

PUBLICATION LIST

Prof. Dr. Andreas Mayr



ORCID iD: 0000-0001-7106-9732: 150 Publications



Web of Science ResearcherID: IQR-8777-2023: 2,357 citations, H-index: 25



Google Scholar profile: 4,431 citations, H-index: 34

RESEARCH PAPERS IN PEER-REVIEWED JOURNALS

2025

- [1] Briseño Sanchez G, Klein N, Klinkhammer H, **Mayr A**. Boosting distributional copula regression for bivariate binary, discrete and mixed responses. *Statistical Methods in Medical Research* 34(5):887-902. DOI: 10.1177/09622802241313294
- [2] Daub A, **Mayr A**, Zhang B, Bergherr E. A balanced statistical boosting approach for GAMLSS via new step lengths. *Computational Statistics* DOI:https://doi.org/10.1007/s00180-025-01649-8
- [3] Ehrentraut H, Massoth G, Delis A, Thewes B, Hoch J, Majchrzak M, Weber-Schehl M, **Mayr A**, Abulizi I, Speller J, Meybohm P, Steinisch A, Koessler J, Strauss AC, Wittmann M, Velten M. Implications of packed red blood cells production and transfer on post transfusion hemoglobin increase. *Journal of Clinical Anesthesia* 102:111743. DOI: 10.1016/j.jclinane.2025.111743
- [4] Ehrentraut H, Puskarevic A, Kunsorg A, Abulizi I, **Mayr A**, Jung M, Schillings M, Temme C, Pütz A, Coburn M, Wittmann M. Improved Perioperative Risk Education Through the Use of an Interactive Online Anaesthesia Education Tool (iPREDICT): A Prospective, Randomised Controlled Single-Centre Clinical Trial. *Journal of Clinical Medicine* 14:3131. doi: 10.3390/jcm14093131
- [5] Enengl S, Rath W, Kehl S, Oppelt P, **Mayr A**, Stroemer A, Eichinger T, Lastinger J, Stelzl P. Differences between Current Clinical Practice and Evidence-Based Guideline Recommendations Regarding Tocolysis - an Austria-wide Survey. *Geburtshilfe Und Frauenheilkunde* 85:47–55, eCollection 2025 Jan. DOI: 10.1055/a-2446-1828
- [6] Grabert J, Mohsen G, Diepenseifen C, Heister U, Breil M, Rohner M, Graeff I, Kappler J, Gutbrod K, Dörmann P, Schewe JC, Kunsorg A, **Mayr A**, Stroemer A, Stoppe C, Zimmer S, Hoffmann U, Duerr GD, Wittmann M, Velten M. The impact of preexisting omega-3 fatty acid serum levels on outcomes following out-of-hospital cardiac arrest: A comprehensive investigation. *Life Sciences* 377:123770
- [7] Hilbert A, Strömer A, Staerk C, Schreglmann B, Mansfeld T, Sander J, Seyfried F, Kaiser S, Stroh C, Dietrich A, Schmidt R, **Mayr A**. Multivariate Trajectories of Weight and Mental Health and Their Prognostic Significance 6 Years After Obesity Surgery. *International Journal of Eating Disorders* 2025 Aug 25. Online ahead of print. doi: 10.1002/eat.24527
- [8] LDLRegistry.org Collaborative. International consensus recommendations for the RAPID procedure in liver transplantation: The RAPID Consensus ISLS 2023 Zurich Collaborative*. *International Journal of Surgery* 111:2766–2772
- [9] Martynov I, Tobi L, Strömer A, **Mayr A**, Heinz AT, Ebinger M, Sparber-Sauer M, Fuchs J, Vahdad RM, Seitz G. Prevalence of locoregional and distant lymph node metastases in children and adolescents/young adults with soft tissue sarcomas: a Bayesian meta-analysis of proportions. *eClinicalMedicine* 87:103390. DOI: 10.1016/j.eclinm.2025.103390
- [10] Schmidt R, Schewe D, Herpertz S, Zipfel S, Tuschen-Caffier B, Friederich H-C, **Mayr A**, de Zwaan M, Hilbert A. Mechanisms of Change in Cognitive-Behavioral Therapy for Adults With Binge-Eating Disorder: A Dynamic Structural Equation Modeling Approach. *The International Journal of Eating Disorders* 58:1701-1709
- [11] Von Vopelius-Feldt A, Hamann T, **Mayr A** and Töteberg-Harms M. Evaluation of Reproducibility of Measurements of Peripapillary Blood Flow with Laser Speckle Flowgraphy in Healthy and POAG Subjects. *Klin Monbl Augenh* 242:384–391. DOI: 10.1055/a-2469-8403

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- [2] Thudium M, Braun L, Strömer A, **Mayr A**, Menzenbach J, Saller T, Soehle M, Kornilov E and Hilbert T. Cerebral Overperfusion Despite Reduced Cortical Metabolism Is Associated with Postoperative Delirium in Cardiac Surgery Patients: A Prospective Observational Study. *Journal of Clinical Medicine*. 2024; 13(21): 6605; doi: 10.3390/jcm13216605.
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- [19] Aldisi R, Hassanin E, Sivalingam S, Bunes A, Klinkhammer H, **Mayr A**, Fröhlich H, Krawitz P, Maj C. Gene-based burden score identify rare variant associations for 28 blood biomarkers. *BMC Genomic Data*. 2023; <https://doi.org/10.21203/rs.3.rs-2271894/v1>.

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- [25] Strömer A, Klein N, Staerk C, Klinkhammer H, **Mayr A**. Boosting Multivariate Structured Additive Distributional Regression Models. *Statistics in Medicine*. 2023; 42(11): 1779–1801.
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- [143] Staerk C, Müller L, **Mayr A**. Flexible amputation models for investigating missing data. *Proceedings of the 35th International Workshop on Statistical Modelling*. Bilbao, Basque Country, Spain, July 20-24, 2020, ed. by I. Irigoien, D.-J. Lee, J. Martínez-Minaya and M. X. Rodríguez-Álvarez, 438–441.
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- [152] **Mayr A**, Faschingbauer F, Schmid M. Boosting Sonographic Birth Weight Estimation. *Proceedings of the 28th International Workshop on Statistical Modelling*. ISBN 978-88-69251-47-8. Palermo, Italy, July 8-12, 2013, ed. by V. M. R. Muggeo, V. Capursi, G. Boscaino and G. Lovison, 269–274.
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THESES

- [156] **Mayr A**. Boosting Beyond the Mean - Extending Component-wise Gradient Boosting Algorithms to Multiple Dimensions. Dissertation, FAU Erlangen, 2013. Dr. Hut Verlag, München: ISBN 9783843912075.
- [157] **Mayr A**. Prediction Inference with Ensemble Methods. Diplomarbeit, Mathematisch-Naturwissenschaftliche Fakultät, LMU München, 2010.

SOFTWARE

snpboost [author]

Klinkhammer H, Staerk C, Maj C, Krawitz P M and **Mayr A**. snpboost: A statistical boosting framework for polygenic risk scores based on large-scale genotype data.

R functions implementing a batch-based component-wise gradient boosting algorithm on large-scale genotype data.

Development version on GitHub: <https://github.com/hklinkhammer/snpboost>

gamboostLSS [author]

Hofner B, **Mayr A**, Fenske N, Schmid M. gamboostLSS: Boosting Methods for GAMLSS models. R package version 1.1-2.

R add-on package implementing a multi-dimensional component-wise gradient boosting algorithm to fit Generalized Additive Models for Location, Scale and Shape (GAMLSS).

Stable version on CRAN: <http://CRAN.R-project.org/package=gamboostLSS>.

Development version on GitHub: <https://github.com/boost-R/gamboostLSS>

mboost [contributor]

Hothorn T, Buehlmann P, Kneib T, Schmid M, Hofner B. (2016). mboost: Model-Based Boosting, R package version 2.7-0.

Main R add-on package implementing a general gradient boosting algorithm to estimate statistical models.

Stable version on CRAN: <http://CRAN.R-project.org/package=mboost>.

Development version on GitHub: <https://github.com/boost-R/mboost>

betaboost [author, maintainer]

Mayr A, Weinhold L, Hofner B, Schmid M. betaboost: Boosting Beta Regression. R package version 0.0-1.

R add-on package implementing user friendly wrapper functions to boost beta regression models via **mboost** and **gamboostLSS** in a unified framework.

Stable version on CRAN: <http://CRAN.R-project.org/package=betaboost>.

Development version on GitHub: <https://github.com/boost-R/betaboost>

SubBoost [author]

Staerk C, **Mayr A**. SubBoost: Randomized boosting with multivariable base-learners. R package version 0.1-1.

R add-on package implementing the Adaptive Subspace Boosting algorithm as well as the Random Subspace Boosting algorithm.

Development version on GitHub: <https://github.com/chstaerk/SubBoost>

JMboost [author, maintainer]

Waldmann E, **Mayr A**. JMboost: Boosting Joint Models for Longitudinal and Time-to-Event Outcomes. R package version 0.1-2.

R add-on package implementing a basic component-wise gradient boosting algorithm to fit Joint Models simultaneously for a longitudinal and a time-to-event outcome.

Development version on GitHub: <https://github.com/mayrandy/JMboost>

TALKS

INVITED KEYNOTE TALKS

Statistical boosting for biomedical research: strengths and limitations. *XIX Conferencia Española de Biometría (CEB)*. June 2023 – Vigo, Spain.

Advanced regression modelling with statistical learning. *European Eye Epidemiology (E3) Meeting*. June, 2022 – Bonn, Germany.

Prediction accuracy, sparsity and clinical reality: a case study on statistical learning. *TU GRAZ, Austrian-Slovenian Joint Statistical Days*. April 2022 – Graz, Austria.

INVITED TALKS AND SEMINAR TALKS

Enhanced variable selection for boosting sparser and less complex models in distributional regression. *COMPSTAT 2024*. August 2024 – Gießen, Germany.

Genetic prediction modelling in large cohort studies. *Lusófona University and ProChild CoLAB*. July 2024 – Porto, Portugal.

Statistical Boosting, complex models and genetic predictions. *Universität Göttingen*. May 2024 – Göttingen, Germany.

Boosting polygenic risk scores based on large cohort data. *Universidad del País Vasco*. March 2024 – Bilbao, Spain.

Statistical boosting for advanced prediction modelling. *Departamento de Métodos Cuantitativos, Facultad de Economía y Empresa (Sarriko)*. February 2024 – Bilbao, Spain.

Statistical boosting for prediction, advanced statistical modelling and clinical reality. *Dipartimento di Statistica e Metodi Quantitativi*. January 2024 – Milano, Italy.

Statistical learning, advanced statistical modelling and clinical reality. *Departamento de Estatística Universidade Federal de Pernambuco*. October 2023 – Recife, Pernambuco, Brasil.

Methodological aspects concerning the development and validation of clinical prediction models for PPD with a focus on statistical learning. *2nd Riseup-PPD International Conference*. September 2023 – Sofia, Bulgaria.

Statistical boosting, advanced statistical modeling and clinical reality. *Centro de Estatística e Aplicações Universidade de Lisboa*. July 2023 – Lisboa, Portugal.

Statistical learning, advanced statistical modelling and clinical reality. *IBE Munich*. June 2023 – Munich, Germany.

Enhanced variable selection via statistical boosting. *Spanish Conference on Statistics and Operational Research (SEIO)*. July 2022 – Granada, Spain.

Recent extensions to statistical boosting. *TU Dortmund*. October 2021 – Dortmund, Germany.

Boosting regression models for multiple endpoints. *Universität Heidelberg*. July 2019 – Heidelberg, Germany.

Boosting regression models for multiple endpoints. *Universitet i Oslo*. May 2019 – Oslo, Norway.

Boosting regression models for multiple endpoints. *DAGSTAT 2019*. March 2019 – Munich, Germany.

Statistical boosting for time-to-event data: An overview on recent developments. *CMStatistics 2018*. December 2018 – Pisa, Italy.

Boosting Joint Models for Longitudinal and Time-to-Event Data. *Abteilung für Epidemiologie und Biometrie, Universität Oldenburg*. November 2018 – Oldenburg, Germany.

An introduction to boosting Generalized Additive Models for Location, Scale and Shape. *Department of Statistics, Universität Linz*. March 2018 – Linz, Austria.

A non-technical introduction to boosting distributional regression models with an application to health-related quality of life outcomes. *IBE Munich*. May 2017 – Munich, Germany.

An introduction to boosting distributional regression models. *Department of Statistics, Munich*. May 2017 – Munich, Germany.

Boosting Joint Models for longitudinal and time-to-event outcomes. *CMStatistics*. December 2016 – Seville, Spain.

An introduction to boosting generalized additive models for location, scale and shape. *Universidad de Buenos Aires*. February 2016 – Buenos Aires, Argentina.

Boosting distributional regression models for multivariate responses. *ERCIM Working Group on Computing and Statistics*. December 2015 – London, UK.

Boosting Beyond the Mean and Permutation – Testing for Reliability. *ERCIM Working Group on Computing and Statistics*. December 2014 – Pisa, Italy.

Boosting the Concordance Index for Survival Data. *University of Essex*. October 2014 – Colchester, UK.

A non-technical Introduction to Boosting GAMLSS. *Interdisciplinary Research Training Group Scaling Problems in Statistics*. May 2013 – Universität Göttingen.

More Than Just the Mean: Flexible Statistical Modelling via GAMLSS. *DAGStat 2013*. March 2013 – Universität Freiburg.

Fitting Prediction Intervals by Boosting Quantile Regression. *ERCIM Working Group on Computing and Statistics*. December 2011 – London, UK.

Prognoseintervalle und Quantils-Boosting: Eine Simulationsstudie. *Institut für Statistik*. June 2010 – Ludwig-Maximilians-Universität München.

CONTRIBUTED TALKS

A copula boosting approach for dependent censoring. *Statistical Computing*. July 2024 – Schloss Reisensburg, Germany.

The evaluation of clinical prediction models – methodological pitfalls illustrated with an application to peripartum depression. *70th Biometric Colloquium*. February 2024 – Luebeck, Germany.

Using the R^2 measure on test data? The evaluation of polygenic prediction models across populations. *Statistical Computing*. July 2023 – Schloss Reisensburg, Germany.

Teaching Probabilities and risks to medical students with a special focus on communication with patients. *11th International Conference on Teaching Statistics*. September 2022 – Rosario, Argentina.

Boosting polygenic risk score. *Statistical Computing*. July 2022 – Schloss Reisensburg, Germany.

Boosting health-related quality of life via distributional beta regression. *International Workshop on Statistical Modelling*. July 2019 – Guimaraes, Portugal.

Distributional and quantile regression for quality control in fetal weight estimation. *CEN-ISBS: International Biometric Society*. August 2017 – Vienna, Austria.

Boosting distributional regression models for multivariate responses. *International Workshop on Statistical Modelling*. July 2017 – Groningen, Netherlands.

Boosting distributional regression models for multivariate responses. *Statistical Computing*. July 2016 – Schloss Reisensburg, Günzburg.

Distributional and quantile regression for quality control in fetal weight estimation. *International Workshop on Statistical Modelling*. July 2016 – Rennes, France.

Boosting distributional regression models for multivariate responses. *DAGStat 2016*. March 2016 – Göttingen.

Analysing measurement errors via boosting location and scale models. *Statistical Computing*. July 2015 – Schloss Reisensburg, Günzburg.

Boosting the discriminatory power of survival models via the C-index and stability selection. *International Workshop on Statistical Modelling*. July 2015 – Linz, Austria.

Boosting the Concordance Index for Survival Data. *Statistical Computing*. July 2014 – Schloss Reisensburg, Günzburg.

Estimation of Biomarker Combinations by Boosting the Concordance Index for Survival Data. *Biometrisches Kolloquium*. March 2014 – Bremen.

Boosting Sonographic Birth Weight Estimation. *International Workshop on Statistical Modelling*. July 2013 – Palermo, Italy.

Boosting Sonographic Birth Weight Estimation. *Statistical Computing*. June 2013 – Schloss Reisensburg, Günzburg.

Fitting prediction intervals for BMI patterns in childhood by boosting longitudinal quantile regression. *International Workshop on Statistical Modelling*. July 2012 – Prague, Czech Republic.

Boosting Generalized Additive Models for Location Scale and Shape. *Statistical Computing*. June 2012 – Schloss Reisensburg, Günzburg.

Boosting Generalized Additive Models for Location Scale and Shape. *International Workshop on Statistical Modelling*. July 2011 – Valencia, Spain.

Prediction Intervals and Quantile Boosting: A Simulation Study. *Statistical Computing*. June 2010 – Schloss Reisensburg, Günzburg.

SHORT COURSES

Workshop Prediction Modelling via Statistical Boosting and Distributional Regression. *Universidad Nacional de Mar del Plata and Universidad Nacional de Córdoba*. June 2024 – Mar del Plata and Córdoba, Argentina.

Workshop Linear Mixed Models in R - Short Time Scientific Mission (together with Prof. Bruno de Sousa). *COST Action CA18138, University of Coimbra*. October 2022 – Coimbra, Portugal.

Training School Data Analysis in R for Peripartum Depression Disorder (together with Carla Díaz Louzao). *COST Action CA18138, University of Gdansk*. July 2022 – Gdansk, Poland.

Boosting for Statistical Modelling (together with Benjamin Hofner). *University of Essex*. October 2014 – Colchester, UK.

Boosting for Statistical Modelling (together with Benjamin Hofner). *International Workshop on Statistical Modelling*. July 2014 – Göttingen.

Generalised Additive Models for Location Scale and Shape (together with Mikis Stasinopoulos). *University of Essex*. May 2013 – Colchester, UK.

Model Based Boosting in R. (Together with Nikolai Robinsonov, Benjamin Hofner and Matthias Schmid.) *Statistical Computing*. May 2011 - Schloss Reisensburg, Günzburg.