
DPPD Conference	2017 · Munich · 1 day Title: *Bayesian Multi-Level Models in R with brms*.
University of Bern	2017 · Department of Psychology · 3 days Title: *Bayesian Multi-Level Models in R with brms*.
University of Münster	2017 · Department of Psychology · 3 days Title: *Introduction to Bayesian Inference*.
University Paris Decardes	2017 · 1 day Title: *Introduction to Meta-Analysis*.
DGPs Conference	2016 · Leipzig · 1 day Title: *Bayesian Multilevel Models in R using the Package brms*.

SELECTED TEACHING ACTIVITIES

Data Science and Statistics — 2025 · TU Dortmund University
Lecture: *Simulation-Based Inference*.

Data Science and Statistics — 2024-2025 · TU Dortmund University
Lecture: *Statistical Learning for Big Data*.

Data Science and Statistics — 2024–2025 · TU Dortmund University
Lecture: *Case Studies I and II*.

Data Science and Statistics — 2024-2025 · TU Dortmund University
Seminar: *Model Comparison*.

Data Science and Statistics — 2023–2025 · TU Dortmund University
Lecture: *Applied Bayesian Data Analysis*.

Data Science and Statistics — 2023 · TU Dortmund University
Lecture: *Computational Statistics*.

Data Science and Statistics — 2023-2025 · TU Dortmund University
Seminar: *Multilevel Models*.

Simulation Science — 2022 · University of Stuttgart
Lecture: *Bayesian Statistics and Probabilisitic Machine Learning*.

Simulation Science — 2021 · University of Stuttgart
Lecture: *ML Sessions: Bayesian Statistics*.

Simulation Science — 2021-2022 · University of Stuttgart · **2 times**
Seminar: *Advanced Topics in Simulation Science*.

Psychology — 2018 · University of Münster · **2 times**
Seminar: *Structural Equation Modeling and Bayesian Statistics*.
Average Evaluation: 10.9 points (15 point *abitur* scale).

Psychology — 2014-2019 · University of Münster · **5 times**
Lecture: *Descriptive Statistics and Probability Theory*.
Average Evaluation: 12.6 points (15 point *abitur* scale).
Award for the best lecture in the winter semester 2016/2017.

Psychology — 2015-2018 · University of Münster · **4 times**
Lecture: *Inferential Statistics*.
Average Evaluation: 12.1 points (15 point *abitur* scale).

CURRENT PHD STUDENTS

TU Dortmund University — since 2024 · Svenja Jedhoff · Statistics
Topic: *Real-time spatio-temporal data analysis for monitoring logistics networks*.
Co-Advisor: Prof. Anne Meyer

TU Dortmund University — since 2024 · Aayush Mishra · Statistics
Topic: *Robust and Efficient Learning in Amortized Bayesian Inference*.

TU Dortmund University — since 2024 · Lars Kühmichel · Statistics
Topic: *BayesFlow: Simulation Intelligence with Deep Learning*.
Co-Advisor: Prof. Stefan Radev

TU Dortmund University — since 2023 · Jacob Grytzka · Statistics
Topic: *Regularization in Generalized Linear and Additive Multilevel Models*.
Co-Advisor: Prof. Andreas Groll

TU Dortmund University — since 2022 · Florence Bockting · Statistics
Topic: *Simulation-Based Prior Distributions for Bayesian models*.

TU Dortmund University — since 2022 · Luna Fazio · Statistics
Topic: *Bayesian Distributional Latent Variable Models*.

TU Dortmund University — since 2022 · Soham Mukherjee · Statistics
Topic: *Probabilistic Models for scRNA Sequencing Data*.
Co-Advisor: Prof. Manfred Claassen

University of Stuttgart

since 2022 · Philipp Reiser · Computer Science
Topic: *Data-Integrated Training of Surrogate Models for Uncertainty Quantification and Diagnostics of Complex Biological Systems Models*.
Co-Advisor: Dr. Anneli Guthke

University of Stuttgart

since 2021 · Maximilian Scholz · Computer Science
Topic: *Machine Learning for Bayesian Model Builing*.

University of Stuttgart

since 2021 · Javier Aguilar · Computer Science
Topic: *Intuitve Joint Priors for Bayesian Multilevel Models*.

GRADUATED PHD STUDENTS

University of Stuttgart

2021 – 2025 · Marvin Schmitt · Computer Science
Topic: *Meta-Uncertainty in Bayesian Model Comparison*.

Aalto University

2019 – 2023 · Alejandro Catalania · Computer Science
Topic: *Robust Bayesian Methods for Model and Variable Selection*.
Primary Advisor: Prof. Aki Vehtari

University of Münster

2018 – 2021 · Niklas Schulte · Psychology
Topic: *Statistical Properties of Forced-Choice Questionnaires in Applicant Personality Measurements*.
Primary Advisor: Prof. Heinz Holling

CURRENT POSTDOCTORAL RESEARCHERS

TU Dortmund University

since 2024 · Šimon Kucharský
Topic: *Applications of Amortized Bayesian Inference*.

TU Dortmund University

since 2023 · Daniel Habermann
Topic: *Amortized Bayesian Inference for Multilevel Models*.

FORMER POSTDOCTORAL RESEARCHERS

University of Stuttgart

2022 – 2024 · Lei Shi
Topic: *Bayesian Intent Prediction for Human-Machine Collaboration*.
Co-Advisor: Prof. Andreas Bulling

University of Heidelberg

2021 – 2023 · Stefan Radev
Topic: *Amortized Bayesian Inference*.
Became an assistant professor at Rensselaer Polytechnic Institute, Troy, USA.

ALL PUBLICATIONS

In Review

160) Aguilar J. E. & **Bürkner P. C.** (in review). Dependency-Aware Shrinkage Priors for High Dimensional Regression. *ArXiv preprint*.

159) Aguilar J. E., Kohns D., Vehtari A., & **Bürkner P. C.** (in review). R2 priors for Grouped Variance Decomposition in High-dimensional Regression. *ArXiv preprint*.

158) Bockting F. & **Bürkner P. C.** (in review). elicito: A Python Package for Expert Prior Elicitation. *ArXiv preprint*.

157) Fazio L., Scholz M., & **Bürkner P. C.** (in review). Primed Priors for Simulation-Based Validation of Bayesian Models. *ArXiv preprint*.

156) Habermann D., Schmitt M., Kühmichel L., Bulling A., Radev S. T., & **Bürkner P. C.** (in review). Amortized Bayesian Multilevel Models. *ArXiv preprint*.

155) Jedhoff S., Kutabi H., Meyer A. & **Bürkner P. C.** (in review). Efficient Uncertainty Propagation in Bayesian Two-Step Procedures. *ArXiv preprint*.

154) Kucharský Š., Mishra A., Habermann D., Radev S. T., & **Bürkner P. C.** (in review). Towards Trustworthy Amortized Bayesian Model Comparison. *ArXiv preprint*.

153) Kucharský Š. & **Bürkner P. C.** (in review). Amortized Bayesian Mixture Models. *ArXiv preprint*.

152) Mishra A., Habermann D., Schmitt M., Radev S. T., & **Bürkner P. C.** (in review). Robust Amortized Bayesian Inference with Self-Consistency Losses on Unlabeled Data. *ArXiv preprint*.

151) Modrák M., Stroppel S., & **Bürkner P. C.** (in review). Simulation-based validation of Bayes factor computation. *ArXiv preprint*.

150) Mukherjee S., Claassen M., & **Bürkner P. C.** (in review). Hilbert space methods for approximating multi-output latent variable Gaussian processes. *ArXiv preprint*.

149) Reiser P., **Bürkner P. C.**, & Guthke A. (in review). Bayesian Surrogate Training on Multiple Data Sources: A Hybrid Modeling Strategy. *ArXiv preprint*.

148) Scheurer S., Reiser P., Brünnette T., Nowak W., Guthke A., & **Bürkner P. C.** (in review). Uncertainty-Aware Surrogate-based Amortized Bayesian Inference for Computationally Expensive Models. *ArXiv preprint*.

147) Schmitt M., Hikida Y., Radev S. T., Sadlo F., & **Bürkner P. C.** (in review). The Simplex Projection: Lossless Visualization of 4D Compositional Data on a 2D Canvas. *ArXiv preprint*.

146) Scholz M. & **Bürkner P. C.** (in review). Posterior accuracy and calibration under misspecification in Bayesian generalized linear models. *ArXiv preprint*.

145) Li C., Vehtari A., **Bürkner P. C.**, Radev S. T., Acerbi L., & Schmitt M. (in review). Amortized Bayesian Workflow. *ArXiv preprint*.

144) Säilynoja T., Schmitt M., **Bürkner P. C.**, & Vehtari A. (in review). Posterior SBC: Simulation-Based Calibration Checking Conditional on Data. *ArXiv preprint*.

143) Nalborczyk L. & **Bürkner P. C.** (in review). Precise temporal localisation of M/EEG effects with Bayesian generalised additive multilevel models. *biorXiv preprint*.

142) Kołczyńska M., & **Bürkner P. C.** (in review). Does political trust strengthen democracy? *SocArXiv preprint*.

141) Revathe T., Weidling M. T., Utami-Atmoko S. S., Setia T. M., Razik I., van Schaik C. P., Whiten A., **Bürkner P. C.**, & Schuppli C. (in review). Eight years of social and asocial learning synergistically shape orangutan diet profiles. *biorXiv preprint*.

140) Zetsche, U., Bohländer, J., **Bürkner P. C.**, Röpke, S., Renneberg, B., & Schulze, L. (in review). Beyond feeling down: Expectations about and memories of daily affective experiences in major depression and borderline personality disorder. *PsyArXiv preprint.*

139) Coretta, S. & **Bürkner P. C.** (in review). Bayesian beta regressions with brms in R: A tutorial for phoneticians. *OSF preprint*.

2025

138) **Bürkner P. C.**, Schmitt M., & Radev S. T. (2025). Simulations in Statistical Workflows. *Philosophical Transactions A*.

137) Aguilar J. E. & **Bürkner P. C.** (2025). Generalized Decomposition Priors on R2. *Bayesian Analysis*. doi:10.1214/25-BA1524

136) Bockting F., Radev S. T., & **Bürkner P. C.** (2025). Expert-elicitation method for non-parametric joint priors using normalizing flows. *Statistics and Computing*. doi:o.1007/s11222-025-10665-z

135) Fazio L. & **Bürkner P. C.** (2025). Gaussian distributional structural equation models: A framework for modeling latent heteroscedasticity. *Multivariate Behavioral Research*. doi:10.1080/00273171.2025.2483252

134) Mukherjee S., Claassen M., & **Bürkner P. C.** (2025). DGP-LVM: Derivative Gaussian process latent variable models. *Statistics and Computing*. doi:10.1007/s11222-025-10644-4

133) Reiser P., Aguilar J. E., Guthke A., & **Bürkner P. C.** (2025). Uncertainty Quantification and Propagation in Surrogate-based Bayesian Inference. *Statistics and Computing*. doi:10.1007/s11222-025-10597-8

132) Schmitt, M., **Bürkner P. C.**, Köthe U., & Radev S. T. (2025). Detecting Model Misspecification in Amortized Bayesian Inference with Neural Networks: An Extended Investigation. *International Journal of Computer Vision*.

131) Scholz M., & **Bürkner P. C.** (2025). Prediction can be safely used as a proxy for explanation in causally consistent Bayesian generalized linear models. *Journal of Statistical Computation and Simulation*. doi:10.1080/00949655.2024.2449534

130) Elsemüller L., Pratz V., von Krause M., Voss A., **Bürkner P. C.**, & Radev S. T. (2025). Does Unsupervised Domain Adaptation Improve the Robustness of Amortized Bayesian Inference? A Systematic Evaluation. *Transactions in Machine Learning Research*.

129) Magnusson M., Torgander J., **Bürkner P. C.**, Zhang L., Carpenter B., & Vehtari A. (2025). posteriordb: Testing, Benchmarking and Developing Bayesian Inference Algorithms. *Artificial Intelligence and Statistics (AISTATS) Conference Proceedings*.

128) Dubova, M., Chandramouli, S., Gigerenzer, G., ..., Wagenmarkers E. J., **Bürkner P. C.**, & Sloman, S. (2025). Is Occam's razor losing its edge? New perspectives on the principle of model parsimony. *Proceedings of the National Academy of Sciences (PNAS)*. doi:10.1073/pnas.2401230121

127) Kucharský Š. & **Bürkner P. C.** (2025). Amortized Bayesian Cognitive Modeling with BayesFlow. *PsyArXiv preprint*. doi:10.31234/osf.io/34k6q$_v$1

126) Shi L., **Bürkner P. C.**, & Bulling A. (2025). ActionDiffusion: An Action-aware Diffusion Model for Procedure Planning in Instructional Videos. *IEEE/CVF Winter Conference on Applications of Computer Vision (WACV)*.

125) Ingram D. J., Froese G. Z. L., Carroll D., **Bürkner P. C.**, ..., Abernethy K., & Coad L. (2025). Regional patterns of wild animal hunting in African tropical forests. *Nature Sustainability*. doi:10.1038/s41893-024-01494-5

124) Bagaïni, A., Liu, Y., Kapoor, M., Son, G., **Bürkner P. C.**, Tisdall, L., & Mata, R. (2025). Comparing the Temporal Stability and Convergent Validity of Risk Preference Measures: A Meta-Analytic Approach. *Nature Human Behavior*. doi:10.1038/s41562-024-02085-2

123) Revathe T., Mundry R., Utami-Atmoko S. S., Aprilla T. U., van Noordwijk M. A., Fröhlich M., **Bürkner P. C.**, Schuppli C. (2025). Sumatran orangutan mothers differ in the extent and trajectory of their expression of maternal behaviour. *Proceedings of the Royal Society B: Biological Sciences*. doi:10.1098/rspb.2025.0443

2024

122) Bockting F., Radev, S. T., & **Bürkner P. C.** (2024). Simulation-Based Prior Knowledge Elicitation for Parametric Bayesian Models. *Scientific Reports*. doi:10.1038/s41598-024-68090-7

121) Schmitt M., Pratz V., Köthe U., **Bürkner P. C.**, & Radev S. T. (2024). Consistency Models for Scalable and Fast Simulation-Based Inference. *Proceedings of the Conference on Neural Information Processing Systems (NeurIPS)*.

120) Schmitt M., Habermann D., **Bürkner P. C.**, Köthe U., & Radev S. T. (2024). Leveraging Self-Consistency for Data-Efficient Amortized Bayesian Inference. *Proceedings of the International Conference on Machine Learning (ICML)*.

119) Kallioinen N., Paananen T., **Bürkner P. C.**, & Vehtari A. (2024). Detecting and diagnosing prior and likelihood sensitivity with power-scaling. *Statistics and Computing*. doi:10.1007/s11222-023-10366-5

118) Elsemüller L., Olischläger H., Schmitt M., **Bürkner P. C.**, Köthe U., & Radev S.T. (2024). Sensitivity-Aware Amortized Bayesian Inference. *Transactions in Machine Learning Research*.

117) Elsemüller L., Schnuerch M., **Bürkner P. C.**, & Radev S. T. (2024). A Deep Learning Method for Comparing Bayesian Hierarchical Models. *Psychological Methods*. doi:10.1037/metoooo645

116) Huber F., **Bürkner P. C.**, Göddeke D., & Schulte M. (2024). Knowledge-based modeling of simulation behavior for Bayesian optimization. *Computational Mechanics*. doi:10.1007/s00466-023-02427-3

115) Raulo A., **Bürkner P. C.**, Dale J., English H., Finerty G., Lamberth C., Firth J. A., Coulson T., & Knowles S. (2024). Social and environmental transmission spread different sets of gut microbes in wild mice. *Nature Ecology & Evolution*. doi:10.1038/s41559-024-02381-0

114) Kołczyńska M., **Bürkner P. C.**, Kennedy L., & Vehtari A. (2024). Trust in state institutions in Europe, 1989-2019. *Survey Research Methods*. doi:10.18148/srm/2024.v18i1.8119

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