

Botond Szabo — Curriculum Vitae

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Personal Data

Full name: Botond Tibor Szabo
Date of birth: 4th of June, 1985
Place of birth: Marosvásárhely, Romania
Citizenship: Hungarian
Marital status: married (children: two girls and one boy)

Research Interest

Statistics (Nonparametric Bayesian Statistics, Adaptation, Asymptotic Statistics, Bayesian statistics, Scalable statistical methods, Causal inference, Uncertainty quantification), Machine learning (variational inference, distributed methods, deep learning), Inverse problems (pde constrained inverse problems), Information theory.

Current Position

Full Professor (tenured) Bocconi University, Department of Decision Sciences	Febr. 2025 to present Milano, Italy.
Fellow Bocconi Institute for Data Science and Analytics (BIDSA)	Oct. 2021 to present Milano, Italy.

Past Positions

Associate Professor (tenured) Bocconi University, Department of Decision Sciences	Sept. 2021 to Jan. 2025 Milano, Italy.
Associate Professor (tenured) Vrije Universiteit Amsterdam, Department of Mathematics	Sept. 2020 to Sept. 2021 Amsterdam, The Netherlands.
Associate Professor University of Leiden, Institute of Mathematics	Jan. 2019 to Sept. 2020 Leiden, The Netherlands.
Assistant Professor University of Leiden, Institute of Mathematics	Feb. 2016 to Dec. 2018 Leiden, The Netherlands.
Postdoctoral Researcher University of Amsterdam, Department of Mathematics Supervisor: Harry van Zanten	Feb. 2015 to Feb. 2016 Amsterdam, The Netherlands.
Assistant Professor (tenured) Budapest University of Technology, Department of Stochastics	Sept. 2014 to Oct. 2017 Budapest, Hungary.

Postdoctoral Associate

Center for Research in Economics and Statistics
Supervisor: Judith Rousseau.

March 2014 to Aug. 2014

Paris, France.

Research Assistant

Vrije University Amsterdam, Department of Mathematics
Supervisor: Harry van Zanten.

Apr. 2009 to Aug. 2009

Amsterdam, The Netherlands.

Education

Ph.D.

Eindhoven University of Technology (TU/e)

Field: Mathematical Statistics.

Thesis: *Adaptation and confidence in nonparametric Bayes.*

Advisers: Prof.dr. Harry van Zanten and Prof.dr. Aad van der Vaart.

Feb. 2010 to Feb. 2014

Eindhoven, The Netherlands

Diploma (B.Sc. and M.Sc.),

Eötvös Loránd University (ELTE)

Applied Mathematics (Final grade: 5 (out of 5))

Minor: Statistics, Stochastic Processes, Actuarial Science, Finance, Operation research.

Thesis: *Bayesian adaptation using conditionally Gaussian priors.*

Advisers: dr. Vilmos Prokaj, Prof.dr. Harry van Zanten and Prof.dr. Aad van der Vaart.

Sept. 2004 to June 2010

Budapest, Hungary

M.Sc.,

VU University Amsterdam

Stochastics and Financial Mathematics (cum laude)

Minor: Portfolio Theory, Statistical Genetics, Financial Mathematics.

Thesis: *Bayesian adaptation using conditionally Gaussian priors.*

Advisers: Prof.dr. Harry van Zanten, Prof.dr. Aad van der Vaart.

Sept. 2008 to July 2009

Amsterdam, The Netherlands

Longer Research Visits

Visiting Professor

Collegio Carlo Alberto, Department of Statistics

Host: Matteo Ruggiero.

Tasks: Giving a short course on the asymptotic properties of Bayesian methods.

Dec. 2019

Torino, Italy.

Fellow

Harvard University, Department of Statistics

Collaborator: Natesh Pillai.

Topics: Bayesian post selection inference; Fundamental understanding of distributed methods.

Sept. 2018 to Oct. 2018

Cambridge, United States.

Visiting Researcher

University of Sydney, Department of Statistics

Collaborator: Lamiae Azizi.

Tasks: Giving a short course on the asymptotic properties of Bayesian methods; talk at the research seminar, working on the theoretical validation of various Bayesian methodologies.

Apr. 2017

Sydney, Australia.

Visiting PhD-Student

Cambridge University, Statistics Laboratory

Supervisor: Richard Nickl.

Dec. 2013 to Feb. 2014

Cambridge, United Kingdom.

Topic: Adaptive and honest confidence sets.

Shorter Research visits

Cambridge (Richard Nickl), Chicago (Chao Gao), Harvard (Natesh Pillai), Kings College London (Kolyan Ray), Oxford (Judith Rousseau), Padova (Antonio Canale), Paris Dauphin (Judith Rousseau), Paris Sorbonne (Ismael Castillo)

Supervision of Postdocs

- Paul Egels (Bocconi), 2026-
- Omar Kassi (Bocconi), 2026
- Chiara Gaia Magnani (Bocconi), 2025-
- Paul Rognon (Bocconi), 2025-
- Adel Magra (Bocconi, current position: Postdoc at Cambridge University), 2026
- Yichen Zhu (Bocconi, current position: Assistant Professor at Hong Kong University), 2023-2025
- Thibault Randrianarisoa (Bocconi, current position: Assistant Professor at University of Toronto), 2022-2024
- Bernhard Stankewitz (Bocconi, current position: researcher at Potsdam University), 2023-2024

Supervision of PhD Students

- Serban Gutiu (Bocconi, supervisor), 2026-
- Sara Pincirolì (Bocconi, supervisor), 2025-
- Riccardo Lazzarini (Bocconi, supervisor), 2025-
- Nicola Gorini (Bocconi, supervisor), 2024-
- Francesco Pozza (Padua, jointly with Daniele Durante and Bruno Scarpa, co-supervisor, first position: postdoc at Bocconi), 2021-2023
- Dennis Niemann (VU Amsterdam, jointly with Harry van Zanten, promotor, first position: postdoc in Berlin), 2020-2024
- Lasse Vuursteen (Delft, jointly with Aad van der Vaart and Harry van Zanten, promotor, first position: postdoc at Wharton, currently: Assistant Professor at Duke University), 2019-2024
- Geerten Koers (Delft, jointly with Aad van der Vaart, promotor, first position: data scientist at ABN AMRO), 2019-2023
- Azeem Zaman (Harvard, supervised one thesis project, informal advisory role), 2018-2022
- Stefan Franssen (Delft, jointly with Aad van der Vaart, promotor, first position: postdoc at Oxford), 2018-2023
- Wouter Loon (Leiden, jointly with Mark van der Rooij and Marjolein Fokkema, co-promotor), 2017-
- Amine Hadji (Leiden, jointly with Aad van der Vaart, co-promotor, first position: lecturer at Leiden University), 2016-2022

- Stéphanie van der Pas (Leiden, supervised two thesis projects jointly with Aad van der Vaart, informal advisory role, now: associate professor at Vrije Universiteit Amsterdam)), 2015-2017

PhD thesis committee

Alexander Kent (Warwick, 2026), Maia Tienstra (Potsdam, 2026), Élie Odin (Toulouse University, 2025), Dennis Nieman (VU Amsterdam, 2025), Lasse Vuursteen (TU Delft, 2025), Aimilia Savva (University of Cyprus, 2023), Geerten Koers (TU Delft, 2023), Stefan Franssen (TU Delft, 2023), Amine Hadji (Leiden University, 2023), Francesco Gaffi (Bocconi University, 2023), Thibault Randrianarisoa (Sorbonne University, 2022), Azeem Zaman (Harvard University, 2022), Magnus Munch (Leiden University, 2021), Amenah AL-Najafi (University of Szeged, 2021), Jenovah Rodrigues (University of Edinburgh, 2020), Dong Yan (Leiden University, 2020), Nurzhan Nurushev (VU Amsterdam, 2019).

Associate Editor

- Annals of Statistics (2022-)
- Bayesian Analysis (2016-)
- Journal of Statistical Planning and Inference (2017-2021)

Referee Service

Grant proposal reviewer: ERC (European Research Council), FWF (Austrian Science Fund), OTKA (Hungarian Science Fund); FONDECYT (Chilean Science Fund)

Conference reviewer: NeurIPS (2016, 2020), ICLR (2023)

Journal reviewer: The American Statistician; Annales de l'Institut Henri Poincaré; Annals of Statistics; Bernoulli; Biometrika; Bayesian Analysis; Electronic Journal of Statistics; IEEE Transactions on Information Theory, Information and Inference: A Journal of the IMA; Inverse Problems; Journal of American Statistical Association; Journal of Business and Economic Statistics; Journal of Machine Learning Research; Journal of Multivariate Analysis; Journal of Royal Statistical Society B; Journal of Statistical Planning and Inference; Mathematics of Computation; Mathematical Reviews; Mathematical Statistics and Learning; Probability Theory and Related Fields; Sankhya - The Indian Journal of Statistics; Scandinavian Journal of Statistics; SIAM/ASA Journal on Uncertainty Quantification; SIAM Journal on Mathematics of Data Science; Statistical Science; Statistics Surveys; Stochastic Processes and their Applications, Synthese

Organizational Service

Scientific program committees:

- 4th Bayesian Nonparametrics Networking workshop (2026), Seoul, South Korea
- Bayesian Nonparametrics (BNP) Conference (2025), Irvine, USA
- EURANDOM 25th anniversary meeting (2024), Eindhoven, The Netherlands
- International Society of Bayesian Analysis (ISBA) World Meeting (2022), Montreal, Canada (chair)
- Institute of Mathematical Statistics (IMS) World congress (2022), London, UK (Contributed Talk Program Committee)
- 1st Bayesian Nonparametrics Networking workshop (2022), Nikosia, Cyprus
- 22nd European Young Statisticians Meeting (2021), Athene, Greece (International Organizing Committee)
- 1st International Conference on Econometrics and Statistics (EcoSta) conference (2018), Hong Kong

Local and/or scientific organizer of workshops/conferences:

- International Symposium of Nonparametric Statistics (ISNP) conference (2028), Milano, Italy
- co-organizer of the Bocconi-StatML summer school (2027-), Como, Italy
- Bayesian Nonparametric (BNP) Conference (2027), Bergamo, Italy
- Oberwolfach workshop on Bayesian Statistics (2026), Oberwolfach, Germany
- “Workshop on Theory for Scalable, Modern Statistical Methods” (2023), Milano, Italy.
- 60th Birthday conference for Aad van der Vaart (2019), Leiden, The Netherlands.
- Young European Statisticians (YES) X workshop on “Deep learning” (2019), Eindhoven, The Netherlands.
- YES IX workshop on “Scalable statistical methods” (2018), Eindhoven, The Netherlands.
- Lorentz center workshop on “Uncertainty quantification in complex, nonparametric statistical models” (2018), Leiden, The Netherlands.
- YES VIII (Young European Statistician) workshop on “Uncertainty quantification” (2017), Eindhoven, The Netherlands.

Seminar organizations:

- Postdoc Research Forum seminar series (2025-)
- Bocconi Institute for Data Science and Analytics (BIDSA) seminar (2024-)
- Statistics seminar at Bocconi (2024-)
- Interdisciplinary seminar between Physicists, Cosmologists and Statisticians (2019 -2021)
- (International) Bayes club (2017-2022)
- Leiden University Center of Statistics (LUXs) seminar (2019 - 2020).
- Reading group: statistics for astronomy (2020)
- Statistics for Structures Seminar/Thematic Statistics Seminar (2015 - 2022)

Session organization at conferences: YES workshops (2017, 2018, 2019), EcoSta (2018), Lorentz center (2018), BNP networking (2022), Lumini (2023), Eurandom (2024), ISBA (2024, 2026), BNP (2025)

Committee work

- Member of various committees at Bocconi (CAP, PhD faculty board, PhD executive committee, several PhD and postdoc admission committee, visiting students initiative) (2022-)
- International Society of Bayesian Analysis (ISBA) Vice Chair, Program Chair, Past Chair (2020-2022)
- Member of various committees for ISBA: Savage Award Committee (2022-2023), Lindley Prize Committee (2023-2024), Prize Committee (2024-2026), Nominating Committee (2025)
- Member of the European Regional Committee (ERC) of the Bernoulli Society (2021-2025)
- Board member and webmaster of the Mathematical statistics section of the (Dutch) Association for Statistics and Operations Research (VvSOR) (2017 - 2020)
- Coordinator of MiDaS (Complex Data Modeling Research Network (MiDaS)) (2020-2021)
- Member of the Board of Examiners of the Mathematics and Business Analytics master and bachelor programs at Vrije Universiteit (VU) Amsterdam (2021)
- Information and Representation Committee at VU Amsterdam (2020-2021)
- Secretary of the Board of Examiners of the Statistical Science master at Leiden University (2019 - 2020)

Grants

- “European Research Council (ERC) Starting Grant 2021” (1.492.500 euro).
- “Innovation Research Incentives Scheme VENI 2016” (250.000 euro).
- “Institute of Mathematical Statistics IMS Travel Award 2016” (700 dollar).
- “New Researcher Travel Grant for ISBA 2016”, (1000 euro).
- “Junior Travel Award for ISBA 2014”, (250 euro).
- “World Meeting of the International Society for Bayesian Analysis Early Career Researchers Travel Grant 2012”, (500 euro).

Awards and Prizes

- “Leva la testa e fa che t’assicuri” award, 1st edition, 2025.
- “Research Ceremony Award 2023” (Bocconi University)
- “Research Profile Award” (Bocconi University) for 2022-24, 2024-2026.
- “Excellence in Research Award” (Bocconi University) in 2022, 2023, 2024, 2025, 2026.
- “L’Espresso: I professori del pianeta Stemm 2023” Included in the list of 10 “Emerging professors in science, technology and physics in Italy” in 2023 by the magazine L’Espresso.
- “Savage Award in Theory & Methods: Honorable Mention” (Runner up for the best PhD dissertation in the field of Bayesian statistics and econometrics in the category Theory & Methods 2016).
- “Van Zwet Award” (Award for the best PhD dissertation in the Netherlands in Statistics and Operation Research 2015).
- Hungarian Students’ Scholarly Circle (OTDK) first prize in the local (2009), second prize in the national (2011) competition. Title: *Investigating the boundedness property of direction-length mixed graphs*. Supervisor: Dr. Tibor Jordán.
- “Excellent student of the faculty” award, (2009), Eötvös Loránd University.

Invited Conference and Workshop Talks

- *The Bayesian Young Statisticians Meeting (BAYSM)*, plenary lecture, online (2027)
- *European Meeting of Statisticians, Lugano, Switzerland (2026)*
- *Inverse Problems workshop on the Foundations of Computational Mathematics, Vienna, Austria (2026)*
- *Modern Challenges in Data Decentralization: Federated Learning, Differential Privacy and Communication Constraints, Singapore (2026)*
- *The 2026 ISBA World Meeting*, keynote talk, Nagoya, Japan (2026)
- *Approximately Bayes workshop, Skye Island, UK (2026)*
- *Stochastic Models, Statistics and Their Applications, Wurzburg, Germany (2026)*
- *BIRS workshop on Bayesian Uncertainty Quantification in Large Models, Chennai, India (2025)*

- *65th ISI World Statistics Congress, Den Haag, The Netherlands (2025)*
- *Royal Statistical Society International Conference, Edinburgh, UK (2025)*
- *Hungarian Machine Learning Meeting, Budapest, Hungary (2025)*
- *Gaussian Processes and related topics, Toulouse, France (2025)*
- *Workshop on the Statistical Theory of Neural Networks, Egmond and Zee, Netherlands (2025)*
- *BIRS workshop on Efficient Approximate Bayesian Inference, Banff, Canada (2025)*
- *3rd International Conference on Statistics and Data Science, Nice, France (2024)*
- *Statistical Aspects of Non-Linear Inverse Problems, Cambridge, UK (2024)*
- *Hungarian Machine Learning Meeting, Budapest, Hungary (2024)*
- *International Society of Bayesian Analysis (ISBA) satellite workshop, Lugano, Switzerland (2024)*
- *Workshop on heterogeneous and distributed data, Warwick, UK (2024)*
- *SIAM Uncertainty Quantification (UQ) 24 conference, Trieste, Italy (2024)*
- *2nd International Conference on Statistics and Data Science, Lisbon, Portugal (2023)*
- *BAYesian Young Statisticians Meeting (BAYSM) 2023 invited Discussant, online (2023)*
- *Chalmers AI Research (CHAIR) Center workshop on Structured Learning, Gothenburg, Sweden (2023)*
- *WESA 2023: Workshop on Eco-Stat Asymptotics, Verona, Italy (2023)*
- *Joint Statistical Meeting, Toronto, Canada (2023)*
- *Mathematical and Statistical Methods for Metrology Workshop, plenary speaker, Torino, Italy (2023)*
- *Bayesian Computation (Bayescomp) Conference, Levi, Finland (2023)*
- *Non-Linear and High Dimensional Inference (IHP), Paris, France (2022)*
- *Cantab Capital Institute for the Mathematics of Information workshop, Cambridge, UK (2022)*
- *International Symposium on Nonparametric Statistics, Paphos, Cyprus (2022).*
- *Mathematical Methods for Statistics, Luminy, France (2021)*
- *ISBA 2020 World meeting, Kunming, China (2021).*
- *Oberwolfach workshop on "Foundations of Bayesian Inference for Complex Statistical Models", Online (2021)*
- *Zoom Conference on Uncertainty Quantification, Online, (2020).*
- *Applied Inverse Problems conference, Grenoble, France (2019)*
- *32nd European Meeting of Statistician, Palermo, Italy (2019).*
- *12th Conference on Bayesian Nonparametrics, Oxford, United Kingdom (2019).*
- *11th International Conference on Computational and Methodological Statistics (ERCIM) conference, Pisa, Italy (2018).*

- *ISBA 2018 World meeting*, Edinburgh, United Kingdom (2018).
- *2nd International Conference on Econometrics and Statistics (EcoSta) conference*, Hongkong, China (2018).
- *International one day workshop for Bayesian Nonparametrics*, Seoul, South Korea (2018).
- *Young European Statisticians IX workshop on “Scalable Statistics: on Accuracy and Computational Complexity”*, Eindhoven, The Netherlands (2018).
- *10th ERCIM conference*, London, UK (2017).
- *11th Conference on Bayesian Nonparametrics*, Paris, France (2017).
- *Workshop on Statistical Foundations of Uncertainty Quantification for Inverse Problems*, Cambridge, England (2017).
- *1st EcoSta conference*, Hongkong, China (2017).
- *LMS/Turing workshop on Inverse Problems and Data Science*, Edinburgh, United Kingdom (2017).
- *Emerging Applications of Data Assimilation in the Geosciences workshop* tutorial and panel discussion, Leiden, Netherlands (2017).
- *Institute of Mathematical Statistics (IMS) World Meeting*, Toronto, Canada (2016).
- *Conference on Probability and Statistics in high dimensions*, Barcelona, Spain (2016).
- *ISBA 2016 World meeting*, Cagliari, Italy (2016).
- *SAMSI workshop on Bayesian Nonparametrics*, Raleigh, USA (2015).
- *10th Conference on Bayesian Nonparametrics*, Raleigh, USA (2015).
- *VvS + OR day*, Utrecht, The Netherlands (2015).
- *7th ERCIM conference*, Pisa, Italy (2014).
- *6th ERCIM conference*, London, United Kingdom (2013).
- *9th Conference on Bayesian Nonparametrics*, Amsterdam, The Netherlands (2013).
- *Hilversum meeting*, Hilversum, The Netherlands (2011).
- *Stochastics -Theoretical and Applied Research (STAR) lecture day*, Eindhoven, The Netherlands (2010).

Selected Contributed Talks

- *ISBA 2024 World Meeting*, Venice, Italy (2024).
- *30th European Meeting of Statistician*, Amsterdam, The Netherlands (2015).
- *ISBA 2014 World Meeting*, Cancun, Mexico (2014).
- *29th European Meeting of Statistician*, Budapest, Hungary (2013).

Seminar Talks

2027: Dublin, EPFL, **2026:** Berlin (Weierstrass seminar), Warwick, ISBA-BNP webinar (online), Cambridge (stat+informed AI hub seminar), BAMS seminar (Milano), Potsdam, **2024:** Potsdam ($\times 2$), Berlin (Weierstrass

seminar), UQsay seminar (online) **2023**: Karlsruhe; **2022**: Vienna, ELTE Budapest, NeEDS (online), Warwick, Milano Bicocca; **2021**: Eindhoven, Edinburgh, Bocconi Milano, Singapore (online); **2020**: UvA Amsterdam, VU Amsterdam, Gothenburg (online), Cambridge, Leiden; **2019**: Szeged, ENSEA Paris, Delft, Barcelona, Cambridge, Padua, Leiden; **2018**: Berlin, Harvard, Princeton, Rutgers, Kings College London, Bocconi Milano, BME Budapest; **2017**: UvA Amsterdam, Fudan Shanghai, Sydney, Delft; **2016**: ELTE Budapest, Cambridge, Paris 6, Leiden; **2015**: VU Amsterdam, Eindhoven, CWI Amsterdam; **2014**: BME Budapest, Rennes, Cambridge; **2012**: Turin, VU Amsterdam, ELTE Budapest; **2011**: Eindhoven

Published or Accepted Journal Papers

- [1] Stankewitz, B. & Szabo, B. (2026) Contraction rates for conjugate gradient and Lanczos approximate posteriors in Gaussian process regression. *To appear in Bernoulli*.
- [2] Nieman, D. & Szabo, B. (2026) Adaptive sparse variational approximations for Gaussian process regression. *To appear in Bayesian Analysis*.
- [3] Koers, G., Szabo, B. & van der Vaart, A. (2026) Linear methods for non-linear inverse problems. *Annals of Statistics* 54 (4), 1950-1978.
- [4] Horiguchi, A., Ma, L. & Szabo, B.T. (2026) Sampling depth trade-off in function estimation under a two-level design. *Electronic Journal of Statistics*, 20 (1), 2366-2411.
- [5] Szabo, B. & Zhu, Y (2026) Vecchia Gaussian Processes: Probabilistic Properties, Minimax Rates and Methodological Developments. *Annals of Statistics* 54 (3), 1289-1314.
- [6] Pozza, F., Durante, D., & Szabo, B. (2026) Skew-symmetric approximations of posterior distributions. Arxiv preprint. *Journal of the Royal Statistical Society B: Statistical Methodology* 88 (4), 1181–1209.
- [7] Koers, G., Szabo, B. & van der Vaart, A. (2026) Misspecified Bernstein-Von Mises theorem for hierarchical models. *Bernoulli*, 32 (3), 1975-2000.
- [8] Szabo B., Hadji, A. & van der Vaart (2025) Adaptation using spatially distributed Gaussian Processes *Journal of the American Statistical Association*, 120(552), 2784–2795.
- [9] Durante, D., Pozza, F. & Szabo, B. (2024) Skewed Bernstein-von Mises theorem and skew-modal approximations. *Annals of Statistics* 52 (6): 2714-2737.
- [10] van Loon, W., Fokkema, M., Szabo, B., & de Rooij, M. (2024) View selection in multi-view stacking: Choosing the meta-learner. *Advances in Data Analysis and Classification* 19 (3): 579-617.
- [11] Nieman, D., Szabo, B.T. & van Zanten, J.H. (2023) Uncertainty quantification for sparse spectral variational approximations in Gaussian process regression. *Electronic Journal of Statistics* 17 (2): 2250-2288.
- [12] Szabo, B.T., Vuursteen, L. & van Zanten, J.H. (2023) Optimal high-dimensional and nonparametric distributed testing under communication constraints. *Annals of Statistics* 51 (3): 909-934.
- [13] Szabo, B.T. & van Zanten, J.H. (2022) Distributed function estimation: adaptation using minimal communication. *Mathematical Statistics and Learning* 5 (3/4): 159-199.
- [14] Nieman, D. Szabo, B.T., & van Zanten, J.H. (2022) Contraction rates for sparse variational approximations in Gaussian process regression. *Journal of Machine Learning Research* 23 (205) :1-26.
- [15] Ray, K. & Szabo, B. (2022) Variational Bayes for high-dimensional linear regression with sparse priors. *Journal of the American Statistical Association* 117 (539): 1270-1281.

- [16] van Loon, W., de Vos, F., Fokkema, M., Szabo, B., Koini, M., Schmidt, R., de Rooij, M. (2022) Analyzing hierarchical multi-view MRI data with StaPLR: An application to Alzheimer's disease classification. *Frontiers in Neuroscience, section Brain Imaging Methods* (16).
- [17] Szabo, B.T., Vuursteen, L. & van Zanten, J.H. (2022) Optimal distributed composite testing in high-dimensional Gaussian models with 1-bit communication.. *IEEE Transactions on Information Theory* 68 (6), 4070-4084
- [18] van Erven, T. & Szabo, B. (2021) Fast exact Bayesian inference for sparse signals in the normal sequence model. *Bayesian Analysis* 16 (3), 933-960.
- [19] Hadji, A. & Szabo, B.(2021) Can we trust Bayesian uncertainty quantification from Gaussian process priors with squared exponential covariance kernel? *SIAM/ASA Journal on Uncertainty Quantification* 9 (1), 185-230
- [20] Szabo, B. T. & van Zanten, J.H. (2020) Adaptive distributed methods under communication constraints. *Annals of Statistics* 48 (4), 2347-2380.
- [21] Rousseau, J., & Szabo, B. T. (2020) Asymptotic frequentist coverage properties of Bayesian credible sets for sieve priors. *Annals of Statistics* 48 (4), 2155-2179.
- [22] van Loon, W., Fokkema, M., Szabo, B., & de Rooij, M. (2020) Stacked penalized logistic regression for selecting views in multi-view learning. *Information Fusion* 61, 113-123.
- [23] Mariucci, E., Ray, K., & Szabo, B. T. (2020) A Bayesian nonparametric approach to log-concave density estimation. *Bernoulli* 26 (2), 1070-1097.
- [24] Castillo, I. & Szabo, B. (2020) Spike and slab empirical Bayes sparse credible sets. *Bernoulli* 26 (1), 127-158.
- [25] Szabo, B. T. & van Zanten, J.H. (2019) An asymptotic analysis of distributed nonparametric methods. *Journal of Machine Learning Research* 20 (87), 1-30.
- [26] van der Pas, S., Szabo, B. T., & van der Vaart, A.W. (2017) Uncertainty quantification for the horseshoe. **Discussion paper.** *Bayesian Analysis* 12 (4), 1221–1249.
- [27] van der Pas, S., Szabo, B. T., & van der Vaart, A.W. (2017) Adaptive posterior contraction rates for the horseshoe *Electronic Journal of Statistics* 11 (2) 3196 – 3225.
- [28] Rousseau, J. & Szabo, B. T. (2017) Asymptotic behaviour of the empirical Bayes posterior associated to maximum marginal likelihood estimator. *The Annals of Statistics* 45 (2), 833–865.
- [29] Nickl, R. & Szabo, B. T. (2016) A sharp adaptive confidence ball for self-similar functions. *Stochastic Processes and their Applications* 126 (12), 3913–3934.
- [30] Knapik, B. T., Szabo, B. T., van der Vaart, A. W., & van Zanten, J. H. (2016). Bayes procedures for adaptive inference in nonparametric inverse problems. *Probability Theory and Related Fields* 164 (3), 771–813.
- [31] Szabo, B. T., van der Vaart, A. W., & van Zanten, J. H. (2015) Frequentist coverage of adaptive nonparametric Bayesian credible sets. **Discussion paper.** *Annals of Statistics*, 43 (4), 1391 – 1428.
- [32] Szabo, B. T., van der Vaart, A. W., & van Zanten, J. H. (2015). Honest Bayesian confidence sets for the L2-norm. *J. Statistical Planning and Inference*, 166, 36–51.
- [33] Szabo, B. T., van der Vaart, A. W., & van Zanten, J. H. (2013). Empirical Bayes scaling of Gaussian priors in the white noise model. *Electronic Journal of Statistics*, 7, 991–1018.

- [34] Turanyi, T., Nagy, T., Zsely, I. Gy., Cserhati, M., Varga, T., Szabo, B. T., Sedyo, I., Kiss, P. T., Zemleni, A., and Curran, H. J. (2012). Determination of rate parameters based on both direct and indirect measurements. *International Journal of Chemical Kinetics*, 44(5), 284–302.
- [35] Varga, L., Szabo, B., Zsely, I. Gy., Zemleni, A., & Turanyi, T. (2011). Numerical investigation of the uncertainty of Arrhenius parameters. *Journal of mathematical chemistry*, 49(8), 1798–1809.

Submitted Manuscripts and Unpublished Works

- [36] Randrianarisoa, T., Steinberger, L. & Szabo, B. (2025) Towards multi-purpose locally differentially-private synthetic data release via spline wavelet plug-in estimation. <https://arxiv.org/abs/2508.13969>
- [37] Kal, N., Szabo, B., Guhaniyogi, R., Pillai, N., & Pati, D. (2025) Adaptive Divide and Conquer with Two Rounds of Communication. <https://arxiv.org/pdf/2508.17073>
- [38] Hadji, A., Hesselink, T., & Szabo, B.T. (2022) Optimal recovery and uncertainty quantification for distributed Gaussian process regression. <https://arxiv.org/abs/2205.03150>
- [39] Franssen, S. & Szabo, B.T. (2022) Uncertainty Quantification for nonparametric regression using Empirical Bayesian neural networks. <https://arxiv.org/abs/2204.12735>,
- [40] Zaman, A. & Szabo, B.T. (2022) Distributed Nonparametric Estimation under Communication Constraints. <https://arxiv.org/abs/2204.10373>

Discussions and Rejoinders

- [41] Ray, K. & Szabo, B.T. (2024) Discussion of “Martingale posterior distributions” by Fong, Holmes and Walker. *Journal of the Royal Statistical Society Series B: Statistical Methodology*.
- [42] Ray, K., Szabo, B.T., & van der Vaart, A.W. (2020) Discussion of “Bayesian regression tree models for causal inference: regularization, confounding, and heterogeneous effects” *Bayesian Analysis* 15 (2020), 1026–1028.
- [43] van der Pas, S., Szabo, B. T., & van der Vaart, A.W. (2017) Rejoinder to discussions to “Uncertainty quantification for the horseshoe”. *Bayesian Analysis* 12 (4), 1270–1274.
- [44] Szabo, B. T., van der Vaart, A. W., & van Zanten, J. H. (2015) Rejoinder to discussions to “Frequentist coverage of adaptive nonparametric Bayesian credible sets”. *Annals of Statistics*, 43 (4), 1463 – 1470.

Machine Learning Conference Proceedings

- [45] Randrianarisoa, T. & Szabo B. (2023) Variational Gaussian processes for linear inverse problems. *Advances in Neural Information Processing Systems (NeurIPS)*.
- [46] Vuursteen, L., Szabo, B., van der Vaart, A. & van Zanten, H. (2023). Optimal testing using combined test statistics across independent studies. *Advances in Neural Information Processing Systems (NeurIPS)*.
- [47] Ray, K., Szabo, B.T. & Clara, G. (2020) Spike and slab variational Bayes for high dimensional. logistic regression. *Advances in Neural Information Processing Systems (NeurIPS)*.
- [48] Ray, K. & Szabo, B. (2019) Debiased Bayesian inference for average treatment effects. *Advances in Neural Information Processing Systems (NeurIPS)*, 11929–11939.

Book Chapters

- [49] Szabo, B. T. (2015). On Bayesian based adaptive confidence sets for linear functionals. *Bayesian Statistics from Methods to Models and Applications*. 91–105.

R Packages

- [50] Clara, G., Szabo, B.T. and Ray, K. (2020) sparsevb (Variational Bayes for high-dimensional linear and logistic regression)
- [51] de Rooij, S., van Erven, T., Szabo, B.T. (2019) SequenceSpikeSlab (Exact Bayesian model selection methods for the sparse normal sequence model)

Column Articles and Other Conference Proceedings

- [52] Szabo, B. T. (2023) The missing mathematical story of Bayesian uncertainty quantification for big data. *European Dissemination Agency (17)*, 22–25
- [53] Szabo, B. T. (2023) Understanding the uncertainty in AI. *Via Sarfatti 25, 2023 (2)*, 60-61
- [54] Szabo, B.T. (2021) Product vs mixture of experts: On distributed Gaussian Process regression. *Oberwolfach reports, 22/2021, p 12-14*
- [55] Szabo, B. T. (2016) Confidence in Bayesian Uncertainty Quantification? *Nieuw Archief voor Wiskunde*, 53-54.
- [56] Szabo, B. T. (2014) Asymptotic behaviour of confidence sets based on empirical Bayes methods in L_2 -norm. *Proceedings of the 18th European Young Statistician Meeting*, 113-117.
- [57] Berg, J. B. van den, Castro, R. M., Draisma, J., Evers, J. H. M., Hendriks, M., Khimshiashvili, G., Krehel, O., Kryven, I., Mora, K., Szabo, B. T. & Zwiernik, P. W. (2012). Non-imaging optics for LED-lighting. *Proceedings of the 84th European Study Group Mathematics with Industry*.

Teaching Experience

Bocconi University, Milano, Italy

Sept. 2021 to present

Lecturer

- Mathematical Statistics within BSc in Mathematics and Computing for Artificial Intelligence
- Statistical Theory I and II within PhD in Statistics and Computer Science
- Optimization within the MSc in Data Science and Business Analytics (in 2023)

Vrije Universiteit Amsterdam, The Netherlands

Sept. 2020 to Sept. 2021

Lecturer

- Sets and Combinatorics within BSc in Business Analytics
- Bachelor project: business case supervision within BSc in Business Analytics
- Statistics and Probability withing BSc in Mechanical Engineering

Leiden University, The Netherlands

Jan. 2017 to Aug. 2020

Lecturer

- Quantitative Research (at Leiden University College, mandatory course in various BSc programs)
- Bayesian Statistics within Mastermath (combined MSc in mathematics programs of Dutch Universities)
- Statistics within BSc in Physics and Astronomy
- Mathematical Statistics withing BSc in Mathematics

Budapest University of Technology, Hungary

Sept. 2014 to Feb. 2015

Lecturer

- Calculus A2 within BSc in Architecture.

Instructor

- Probability Theory within BSc in Mathematics.

University of Amsterdam, The Netherlands

Sept. 2015 to Dec. 2015

Lecturer

- Stochastics and Financial Mathematics program of the Seminar Mathematics.

Instructor

- Asymptotic Statistics within Mastermath.

Eindhoven University of Technology, The Netherlands

Apr. 2010 to Nov. 2012

Instructor

- Probability Theory and Statistics within BSc in Computer Sciences,
- Calculus within various BSc programs
- Introduction to derivative pricing within BSc in Mathematics

Eötvös Loránd University, Budapest, Hungary

Sept. 2007 to Dec. 2009

Instructor

- Probability Theory and Statistics courses within BSc in Astronomy and Computer Sciences

Language Skills

Hungarian (native speaker), English (fluent), German (intermediate), Dutch (beginner), Italian (beginner).