

PROFESSOR DINO SEJDINOVIC

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ACADEMIC POSITIONS

School of Computer and Mathematical Sciences, University of Adelaide Professor	2022–
Nanyang Technological University, Singapore Visiting Professor	2025–
The Institute of Statistical Mathematics, Tokyo Visiting Professor	2024–
Department of Statistics, University of Oxford Associate Professor	2016–2022
Lecturer	2014–2015
Mansfield College, Oxford Fellow and Tutor in Statistics	2016–2022
The Alan Turing Institute, London Turing Faculty Fellow	2016–2021
University College, Oxford Senior College Lecturer	2014–2015
Gatsby Computational Neuroscience Unit, University College London Postdoctoral Fellow	2011–2014
Institute for Statistical Science, University of Bristol Brunel Postdoctoral Fellow	2009–2011

OTHER EMPLOYMENT

Goldman, Sachs & Co, London Vice President, Operations Strategies	2013–2014
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EDUCATION

University of Bristol PhD in Electrical and Electronic Engineering	2006–2009
University of Sarajevo Diplom in Mathematics and Theoretical Computer Science	2003–2006

PROFESSIONAL SERVICE

Program Chair, Australian Data Science Network Conference (ADSN)	2023
Area Chair, International Conference on Machine Learning (ICML)	2017, 2018, 2020
Area Chair, Artificial Intelligence and Statistics (AISTATS)	2016, 2017, 2019
Area Chair, Neural Information Processing Systems (NeurIPS)	2015
ELLIS Society Fellow	2019–
Senior Associate Editor, <i>ACM Transactions on Probabilistic Machine Learning</i>	2023–
Editorial Board Member, <i>Journal of Machine Learning Research</i>	2020–

Selected peer-review activities:

- *Journal of Machine Learning Research; Journal of the Royal Statistical Society - Series B; Annals of Statistics; Biometrika; Journal of the American Statistical Association; Information and Inference; Statistical Science; Statistics and Computing; Geoscientific Model Development; IEEE Transactions on Information Theory; IEEE Transactions on Pattern Analysis and Machine Intelligence; Neural Computation; Journal of Causal Inference; Neural Information Processing Systems (NeurIPS); International Conference on Machine Learning (ICML); NSF: Methodology, Measurement, and Statistics Program.*

INSTITUTIONAL SERVICE

University of Adelaide

Theme Co-Lead, Responsible AI Research Centre (RAIR)	2025–
Academic Leadership Team, Australian Institute for Machine Learning	2023–
Steering Committee, Adelaide Data Science Centre	2023–
IT & Data Science Program Development Working Group	2023–2024
Chair, Statistics and Data Science Curriculum Working Group	2023

Department of Statistics, University of Oxford

Equality, Diversity & Inclusion Committee	2021–2022
IT Committee	2021–2022
Management Team, StatML Centre for Doctoral Training	2019–2022
Teaching Committee	2017–2021
Chair, IT Provision Working Group	2017–2018
MMath Mathematics & Statistics Part C Official Examiner	2015–2018, 2021–2022
MSc in Statistical Science Admissions Committee	2015–2022
Graduate Research Committee	2015–2017

Mansfield College, Oxford

Member of the Governing Body	2016–2022
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GRANTS AND AWARDS

- €4.18M; ERC: iMIRACLI - Horizon 2020 European Training Network on Innovative Machine Learning to Constrain Aerosol-Cloud Climate Impacts (co-CI) 2020–2023
- £6.16M; EPSRC: StatML - Centre for Doctoral Training in Modern Statistics and Statistical Machine Learning at Imperial College London and University of Oxford (co-I) 2019–2027
- £43.7k; Hennes & Mauritz AB: Causal Inference and Machine Learning for Clothing Retail Industry Applications (CI) 2018–2022
- £300k; Tencent: Collaboration on Large Scale Machine Learning (co-I) 2017–2020
- Best Paper Award Honorable Mention, AISTATS 2022 ([37])
- Best Paper Award Honorable Mention, ICML 2019 ([62])
- Best Paper Award, ICML 2019 Workshop “Climate Change: How Can AI Help?” ([141])
- Papers with plenary/oral presentations: NeurIPS 2013 ([93], top 1.4% of submissions), NeurIPS 2014 ([89], top 1.2%), AISTATS 2016 ([81], top 6.5%), UAI 2016 ([77], top 9.5%), AISTATS 2017 ([72], top 5.3%), AISTATS 2022 ([37], top 2.6%), ICML 2023 ([20], top 2.4%), NeurIPS 2023 ([28], top 0.62%)
- 2011 IEEE Trans. Multimedia Prize Paper Award Shortlist (Top 5) for [107]
- Toshiba Research PhD Scholarship (2006–2009)
- Golden Badge Award of the University of Sarajevo, 2007
- The Most Successful Student / Valedictorian of the '07 Class at the University of Sarajevo (1/4,517)

Current Research Group

Boming Xia (Postdoc, Adelaide), 2025–
Erdun Gao (Postdoc, Adelaide), 2024–
Gaurangi Anand (Postdoc, Adelaide), 2024–
Aidan Moller (PhD student, Adelaide), 2025–
Vinh Nguyen (PhD student, Adelaide), 2024–
Rahul Rajendra Kumar (MPhil student, Adelaide), 2025–
Peter Moskvichev (MPhil student, Adelaide), 2024–

Past Supervision of Doctoral Dissertations

1. Jake Fawkes, *Data quality in causal machine learning with applications to algorithmic fairness*, DPhil, Department of Statistics, University of Oxford, 2025
2. Veit Wild, *Generalised Variational Inference in Infinite Dimensions*, DPhil, Department of Statistics, University of Oxford, 2024
3. Shahine Bouabid, *Transforming Kernel-Based Learners to Incorporate Domain Knowledge from Climate Science*, DPhil, Department of Statistics, University of Oxford, 2024
4. Valerie Bradley, *Quantifying and Mitigating Selection Bias in Probability and Nonprobability Samples*, DPhil, Department of Statistics, University of Oxford, 2024
5. Siu Lun Chau, *Towards Trustworthy Machine Learning with Kernels*, DPhil, Department of Statistics, University of Oxford, 2023
6. Robert Hu, *Large Scale Methods for Kernels, Causal Inference and Survival Modelling*, DPhil, Department of Statistics, University of Oxford, 2022
7. Jean-Francois Ton, *Causal Reasoning and Meta Learning using Kernel Mean Embeddings*, DPhil, Department of Statistics, University of Oxford, 2022
8. Anthony Caterini, *Expanding the Capabilities of Normalizing Flows in Deep Generative Models and Variational Inference*, DPhil, Department of Statistics, University of Oxford, 2021
9. David Rindt, *Nonparametric Independence Testing and Regression for Time-to-Event Data*, DPhil, Department of Statistics, University of Oxford, 2021
10. Zhu Li, *On the Properties of Random Feature Methods*, DPhil, Department of Statistics, University of Oxford, 2021
11. Qinyi Zhang, *Kernel Based Hypothesis Tests: Large-Scale Approximations and Bayesian Perspectives*, DPhil, Department of Statistics, University of Oxford, 2020
12. Ho Chung Law, *Testing and Learning on Distributional and Set Inputs*, DPhil, Department of Statistics, University of Oxford, 2020
13. Jovana Mitrović, *Representation Learning with Kernel Methods*, DPhil, Department of Statistics, University of Oxford, 2019

Past Supervision of MPhil, Master and Honours Research Dissertations

1. Vivienne Niejalke, *Geolocation with Latent Variable Models*, MPhil, School of Computer and Mathematical Sciences, University of Adelaide, 2025
2. Zhuoya Zhao, *An Investigation of Collider Regression*, Honours Thesis, Bachelor of Mathematical Sciences, University of Adelaide, 2024
3. Litong Qi, *Enhancing trust in obstacle detection for visually impaired people using Shapley values*, Master of Data Science, University of Adelaide, 2024
4. Nikhil Kapoor, *Illuminating the Stars: Predicting Stellar Luminosity with Explainable Machine Learning*, Master of Data Science, University of Adelaide, 2024
5. Sarun Srikhom, *Shapley Values for Explaining Machine Learning Models*, Master of Data Science, University of Adelaide, 2024
6. Pham Thuy Tien Le, *Explaining Predictions of Used Vehicle Prices by SHAP methods*, Master of Data Science, University of Adelaide, 2024

7. Ky Phong Mai, *A Comprehensive Study of Shapley Value Explanations in Image Classification*, Master of Data Science, University of Adelaide, 2024
8. Yu Zhang, *SHAP: Interpretable Deep Learning for Enhanced Robustness and Security*, Master of Data Science, University of Adelaide, 2024
9. Haisen Liang, *Explaining Political Ideology with Shapley Values*, Master of Data Science, University of Adelaide, 2024
10. Fu Chuen Li, *Computational Efficiency of Shapley Value Estimation*, Master of Data Science, University of Adelaide, 2023
11. Nguyen Phuc Thai, *A Review of Methods for Uncertainty Quantification when Estimating Shapley Values*, Master of Data Science, University of Adelaide, 2023
12. Anubhav Dattagupta, *Shapley Values for Explaining Machine Learning Models: Understanding the Impact of Rule Changes in Cricket*, Master of Data Science, University of Adelaide, 2023
13. Ka Man Becky Pang, *SHAP Explanation for Horse Racing Predictive Models*, Master of Data Science, University of Adelaide, 2023
14. Hanyue Zhang, *Shapley Values for Explaining Formula One Racing Predictive Models*, Master of Data Science, University of Adelaide, 2023
15. Tashreque Mohammed Haq, *Assessing Player Contributions in Soccer via the use of Shapley Values*, Master of Data Science, University of Adelaide, 2023
16. Diego Martinez Taboada, *Uncertainty Quantification for the Multi-Armed Bandit and the Off-Policy Evaluation Problems*, MSc in Statistical Science, University of Oxford, 2022
17. Ewan Yeaxlee, *Estimation of Stratum Means via Weight Estimation Methods and Conditional Mean Embeddings*, MSc in Statistical Science, University of Oxford, 2022
18. Qi Chen, *A HSIC-based Test for Causal Association on Verma Graph*, MMath Mathematics & Statistics (Part C Dissertation), University of Oxford, 2022
19. Oscar Yung, *MMD Two-Sample Testing in Regression Discontinuity Design*, MMath Mathematics & Statistics (Part C Dissertation), University of Oxford, 2022
20. Aidan Sabety-Mass, *Quantile Modelling with Kernel Methods and Meta Learning*, MSc in Statistical Science, University of Oxford, 2021
21. Ziru Zhou, *Demand and Capacity Modelling in Health and Social Care Services*, MSc in Statistical Science, University of Oxford, 2021
22. Samuel Cohen, *Learning Coupled Deep Generative Models*, MSc in Statistical Science, University of Oxford, 2019
23. Veit Wild, *On the Connections between Reproducing Kernel Hilbert Spaces and Gaussian Processes in Large Scale Approximations*, MSc in Statistical Science, University of Oxford, 2019
24. Enis Nazif, *Musical Source Separation using Neural Networks and Non-Negative Matrix Factorisation*, MSc in Statistical Science, University of Oxford, 2018
25. Yuanheng Tang, *Distribution Regression for Ecological Inference with an Application to Historical Voting Records*, MSc in Statistical Science, University of Oxford, 2018
26. Daniel Thorns, *Distribution Regression for Crop Yield Prediction*, MSc in Statistical Science, University of Oxford, 2018
27. Nicholas Yung, *Expectation Propagation and its Application to Ranking Models*, MMath Mathematics & Statistics (Part C Dissertation), University of Oxford, 2018
28. Yun Kang, *Determinantal Point Processes and Their Scalable Sampling Algorithms*, MMath Mathematics & Statistics (Part C Dissertation), University of Oxford, 2018
29. Jean-Francois Ton, *Nonstationary Spectral Features for Spatio-Temporal Modelling*, MSc in Applied Statistics, University of Oxford, 2017
30. Danai Antoniou, *Text Mining and Spatial Modelling for Airbnb Pricing Prediction*, MSc in Applied Statistics, University of Oxford, 2017
31. Thomas Uriot, *Predicting Conflict Intensity Fitting Neural Networks on Real-World Video Data*, MSc in Applied Statistics, University of Oxford, 2017

32. Tim Rudner, *Doubly Stochastic Variational Fourier Features for Deep Gaussian Processes*, MSc in Applied Statistics, University of Oxford, 2017
33. Kezia Burke, *Multilevel Analysis of Population in Ireland*, MSc in Applied Statistics, University of Oxford, 2017
34. Jake Stockwin, *Gaussian Processes for Bayesian Optimisation: Principles and Application to a Two-Agent Dose Finding Problem*, MMath Mathematics & Statistics (Part C Dissertation), University of Oxford, 2017
35. Nikola Konstantinov, *Kernel Dependence Measures for Unsupervised Learning*, MMath Mathematics & Statistics (Part C Dissertation), University of Oxford, 2017
36. Gabriel Zucker, *Using Machine Learning to Improve Targeting of Reemployment Programs in the United States*, MSc in Applied Statistics, University of Oxford, 2016
37. Thomas Lewin, *Difficulty and Skill in a Mobile Match-Three Game: A Machine Learning Approach*, MSc in Applied Statistics, University of Oxford, 2016
38. Hiroaki Imai, *Quadrature Rules Based on Determinantal Point Processes*, MSc in Applied Statistics, University of Oxford, 2016
39. Lukas Kobis, *Inference and Learning for Hidden Markov Models: Methodological and Computational Considerations*, MMath Mathematics & Computer Science (Part B Extended Essay), University of Oxford, 2016
40. Qinyi Zhang, *Kernel-Based Association Tests and Applications to Genomic Data*, MSc in Applied Statistics, University of Oxford, 2015
41. Artur Kotlicki, *Fast Kernel Adaptive Metropolis-Hastings Algorithm*, MSc in Applied Statistics, University of Oxford, 2015
42. Rishabh Kabra, *Prediction of Trip Outcomes from Initial Partial Trajectories*, MSc in Applied Statistics, University of Oxford, 2015

Examination of Research Dissertations

1. Houston Warren, *Bayesian Methods for Scientific Modeling: Advances in Quadrature, Kernel Learning, and Simulation*, PhD, School of Computer Science, University of Sydney (external examiner), 2025
2. Julien Lenhardt, *Identification of cloud regimes relevant for aerosol-cloud interactions*, PhD, Faculty of Physics and Earth Sciences, Leipzig University (external examiner), 2025
3. Yu-Hsiu Tseng, *Advancements in Variational Bayesian Computation: Theory and Applications in Hybrid and Particle-based Methods*, PhD, School of Computer Science, University of Sydney (external examiner), 2024
4. Emiliano Diaz Salas-Porras, *Towards Causal Discovery for Earth System Sciences*, PhD, School of Engineering, University of Valencia (external examiner), 2023
5. David Widmann, *Reliable Uncertainty Quantification in Statistical Learning*, PhD, Department of Information Technology, Uppsala University (external examiner / opponent), 2023
6. Alexander Camuto, *Understanding Gaussian Noise in Neural Networks*, DPhil, Department of Statistics, University of Oxford (internal examiner), 2022
7. Simone Rossi, *Improving Scalability and Inference in Probabilistic Deep Models*, PhD, Sorbonne University / EURECOM (external examiner), 2022
8. Fredrik Hallgren, *Kernel PCA and the Nyström method*, PhD, Department of Statistical Science, University College London (external examiner), 2021
9. Edward Wagstaff, *Exploiting Prior Knowledge in Machine Learning Model Design*, DPhil, Department of Engineering Science, University of Oxford (internal examiner), 2021
10. Alex Lambert, *Learning Function-Valued Functions in Reproducing Kernel Hilbert Spaces with Integral Losses: Application to Infinite Task Learning*, PhD, Institut Polytechnique de Paris / Telecom Paris (external examiner), 2021
11. Dominic Richards, *Multi-Agent Learning*, DPhil, Department of Statistics, University of Oxford (internal examiner), 2021

12. Kelvin Hsu, *Bayesian Perspectives on Conditional Kernel Mean Embeddings: Hyperparameter Learning and Probabilistic Inference*, PhD, School of Computer Science, University of Sydney (external examiner), 2020
13. Eszter Vertes, *Probabilistic Learning and Computation in Brains and Machines*, PhD, Gatsby Computational Neuroscience Unit, University College London (external examiner), 2020
14. Hyunjik Kim, *Interpretable Models in Probabilistic Machine Learning*, DPhil, Department of Statistics, University of Oxford (internal examiner), 2019
15. Toni Karvonen, *Kernel-Based and Bayesian Methods for Numerical Integration*, PhD, Department of Electrical Engineering and Automation, Aalto University (external examiner), 2019
16. Kurt Cutajar, *Broadening the Scope of Gaussian Processes for Large-Scale Learning*, PhD, Sorbonne University / EURECOM (external examiner), 2019
17. Xiaoyu Lu, *Modelling, Inference and Optimization in Probabilistic Machine Learning*, DPhil, Department of Statistics, University of Oxford (internal examiner), 2019
18. Mark McLeod, *Optimizing Bayesian Optimization*, DPhil, Department of Engineering Science, University of Oxford (internal examiner), 2018
19. Tammo Rukat, *Logical Factorisation Machines: Probabilistic Boolean Factor Models for Binary Data*, DPhil, Department of Statistics, University of Oxford (internal examiner), 2018
20. Martin Stražar, *Learning the Kernel by Low-Rank Matrix Approximation*, PhD, Faculty of Computer and Information Science, University of Ljubljana (external examiner), 2018
21. Yves-Laurent Kom Samo, *Advances in Kernel Methods: Towards General-Purpose and Scalable Models*, DPhil, Department of Engineering Science, University of Oxford (internal examiner), 2017
22. Bertrand Nortier, *Second Order Proximal Methods Applied to Elastic Net Penalised Vector Generalised Linear Models*, MSc by Research, Department of Statistics, University of Oxford (internal examiner), 2016

TEACHING

University of Adelaide

<i>STATS 3006/4106/7059 Mathematical Statistics</i> (3rd year)	2024–2025
<i>MATHS 2203 Advanced Mathematical Perspectives II</i> (2nd year)	2023–2025
<i>STATS 2107/7107 Statistical Modelling and Inference</i> (2nd year)	2023

University of Oxford

<i>Computational Statistics</i> (Part B/3rd year+MSc)	2021/22
<i>Statistics and Data Analysis</i> (Prelims/1st year)	2017/18–2021/22
<i>Machine Learning</i> (Centre for Doctoral Training)	2016/17, 2019/20–2021/22
<i>Foundations of Statistical Inference</i> (Part B/3rd year+MSc)	2019/20
<i>Advanced Topics in Statistical Machine Learning</i> (Part C/4th year+MSc)	2017/18–2018/19
<i>Statistical Data Mining and Machine Learning</i> (Part C/4th year+MSc)	2014/15–2016/17
Tutor (Mansfield College), <i>Probability, Statistics</i>	2015/16–2021/22
Tutor (University College), <i>Probability, Statistics, Graph Theory</i>	2014/15–2015/16

University College London

<i>Advanced Topics in Machine Learning: Theory of Kernel Methods</i> (MSc)	2011/12–2013/14
<i>Adaptive Modelling of Complex Data: Classification</i> (an introductory graduate course)	2013/14

University of Bristol

<i>Graphical Models and Complex Stochastic Systems</i> (Centre for Doctoral Training)	2010/11
Tutor, <i>Linear Algebra and Geometry, Probability I, Statistics I</i>	2010/11
Tutor, <i>Analysis I, Further Topics in Analysis</i>	2009/10
Demonstrator, <i>Computing, Software Engineering in C</i>	2007/08–2008/09

University of Sarajevo

Demonstrator, <i>Mathematical Analysis / Analysis I</i>	2005/06
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SELECTED INVITED TALKS

Bayes on the Beach Conference, Wollongong	02/2026
Machine Learning Summer School, Melbourne	02/2026
CCDS Seminar, Nanyang Technological University, Singapore	07/2025
BayesComp Conference, Singapore (invited session)	06/2025
Data 61, CSIRO, Sydney	05/2025
ML Research Network Seminar, University of Sydney	05/2025
Workshop on Functional Inference and Machine Intelligence, Okinawa	03/2025
The International Conference of Thailand Econometrics Society, Chiang Mai	01/2025
The KAUST Statistics Workshop, King Abdullah University of Science and Technology	11/2024
Gatsby Unit, University College London	07/2024
Dept of Computer Science, RPTU Kaiserslautern-Landau	03/2024
Nanyang Technological University, Singapore	03/2024
Business Analytics Seminar, University of Sydney	02/2024
Data 61, CSIRO, Sydney	02/2024
Institute of Mathematical Statistics Asia-Pacific Rim Meeting, Melbourne (invited session)	01/2024
Australian Institute for Machine Learning, Adelaide	06/2023
Department of Information Technology, Uppsala University	06/2023
NIASRA, University of Wollongong	03/2023
Workshop on Functional Inference and Machine Intelligence, Tokyo	03/2023
Adelaide Data Science Centre, University of Adelaide	03/2023
Mathematical Sciences Colloquium, University of Adelaide	11/2022
CSIRO ML & AI Future Science Platform Conference, Sydney (keynote)	05/2022
KTH Royal Institute of Technology, Stockholm	03/2022
Data Science Seminar, London School of Economics	03/2022
Secondmind, Cambridge	12/2021
ELLIS Workshop on Machine Learning in Earth and Climate Sciences, Oberwolfach	03/2020
Workshop on Functional Inference and Machine Intelligence, Sophia Antipolis	02/2020
Northern Lights Deep Learning Workshop (NLDL), Tromsø (keynote)	01/2020
Statistics Seminar, School of Mathematics, Cardiff University	01/2020
NeurIPS Meetup, Oxford (keynote)	12/2019
Royal Statistical Society Discussion Meeting (seconding the vote of thanks)	10/2019
European Meeting of Statisticians, Palermo (invited session)	07/2019
Gatsby Unit 21st Birthday Symposium, London	07/2019
Machine Learning Meetup, London	06/2019
Google DeepMind, London	06/2019
EURECOM, Sophia Antipolis	04/2019
Workshop on Functional Inference and Machine Intelligence, Tokyo	03/2019
KERMES - Advances in Kernel Methods for Structured Data, UPM Madrid	02/2019
CSML Seminar, University College London	01/2019
Machine Learning Tutorial, Dept of Computing, Imperial College London	11/2018
Advances in Kernel Methods Workshop, Sheffield	09/2018
Intelligent Systems Laboratory Seminar, University of Bristol	06/2018
The Institute of Science and Technology Austria	06/2018
SFB Data Assimilation Colloquium, Universität Potsdam	05/2018
Statistical Scalability Programme, Isaac Newton Institute, University of Cambridge	05/2018
Theory and Algorithms in Data Science Seminar, Alan Turing Institute	10/2017
School of Mathematics and Statistics, University of Sheffield	10/2017
Mathematical, Physical and Life Sciences Division Summer Reception, Oxford	06/2017
Max Planck Institute for Intelligent Systems, Tübingen	05/2017
Regularization Methods for Machine Learning Workshop, Oslo	05/2017
OxWaSP-Amazon Workshop, Amazon Development Centre, Berlin	03/2017
Statistical Learning Workshop, Lancaster	03/2017
Dagstuhl Seminar 16481, Leibniz-Zentrum für Informatik, Schloss Dagstuhl	12/2016

Royal Statistical Society Conference, Manchester (invited session)	09/2016
The Institute of Statistical Mathematics, Tokyo	03/2016
Dept of Statistics, University of Leeds	11/2015
OxWaSP Symposium, Dept of Statistics, University of Warwick	10/2015
Dept of Power, Electronics and Communication Engineering, University of Novi Sad	06/2015
Dagstuhl Seminar 15152, Leibniz-Zentrum für Informatik, Schloss Dagstuhl	04/2015
Dept of Statistics, London School of Economics	02/2015
UCL Workshop on the Theory of Big Data, London	01/2015
Machine Learning Group, Technische Universität Berlin	07/2014
The Shogun Machine Learning Toolbox Workshop, c-base, Berlin	07/2014
Workshop on Kernel Methods for Big Data, Université Lille	03/2014
Dept of Statistical Science, University College London	11/2012
CSML Seminar, University College London	10/2012
Signal Processing and Communications Laboratory, University of Cambridge	02/2012
International Conference of the ERCIM WG on Computing & Statistics (invited session)	12/2011
Dept of Electrical and Electronic Engineering, Imperial College London	07/2011
Hausdorff Center for Mathematics, University of Bonn	02/2011
Gatsby Unit, University College London	02/2011
Dept of Statistics, University of Oxford	12/2010
Institute for Statistical Science, University of Bristol	02/2010
International Mobile Multimedia Communications Conference (invited session)	09/2009
Toshiba Research Europe Telecommunications Research Laboratory, Bristol	08/2009
Centre for Communications Research, University of Bristol	11/2008

PUBLICATIONS

Google Scholar profile, ORCID: 0000-0001-5547-9213

Published / In Press

- [1] S. L. Chau, A. Schrab, A. Gretton, D. Sejdinovic, and K. Muandet, “Credal Two-Sample Tests of Epistemic Uncertainty,” in *International Conference on Artificial Intelligence and Statistics (AISTATS)*, vol. PMLR 258, 2025, pp. 127–135.
- [2] S. Dan, Z. Ling, Y. Chen, J. Tegegne, V. K. Jaeger, A. Karch, S. Mishra, O. Ratmann, and The Machine Learning & Global Health Network, “Addressing survey fatigue bias in longitudinal social contact studies to improve pandemic preparedness,” *Scientific Reports*, vol. 15, no. 1, p. 17935, 2025, ISSN: 2045-2322. DOI: 10.1038/s41598-025-02235-0.
- [3] B. G. Doan, A. Shamsi, X.-Y. Guo, A. Mohammadi, H. Alinejad-Rokny, D. Sejdinovic, D. Teney, D. C. Ranasinghe, and E. Abbasnejad, “Bayesian Low-Rank LeArning (Bella): A Practical Approach to Bayesian Neural Networks,” in *Proceedings of the AAAI Conference on Artificial Intelligence*, vol. 39, 2025, pp. 16298–16307. DOI: 10.1609/aaai.v39i15.33790.
- [4] M. Matabuena, J. C. Vidal, O. H. M. Padilla, and D. Sejdinovic, “Kernel Biclustering Algorithm in Hilbert Spaces,” *Advances in Data Analysis and Classification*, 2025. DOI: 10.1007/s11634-024-00619-0.
- [5] P. Moskvichev and D. Sejdinovic, “All Models Are Miscalibrated, But Some Less So: Comparing Calibration with Conditional Mean Operators,” in *Australasian Joint Conference on Artificial Intelligence (AJCAI)*, 2025, to appear.
- [6] D. Sejdinovic, “An Overview of Causal Inference using Kernel Embeddings,” in *Data Science for Econometrics and Related Topics*, ser. Studies in Systems, Decision and Control, Springer, 2025, to appear.
- [7] D. Sejdinovic, “Instrumental Identification of Interventional Distribution via Moment Recovery in a Parametric Outcome Model,” *Asian Journal of Economics and Banking*, 2025. DOI: 10.1108/AJEB-08-2025-0099.

- [8] R. Tsuchida, J. Liu, C. S. Ong, and D. Sejdinovic, “Squared families are useful conjugate priors,” in *Advances in Neural Information Processing Systems (NeurIPS)*, 2025.
- [9] D. Zhang, R. Tsuchida, and D. Sejdinovic, “Label Distribution Learning using the Squared Neural Family on the Probability Simplex,” in *Uncertainty in Artificial Intelligence (UAI)*, vol. PMLR 286, 2025, pp. 4872–4888.
- [10] S. Bouabid, D. Sejdinovic, and D. Watson-Parris, “FaIRGP: A Bayesian Energy Balance Model for Surface Temperatures Emulation,” *Journal of Advances in Modeling Earth Systems*, vol. 16, no. 6, 2024. DOI: 10.1029/2023MS003926.
- [11] S. Bouabid, D. Watson-Parris, S. Stefanovic, A. Nenes, and D. Sejdinovic, “Aerosol optical depth disaggregation: toward global aerosol vertical profiles,” *Environmental Data Science*, vol. 3, e16, 2024. DOI: 10.1017/eds.2024.15.
- [12] D. Craig, H. Moon, F. Fedele, *et al.*, “Bridging the Reality Gap in Quantum Devices with Physics-Aware Machine Learning,” *Physical Review X*, vol. 14, p. 011001, 1 2024. DOI: 10.1103/PhysRevX.14.011001.
- [13] J. Fawkes, R. Hu, R. J. Evans, and D. Sejdinovic, “Doubly Robust Kernel Statistics for Testing Distributional Treatment Effects,” *Transactions on Machine Learning Research*, 2024, ISSN: 2835–8856.
- [14] R. Hu, D. Sejdinovic, and R. J. Evans, “A Kernel Test for Causal Association via Noise Contrastive Backdoor Adjustment,” *Journal of Machine Learning Research*, vol. 25, no. 160, pp. 1–56, 2024.
- [15] J. Lenhardt, J. Quaas, and D. Sejdinovic, “Marine cloud base height retrieval from MODIS cloud properties using machine learning,” *Atmospheric Measurement Techniques*, vol. 17, no. 18, pp. 5655–5677, 2024. DOI: 10.5194/amt-17-5655-2024.
- [16] R. Oliveira, D. Sejdinovic, D. Howard, and E. Bonilla, “Bayesian Adaptive Calibration and Optimal Design,” in *Advances in Neural Information Processing Systems (NeurIPS)*, 2024. DOI: 10.52202/079017–1800.
- [17] B. Severin, D. T. Lennon, L. C. Camenzind, *et al.*, “Cross-architecture tuning of silicon and SiGe-based quantum devices using machine learning,” *Scientific Reports*, vol. 14, no. 1, p. 17281, 2024, ISSN: 2045–2322. DOI: 10.1038/s41598-024-67787-z.
- [18] E. Shimizu, K. Fukumizu, and D. Sejdinovic, “Neural-Kernel Conditional Mean Embeddings,” in *International Conference on Machine Learning (ICML)*, vol. PMLR 235, 2024, pp. 45040–45059.
- [19] R. Tsuchida, C. S. Ong, and D. Sejdinovic, “Exact, Fast and Expressive Poisson Point Processes via Squared Neural Families,” in *Proceedings of the AAAI Conference on Artificial Intelligence*, vol. 38, 2024, pp. 20559–20566. DOI: 10.1609/aaai.v38i18.30041.
- [20] S. Bouabid, J. Fawkes, and D. Sejdinovic, “Returning The Favour: When Regression Benefits From Probabilistic Causal Knowledge,” in *International Conference on Machine Learning (ICML)*, vol. PMLR 202, 2023, pp. 2885–2913.
- [21] S. L. Chau, K. Muandet, and D. Sejdinovic, “Explaining the Uncertain: Stochastic Shapley Values for Gaussian Process Models,” in *Advances in Neural Information Processing Systems (NeurIPS)*, 2023.
- [22] T. Fernandez, A. Gretton, D. Rindt, and D. Sejdinovic, “A Kernel Log-Rank Test of Independence for Right-Censored Data,” *Journal of the American Statistical Association*, vol. 118, no. 542, pp. 925–936, 2023. DOI: 10.1080/01621459.2021.1961784.
- [23] R. Hu and D. Sejdinovic, “Towards Deep Interpretable Features,” *Journal of Computational Mathematics and Data Science*, vol. 6, p. 100067, 2023. DOI: 10.1016/j.jcmds.2022.100067.
- [24] Z. Li, W. Su, and D. Sejdinovic, “Benign Overfitting and Noisy Features,” *Journal of the American Statistical Association*, vol. 118, no. 544, pp. 2876–2888, 2023. DOI: 10.1080/01621459.2022.2093206.
- [25] A. Perez-Suay, P. Gordaliza, J.-M. Loubes, D. Sejdinovic, and G. Camps-Valls, “Fair Kernel Regression through Cross-Covariance Operators,” *Transactions on Machine Learning Research*, 2023, ISSN: 2835–8856.

- [26] J. Schuff, D. T. Lennon, S. Geyer, *et al.*, “Identifying Pauli Spin Blockade using Deep Learning,” *Quantum*, vol. 7, p. 1077, 2023, ISSN: 2521-327X. DOI: 10.22331/q-2023-08-08-1077.
- [27] R. Tsuchida, C. S. Ong, and D. Sejdinovic, “Squared Neural Families: A New Class of Tractable Density Models,” in *Advances in Neural Information Processing Systems (NeurIPS)*, 2023.
- [28] V. D. Wild, S. Ghalebikesabi, D. Sejdinovic, and J. Knoblauch, “A Rigorous Link between Deep Ensembles and (Variational) Bayesian Methods,” in *Advances in Neural Information Processing Systems (NeurIPS)*, 2023.
- [29] S. L. Chau, M. Cucuringu, and D. Sejdinovic, “Spectral Ranking with Covariates,” in *European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases (ECML-PKDD)*, 2022. DOI: 10.1007/978-3-031-26419-1_5.
- [30] S. L. Chau, J. Gonzalez, and D. Sejdinovic, “Learning Inconsistent Preferences with Gaussian Processes,” in *International Conference on Artificial Intelligence and Statistics (AISTATS)*, vol. PMLR 151, 2022, pp. 2266–2281.
- [31] S. L. Chau, R. Hu, J. Gonzalez, and D. Sejdinovic, “RKHS-SHAP: Shapley Values for Kernel Methods,” in *Advances in Neural Information Processing Systems (NeurIPS)*, 2022.
- [32] J. Cortés-Andrés, G. Camps-Valls, S. Sippel, E. M. Székely, D. Sejdinovic, E. Díaz, A. Pérez-Suay, Z. Li, M. D. Mahecha, and M. Reichstein, “Physics-aware nonparametric regression models for earth data analysis,” *Environmental Research Letters*, vol. 17, no. 5, p. 054034, 2022. DOI: 10.1088/1748-9326/ac6762.
- [33] J. Fawkes, R. Evans, and D. Sejdinovic, “Selection, ignorability and challenges with causal fairness,” in *Conference on Causal Learning and Reasoning (CLearR)*, vol. PMLR 177, 2022, pp. 275–289.
- [34] R. Hu, S. L. Chau, J. F. Huertas, and D. Sejdinovic, “Explaining Preferences with Shapley Values,” in *Advances in Neural Information Processing Systems (NeurIPS)*, 2022.
- [35] R. Hu, S. L. Chau, D. Sejdinovic, and J. A. Glaunes, “Giga-scale Kernel Matrix Vector Multiplication on GPU,” in *Advances in Neural Information Processing Systems (NeurIPS)*, 2022.
- [36] Z. Li, A. Perez-Suay, G. Camps-Valls, and D. Sejdinovic, “Kernel Dependence Regularizers and Gaussian Processes with Applications to Algorithmic Fairness,” *Pattern Recognition*, vol. 132, p. 108922, 2022. DOI: 10.1016/j.patcog.2022.108922.
- [37] D. Rindt, R. Hu, D. Steinsaltz, and D. Sejdinovic, “Survival regression with proper scoring rules and monotonic neural networks,” in *International Conference on Artificial Intelligence and Statistics (AISTATS)*, vol. PMLR 151, 2022, pp. 1190–1205.
- [38] A. Schrab, W. Jitkrittum, Z. Szabo, D. Sejdinovic, and A. Gretton, “Discussion of ‘Multiscale Fisher’s Independence Test for Multivariate Dependence’,” *Biometrika*, vol. 109, no. 3, pp. 597–603, 2022. DOI: 10.1093/biomet/asac028.
- [39] V. D. Wild, R. Hu, and D. Sejdinovic, “Generalized Variational Inference in Function Spaces: Gaussian Measures meet Bayesian Deep Learning,” in *Advances in Neural Information Processing Systems (NeurIPS)*, 2022.
- [40] Q. Zhang, V. Wild, S. Filippi, S. Flaxman, and D. Sejdinovic, “Bayesian Kernel Two-Sample Testing,” *Journal of Computational and Graphical Statistics*, vol. 31, no. 4, pp. 1164–1176, 2022. DOI: 10.1080/10618600.2022.2067547.
- [41] G. S. Blair, R. Bassett, L. Bastin, *et al.*, “The role of digital technologies in responding to the grand challenges of the natural environment: The Windermere accord,” *Patterns*, vol. 2, no. 1, p. 100156, 2021, ISSN: 2666-3899. DOI: <https://doi.org/10.1016/j.patter.2020.100156>.
- [42] V. C. Bradley, S. Kuriwaki, M. Isakov, D. Sejdinovic, X.-L. Meng, and S. Flaxman, “Unrepresentative Big Surveys Significantly Overestimated US Vaccine Uptake,” *Nature*, no. 600, pp. 695–700, 2021. DOI: 10.1038/s41586-021-04198-4.
- [43] A. Caterini, R. Cornish, D. Sejdinovic, and A. Doucet, “Variational Inference with Continuously-Indexed Normalizing Flows,” in *Uncertainty in Artificial Intelligence (UAI)*, vol. PMLR 161, 2021, pp. 44–53.

- [44] S. L. Chau, S. Bouabid, and D. Sejdinovic, “Deconditional Downscaling with Gaussian Processes,” in *Advances in Neural Information Processing Systems (NeurIPS)*, vol. 34, 2021, pp. 17 813–17 825.
- [45] S. L. Chau, J.-F. Ton, J. Gonzalez, Y. W. Teh, and D. Sejdinovic, “BayesIMP: Uncertainty Quantification for Causal Data Fusion,” in *Advances in Neural Information Processing Systems (NeurIPS)*, vol. 34, 2021, pp. 3466–3477.
- [46] R. Hu, G. K. Nicholls, and D. Sejdinovic, “Large Scale Tensor Regression using Kernels and Variational Inference,” *Machine Learning*, vol. 111, pp. 2663–2713, 2021. DOI: 10.1007/s10994-021-06067-7.
- [47] R. Hu and D. Sejdinovic, “Robust Deep Interpretable Features for Binary Image Classification,” in *Proceedings of the Northern Lights Deep Learning Workshop*, vol. 2, 2021. DOI: 10.7557/18.5708.
- [48] Z. Li, J.-F. Ton, D. Oglic, and D. Sejdinovic, “Towards A Unified Analysis of Random Fourier Features,” *Journal of Machine Learning Research*, vol. 22, no. 108, pp. 1–51, 2021.
- [49] V. Nguyen, S. B. Orbell, D. T. Lennon, *et al.*, “Deep reinforcement learning for efficient measurement of quantum devices,” *npj Quantum Information*, vol. 7, no. 100, 2021. DOI: 10.1038/s41534-021-00434-x.
- [50] X. Pu, S. L. Chau, X. Dong, and D. Sejdinovic, “Kernel-based Graph Learning from Smooth Signals: A Functional Viewpoint,” *IEEE Transactions on Signal and Information Processing over Networks*, vol. 7, pp. 192–207, 2021. DOI: 10.1109/TSIPN.2021.3059995.
- [51] D. Rindt, D. Sejdinovic, and D. Steinsaltz, “A kernel and optimal transport based test of independence between covariates and right-censored lifetimes,” *International Journal of Biostatistics*, vol. 17, no. 2, pp. 331–348, 2021. DOI: 10.1515/ijb-2020-0022.
- [52] D. Rindt, D. Sejdinovic, and D. Steinsaltz, “Consistency of Permutation Tests of Independence using Distance Covariance, HSIC and dHSIC,” *Stat*, vol. 10, no. 1, e364, 2021. DOI: 10.1002/sta4.364.
- [53] J.-F. Ton, L. Chan, Y. W. Teh, and D. Sejdinovic, “Noise Contrastive Meta Learning for Conditional Density Estimation using Kernel Mean Embeddings,” in *International Conference on Artificial Intelligence and Statistics (AISTATS)*, vol. PMLR 130, 2021, pp. 1099–1107.
- [54] J.-F. Ton, D. Sejdinovic, and K. Fukumizu, “Meta Learning for Causal Direction,” in *Proceedings of the AAAI Conference on Artificial Intelligence*, vol. 35, 2021, pp. 9897–9905. DOI: 10.1609/aaai.v35i11.17189.
- [55] N. M. van Esbroeck, D. T. Lennon, H. Moon, *et al.*, “Quantum device fine-tuning using unsupervised embedding learning,” *New Journal of Physics*, vol. 22, no. 9, p. 095 003, 2020. DOI: 10.1088/1367-2630/abb64c.
- [56] H. Moon, D. T. Lennon, J. Kirkpatrick, *et al.*, “Machine learning enables completely automatic tuning of a quantum device faster than human experts,” *Nature Communications*, vol. 11, no. 4161, 2020. DOI: 10.1038/s41467-020-17835-9.
- [57] T. Rudner, D. Sejdinovic, and Y. Gal, “Inter-domain Deep Gaussian Processes,” in *International Conference on Machine Learning (ICML)*, vol. PMLR 119, 2020, pp. 8286–8294.
- [58] D. Sejdinovic, “Discussion of ‘Functional models for time-varying random objects’ by Dubey and Müller,” *Journal of the Royal Statistical Society: Series B*, vol. 82, no. 2, pp. 312–313, 2020.
- [59] F.-X. Briol, C. Oates, M. Girolami, M. Osborne, and D. Sejdinovic, “Probabilistic Integration: A Role in Statistical Computation? (with Discussion and Rejoinder),” *Statistical Science*, vol. 34, no. 1, 1–22, rejoinder: 38–42, 2019. DOI: 10.1214/18-STS660.
- [60] G. Camps-Valls, D. Sejdinovic, J. Runge, and M. Reichstein, “A Perspective on Gaussian Processes for Earth Observation,” *National Science Review*, vol. 6, no. 4, pp. 616–618, 2019. DOI: 10.1093/nsr/nwz028.
- [61] H. C. L. Law, P. Zhao, L. Chan, J. Huang, and D. Sejdinovic, “Hyperparameter Learning via Distributional Transfer,” in *Advances in Neural Information Processing Systems (NeurIPS)*, vol. 32, 2019, pp. 6804–6815.

- [62] Z. Li, J.-F. Ton, D. Oglic, and D. Sejdinovic, "Towards A Unified Analysis of Random Fourier Features," in *International Conference on Machine Learning (ICML)*, vol. PMLR 97, 2019, pp. 3905–3914.
- [63] A. Raj, H. C. L. Law, D. Sejdinovic, and M. Park, "A Differentially Private Kernel Two-Sample Test," in *European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases (ECML-PKDD)*, ser. Lecture Notes in Computer Science, vol. 11906, 2019, pp. 697–724. DOI: 10.1007/978-3-030-46150-8_41.
- [64] J. Runge, P. Nowack, M. Kretschmer, S. Flaxman, and D. Sejdinovic, "Detecting and Quantifying Causal Associations in Large Nonlinear Time Series Datasets," *Science Advances*, vol. 5, no. 11, 2019. DOI: 10.1126/sciadv.aau4996.
- [65] A. Caterini, A. Doucet, and D. Sejdinovic, "Hamiltonian Variational Auto-Encoder," in *Advances in Neural Information Processing Systems (NeurIPS)*, vol. 31, 2018, pp. 8167–8177.
- [66] H. C. L. Law, D. Sejdinovic, E. Cameron, T. C. D. Lucas, S. Flaxman, K. Battle, and K. Fukumizu, "Variational Learning on Aggregate Outputs with Gaussian Processes," in *Advances in Neural Information Processing Systems (NeurIPS)*, vol. 31, 2018, pp. 6081–6091.
- [67] H. C. L. Law, D. J. Sutherland, D. Sejdinovic, and S. Flaxman, "Bayesian Approaches to Distribution Regression," in *International Conference on Artificial Intelligence and Statistics (AISTATS)*, vol. PMLR 84, 2018, pp. 1167–1176.
- [68] J. Mitrovic, D. Sejdinovic, and Y. W. Teh, "Causal Inference via Kernel Deviance Measures," in *Advances in Neural Information Processing Systems (NeurIPS)*, vol. 31, 2018, pp. 6986–6994.
- [69] J.-F. Ton, S. Flaxman, D. Sejdinovic, and S. Bhatt, "Spatial Mapping with Gaussian Processes and Nonstationary Fourier Features," *Spatial Statistics*, vol. 28, pp. 59–78, 2018. DOI: 10.1016/j.spasta.2018.02.002.
- [70] Q. Zhang, S. Filippi, A. Gretton, and D. Sejdinovic, "Large-Scale Kernel Methods for Independence Testing," *Statistics and Computing*, vol. 28, no. 1, pp. 113–130, Jan. 2018. DOI: 10.1007/s11222-016-9721-7.
- [71] S. Flaxman, Y. W. Teh, and D. Sejdinovic, "Poisson Intensity Estimation with Reproducing Kernels," *Electronic Journal of Statistics*, vol. 11, no. 2, pp. 5081–5104, 2017. DOI: 10.1214/17-EJS1339SI.
- [72] S. Flaxman, Y. W. Teh, and D. Sejdinovic, "Poisson Intensity Estimation with Reproducing Kernels," in *International Conference on Artificial Intelligence and Statistics (AISTATS)*, vol. PMLR 54, 2017, pp. 270–279.
- [73] H. C. L. Law, C. Yau, and D. Sejdinovic, "Testing and Learning on Distributions with Symmetric Noise Invariance," in *Advances in Neural Information Processing Systems (NeurIPS)*, vol. 30, 2017, pp. 1343–1353.
- [74] J. Mitrovic, D. Sejdinovic, and Y. W. Teh, "Deep Kernel Machines via the Kernel Reparametrization Trick," in *International Conference on Learning Representations (ICLR) - Workshop Track*, 2017.
- [75] I. Schuster, H. Strathmann, B. Paige, and D. Sejdinovic, "Kernel Sequential Monte Carlo," in *European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases (ECML-PKDD)*, ser. Lecture Notes in Computer Science, vol. 10534, 2017, pp. 390–409. DOI: 10.1007/978-3-319-71249-9_24.
- [76] Q. Zhang, S. Filippi, S. Flaxman, and D. Sejdinovic, "Feature-to-Feature Regression for a Two-Step Conditional Independence Test," in *Uncertainty in Artificial Intelligence (UAI)*, 2017.
- [77] S. Flaxman, D. Sejdinovic, J. Cunningham, and S. Filippi, "Bayesian Learning of Kernel Embeddings," in *Uncertainty in Artificial Intelligence (UAI)*, 2016, pp. 182–191.
- [78] G. Franchi, J. Angulo, and D. Sejdinovic, "Hyperspectral Image Classification with Support Vector Machines on Kernel Distribution Embeddings," in *IEEE International Conference on Image Processing (ICIP)*, 2016, pp. 1898–1902. DOI: 10.1109/ICIP.2016.7532688.

- [79] J. Mitrovic, D. Sejdinovic, and Y. W. Teh, “DR-ABC: Approximate Bayesian Computation with Kernel-Based Distribution Regression,” in *International Conference on Machine Learning (ICML)*, vol. PMLR 48, 2016, pp. 1482–1491.
- [80] B. Paige, D. Sejdinovic, and F. Wood, “Super-Sampling with a Reservoir,” in *Uncertainty in Artificial Intelligence (UAI)*, 2016, pp. 567–576.
- [81] M. Park, W. Jitkrittum, and D. Sejdinovic, “K2-ABC: Approximate Bayesian Computation with Kernel Embeddings,” in *International Conference on Artificial Intelligence and Statistics (AISTATS)*, vol. PMLR 51, 2016, pp. 398–407.
- [82] D. Vukobratovic, D. Jakovetic, V. Skachek, D. Bajovic, and D. Sejdinovic, “Network Function Computation as a Service in Future 5G Machine Type Communications,” in *International Symposium on Turbo Codes & Iterative Information Processing (ISTC)*, 2016, pp. 365–369. DOI: 10.1109/ISTC.2016.7593138.
- [83] D. Vukobratovic, D. Jakovetic, V. Skachek, D. Bajovic, D. Sejdinovic, G. Karabulut Kurt, C. Hollanti, and I. Fischer, “CONDENSE: A Reconfigurable Knowledge Acquisition Architecture for Future 5G IoT,” *IEEE Access*, vol. 4, pp. 3360–3378, 2016. DOI: 10.1109/ACCESS.2016.2585468.
- [84] K. Chwialkowski, A. Ramdas, D. Sejdinovic, and A. Gretton, “Fast Two-Sample Testing with Analytic Representations of Probability Measures,” in *Advances in Neural Information Processing Systems (NeurIPS)*, vol. 28, 2015, pp. 1981–1989.
- [85] W. Jitkrittum, A. Gretton, N. Heess, S. M. A. Eslami, B. Lakshminarayanan, D. Sejdinovic, and Z. Szabó, “Kernel-Based Just-In-Time Learning for Passing Expectation Propagation Messages,” in *Uncertainty in Artificial Intelligence (UAI)*, 2015.
- [86] Z. Kurth-Nelson, G. Barnes, D. Sejdinovic, R. Dolan, and P. Dayan, “Temporal Structure in Associative Retrieval,” *eLife*, vol. 4, no. e04919, 2015. DOI: 10.7554/eLife.04919.
- [87] H. Strathmann, D. Sejdinovic, S. Livingstone, Z. Szabo, and A. Gretton, “Gradient-free Hamiltonian Monte Carlo with Efficient Kernel Exponential Families,” in *Advances in Neural Information Processing Systems (NeurIPS)*, vol. 28, 2015, pp. 955–963.
- [88] D. Vukobratovic, D. Sejdinovic, and A. Pizurica, “Compressed Sensing Using Sparse Binary Measurements: A Rateless Coding Perspective,” in *IEEE International Workshop on Signal Processing Advances in Wireless Communications (SPAWC)*, 2015. DOI: 10.1109/SPAWC.2015.7227005.
- [89] K. Chwialkowski, D. Sejdinovic, and A. Gretton, “A Wild Bootstrap for Degenerate Kernel Tests,” in *Advances in Neural Information Processing Systems (NeurIPS)*, vol. 27, 2014, pp. 3608–3616.
- [90] O. Johnson, D. Sejdinovic, J. Cruise, R. Piechocki, and A. Ganesh, “Non-Parametric Change-Point Estimation using String Matching Algorithms,” *Methodology and Computing in Applied Probability*, vol. 16, no. 4, pp. 987–1008, 2014, ISSN: 1387-5841. DOI: 10.1007/s11009-013-9359-2.
- [91] R. Piechocki and D. Sejdinovic, *Communication system, method and apparatus*, US Patent 8,879,664, US, Nov. 2014.
- [92] D. Sejdinovic, H. Strathmann, M. Lomeli, C. Andrieu, and A. Gretton, “Kernel Adaptive Metropolis-Hastings,” in *International Conference on Machine Learning (ICML)*, 2014, pp. 1665–1673.
- [93] D. Sejdinovic, A. Gretton, and W. Bergsma, “A Kernel Test for Three-Variable Interactions,” in *Advances in Neural Information Processing Systems (NeurIPS)*, vol. 26, 2013, pp. 1124–1132.
- [94] D. Sejdinovic, B. Sriperumbudur, A. Gretton, and K. Fukumizu, “Equivalence of distance-based and RKHS-based statistics in hypothesis testing,” *Annals of Statistics*, vol. 41, no. 5, pp. 2263–2291, Oct. 2013. DOI: 10.1214/13-AOS1140.
- [95] A. Gretton, D. Sejdinovic, H. Strathmann, S. Balakrishnan, M. Pontil, K. Fukumizu, and B. K. Sriperumbudur, “Optimal Kernel Choice for Large-Scale Two-Sample Tests,” in *Advances in Neural Information Processing Systems (NeurIPS)*, vol. 25, 2012, pp. 1205–1213.

- [96] A. Muller, D. Sejdinovic, and R. Piechocki, "Approximate Message Passing under Finite Alphabet Constraints," in *IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, 2012. DOI: 10.1109/ICASSP.2012.6288590.
- [97] R. Piechocki and D. Sejdinovic, "Combinatorial Channel Signature Modulation for Wireless ad-hoc Networks," in *IEEE International Conference on Communications (ICC)*, 2012. DOI: 10.1109/ICC.2012.6363956.
- [98] D. Sejdinovic, A. Gretton, B. K. Sriperumbudur, and K. Fukumizu, "Hypothesis Testing Using Pairwise Distances and Associated Kernels," in *International Conference on Machine Learning (ICML)*, 2012, pp. 1111–1118.
- [99] W. Dai, D. Sejdinovic, and O. Milenkovic, "Gaussian Dynamic Compressive Sensing," in *International Conference on Sampling Theory and Applications (SampTA)*, 2011.
- [100] D. Sejdinovic, C. Andrieu, and R. Piechocki, "Bayesian Sequential Compressed Sensing in Sparse Dynamical Systems," in *48th Annual Allerton Conference on Communication, Control, and Computing*, 2010, pp. 1730–1736. DOI: 10.1109/ALLERTON.2010.5707125.
- [101] D. Sejdinovic and O. Johnson, "Note on Noisy Group Testing: Asymptotic Bounds and Belief Propagation Reconstruction," in *48th Annual Allerton Conference on Communication, Control, and Computing*, 2010, pp. 998–1003. DOI: 10.1109/ALLERTON.2010.5707018.
- [102] D. Sejdinovic, R. Piechocki, A. Doufexi, and M. Ismail, "Decentralised Distributed Fountain Coding: Asymptotic Analysis and Design," *IEEE Communications Letters*, vol. 14, no. 1, pp. 42–44, 2010. DOI: 10.1109/LCOMM.2010.01.091541.
- [103] D. Sejdinovic, R. Piechocki, A. Doufexi, and M. Ismail, "Fountain Code Design for Data Multicast with Side Information," *IEEE Transactions on Wireless Communications*, vol. 8, no. 10, pp. 5155–5165, 2009. DOI: 10.1109/TWC.2009.081076.
- [104] D. Sejdinovic, R. Piechocki, and A. Doufexi, "AND-OR Tree Analysis of Distributed LT Codes," in *IEEE Information Theory Workshop (ITW)*, 2009, pp. 261–265. DOI: 10.1109/ITWNIT.2009.5158583.
- [105] D. Sejdinovic, R. Piechocki, and A. Doufexi, "Rateless Distributed Source Code Design," in *International ICST Mobile Multimedia Communications Conference (MOBIMEDIA)*, 2009. DOI: 10.4108/ICST.MOBIMEDIA2009.7455.
- [106] D. Sejdinovic, D. Vukobratovic, A. Doufexi, V. Senk, and R. Piechocki, "Expanding Window Fountain Codes for Unequal Error Protection," *IEEE Transactions on Communications*, vol. 57, no. 9, pp. 2510–2516, 2009. DOI: 10.1109/TCOMM.2009.09.070616.
- [107] D. Vukobratovic, V. Stankovic, D. Sejdinovic, L. Stankovic, and Z. Xiong, "Scalable Video Multicast Using Expanding Window Fountain Codes," *IEEE Transactions on Multimedia*, vol. 11, no. 6, pp. 1094–1104, 2009. DOI: 10.1109/TMM.2009.2026087.
- [108] D. Vukobratovic, V. Stankovic, L. Stankovic, and D. Sejdinovic, "Precoded EWF Codes for Unequal Error Protection of Scalable Video," in *International ICST Mobile Multimedia Communications Conference (MOBIMEDIA)*, 2009. DOI: 10.4108/ICST.MOBIMEDIA2009.7407.
- [109] D. Sejdinovic, R. Piechocki, A. Doufexi, and M. Ismail, "Fountain Coding with Decoder Side Information," in *IEEE International Conference on Communications (ICC)*, 2008, pp. 4477–4482. DOI: 10.1109/ICC.2008.840.
- [110] D. Sejdinovic, R. Piechocki, A. Doufexi, and M. Ismail, "Rate Adaptive Binary Erasure Quantization with Dual Fountain Codes," in *IEEE Global Telecommunications Conference (GLOBECOM)*, 2008. DOI: 10.1109/GLOCOM.2008.ECP.238.
- [111] D. Sejdinovic, V. Ponnampalam, R. Piechocki, and A. Doufexi, "The Throughput Analysis of Different IR-HARQ Schemes based on Fountain Codes," in *IEEE Wireless Communications and Networking Conference (WCNC)*, 2008, pp. 267–272. DOI: 10.1109/WCNC.2008.52.
- [112] D. Vukobratovic, V. Stankovic, D. Sejdinovic, L. Stankovic, and Z. Xiong, "Expanding Window Fountain Codes for Scalable Video Multicast," in *IEEE International Conference on Multimedia and Expo (ICME)*, 2008, pp. 77–80. DOI: 10.1109/ICME.2008.4607375.
- [113] D. Sejdinovic, D. Vukobratovic, A. Doufexi, V. Senk, and R. Piechocki, "Expanding Window Fountain Codes for Unequal Error Protection," in *Asilomar Conference on Signals, Systems and Computers*, 2007, pp. 1020–1024. DOI: 10.1109/ACSSC.2007.4487375.

- [114] D. Vukobratovic, V. Stankovic, D. Sejdinovic, L. Stankovic, and Z. Xiong, “Scalable Data Multicast Using Expanding Window Fountain Codes,” in *45th Annual Allerton Conference on Communication, Control, and Computing*, 2007.

Preprints / Under Review

- [115] E. Gao, J. Fawkes, and D. Sejdinovic. “Causal-EPIG: A Prediction-Oriented Active Learning Framework for CATE Estimation.” (2025), [Online]. Available: <https://arxiv.org/abs/2509.21866>.
- [116] E. Gao and D. Sejdinovic. “ActiveCQ: Active Estimation of Causal Quantities.” (2025), [Online]. Available: <https://arxiv.org/abs/2509.24293>.
- [117] S. Ishida, A. Howes, V. Bradley, *et al.* “Real-time small area estimation of food security in Zimbabwe: integrating mobile-phone and face-to-face surveys using joint multilevel regression and poststratification.” (2025), [Online]. Available: <https://arxiv.org/abs/2505.03517>.
- [118] M. Kanagawa, P. Hennig, D. Sejdinovic, and B. Sriperumbudur. “Gaussian Processes and Reproducing Kernels: Connections and Equivalences.” (2025), [Online]. Available: <https://arxiv.org/abs/2506.17366>.
- [119] R. Tsuchida, J. Liu, C. S. Ong, and D. Sejdinovic. “Squared families: Searching beyond regular probability models.” (2025), [Online]. Available: <https://arxiv.org/abs/2503.21128>.
- [120] V. Wild, J. Wu, D. Sejdinovic, and J. Knoblauch. “Near-Optimal Approximations for Bayesian Inference in Function Space.” (2025), [Online]. Available: <https://arxiv.org/abs/2502.18279>.
- [121] B. Xia, Y. Liu, Q. Lu, L. Zhu, and D. Sejdinovic. “AgentOps Pattern Catalogue: Architectural Patterns for Safe and Observable Operations of Foundation Model-Based Agents.” (2025), [Online]. Available: <https://ssrn.com/abstract=5534588>.
- [122] J. Lenhardt, J. Quaas, D. Sejdinovic, and D. Klocke. “Cloudvit: Classifying cloud types in global satellite data and in kilometre-resolution simulations using vision transformers.” (2024), [Online]. Available: <https://egusphere.copernicus.org/preprints/2024/egusphere-2024-2724/>.
- [123] M. Zhang, S. Bouabid, C. S. Ong, S. Flaxman, and D. Sejdinovic. “Indirect Query Bayesian Optimization with Integrated Feedback.” (2024), [Online]. Available: <https://arxiv.org/abs/2412.13559>.
- [124] D. Martinez-Taboada and D. Sejdinovic. “Bayesian Counterfactual Mean Embeddings and Off-Policy Evaluation.” (2022), [Online]. Available: <https://arxiv.org/abs/2211.01518>.
- [125] D. Martinez-Taboada and D. Sejdinovic. “Sequential Decision Making on Unmatched Data using Bayesian Kernel Embeddings.” (2022), [Online]. Available: <https://arxiv.org/abs/2210.13692>.
- [126] V. D. Wild, M. Kanagawa, and D. Sejdinovic. “Connections and Equivalences between the Nyström Method and Sparse Variational Gaussian Processes.” (2021), [Online]. Available: <https://arxiv.org/abs/2106.01121>.
- [127] H. Zhu, A. Howes, O. van Eer, M. Rischard, Y. Li, D. Sejdinovic, and S. Flaxman. “Aggregated gaussian processes with multiresolution earth observation covariates.” (2021), [Online]. Available: <https://arxiv.org/abs/2105.01460>.
- [128] M. Kanagawa, P. Hennig, D. Sejdinovic, and B. Sriperumbudur. “Gaussian Processes and Kernel Methods: A Review on Connections and Equivalences.” (2018), [Online]. Available: <https://arxiv.org/abs/1807.02582>.
- [129] H. Strathmann, D. Sejdinovic, and M. Girolami. “Unbiased Bayes for Big Data: Paths of Partial Posteriors.” (2015), [Online]. Available: <http://arxiv.org/abs/1501.03326>.

Selected Non-Archival Papers and Extended Abstracts

- [130] S. L. Chau, A. Schrab, A. Gretton, D. Sejdinovic, and K. Muandet, “Credal Two-Sample Tests of Epistemic Uncertainty,” in *14th International Symposium on Imprecise Probabilities: Theories and Applications (ISIPTA)*, 2025.
- [131] S. Bouabid, D. Sejdinovic, and D. Watson-Parris, “Probabilistic climate emulation with physics-constrained Gaussian processes,” in *EGU General Assembly*, 2023, EGU23–15 660.
- [132] J. Lenhardt, J. Quaas, and D. Sejdinovic, “From MODIS cloud properties to cloud types using semi-supervised learning,” in *EGU General Assembly*, 2023, EGU23–13 250.
- [133] S. Bouabid, D. Watson-Parris, and D. Sejdinovic, “Bayesian Inference for Aerosol Vertical Profiles,” in *NeurIPS 2022 Workshop on Tackling Climate Change with Machine Learning*, 2022.
- [134] J. Lenhardt, J. Quaas, and D. Sejdinovic, “Combining cloud properties and synoptic observations to predict cloud base height using machine learning,” in *EGU General Assembly*, 2022, EGU22–7355. DOI: 10.5194/egusphere-egu22-7355.
- [135] S. Stefanovic, S. Bouabid, P. Stier, A. Nenes, and D. Sejdinovic, “Reconstructing Aerosols Vertical Profiles with Aggregate Output Learning,” in *ICML 2021 Workshop on Tackling Climate Change with Machine Learning*, 2021.
- [136] A. Caterini, R. Cornish, D. Sejdinovic, and A. Doucet, “Variational Inference with Continuously-Indexed Normalizing Flows,” in *ICML 2020 Workshop on Invertible Neural Networks, Normalizing Flows, and Explicit Likelihood Models*, 2020.
- [137] S. Cohen and D. Sejdinovic, “On the Gromov-Wasserstein Distance and Coupled Deep Generative Models,” in *NeurIPS 2019 Workshop on Optimal Transport & Machine Learning*, 2019.
- [138] V. Nguyen, D. T. Lennon, H. Moon, N. M. van Esbroeck, D. Sejdinovic, M. A. Osborne, G. A. D. Briggs, and N. Ares, “Controlling Quantum Dot Devices using Deep Reinforcement Learning,” in *NeurIPS 2019 Workshop on Deep Reinforcement Learning*, 2019.
- [139] J.-F. Ton, L. Chan, Y. W. Teh, and D. Sejdinovic, “Noise Contrastive Meta-Learning for Conditional Density Estimation using Kernel Mean Embeddings,” in *NeurIPS 2019 Workshop on Meta Learning*, 2019.
- [140] D. Watson-Parris, S. Sutherland, M. Christensen, A. Caterini, D. Sejdinovic, and P. Stier, “A Large-Scale Analysis of Pockets of Open Cells Enabled by Deep Learning,” in *American Geophysical Union Fall Meeting Abstracts*, 2019, A11L–2769.
- [141] D. Watson-Parris, S. Sutherland, M. Christensen, A. Caterini, D. Sejdinovic, and P. Stier, “Detecting Anthropogenic Cloud Perturbations with Deep Learning,” in *ICML 2019 Workshop on Climate Change: How Can AI Help?*, 2019.
- [142] H. C. L. Law, P. Zhao, J. Huang, and D. Sejdinovic, “Hyperparameter Learning via Distributional Transfer,” in *NeurIPS 2018 Workshop on Meta Learning*, 2018.
- [143] J. Mitrovic, P. Wirsberger, C. Blundell, D. Sejdinovic, and Y. W. Teh, “Infinitely Deep Infinite-Width Networks,” in *NeurIPS 2018 Workshop on Bayesian Deep Learning*, 2018.
- [144] H. C. L. Law, D. J. Sutherland, D. Sejdinovic, and S. Flaxman, “Bayesian Approaches to Distribution Regression,” in *NeurIPS 2017 Workshop: Learning on Distributions, Functions, Graphs and Groups*, 2017.
- [145] J. Mitrovic, D. Sejdinovic, and Y. W. Teh, “Causal Inference via Kernel Deviance Measures,” in *NeurIPS 2017 Workshop on Causal Inference and Machine Learning for Intelligent Decision Making: From ‘What If?’ To ‘What Next?’*, 2017.
- [146] T. G. J. Rudner and D. Sejdinovic, “Inter-Domain Deep Gaussian Processes,” in *NeurIPS 2017 Workshop on Bayesian Deep Learning*, 2017.
- [147] J. Runge, D. Sejdinovic, and S. Flaxman, “Overcoming Autocorrelation Biases for Causal Inference in Large Nonlinear Geoscientific Time Series Datasets,” in *Geophysical Research Abstracts*, vol. 19, 2017, EGU2017–11 366.
- [148] D. Sejdinovic, “Connections and Differences between Kernels and GPs,” in *Dagstuhl Reports: New Directions for Learning with Kernels and Gaussian Processes (Dagstuhl Seminar 16481)*, A. Gretton, P. Hennig, C. E. Rasmussen, and B. Schölkopf, Eds., vol. 6, 2017, p. 166.

- [149] D. Sejdinovic, “Kernel Embeddings and Bayesian Quadrature,” in *Dagstuhl Reports: New Directions for Learning with Kernels and Gaussian Processes (Dagstuhl Seminar 16481)*, A. Gretton, P. Hennig, C. E. Rasmussen, and B. Schölkopf, Eds., vol. 6, 2017, p. 157.
- [150] K. Chwialkowski, A. Ramdas, D. Sejdinovic, and A. Gretton, “Fast Two Sample Tests using Smooth Random Features,” in *ICML 2015 Workshop on Large-Scale Kernel Learning: Challenges and New Opportunities*, 2015.
- [151] W. Jitkrittum, A. Gretton, N. Heess, S. M. A. Eslami, B. Lakshminarayanan, D. Sejdinovic, and Z. Szabó, “Just-In-Time Kernel Regression for Expectation Propagation,” in *ICML 2015 Workshop on Large-Scale Kernel Learning: Challenges and New Opportunities*, 2015.
- [152] D. Sejdinovic, “Kernel Hypothesis Tests on Dependent Data,” in *Dagstuhl Reports: Machine Learning with Interdependent and Non-identically Distributed Data (Dagstuhl Seminar 15152)*, T. Darrell, M. Kloft, M. Pontil, G. Rätsch, and E. Rodner, Eds., vol. 5, 2015, pp. 50–51.

Theses

- [153] D. Sejdinovic, “Topics in Fountain Coding,” PhD dissertation, University of Bristol, 2009.
- [154] D. Sejdinovic, “Neka svojstva Zeta funkcija,” DiplMath-Inf dissertation, University of Sarajevo, 2006.

Miscellanea

- [155] D. Sejdinovic, “Dijkstrin algoritam za nalaženje najkraćeg puta,” *Tangenta (Serbia)*, no. 59(3), pp. 15–22, 2010.
- [156] D. Sejdinovic and I. Tanovic, “O harmonijskom redu i njegovim dijelovima,” *Osječki matematički list (Croatia)*, vol. 9, pp. 31–39, 2009.
- [157] D. Sejdinovic, “Algoritam i algoritamska rešljivost,” *Sigma (FYROM)*, no. 79, pp. 8–19, 2008.
- [158] D. Sejdinovic, “Mathematics of the Human-Vampire Conflict,” *Math Horizons*, vol. 16, no. 2, pp. 14–15, 2008.
- [159] D. Sejdinovic, “Quine: Samoreproducirajući kod,” *Matematičko-fizički list (Croatia)*, vol. 58, no. 1, pp. 24–26, 2008.
- [160] D. Sejdinovic, “Eliptičke krivulje u kriptografiji,” *Osječki matematički list (Croatia)*, vol. 6, pp. 85–97, 2006.
- [161] D. Sejdinovic, “Quine: Samoreprodukujući kod,” *Tangenta (Serbia)*, no. 46(2), pp. 17–18, 2006.
- [162] D. Sejdinovic and A. Kopic, “O Oberwolfach problemu,” *Hrvatski matematički elektronski časopis math.e (Croatia)*, vol. 7, 2006.