

# Mikolaj KASPRZAK

Professeur assistant

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Analytics et Opérations

ESSEC Business School

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France

## FORMATION

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| 2019 | Doctor of Philosophy, Statistique, University of Oxford, Royaume-Uni   |
| 2015 | Master of Science, Mathematics, Operational Research, Statistics and Economics, University of Warwick, Royaume-Uni |

## EXPERIENCE PROFESSIONNELLE

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### Positions académiques principales

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|----------------|---|
| 2024 - Présent | Professeur assistant, ESSEC Business School, France   |
| 2023 - 2024    | Visiting Researcher, Université du Luxembourg, Luxembourg                                     |
| 2022 - 2023    | Marie Skłodowska-Curie Individual Fellow, Université du Luxembourg, Luxembourg                |
| 2022 - 2022    | Marie Skłodowska-Curie Individual Fellow (Secondment), University College London, Royaume-Uni |
| 2021 - 2022    | Marie Skłodowska-Curie Individual Fellow, Massachusetts Institute of Technology, États-Unis   |
| 2018 - 2021    | Research Associate, Université du Luxembourg, Luxembourg                                      |
| 2015 - 2019    | DPhil student, University of Oxford, Royaume-Uni  |

### Autres affiliations académiques

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| 2024 - 2028 | Titulaire de la Chaire d'Excellence « Data Science », ESSEC Business School, France |
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## BOURSES, PRIX ET DISTINCTIONS

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### Prix et Distinctions

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

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

## PUBLICATIONS

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### Articles

- WYNNE, G., KASPRZAK, M. et 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. et 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. et 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. et 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. et PECCATI, G. (2022). The multivariate functional de Jong CLT. *Probability Theory and Related Fields*, 184(1-2), pp. 367-399.
- DÖBLER, C. et 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. et 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.

### Actes d’une conférence

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

### Conférences

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

## Présentation dans un séminaire de recherche

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

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

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

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

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

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

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

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

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

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

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

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

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