

# PAUL-CHRISTIAN BÜRKNER

## GENERAL INFORMATION

<i>Date of Birth</i>	16 June 1991
<i>Place of Birth</i>	Marburg, Germany
<i>Work Address</i>	Vogelpothsweg 87, 44227 Dortmund, Germany
<i>Email</i>	<a href="mailto:paul.buerkner@gmail.com">paul.buerkner@gmail.com</a>
<i>Website</i>	<a href="https://paul-buerkner.github.io/">https://paul-buerkner.github.io/</a>

## KEY SCIENTIFIC METRICS

<i>Publications</i>	103 (peer-reviewed only)
<i>Funding</i>	1,303,000 € (third-party only)
<i>Citations</i>	16,975 (source: GoogleScholar)
<i>h-index</i>	33 (source: GoogleScholar)

## WORK EXPERIENCE

<i>since 2023</i>	<b>Full Professor for Computational Statistics</b> Full Professor for Computational Statistics, Department of Statistics, TU Dortmund University, Germany.
<i>2020-2023</i>	<b>Independent Junior Research Group Leader</b> Independent Junior Research Group Leader for Bayesian Statistics at the Cluster of Excellence SimTech, University of Stuttgart, Germany.
<i>2019-2020</i>	<b>Postdoctoral Researcher</b> Postdoctoral researcher at the chair of Computational Probabilistic Modeling (Prof. Dr. Vehtari), Aalto University, Department of Computer Science, Finland.
<i>2014-2019</i>	<b>Research Associate</b> Research associate at the chair of Statistics and Methods (Prof. Dr. Holling), University of Münster, Department of Psychology, Germany.

## HIGHER EDUCATION

<i>2014-2017</i>	<b>University of Münster</b> Grade: Summa Cum Laude · Institute of Psychology Title: <i>Optimal Design and Bayesian Data Analysis</i> . Received multiple awards (see the Awards section).
<i>2014-2017</i>	<b>University of Hagen</b> Grade: 1.3 · Institute of Mathematics Thesis: <i>On the Statistics of Curie–Weiss–Distributed Random Variables</i> .
<i>2013-2014</i>	<b>University of Münster</b> Grade: 1.1 · Institute of Psychology Thesis: <i>Adaptive Designs for Logistic Models with False Answers</i> .
<i>2011-2014</i>	<b>University of Hagen</b> Grade: 1.7 · Institute of Mathematics Thesis: <i>A Hull Operator for Complex Matroids</i> .
<i>2010-2013</i>	<b>University of Münster</b> Grade: 1.2 · Institute of Psychology Thesis: <i>Testing for Publication Bias in Diagnostic Meta-Analysis: A Simulation Study</i> .

## RESEARCH FUNDING

DFG	Bürkner P. C. & Radev S. T. (2023). BayesFlow: Simulation Intelligence with Deep Learning. <i>Funder: German Research Foundation (DFG)</i> . 353,000 €.
DFG	Bürkner P. C. (2022). Intuitive Joint Priors for Bayesian Multilevel Models. <i>Funder: German Research Foundation (DFG)</i> . 238,000 €.
DFG	Bürkner P. C. (2022). Bayesian Distributional Latent Variable Models. <i>Funder: German Research Foundation (DFG)</i> . 238,000 €.
DFG	Bürkner P. C. & Bulling A. (2022). Amortized Bayesian Inference for Multilevel Models. <i>Funder: German Research Foundation (DFG)</i> . 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. <i>Funder: Cluster of Excellence SimTech</i> . 285,000 €.
Cyber Valley	Bürkner P. C. (2021). Meta-Uncertainty in Bayesian Model Comparison. <i>Funder: Cyber Valley Research Fund</i> . 242,000 €.
EXC SimTech	Bürkner P. C. & Sedlmair M. (2021). Machine Learning for Bayesian Model Building. <i>Funder: Cluster of Excellence SimTech</i> . 285,000 €.
EXC SimTech	Bulling A. & Bürkner P. C. (2021). Bayesian Intent Prediction for Human-Machine Collaboration. <i>Funder: Cluster of Excellence SimTech</i> . 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. <i>Funders: ELLIS Society and University of Stuttgart</i> .

## SELECTED AWARDS

GCPR	2023 · <b>Best paper honorable mention award</b> at the German Conference of Pattern Recognition (GCPR).
SIPS	2020 · <b>Mission award</b> of the Society for Improving Psychological Science (SIPS) for brms.
SIPS	2020 · <b>Commendation award</b> of the Society for Improving Psychological Science (SIPS) for brms.
University of Münster	2018 · <b>Award for the best dissertation</b> 2017-2018 in Psychology at the University of Münster.
German Society for Psychology	2017 · <b>Gustav A. Lienert Award for the best methodological dissertation</b> in Psychology awarded by the German Society for Psychology (DGPs).
University of Münster	2017 · <b>Award for the best lecture</b> at the Institute of Psychology in Münster.
German National Acad. Foundation	2014 · <b>Scholarship</b> 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.

<i>bayesian</i>	Author · An R package to interface brms and tidymodels.
<i>rstan</i>	Contributor · An R Interface to Stan.
<i>bayesplot</i>	Contributor · An R package for visualizing Bayesian models.
<i>projpred</i>	Contributor · An R package for projection predictive variable selection.
<i>emmeans</i>	Contributor · An R package for estimating marginal means.

## SELECTED PROFESSORSHIP CALLS

<i>Full Professorship</i>	2022 · Call for the Full Professorship (W3) in Computational Statistics, Department of Statistics, TU Dortmund University, Germany. <b>Accepted.</b>
<i>Full Professorship</i>	2022 · Call for the Full Professorship (W3) in Data Analytics and Computational Statistics, Department of Computer Science, University of Konstanz, Germany.

## SELECTED SCIENTIFIC INVOLVEMENT

<i>Chairman</i>	2024 · Chairman of the appointment committee for the associate professorship in Causality at TU Dortmund University.
<i>Organizer</i>	2022 · Organizer of the 1st International SimTech Summer School, University of Stuttgart. Co-Organizers: Benjamin Unger and Kristyna Pluhackova.
<i>Reviewer</i>	since 2022 · Reviewer for major funding agencies. <i>Selection:</i> German Research Foundation (DFG).
<i>Faculty Member</i>	since 2021 · Faculty Member of the International Max Planck Research School for Intelligent Systems (IMPRS-IS; <a href="https://imprs.is.mpg.de/">https://imprs.is.mpg.de/</a> ).
<i>Member</i>	since 2021 · Member of Cyber-Valley ( <a href="https://cyber-valley.de/en">https://cyber-valley.de/en</a> ).
<i>Member</i>	since 2021 · Member of the ELLIS Society ( <a href="https://ellis.eu/">https://ellis.eu/</a> ).
<i>Founding Member</i>	since 2021 · Founding member of the Stuttgart ELLIS Unit ( <a href="https://ellis.eu/units/stuttgart">https://ellis.eu/units/stuttgart</a> ).
<i>Member</i>	since 2018 · Member of the Stan Development Team ( <a href="https://mc-stan.org/">https://mc-stan.org/</a> ).
<i>Consultant</i>	since 2018 · Academic consultant in industry. Selection: Bayer (2018), Novartis (since 2021), Axem (since 2022).
<i>Editor</i>	2018 – 2020 · Associate editor of Biostatistics.
<i>Reviewer</i>	since 2014 · Reviewer for international journals and conferences. <i>Selection:</i> Bayesian Analysis, Behavior Research Methods, Biometrical Journal, 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, Philosophical Transactions, Psychological Methods, Psychometrika, Psychonomic Bulletin and Review, Statistics in Medicine.

## SELECTED TALKS

<i>Bayes on the Beach Conference</i>	2024 · Gold Coast · Keynote Title: <i>Does Bayes have to be slow? A glimpse into amortized Bayesian inference.</i>
<i>Oxford University</i>	2023 · Oxford · Keynote Title: <i>Probabilistic Modeling for Ecology.</i>
<i>Princeton University</i>	2023 · online · Invited Talk Title: <i>An Introduction to Bayesian Statistics.</i>
<i>DagStat Conference</i>	2022 · Hamburg · Contributed Talk Title: <i>The sparse polynomial chaos expansion: a fully Bayesian approach with joint priors on the coefficients and global selection of terms.</i>
<i>Psychoco Conference</i>	2021 · online · Keynote Title: <i>Bayesian Item Response Models.</i>
<i>Oslo UseR Group</i>	2021 · online · Invited Talk Title: <i>Bayesian multilevel modeling with brms.</i>

Oxford University	2020 · online · Invited Talk Title: <i>Bayesian regression modeling.</i>
Turku University	2020 · online · Invited Talk Title: <i>Bayesian multilevel modeling with brms.</i>
TU Dortmund University	2020 · online · Invited Talk Title: <i>Bayesian multilevel modeling with brms.</i>
Bayer	2020 · online · Invited Talk Title: <i>Bayesian multilevel modeling with brms.</i>
Stat. Methods for Linguistics	2019 · Potsdam · Keynote Title: <i>A Principled Bayesian Workflow for Data Analysis.</i>
University of Duisburg-Essen	2019 · Essen · Invited Talk Title: <i>A Principled Bayesian Workflow for Data Analysis.</i>
DGPs Conference	2019 · Kiel · Contributed Talk Title: <i>Improving Convergence Diagnostics for MCMC Sampling Algorithms.</i>
Stan Conference	2019 · Cambridge · Contributed Talk Title: <i>Leave-Future-Out Cross-Validation for Bayesian Time-Series Models.</i>
Multilevel Conference	2019 · Utrecht · Keynote Title: <i>Bayesian Multilevel Modeling with brms and Stan.</i>
DagStat	2019 · Munich · Contributed Talk Title: <i>Leave-Future-Out Cross-Validation for Bayesian Time-Series Models.</i>
Stan Conference	2018 · Helsinki · Contributed Talk Title: <i>Custom Response Distributions in brms.</i>
EAM Conference	2018 · Jena · Contributed Talk Title: <i>Handling Ordinal Predictors in Regression Models via Monotonic Effects.</i>
Bayes@Lund	2018 · Lund · Keynote Title: <i>Why Not to be Afraid of Priors.</i>
DGPs Conference	2017 · Tübingen · Keynote Title: <i>Optimal Design and Bayesian Data Analysis.</i>
eRum Conference	2016 · Poznan · Contributed Talk Title: <i>brms: An R Package for Bayesian Multilevel Models using Stan.</i>
Int. Workshop on Simulation	2015 · Vienna · Contributed Talk Title: <i>Adaptive Designs for Logistic Models with False Answers.</i>
DGPs Conference	2015 · Jena · Contributed Talk Title: <i>Optimal Design of Non-Parametric Two-Sample Tests.</i>

## SELECTED WORKSHOPS

Oxford University	2023 · Department of Biology · 1 day Title: <i>Bayesian modeling for biologists using brms.</i>
University of Tübingen	2023 · Center of Methods · 2 days Title: <i>Bayesian modeling with the brms package.</i>
TU Dortmund University	2022 · Department of Statistics · 2 days Title: <i>Bayesian Statistics.</i>
University of Salzburg	2022 · Department of Psychology · 2 days Title: <i>Introduction to Bayesian Data Analysis.</i>
Oxford University	2021 · Department of Zoology · 4 days Title: <i>Bayesian Regression Modelling for Biologists.</i>
Research Cluster SMiP	2020 · Mannheim · 2 days Title: <i>Introduction to Stan: A Probabilistic Programming Language for Bayesian Inference.</i>
University of Aarhus	2020 · Department of Economics and Business Economics · 1 day Title: <i>Bayesian Model and Variable Selection.</i>

MPI for Human Development	2019 · Göttingen · 1 day Title: <i>Bayesian Multilevel Modeling</i> .
MPI for Emp. Aesthetics	2019 · Frankfurt · 2 days Title: <i>Bayesian Multilevel Modeling</i> .
Multilevel Conference	2019 · Utrecht · 1 day Title: <i>Introduction to Bayesian Data Analysis</i> .
DagStat Conference	2019 · Munich · 1 day Title: <i>Bayesian Data Analysis using Stan</i> .
University of Lausanne	2018 · Department of Psychology · 2 days Title: <i>Introduction to Meta-Analysis</i> .
University of Magdeburg	2018 · Department of Psychology · 4 days Title: <i>Introducing Basic and Advanced Bayesian Modelling</i> .
University of Aarhus	2018 · 4 days Title: <i>Advanced Bayesian Statistical Modeling</i> .
ETH Zurich	2018 · 1 day Title: <i>Classical and Bayesian Multi-Level Models in R</i> .
University of Hamburg	2017 · Department of Psychology · 2 days Title: <i>Fitting Multi-Level Models in R</i> .
DPPD Conference	2017 · Munich · 1 day Title: <i>Bayesian Multi-Level Models in R with brms</i> .
University of Bern	2017 · Department of Psychology · 3 days Title: <i>Bayesian Multi-Level Models in R with brms</i> .
University of Münster	2017 · Department of Psychology · 3 days Title: <i>Introduction to Bayesian Inference</i> .
University Paris Decartes	2017 · 1 day Title: <i>Introduction to Meta-Analysis</i> .
DGPs Conference	2016 · Leipzig · 1 day Title: <i>Bayesian Multilevel Models in R using the Package brms</i> .

## SELECTED TEACHING ACTIVITIES

Statistics and Data Science	2023 · TU Dortmund University Lecture: <i>Applied Bayesian Data Analysis</i> .
Statistics and Data Science	2023 · TU Dortmund University Lecture: <i>Computational Statistics</i> .
Statistics and Data Science	2023 · TU Dortmund University Seminar: <i>Multilevel Models</i> .
Simulation Science	2022 · University of Stuttgart Lecture: <i>Bayesian Statistics and Probabilistic Machine Learning</i> .
Simulation Science	2021 · University of Stuttgart Lecture: <i>ML Sessions: Bayesian Statistics</i> .
Simulation Science	2021-2022 · University of Stuttgart · <b>2 times</b> Seminar: <i>Advanced Topics in Simulation Science</i> .
Psychology	2018 · University of Münster · <b>2 times</b> Seminar: <i>Structural Equation Modeling and Bayesian Statistics</i> . Average Evaluation: 10.9 points (15 point <i>abitur</i> scale).
Psychology	2014-2019 · University of Münster · <b>5 times</b> Lecture: <i>Descriptive Statistics and Probability Theory</i> . Average Evaluation: 12.6 points (15 point <i>abitur</i> scale). Award for the best lecture in the winter semester 2016/2017.
Psychology	2015-2018 · University of Münster · <b>4 times</b> Lecture: <i>Inferential Statistics</i> . Average Evaluation: 12.1 points (15 point <i>abitur</i> scale).

## CURRENT PHD STUDENTS

- 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.*
- University of Tübingen since 2022 · Soham Mukherjee  
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 Building.*
- University of Stuttgart since 2021 · Javier Aguilar · Computer Science  
Topic: *Intuitive Joint Priors for Bayesian Multilevel Models.*
- University of Stuttgart since 2021 · Marvin Schmitt · Computer Science  
Topic: *Meta-Uncertainty in Bayesian Model Comparison.*
- Aalto University since 2021 · Noa Kallioinen · Computer Science  
Topic: *Sensitivity Diagnostics in a Bayesian Workflow.*  
Primary Advisor: Prof. Aki Vehtari
- Aalto University since 2020 · Teemu Säilynoja · Computer Science  
Topic: *Convergence and Goodness-of-Fit Diagnostics in a Bayesian Workflow.*  
Primary Advisor: Prof. Aki Vehtari

## GRADUATED PHD STUDENTS

- 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.*
- University of Stuttgart since 2022 · Lei Shi  
Topic: *Bayesian Intent Prediction for Human-Machine Collaboration.*  
Co-Advisor: Prof. Andreas Bulling

## FORMER POSTDOCTORAL RESEARCHERS

- 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*

- 124) Bockting F., Radev, S. T., & **Bürkner P. C.** (in review). Simulation-Based Prior Knowledge Elicitation for Parametric Bayesian Models. *ArXiv preprint*.
- 123) Schmitt M., Radev S. T., & **Bürkner P. C.** (in review). Fuse It or Lose It: Deep Fusion for Multimodal Simulation-Based Inference. *ArXiv preprint*.
- 122) Schmitt M., Pratz V., Köthe U., **Bürkner P. C.**, & Radev S. T. (in review). Consistency Models for Scalable and Fast Simulation-Based Inference. *ArXiv preprint*.
- 121) Schmitt M., Habermann D., **Bürkner P. C.**, Köthe U., & Radev S. T. (in review). Leveraging Self-Consistency for Data-Efficient Amortized Bayesian Inference. *ArXiv preprint*.
- 120) Aguilar J. E. & **Bürkner P. C.** (in review). Generalized Decomposition Priors on R<sup>2</sup>. *ArXiv preprint*.
- 119) Reiser P., Aguilar J. E., Guthke A., & **Bürkner P. C.** (in review). Uncertainty Quantification and Propagation in Surrogate-based Bayesian Inference. *ArXiv preprint*.
- 118) Scholz M., & **Bürkner P. C.** (in review). Prediction can be safely used as a proxy for explanation in causally consistent Bayesian generalized linear models. *ArXiv preprint*.
- 117) Scholz M. & **Bürkner P. C.** (in review). Posterior accuracy and calibration under misspecification in Bayesian generalized linear models. *ArXiv preprint*.
- 116) Catalina A., **Bürkner P. C.**, & Vehtari A. (in review). Latent space projection predictive inference. *ArXiv preprint*.
- 115) Elsemüller L., Olischläger H., Schmitt M., **Bürkner P. C.**, Köthe U., & Radev S.T. (in review). Sensitivity-Aware Amortized Bayesian Inference. *ArXiv preprint*.
- 114) Lingel, H., **Bürkner P. C.**, Melchers, K. G., & Schulte, N. (in review). Measuring Personality When Stakes Are High: Are Graded Paired Comparisons a More Reliable Alternative to Traditional Forced-Choice Methods? *PsyArXiv preprint*.
- 113) Bagaiñi, A., Liu, Y., Kapoor, M., Son, G., **Bürkner P. C.**, Tisdall, L., & Mata, R. (in review). Comparing the Temporal Stability and Convergent Validity of Risk Preference Measures: A Meta-Analytic Approach. *PsyArXiv preprint*.
- 112) Zetsche, U., Neumann, P., **Bürkner P. C.**, Renneberg, B., Koster, E. H. W., & Hoorelbeke, K. (in review). Computerized Cognitive Training to Reduce Rumination in Major Depression: A Randomized Controlled Trial. *PsyArXiv preprint*.
- 111) Bolzenkötter, T., **Bürkner P. C.**, Zetsche, U., & Schulze, L. (in review). Assessing the short-term effects of detached mindfulness on repetitive negative thinking and affect: A randomized controlled trial in daily life. *PsyArXiv preprint*.

2024

- 110) 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
- 109) Elsemüller L., Schnuerch M., **Bürkner P. C.**, & Radev S. T. (2024). A Deep Learning Method for Comparing Bayesian Hierarchical Models. *Psychological Methods*.
- 108) Huber F., **Bürkner P. C.**, Göttsche D., & Schulte M. (2024). Knowledge-based modeling of simulation behavior for Bayesian optimization. *Computational Mechanics*. doi:10.1007/s00466-023-02427-3
- 107) Kolczyńska M., **Bürkner P. C.**, Kennedy L., & Vehtari A. (2024). Trust in state institutions in Europe, 1989-2019. *Survey Research Methods*.
- 106) 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*.

- 105) Schulte, N., Kaup, L., **Bürkner, P. C.**, & Holling, H. (2024). The Fakeability of Personality Measurement with Graded Paired Comparisons. *Journal of Business and Psychology*. doi:10.1007/s10869-024-09931-0
- 104) Schmitt M., Ewendt F., Kluttig A., Mikolajczyk R., Kraus B., Waetjen W., **Bürkner P. C.**, Stangl G., & Föllner M. (2024). Smoking is associated with increased eryptosis, suicidal erythrocyte death, in a large population-based cohort. *Scientific Reports*. doi:10.1038/s41598-024-53258-y
- 103) **Bürkner P. C.**, Scholz M., & Radev S. T. (2023). Some models are useful, but how do we know which ones? Towards a unified Bayesian model taxonomy. *Statistics Surveys*. doi:10.1214/23-SS145
- 102) **Bürkner P. C.**, Kröker I., Oladyshkin S., & Nowak W. (2023). A fully Bayesian sparse polynomial chaos expansion approach with joint priors on the coefficients and global selection of terms. *Journal of Computational Physics*. doi:10.1016/j.jcp.2023.112210
- 101) Aguilar J. E. & **Bürkner P. C.** (2023). Intuitive Joint Priors for Bayesian Linear Multilevel Models: The R2D2M2 prior. *Electronic Journal of Statistics*. doi:10.1214/23-EJS2136
- 100) Schmitt, M., Radev, S. T., & **Bürkner P. C.** (2023). Meta-Uncertainty in Bayesian Model Comparison. *Artificial Intelligence and Statistics (AISTATS) Conference Proceedings*.
- 99) Schmitt, M., **Bürkner P. C.**, Köthe U., & Radev S. T. (2023). Detecting Model Misspecification in Amortized Bayesian Inference with Neural Networks. *Proceedings of the German Conference on Pattern Recognition (GCPR)*.
- 98) Radev S. T., Schmitt M., Pratz V., Picchini U., Köthe U., & **Bürkner P. C.** (2023). JANA: Jointly Amortized Neural Approximation of Complex Bayesian Models. *Uncertainty in Artificial Intelligence (UAI) Conference Proceedings*.
- 97) Schumacher L, **Bürkner P. C.**, Voss A., Köthe U., & Radev S. T. (2023). Neural Superstatistics: A Bayesian Method for Estimating Dynamic Models of Cognition. *Scientific Reports*. doi:10.1038/s41598-023-40278-3
- 96) Modrák M., Moon A. H., Kim S., **Bürkner P. C.**, Huurre N., Faltejsková K., Gelman A., & Vehtari A. (2023). Simulation-Based Calibration Checking for Bayesian Computation: The Choice of Test Quantities Shapes Sensitivity. *Bayesian Analysis*. doi:10.1214/23-BA1404
- 95) Perini L., **Bürkner P. C.**, & Klami A. (2023). Estimating the Contamination Factor's Distribution in Unsupervised Anomaly Detection. *Proceedings of the International Conference on Machine Learning (ICML)*.
- 94) Riutort-Mayol G., **Bürkner P. C.**, Andersen M. R., Solin A., & Vehtari A. (2023). Practical Hilbert space approximate Bayesian Gaussian processes for probabilistic programming. *Statistics and Computing*. doi:10.1007/s11222-022-10167-2
- 93) Mikkola P., Martin O., Chandramouli S., ..., **Bürkner P. C.**, & Klami A. (2023). Prior knowledge elicitation: The past, present, and future. *Bayesian Analysis*. doi:10.1214/23-BA1381
- 92) Radev S. T., Schmitt M., Schumacher L., Else Müller L., Pratz V., Schälte Y., Köthe U., & **Bürkner P. C.** (2023). BayesFlow: Amortized Bayesian Workflows With Neural Networks. *Journal of Open Source Software*. doi:10.21105/joss.05702
- 91) Rodriguez, J. E., Williams, D. R., & **Bürkner P. C.** (2023). Heterogeneous Heterogeneity by Default: Testing Categorical Moderators in Random-effects Meta-Analysis. *British Journal of Mathematical and Statistical Psychology*. doi:10.1111/bmsp.12299
- 90) Kołczyńska M. & **Bürkner P. C.** (2023). Modeling public opinion over time: A simulation study of latent trend models. *Journal of Survey Statistics and Methodology*. doi:10.1093/jssam/smado24
- 89) Shi L., **Bürkner P. C.**, & Bulling A. (2023). Inferring Human Intentions from Predicted Action Probabilities. *ArXiv preprint*. doi:10.48550/arXiv.2308.12194



- 88) Arslan, R. C., Blake, K., Botzet, L., **Bürkner, P. C.**, DeBruine, L. M., Fiers, T., ..., & Stern, J. (2023). Not within spitting distance: salivary immunoassays of estradiol have subpar validity for cycle phase. *Psychoneuroendocrinology*. doi:10.1016/j.psyneuen.2022.105994
- 87) Zetsche, U., **Bürkner P. C.**, Bohländer, J., Renneberg, B., Röpke, S., & Schulze, L. (2023). Daily affect regulation in borderline personality disorder and major depression. *Clinical Psychological Science*. doi:10.1177/21677026231160709
- 86) Danböck, S. K., Franke, L. K., Miedl, S. F., Liedlgruber, M., **Bürkner P. C.**, & Wilhelm, F. H. (2023). Aversive-Audiovisual and Painful-Electrical Stimulation Cause Peritraumatic Dissociation: A Functional Magnetic Resonance Imaging Study. *Behaviour Research and Therapy*. doi:10.1016/j.brat.2023.104289
- 85) Zhang, J., **Bürkner, P. C.**, Kiesel A., & Dignath D. (2023). How Emotional Stimuli Modulate Cognitive Control: A Meta-Analytic Review of Studies With Conflict Tasks. *Psychological Bulletin*. doi:10.1037/bul0000389
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