

# Mikolaj KASPRZAK

Assistant Professor

Department: Information Systems, Data

Analytics and Operations

ESSEC Business School

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## EDUCATION

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- |      |   |
|------|---|
| 2019 | Doctor of Philosophy, Statistics, University of Oxford, United Kingdom  |
| 2015 | Master of Science, Mathematics, Operational Research, Statistics and Economics, University of Warwick, United Kingdom |

## EMPLOYMENT

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### Full-time academic positions

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| 2024 - Present | Assistant Professor, ESSEC Business School, France  |
| 2023 - 2024    | Visiting Researcher, University of Luxembourg, Luxembourg   |
| 2022 - 2023    | Marie Skłodowska-Curie Individual Fellow, University of Luxembourg, Luxembourg                            |
| 2022 - 2022    | Marie Skłodowska-Curie Individual Fellow (Secondment), University College London, United Kingdom          |
| 2021 - 2022    | Marie Skłodowska-Curie Individual Fellow, Massachusetts Institute of Technology, United States of America |
| 2018 - 2021    | Research Associate, University of Luxembourg, Luxembourg  |
| 2015 - 2019    | DPhil student, University of Oxford, United Kingdom   |

### Other affiliations and appointments

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| 2024 - 2028 | Holder of the "Data Science" Chair of Excellence (CY), ESSEC Business School, France |
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## GRANTS AND HONORS

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### Awards and Honors

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| 2019 | New Researcher Travel Award, IMS - Bernoulli Society |
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### Grants

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| 2024 | Junior Chair of Excellence in Data Analytics, CY Initiative                |
| 2024 | EUTOPIA Young Leaders Academy Fellowship                                   |
| 2021 | Marie Skłodowska-Curie Individual (Global) Fellowship, European Commission |
| 2015 | Full Doctoral Studentship, UK Engineering and Physical Sciences Research   |

## PUBLICATIONS

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### Journal Articles

- WYNNE, G., KASPRZAK, M. and DUNCAN, A.B. (2025). A Fourier Representation of Kernel Stein Discrepancy with Application to Goodness-of-Fit Tests for measures on infinite dimensional Hilbert spaces. *Bernoulli: A Journal of Mathematical Statistics and Probability*, 31(2), pp. 868-893.
- KASPRZAK, M., GIORDANO, R. and BRODERICK, T. (2025). How good is your Laplace approximation of the Bayesian posterior? Finite-sample computable error bounds for a variety of useful divergences. *Journal of Machine Learning Research*, 26(87), pp. 1–81.
- KASPRZAK, M. and PECCATI, G. (2023). Vector-valued statistics of binomial processes: Berry–Esseen bounds in the convex distance. *Annals of Applied Probability*, 33(5).
- DÖBLER, C., KASPRZAK, M. and PECCATI, G. (2022). Functional convergence of sequential U-processes with size-dependent kernels. *Annals of Applied Probability*, 32(1), pp. 551-601.
- DÖBLER, C., KASPRZAK, M. and PECCATI, G. (2022). The multivariate functional de Jong CLT. *Probability Theory and Related Fields*, 184(1-2), pp. 367-399.
- DÖBLER, C. and KASPRZAK, M. (2021). Stein’s method of exchangeable pairs in multivariate functional approximations. *Electronic Journal of Probability*, 26, pp. 1-50.
- KASPRZAK, M. (2020). Stein’s method for multivariate Brownian approximations of sums under dependence. *Stochastic Processes and their Applications*, 130(8), pp. 4927-4967.
- KASPRZAK, M. (2020). Functional approximations via Stein’s method of exchangeable pairs. *Annales de l’Institut Henri Poincaré-Probabilités et Statistiques*, 56(4).
- KASPRZAK, M., DUNCAN, A.B. and VOLLMER, S.J. (2017). Note on A. Barbour’s paper on Stein’s method for diffusion approximations. *Electronic Communications in Probability*, 22, pp. 1-8.

### Conference proceedings

- WANG, Y., KASPRZAK, M. and HUGGINS, J.H. (2023). A Targeted Accuracy Diagnostic for Variational Approximations. In: *26th International Conference on Artificial Intelligence and Statistics (AISTATS)*. Valencia: Proceedings of Machine Learning Research.
- HUGGINS, J.H., KASPRZAK, M., CAMPBELL, T. and BRODERICK, T. (2020). Validated Variational Inference via Practical Posterior Error Bounds. In: *23rd International Conference on Artificial Intelligence and Statistics (AISTATS)*. Palermo: Proceedings of Machine Learning Research.
- HUGGINS, J.H., CAMPBELL, T., KASPRZAK, M. and BRODERICK, T. (2019). Scalable Gaussian Process Inference with Finite-data Mean and Variance Guarantees. In: *22nd International Conference on Artificial Intelligence and Statistics (AISTATS)*. Proceedings of Machine Learning Research.

### Conferences

- WYNNE, G., KASPRZAK, M. and DUCAN, A. (2024). A Fourier Representation of Kernel Stein Discrepancy with Application to Goodness-of-Fit Tests for Measures on Infinite Dimensional Hilbert Spaces. In: *2024 Meeting in Mathematical Statistics: New challenges in high-dimensional statistics*. Marseille.

## Presentations at a Faculty research seminar

KASPRZAK, M., GIORDANO, R., BRODERICK, T., POMPE, E. and JACOB, P. (2026). Quality of the Laplace approximation of Bayesian posteriors and cut posteriors. In: Statistics Seminar, LPSM, Sorbonne Université. Paris.

KASPRZAK, M., WYNNE, G. and DUNCAN, A.B. (2025). A Fourier Representation of Kernel Stein Discrepancy with Application to Goodness-of-Fit Tests for Functional Data. In: Functional Data Analysis Seminar, Université Paris Cité. Paris.

KASPRZAK, M., GIORDANO, R. and BRODERICK, T. (2023). How good is your Laplace approximation of the Bayesian posterior? Finite-sample error bounds for a variety of useful divergences. In: Stochastics Seminar, Karlsruhe Institute of Technology. Karlsruhe.

KASPRZAK, M., GIORDANO, R. and BRODERICK, T. (2022). How good is your Laplace approximation? Finite-sample error bounds for a variety of useful divergences. In: Mathematical Statistics seminar, Weierstrass Institute. Berlin.

KASPRZAK, M., GIORDANO, R. and BRODERICK, T. (2022). How good is your Laplace approximation? Finite-sample error bounds for a variety of useful divergences. In: Statistics seminar, Université Catholique de Louvain. Louvain-la-Neuve.

KASPRZAK, M., GIORDANO, R. and BRODERICK, T. (2022). How good is your Laplace approximation? Finite-sample error bounds for a variety of useful divergences. In: Research Seminar, Centre for Mathematical and Statistical Modelling, Brunel University. London.

KASPRZAK, M., DÖBLER, C. and PECCATI, G. (2022). Stein's method and Gaussian process approximations. In: Probability and Statistics Seminar, University of Manchester. Manchester.

KASPRZAK, M., DÖBLER, C. and PECCATI, G. (2021). Functional limit theorems via Stein's method. In: Probability and Statistics Seminar, University of Boston. Boston.

KASPRZAK, M., DÖBLER, C. and PECCATI, G. (2020). Infinite-dimensional Stein's method with applications. In: Statistics Seminar, Imperial College London. London.

KASPRZAK, M., HUGGINS, J.H., CAMPBELL, T. and BRODERICK, T. (2019). Scalable Gaussian Process Inference with Finite-data Mean and Variance Guarantees. In: Probability seminar, University of Luxembourg. Luxembourg.

KASPRZAK, M. (2017). Diffusion approximations via time changes and Stein's method. In: Probability Seminar, University of Liège. Liège.

KASPRZAK, M. (2017). Functional approximations with Stein's method. In: Machine Learning Seminar, Gatsby Unit, University College London. London.

KASPRZAK, M. (2017). Diffusion approximations via time changes and Stein's method. In: Probability Seminar, University of Luxembourg. Luxembourg.