

Pierre ALQUIER

b00809923@essec.edu

Professeur

Département: Systèmes d'information, sciences
de la décision et statistiques
Campus de Singapour

DIPLÔMES

2013	Habilitation à diriger des recherches (Université Pierre et Marie Curie (UPMC) France)
2006	PhD (mathematical statistics) (Université Pierre et Marie Curie (UPMC) France)
2003	MSc in Probability Theory and Statistics (Université Pierre et Marie Curie (UPMC) France)
2003	Diplôme de statisticien-économiste (L'École nationale de la statistique et de l'administration économique (ENSAE) France)

CARRIÈRE

POSITIONS ACADÉMIQUES PRINCIPALES

2023 - Présent Professeur (ESSEC Business School Singapour)

AUTRES POSITIONS

2019 - 2022-12-31 Chargé de recherches (RIKEN Japon)

AUTRES POSITIONS ACADÉMIQUES

2014 - 2019-07-31 Professeur (L'École nationale de la statistique et de l'administration économique
(ENSAE) France)

2012 - 2014-08-31 Lecturer (UCD Dublin Irlande)

2007 - 2012-08-31 Maître de Conférences (Université Paris Diderot (Paris VII) France)

2006 - 2007-08-31 A.T.E.R. (Université Paris Dauphine France)

PUBLICATIONS

INTERVIEWS : EMISSION RADIO, TV, PRESSE ÉCRITE

[ALQUIER, P. 2023. *ChatGPT*. Mars.](#)

[ALQUIER, P. 2023. *Generative AI: Friend or Foe?* Mars.](#)

[ALQUIER, P. 2023. *Getting organised for AI*. Septembre.](#)

ARTICLES

[ALQUIER, P. et RIDGWAY, J. \(2020\). Concentration of tempered posteriors and of their variational approximations. *Annals of Statistics*, 48\(3\), pp. 1475-1497.](#)

[ALQUIER, P., COTTET, V. et LECUE, G. \(2019\). Estimation bounds and sharp oracle inequalities of regularized procedures with Lipschitz loss functions. *Annals of Statistics*, 47\(4\), pp. 2117-2144.](#)

[CHERIEF-ABDELLATIF, B.E. et ALQUIER, P. \(2018\). Consistency of variational Bayes inference for estimation and model selection in mixtures. *The Electronic Journal of Statistics*, 12\(2\), pp. 2995-3035.](#)

[ALQUIER, P. et GUEDJ, B. \(2018\). Simpler PAC-Bayesian bounds for hostile data. *Machine Learning*, 107\(5\), pp. 887-902.](#)

[FAN, X., ALQUIER, P. et DOUKHAN, P. \(2022\). Deviation inequalities for stochastic approximation by averaging. *Stochastic Processes and their Applications*, 152, pp. 452-485.](#)

[ALQUIER, P., MARIE, N. et ROSIER, A. \(2022\). Tight risk bound for high dimensional time series completion. *The Electronic Journal of Statistics*, 16\(1\), pp. 3001-3035.](#)

[CHERIEF-ABDELLATIF, B.E. et ALQUIER, P. \(2022\). Finite sample properties of parametric MMD estimation: Robustness to misspecification and dependence. *Bernoulli: A Journal of Mathematical Statistics and Probability*, 28\(1\), pp. 181-213.](#)

[MEUNIER, D. et ALQUIER, P. \(2021\). Meta-Strategy for Learning Tuning Parameters with Guarantees. *Entropy*, 23\(10\).](#)

- [CAREL, L. et ALQUIER, P. \(2021\). Simultaneous dimension reduction and clustering via the NMF-EM algorithm. *Advances in Data Analysis and Classification*, 15\(1\), pp. 231-260.](#)
- [ALQUIER, P., BERTIN, K., DOUKHAN, P. et GARNIER, R. \(2020\). High-dimensional VAR with low-rank transition. *Statistics and Computing*, 30\(4\), pp. 1139-1153.](#)
- [ALQUIER, P. et MARIE, N. \(2019\). Matrix factorization for multivariate time series analysis. *The Electronic Journal of Statistics*, 13\(2\), pp. 4346-4366.](#)
- [ALQUIER, P., DOUKHAN, P. et FAN, X. \(2019\). Exponential inequalities for nonstationary Markov chains. *Dependence Modeling*, 7\(1\), pp. 150-168.](#)
- [MAIRE, F., FRIEL, N. et ALQUIER, P. \(2019\). Informed sub-sampling MCMC: approximate Bayesian inference for large datasets. *Statistics and Computing*, 29\(3\), pp. 449-482.](#)
- [COTTET, V. et ALQUIER, P. \(2018\). 1-Bit matrix completion: PAC-Bayesian analysis of a variational approximation. *Machine Learning*, 107\(3\), pp. 579-603.](#)
- [MAI, T.T. et ALQUIER, P. \(2017\). Pseudo-Bayesian quantum tomography with rank-adaptation. *Journal of Statistical Planning and Inference*, 184, pp. 62-76.](#)
- [ALQUIER, P. et GUEDJ, B. \(2017\). An oracle inequality for quasi-Bayesian nonnegative matrix factorization. *Mathematical Methods of Statistics*, 26\(1\), pp. 55-67.](#)
- [ALQUIER, P., RIDGWAY, J. et CHOPIN, N. \(2016\). On the Properties of Variational Approximations of Gibbs Posteriors. *Journal of Machine Learning Research*, 17\(239\), pp. 1-41.](#)
- [ALQUIER, P., FRIEL, N., EVERITT, R. et BOLAND, A. \(2016\). Noisy Monte Carlo: convergence of Markov chains with approximate transition kernels. *Statistics and Computing*, 26\(1-2\), pp. 29-47.](#)
- [MAI, T.T. et ALQUIER, P. \(2015\). A Bayesian approach for noisy matrix completion: Optimal rate under general sampling distribution. *The Electronic Journal of Statistics*, 9\(1\), pp. 823-841.](#)
- [ALQUIER, P., LI, X. et WINTENBERGER, O. \(2013\). Prediction of time series by statistical learning: general losses and fast rates. *Dependence Modeling*, 1, pp. 65-93.](#)
- [ALQUIER, P., BUTUCEA, C., HEBIRI, M., MEZIANI, K. et MORIMAE, T. \(2013\). Rank-penalized estimation of a quantum system. *Physical Review A*, 88\(3\).](#)
- [ALQUIER, P., MEZIANI, K. et PEYRÉ, G. \(2013\). Adaptive estimation of the density matrix in quantum homodyne tomography with noisy data. *Inverse Problems*, 29\(7\), pp. 075017.](#)
- [ALQUIER, P. et BIAU, G. \(2013\). Sparse Single-Index Model. *Journal of Machine Learning Research*, 14, pp. 243-280.](#)
- [GUEDJ, B. et ALQUIER, P. \(2013\). PAC-Bayesian estimation and prediction in sparse additive models. *The Electronic Journal of Statistics*, 7, pp. 264-291.](#)

[ALQUIER, P. et WINTENBERGER, O. \(2012\). Model selection for weakly dependent time series forecasting. *Bernoulli: A Journal of Mathematical Statistics and Probability*, 18\(3\), pp. 883-913.](#)

[ALQUIER, P. et HEBIRI, M. \(2012\). Transductive versions of the LASSO and the Dantzig Selector. *Journal of Statistical Planning and Inference*, 142\(9\), pp. 2485-2500.](#)

[ALQUIER, P. et HEBIRI, M. \(2011\). Generalization of constraints for high dimensional regression problems. *Statistics & Probability Letters*, 81\(12\), pp. 1760-1765.](#)

[ALQUIER, P. et DOUKHAN, P. \(2011\). Sparsity considerations for dependent variables. *The Electronic Journal of Statistics*, 5, pp. 750-774.](#)

[ALQUIER, P. et LOUNICI, K. \(2011\). PAC-Bayesian bounds for sparse regression estimation with exponential weights. *The Electronic Journal of Statistics*, 5, pp. 127-145.](#)

[ALQUIER, P. \(2008\). PAC-Bayesian bounds for randomized empirical risk minimizers. *Mathematical Methods of Statistics*, 17\(4\), pp. 279-304.](#)

[ALQUIER, P. \(2008\). LASSO, Iterative Feature Selection and the Correlation Selector: Oracle inequalities and numerical performances. *The Electronic Journal of Statistics*, 2, pp. 1129-1152.](#)

[ALQUIER, P. \(2008\). Density estimation with quadratic loss: a confidence intervals method. *ESAIM: Probability and Statistics*, 12, pp. 438-463.](#)

[ALQUIER, P. \(2008\). Iterative feature selection in least square regression estimation. *Annales de l'Institut Henri Poincaré-Probabilités et Statistiques*, 44\(1\), pp. 47-88.](#)

[ALQUIER, P., CHERIEF-ABDELLATIF, B.E., DERUMIGNY, A. et FERMANIAN, J.D. \(2023\). Estimation of Copulas via Maximum Mean Discrepancy. *Journal of the American Statistical Association*, 118\(543\), pp. 1997-2012.](#)

[ALQUIER, P. et GERBER, M. \(2023\). Universal Robust Regression via Maximum Mean Discrepancy. *Biometrika*, In press.](#)

ACTES D'UNE CONFÉRENCE

[MAI, T.T. et ALQUIER, P. \(2022\). Understanding the Population Structure Correction Regression. Dans: *4th International Conference on Statistics: Theory and Applications \(ICSTA'22\)*. Prague: Avestia Publishing.](#)

[ALQUIER, P. \(2021\). Non-exponentially Weighted Aggregation: Regret Bounds for Unbounded Loss Functions. Dans: *38th International Conference on Machine Learning \(ICML'21\)*. Proceedings of Machine Learning Research.](#)

[DOAN, T., ABBANA BENNANI, M., MAZOURE, B., RABUSSEAU, G. et ALQUIER, P. \(2021\). A Theoretical Analysis of Catastrophic Forgetting through the NTK Overlap Matrix. Dans: *24th*](#)

[International Conference on Artificial Intelligence and Statistics \(AISTAT'21\). Proceedings of Machine Learning Research.](#)

[CHERIEF-ABDELLATIF, B.E. et ALQUIER, P. \(2020\). MMD-Bayes: Robust Bayesian Estimation via Maximum Mean Discrepancy. Dans: 2nd Symposium on Advances in Approximate Bayesian Inference \(AABI'19\). Proceedings of Machine Learning Research.](#)

[CHERIEF-ABDELLATIF, B.E., ALQUIER, P. et KHAN, M.E. \(2019\). A Generalization Bound for Online Variational Inference. Dans: 11th Asian Conference on Machine Learning \(ACML'19\). Proceedings of Machine Learning Research.](#)

[ALQUIER, P., MAI, T.T. et PONTIL, M. \(2017\). Regret Bounds for Lifelong Learning. Dans: 20th International Conference on Artificial Intelligence and Statistics \(AISTAT'17\). Proceedings of Machine Learning Research.](#)

[CAREL, L. et ALQUIER, P. \(2017\). Non-negative Matrix Factorization as a Pre-processing tool for Travelers Temporal Profiles Clustering. Dans: 25th European Symposium on Artificial Neural Networks, Computational Intelligence and Machine Learning \(ESANN'17\). i6doc.com.](#)

[RIDGWAY, J., ALQUIER, P., CHOPIN, N. et LIANG, F. \(2014\). PAC-Bayesian AUC Classification and Scoring. Dans: 28th Conference on Neural Information Processing Systems \(NIPS'14\). Curran Associates, Inc.](#)

[ALQUIER, P. \(2013\). Bayesian Methods for Low-Rank Matrix Estimation: Short Survey and Theoretical Study. Dans: 24th International Conference on Algorithmic Learning Theory \(ALT'13\). Singapore: Springer Berlin Heidelberg, pp. 309-323.](#)

[ALQUIER, P. et LI, X. \(2012\). Prediction of Quantiles by Statistical Learning and Application to GDP Forecasting. Dans: 15th International Conference on Discovery Science \(DS'12\). Lyon: Springer Berlin Heidelberg, pp. 22-36.](#)

[ALQUIER, P. \(2010\). An Algorithm for Iterative Selection of Blocks of Features. Dans: 21st International Conference on Algorithmic Learning Theory \(ALT'10\). Caberra: Springer Berlin Heidelberg, pp. 35-49.](#)

[SAKHI, O., ALQUIER, P. et CHOPIN, N. \(2023\). PAC-Bayesian Offline Contextual Bandits With Guarantees. Dans: 40th International Conference on Machine Learning \(ICML\). Hawaii: Proceedings of Machine Learning Research, pp. 29777-29799.](#)

DIRECTION D'OUVRAGE

[ALQUIER, P., GAUTIER, E. et STOLTZ, G. \[Eds\] \(2011\). Inverse Problems and High-Dimensional Estimation. Springer Berlin Heidelberg.](#)

[ALQUIER, P. \[Ed\] \(2022\). Approximate Bayesian Inference. MDPI.](#)

PRÉFACES/INTRODUCTIONS DE REVUE

[ALQUIER, P. \(2020\). Approximate Bayesian Inference. *Entropy*, 22\(11\), pp. 1272.](#)

HDR

[ALQUIER, P. \(2013\). Contributions to Statistical Learning in Sparse Models. Paris: France.](#)

COMMUNICATIONS DANS UNE CONFÉRENCE

[ALQUIER, P., RIOU, C. et CHÉRIEF-ABDELLATIF, B.E. \(2024\). Rates of Convergence in Bayesian Meta-learning. Dans: 2024 IMS Asia-Pacific Rim Meeting. Melbourne.](#)

[ALQUIER, P., RIOU, C. et CHÉRIEF-ABDELLATIF, B.E. \(2023\). Rates of convergence in Bayesian meta-learning. Dans: 6th International Conference on Econometrics and Statistics 2023. Tokyo.](#)

[ALQUIER, P. et CHÉRIEF-ABDELLATIF, B.E. \(2023\). Fast Rates in Meta-Learning with PAC-Bayes Bounds. Dans: 12th Workshop on High Dimensional Data Analysis 2023. Rabat.](#)

ACTIVITÉS DE RECHERCHE

2020 - Présent: Action Editor: Journal of Machine Learning Research
2022 - Présent: Action Editor: Transactions in Machine Learning Research
2020 - 2022: Topic Advisory Panel: Entropy