
Curriculum Vitae - October 2024

Julie Josse

Nationality: French

Date of birth: 10th November 1983

E-mail: julie.josse@inria.fr

Web: <http://juliejosse.com>

Position

June 2022 - **Head of PreMeDICAL team (Inria-Inserm team)**

Sept. 2020 - **Senior Researcher, Inria**

Working Address: Inria, Antenne de Montpellier,
860 rue Saint Priest, 34000 Montpellier

Education - previous positions

- Feb 2023 - Sept 2023. Visiting **Apple Research** (1 day/week), Paris
- Dec. 2020 - Nov. 2022. Scientific collaborator and Professor, École Polytechnique
- Sept. 2016 - Aug. 2020. Professor of Statistics at **École Polytechnique** (Institut Polytechnique de Paris), centre de mathématiques appliquées (CMAP) department
Member of the Inria team Xpop
- Apr. 2019 - Sept. 2020. Visiting researcher (2 days a week). **Google Brain** IA, Paris
- 2013-2018. Visiting researcher (18 months) **Stanford University**, USA. Marie-Curie Grant.
- Aug. 2016. **Habilitation à diriger des recherches** Paris-Sud University. “*Contribution to missing values and principal components methods*”. **Committee**. G. Celeux (Inria), J. Friedman (Stanford Univ.), P. Hoff (Washington Univ.), A. Ruiz-Gazen (Toulouse 1 Univ.), P. Massart (Paris-Sud Univ.), E. Moulines (Polytechnique), F. Murtagh (London Univ.), D. Paindaveine (Bruxelles Univ.)
- 2016. Research associate (délégation) **Inria** Select team, Paris-Sud University, Orsay
- 2011 - 2015. Associate professor, **Agrocampus Ouest** (grande école d’ingénieurs, Ministry of agriculture), Statistics department, Rennes
- 2007–2010: **PhD thesis in Statistics defended 22 October 2010**. Agrocampus, Rennes. “*Gestion des données manquantes en analyse exploratoire des données*”. Advisors: J. Pagès & F. Husson (Agrocampus). **Committee**: M. Greenacre (Pompeu Fabra Univ.), H.A.L. Kiers (Groeningen Univ.), G. Govaert (Compiègne Univ.), P. Kroonenberg (Leiden Univ.), A. Morin (Rennes 1, Univ.)
Award: best doctoral PhD thesis in applied statistics by the French Statistical Society (Prix Marie-Jeanne Laurent-Duhamel)
- 2006 - 2010. Engineer (Ingénieur d’études) **Agrocampus**, Rennes
- 2004 - 2006. Master degree Statistic (*summa cum laude*) . **Rennes II Univ.**

Publications

Articles

1. Berenfeld, C., Boughdiri, A., Colnet, B. van Amsterdam, W., Bellet, A., Khellaf R., Scornet, E. & Josse, J. Causal Meta-Analysis: Rethinking the Foundations of Evidence-Based Medicine.
Submitted

2. Lebeda et al. Model Agnostic Differentially Private Causal Inference.
Submitted
3. Boughdiri, A., Berenfeld, C. Josse, J., Scornet. E. (2025). A Unified Framework for the Transportability of Population-Level Causal Measures.
Submitted
4. Khellaf, R., Bellet, A. & Josse, J. (2025). Federated Causal Inference from Multi-Site Observational Data via Propensity Score Aggregation.
Submitted.
5. Gauss et al. (2025). Comparison of machine learning and human prediction for the need for trauma haemorrhage control resuscitation (ShockMatrix study): a prospective observational study
Lancet Regional Health
6. Boughdiri, A., Josse, J., Scornet. E. (2024). Quantifying Treatment Effects: Estimating Risk Ratios in Causal Inference.
ICML 2025.
7. Gauss et al. (2025) From bedside to data and back to bedside: why do we need better data to perform trauma phenotyping and improve trauma care?
Intensive Care Medicine
8. Khellaf, R., Bellet, A. & Josse, J. (2024). Federated Causal Inference: Multi-Centric ATE Estimation beyond Meta-Analysis.
AISTAT 2025.
9. Zenati et al. (2024) Double Debiased Machine Learning for Mediation Analysis with Continuous Treatments.
AISTAT 2025.
10. Gauss et al. (2024). Machine-Learning Enhanced Prediction of Need for Hemorrhage Resuscitation after Trauma à The ShockMatrix Pilot Study.
BMC Medical Informatics and Decision Making.
11. Stempfle et al. (2024). Handling missing values in clinical machine learning: Insights from a large-scale expert study.
Submitted.
12. Woillard et al. (2024). To be or not to be, when synthetic data meets clinical pharmacology: A Focused Study on Pharmacogenetics.
Pharmacometrics Systems Pharmacology.
13. Fosset et al. (2024). Assessing Safety of Extubation in Patients Receiving Continuous Vasopressors: An Emulated Target Trial
Submitted.
14. Zaffran, M., Josse, J. Romano, Y. Dieuleveut, A. (2024) Predictive Uncertainty Quantification with Missing Covariates.
Submitted.
15. Naf, J. Scornet, E. & Josse, J. (2024). What is a good imputation under MAR?
Submitted
16. Sussman, H., Chambaz, A., Josse, J. (2023), Aegerter, P., Wargon, M. and Bacry, E. Probabilistic Prediction of Arrivals and Hospitalizations in Emergency Departments in Ile-de-France.
International Journal of Medical Informatics.
17. Sussman, H., Chambaz, A. and Josse, J. (2023). Adaptive Conformal, an R package for adaptive conformal inference.
Computo.
18. Bénard, C, Naf, J. and Josse, J. (2023). MMD-based Variable Importance for Distributional Random Forest.
AISTAT 2024.
19. Zhao, P., Chambaz, A., Josse, J., Yang, S. (2023). Positivity-free Policy Learning with Observational Data.
AISTAT 2024.

20. B nard, C and Josse, J. (2023). Variable importance for causal forests: breaking down the heterogeneity of treatment effects.
In revision in Journal of Causal Inference.
21. Colnet, B., Josse, J., Varoquaux, G. and Scornet, E. (2023). Risk ratio, odds ratio, risk difference... Which causal measure is easier to generalize?
Submitted.
22. Zaffran, M., Josse, J., Dieuleveut, A., Romano, Y. Conformal prediction with missing values.
ICML2023
23. Zhao, P., Josse, J. Yang, S. (2023). Efficient and robust transfer learning of optimal individualized treatment regimes with right-censored survival data. *JMLR*.
24. Colnet, B., Josse, J., Varoquaux, G. and Scornet, E. (2022-24). Reweighting the RCT for generalization: finite sample analysis and variable selection. *JRSS A*.
25. Blet et al. (2022). Association between in-ICU red blood cells transfusion and one-year mortality in ICU survivors.
Critical Care.
26. Gauss et al. (2022). Is Early Norepinephrine Associated with 24-hour Mortality of Blunt Trauma Patients in Haemorrhagic Shock? An International Cohort Study.
JAMA Network Open.
27. Colnet, B., Josse, J., Varoquaux, G. and Scornet, E. (2022). Generalizing a causal effect: sensitivity analysis and missing covariates.
Journal of Causal Inference.
28. Garaix et al. (2022). Decision-making tools for healthcare structures in times of pandemic.
Editorial Anaesthesia Critical Care & Pain Medicine.
29. Zaffran et al. (2022). Adaptive conformal prediction for time series.
ICML2022.
30. Perez-Lebel et al. (2022). Benchmarking missing-values approaches for predictive models on health databases.
GigaScience.
31. Sportisse et al. (2021). Model-based Clustering with Missing Not At Random Data.
Statistics and Computing.
32. Le Morvan, M., Josse, J., Scornet., E. and Varoquaux, G. (2021). What’s a good imputation to predict with missing values?
Neurips2021, Oral.
33. Colnet et al. (2021-23). Causal inference methods for combining randomized trials and observational data: a review.
Statistical Science.
34. Mayer, I., Josse, J. (2021). Transporting treatment effects with incomplete attributes.
Biometrics.
35. Moyer et al. (2020). Trauma reloaded: Trauma registry in the era of data science Anaesthesia.
Critical Care & Pain Medicine.
36. Le Morvan et al. (2020). NeuMiss networks: networks: differential programming for supervised learning with missing values.
Neurips2020. Oral
37. Sbidian et al. (2020). Hydroxychloroquine with or without azithromycin and in-hospital mortality or discharge in patients hospitalized for COVID-19 infection: a cohort study of 4,642 in-patients in France. *Preprint.*
38. Consortium ICUBAM. (2020). ICU Bed Availability Monitoring and analysis in the Grand Est r gion of France during the COVID-19 epidemic.
Statistiques et Soci t .

39. Sportisse, A., Josse, J. , Boyer, C. and Dieuleveut, A. (2020). Debiasing Stochastic Gradient Descent to handle missing values. *Neurips2020*.
40. Sportisse, A., Boyer, C. and Josse, J. (2020). Estimation and imputation in Probabilistic Principal Component Analysis with Missing Not At Random data. *Neurips2020*.
41. Le Morvan, M., N. Prost, J. Josse, E. Scornet. and G. Varoquaux. (2020). Linear predictor on linearly generated data with missing values: nonconsistency and solutions. *AISTAT2020*.
42. Mayer, I., Wager, S., Sverdr, E., Moyer, J.D., Gauss, T. and Josse, J. (2020). Doubly robust treatment effect estimation with incomplete confounders. *Annals Of Applied Statistics*.
43. Muzellec, B. Josse, J. , Boyer, C. and Cuturi, M. (2020). Missing Data Imputation using Optimal Transport. *International Conference on Machine Learning ICML2020*.
44. Jiang, W., Bogdan, M., Josse, J., Miasojedow, B. and Rockova, V. (2020). Adaptive Bayesian SLOPE, High dimensional Model Selection with Missing Values. *Journal of Computational and Graphical Statistics*.
45. Josse, J., Mayer, I. and Vert, J.P. (2020). MissDeepCausal: causal inference from incomplete data using deep latent variable models. *Preprint*.
46. Descloux, P. Boyer, C., Josse, J., Sportisse, A. and Sardy, S. (2022). Robust Lasso-Zero for sparse corruption and model selection with missing covariates. *Scandinavian Journal of Statistics*.
47. Mayer, I., Sportisse, A., Vialaneix, N., Tierney, N. and Josse, J. (2022). R-miss-tastic: a unified platform for missing values methods and workflows. *R journal*.
48. Josse, J., Jacob M. Chen, Prost, N., Scornet, E. and Varoquaux, G. (2018-2024) On the consistency of supervised learning with missing values. *Statistical Papers*.
49. Sportisse, A., Boyer, C. and Josse, J. (2019). Imputation and low-rank estimation with Missing Non At Random data. *Statistics & Computing*.
50. Robin, G., Klopp, O., Josse, J., Moulines, E. and Tibshirani, Rob. (2019). Main effects and interactions in mixed and incomplete data frames. *Journal of American Statistical Association*.
51. Jiang, W., Lavielle, M. and Josse, J. (2018). Logistic Regression with Missing Covariates: Parameter Estimation, Model Selection and Prediction within a Joint-Modeling Framework. *Computational Statistics & Data Analysis*.
52. Robin, G., Hoi To Wai, Josse, J., Klopp, O. and Moulines, E. (2018). Low-rank interactions and sparse additive effects model for large data frames. *NeurIPS*.
53. Josse, J., Husson, F., Robin, G. and Balasubramanian, N. (2018). Imputation of mixed data with multilevel SVD. *Journal of Computational and Graphical Statistics*.
54. Mozharovskiy, P., Husson, F. and Josse, J. (2018). Nonparametric imputation by data depth. *Journal of the American Statistical Association*.
55. Hamada et al. (2018). Effect of Fibrinogen administration on early mortality in traumatic haemorrhagic shock: a propensity score analysis. *Journal of Trauma and Acute surgery*.
56. Seijo-Pardo, B., Alonso-Betanzos, A., P. Bennett, K. Bolón-Canedo, Josse, J., Saeed, M., Guyon, I. (2018). Feature selection in the presence of missing data. *Neurocomputing, ESANN*.

57. Josse, J. and Reiter, J. (2018). Introduction to the Special Section on Missing Data.
Statistical Sciences.
58. Robin, G, Sardy, S., Moulines, E. and Josse, J. (2018). Low rank log-linear models for contingency tables.
Journal of Multivariate Analysis.
59. Josse, J. and Holmes, S. (2017). Discussion of 50 Years of Data Science.
Journal of Computational and Graphical Statistics.
60. Bollmann, S., Cook, Di. Dumas, J., Fox, J., Josse, J., Keyes, O. Strobl, C., Turner, H. & Debelak, R. (2017). A First Survey on the Diversity of the R Community.
R journal.
61. Josse, J., Marin, J.M. and Robert, C.P. Some discussions on the Read Paper "Beyond subjective and objective in statistics" by A. Gelman and C. Hennig.
62. Sobczyk, P., Bogdan, M. and Josse, J. (2017). Bayesian dimensionality reduction with PCA using penalized semi-integrated likelihood.
Journal of Computational and Graphical Statistics.
63. Foulley, J.L., Celeux, G. and Josse, J. Empirical Bayes approaches to PageRank type algorithms for rating scientific journals. *Preprint*.
64. Fithian, W. and Josse, J. (2016). Multiple Correspondence Analysis & the Multilogit Bilinear Model.
Journal of Multivariate Analysis.
65. Husson, F., Josse, J. and Saporta, G. (2016). Jan de Leeuw and the French school of data analysis.
Journal of Statistical Software.
66. Groenen, P. and Josse, J. (2016). Multinomial multiple correspondence analysis. *Preprint*.
67. Josse, J., Sardy, S. and Wager, S. (2016). denoiseR a package for low rank-matrix estimation. *accepted in Journal of Statistical Software*.
68. Fujii, H., Josse, J., Tanioka, M., Miyachi, Y., Husson, F. and Ono M. (2016). Regulatory T cells in melanoma revisited by a computational clustering of FOXP3+ T cell subpopulations.
Journal of Immunology.
69. Josse, J. and Wager, S. (2016). Stable Autoencoding: A Flexible Framework for Regularized Low-Rank Matrix Estimation.
Journal of Machine Learning Research.
70. Audigier, V., Husson, F. and Josse, J. (2016) MIMCA: Multiple imputation for categorical variables with multiple correspondence analysis.
Statistics and Computing.
71. Josse, J. and Holmes, S (2015). Tests of independence and Beyond.
Statistics Survey.
72. Audigier, V., Josse, J. and Husson, F. (2015). Multiple imputation for continuous variable using Bayesian PCA.
Journal of Statistical Computation and Simulation.
73. Josse, J. and Sardy, S. (2015). Adaptive Shrinkage of singular values.
Statistics and Computing.
74. Josse, J. and Husson, F. (2015). missMDA a package to handle missing values in and with multivariate data analysis methods.
Journal of Statistical Software.
75. Audigier, V., Husson, F. and Josse, J. (2014). A principal components method to impute mixed data.
Advances in Data Analysis and Classification.
76. Josse, J., Wager, S. and Husson, F. (2014). Confidence areas for fixed-effects PCA.
Journal of Computational and Graphical Statistics.
77. Dray, S and Josse, J. (2014). Principal component analysis with missing values: a comparative survey of methods.
Plant Ecology.

78. Josse, J., van Eeuwijk, F., Piepho and H-P, Denis, J.B. (2014). Another look at Bayesian analysis of AMMI models for genotype-environment data.
Journal of Agricultural, Biological, and Environmental Statistics.
79. Verbanck, M., Josse, J. and Husson, F. (2015). Regularized PCA to denoise and visualise data.
Statistics and Computing.
80. Josse, J., Timmerman, M.E. and Kiers, H.A.L. (2013). Missing values in multi-level simultaneous component analysis.
Chemometrics and Intelligent Laboratory Systems.
81. Josse, J., and Husson, F. (2013). Handling missing values in Multiple Factor Analysis.
Food Quality and Preferences.
82. Josse, J., and Husson, F. (2013). Handling missing values in multivariate exploratory data analysis.
Journal of the French Statistical Society (SFdS). (Paper written for the best Ph.D doctoral thesis prize delivered by the French Statistical Society).
83. Josse, J., Chavent, M., Liquet, B. and Husson, F. (2012). Handling missing values with Regularized Iterative Multiple Correspondence Analysis.
Journal of Classification.
84. Denis, J.B. and Josse, J. (2012). Inferring biadditive models within the Bayesian paradigm. *Technical report: R2012.* <http://prodinra.inra.fr/record/50125>.
85. Josse, J. and Husson, F. (2011). Selecting the number of components in PCA using cross-validation approximations.
Computational Statistics and Data Analysis.
86. Josse, J., Pagès, J. and Husson, F. (2011). Multiple Imputation in PCA.
Advances in Data Analysis and Classification.
87. Husson, F., Josse, J. and Pagès, J. (2010). Principal component methods - hierarchical clustering - partitional clustering: why would we need to choose for visualizing data? *Technical report.*
88. Josse, J., Pagès, J. and Husson, F. (2009). Données manquantes en analyse en composantes principales.
Journal de la Société Française de Statistique.
89. Josse, J., Pagès, J. and Husson, F. (2008). Testing the significance of the RV coefficient.
Computational Statistics and Data Analysis.
90. Lé, S., Josse, J. and Husson, F. (2008). FactoMineR: an R package for multivariate analysis.
Journal of Statistical Software.

Books

- Husson et al. (2018) R pour les statistiques et la data-science, Presses Universitaires de Rennes. <https://r-stat-sc-donnees.github.io/>. 4000 books sold.
- Cornillon et al. (2012). R for Statistics, Chapman & Hall. 320 pages. 1000 books sold. <http://www.crcpress.com/product/isbn/9781439881453>.
- Cornillon et al. (2008, 2010, 2012). Statistiques avec R, Presses Universitaires de Rennes. 300 pages. More than 10000 books sold.

Chapter in books

- Husson, F. and Josse, J. (2014). Multiple Correspondence Analysis. In: The Visualization and Verbalization of Data. Chapman & Hall/CRC. Edited by Blasius, J. and Greenacre, M.

Grants and Awards

- **Inria - French Academy of sciences Young Researchers Award.** It recognizes a scientist under the age of forty who has made a significant contribution through their research, transfer, or innovation activities in the fields of computer science and mathematics. More info.

- **PEPR** "Programme et Équipements Prioritaires de Recherche" AI based Methods for Advanced Clinical Trials CHallenges in Digital Health, French National Research Agency (ANR). Co-lead of the workpackage *Enriching clinical trials with multi-sources and multidimensional auxiliary data*. (2023-2027). (1.5 Million €)
- **PI** of the Educational grant by (Allergologisk Laboratorium Kobenhavn) ALK, *Combining RCT and observational data*. (2022), (30K€).
- Member of Projet de Recherche Collaborative International France - Germany (ANR/DFG) (2021), *ASCAI*. PI: Nicolas Verzelen and Alexandra Carpentier. (275K€).
- **PI** Chaire Muse, French National Research Agency (ANR) (2021), *Premedical: precision medicine by causal learning*. (300K€).
- Member of Project Sorbonne Center for AI (SCAI) (2020), *Apprentissage Statistique pour les hopitaux*. PI: Claire Boyer. (70K€).
- Member of Independent Research Fund Denmark Grant (2019), *Missing data imputation using deep generative models*. PI: Jes Frellsen. (400K€).
- **co-PI** of Capgemini Invent support (2019 -), "Mécénat de compétences", *Traumatrix project* 10 persons allocated (data managers, data-scientists, project managers) to create a decision tool to improve the care of trauma patients.
- **co-PI** of DataIA institute grant (2018), *Missing data in the big data era* with Gael Varoquaux, (250K€).
- **PI** of R consortium grant (2018), *A unified platform for missing values methods and workflows*. (10K€).
- **PI** of PEPS grant (2017), *Handling missing data with heterogeneous data - modeling severe polytrauma patients*. (50K€).
- AgreenSkills grant (Marie-Curie FP7 COFUND People Program) (2013) for mobility research (18 months at Stanford University). It is an international program co-funded by the European Union designed to increase the research potential of promising researchers.
- **Ph.D. dissertation award** (Marie-Jeanne Laurent-Duhamel - French Statistical Society), (2012) it rewards the quality of a young, french statistician's doctoral thesis. In 2012, it distinguishes a notable contribution to applied statistical research.

Talks in conferences, workshops, seminars

Keynotes talks in conferences and workshops

- AI, Science and Society, February 2025, IPP Paris
- Data Science, Statistics and Visualisation 2025, July 2025, South Africa.
- Symposium on Causality (Panel), Sept. 2024, Florence.
- 50 ans du CMAP, Centre de Mathématiques Appliquées de l'Ecole Polytechnique, Sept. 2024, Paris.
- 2nd Global Symposium of Research Methodology Innovation in Trauma and Emergency Care, May 2024, Columbus Ohio.
- European Conference of Causal Inference (Eurocim), Apr. 2024., Copenhagen.
- Journées de biostatistique Nov. 2023, Toulouse.
- Celebrating causal inference in medicine and public health, Oct. 2022, Ghent University, Belgium (**before the Rousseeuw prize, "Nobel prize" in Statistic**).
- Exposome Symposium, Oct. 2022, Montpellier, France
- AutoML conference (with ICML conference), Online, July 2022, Baltimore, USA

- Workshop, Emerging Challenges for Statistics and Data Sciences: Complex Data with Missingness, Measurement Errors, and High Dimensionality, Online, May 2022, University of British Columbia Okanagan (UBCO), Canada
- Open Data Science Conference, East Virtual, April, 2022
- DAG Stat. Keynote in Section Compstat, Online, March, 2022, Hambourg, Germany
- European Statistical Forum Application of Causal Inference in Drug Development, Online, Nov. 2021
- Optimization, Statistics, and Theoretical Machine Learning, Online, Sept., 2020, Princeton, USA
- Workshop in the international society for clinical biostatistic, Online, Aug. 2020, Krakow, Poland
- Workshop Mathematical Methods of Modern Statistics, Online, June 2020, CIRM, Marseille, France
- International Federation of Classification Societies, Aug. 2019, Thessaloniki, Greece
- useR!2019, July 2019, Toulouse, France
- R in Official Statistics, May 2019, Bucharest, Romania
- French Statistical Society, June 2019, Nancy, France
- Statlearn 2019, Grenoble, France
- R à Québec, July 2018, Montreal, Canada
- Older keynotes talks: Insurance, Actuarial Science, Data and Models, June 2018, Paris, France. Finnish Workshop on Invariant Coordinate Selection. Toulouse, France, Nov. 2017. Mathematical Methods of Modern Statistics, CIRM Luminy, France, July 2017. Working group on model based clustering group, Paris, France, July 2016. Swiss Statistics day, Bern, Switzerland, April 2015. French annual Chemometrics meeting, Brest, France, Sept. 2013. StatLearn, Bordeaux, France, April 2013. Workshop on ThRee-way methods In Chemistry And Psychology (and other areas) TRICAP, Bruges, Belgium, June 2012. Workshop on Statistical interpretation of Genotype-Environment data (plant breeding), Inra, Jouy en Josas, France, April 2012. French Statistical Society (SFdS), Bruxelles, Belgique, May 2012. (Talk for the Marie-Jeanne Laurent-Duhamel award for my Ph.D. dissertation).

Invited in sessions and Contributed talks

- Bernoulli-IMS 11th World Congress in Probability and Statistics 2024, Talk in session on missing values. IMS 2022, Talk in session on Modern Approaches to Missing Data. Online, June 2022, London, UK
- useR!2017 (The R user Conference), Bruxelles, Belgium, July, 2017. French Statistical Society (SFdS), Avignon, France, June, 2017. French Statistical Society (SFdS), Rennes, France, June, 2014. Agro-Stat, Rabat, Maroco, March, 2014. Rencontres R, Lyon, France, June, 2013. Computing & Statistics (ERCIM), London, UK, December, 2013 (Invited in session). Computing & Statistics (ERCIM), Oviedo, Spain, December, 2012. Computational Statistics (COMPSTAT), Cyprus, Aug., 2012. Rencontres R, Bordeaux, France, July, 2012. useR! 2011 (The R user Conference), Warwick, England, August, 2011. German Classification Society (GfKl) and International Federation of Classification Societies (IFCS), Frankfurt, Germany, August, 2011 (Invited in session). International Classification Conference, St Andrew, Scotland, July, 2011. (Invited in session). French Statistical Society (SFdS), Marseille, France, May, 2010. French Statistical Society (SFdS), Bordeaux, France, May, 2009. Agro-stat, Louvain-la-Neuve, Belgique, January, 2009. French Statistical Society (SFdS) and Statistical Society of Canada (SSC), Ottawa, Canada, May, 2008. useR! 2007 (The R user Conference), Iowa State University, Ames, Iowa, August, 2007.

Seminars

- Essec Business school, June 2025.
- Toulouse School Economics, May 2025.
- Academie of science, May 2025.
- Bernoulli Lab, March 2025.
- CAUSALab Methods series, March 2025.

- Statistics Seminar, Lund Univ., April 2024.
- NIH Biostatistics Branch, Division of Cancer Epidemiology and Genetics, National Cancer Institute), February 2024
- SESSTIM seminar Sciences Economiques et Sociales de la Santé et Traitement de l'Information Médicale, January 2024
- Seminar, Labex NUMEV, Montpellier, February 2023
- Online Causal Inference Seminar, November, 2022
- Statistics Seminar, Ensae (grande école d'ingénieur in statistics), November 2021
- Statistics Seminar, Montpellier University, November 2021
- Biostatistic and Epidémiology Seminar, Gustave Roussy, Paris, November 2020
- Statistics Seminar, Edinburgh University, November 2020
- Science des données, inter-établissement Nantes, November 2020
- DataIA, Inria, October 2020
- Van der Schaar lab Seminar, Cambridge, October 2020
- Department of Industrial Engineering, Sharif University of Technology, October 2020
- ESSEC (business school) working group on risk, Paris, June 2020
- Statistics Seminar, ETH Zurich , February 2020
- Statistics Seminar, Cambridge UK, May 2019
- Seminar, Ponts et Chaussées (grande école d'ingénieurs), May 2019
- AI Seminar, Cornell University (Operations Research), March 2019
- Rencontres statistiques lyonnaises, February, 2019
- Statistics seminar, Nice, January, 2019
- Statistics seminar, Bordeaux University, October 2018
- Statistics seminar, MaIAGE, Inrae, Jouy en Josas, March 2018
- Statistics seminar, Washington University, Seattle, February 2018
- Statistics seminar, Paris, Institut Henri Poincaré, January 2018
- Working group in Biostatistics, Department of Biostatistics and Epidemiology University of Massachusetts, Amherst, (remote) 20 July 2017. Seminar, CosmoStat, CosmoClub CEA saclay, 6 April 2017. Statistics seminar, Telecom, France, 23 March 2017. Statistics seminar, University of Economics and Business, Vienna, Austria, 17 March 2017. Statistics seminar, AgroParisTech, France, 13 June 2016. Statistics for Systems Biology seminar, Paris, France, 12 April 2016. Orsay, Statistics seminar, Paris Sud, France, 18 February 2016. INRIA Modal team, Statistics seminar, Lille, France, 14 April 2015. Toulouse School of Economics, Statistic and Econometrics seminar, France, 24 March 2015. Erasmus School of Economics, Econometrics seminar, Rotterdam, Hollande, 12 February 2015. Stanford University, Workshop in Biostatistics, Palo Alto, California, US, 15 January 2015. Malgorzata Bogdan group meeting, University of Wroclaw, Poland, 31 October 2014. Paris Descartes Map5, Statistics seminar, France, 24 October 2014. Montpellier 2 University, Statistics seminar, France, 20 October 2014. Angers University, Statistics seminar, France, 22 September 2014. Institut de mathématiques Bordeaux (IMB), Statistics seminar, France, 6 March 2014. Stanford University, Statistics seminar, Palo Alto, California, US, 23 July 2013. Susan Holmes group's meeting, Stanford University, Palo Alto, California, US, 5 June 2013. Stanford University, Workshop in Biostatistics, Palo Alto, California, US, 23 May 2013. CNAM, Statistics seminar, Paris, France, 16 January 2013. Seminar for researchers of Agrocampus and INRA specialized in milk production and crop science, Agrocampus Rennes, France, 3rd October 2011. Seminar for the psychometric's team of Leiden University, The Netherlands, 20 June 2011. Statistics seminar, IUT de Caen Département STID, France, 22 March

2011. Statistics seminar, équipe Mathématiques et Informatique Appliquées (MIA), INRA, Jouy-en-Josas, France, 8 March 2011. Seminar in statistics for social sciences, Université Paris 1, France, 25 February 2011. Statistics seminar, institut de mathématiques Bordeaux (IMB), France, 8 March 2010. Statistics seminar, institut de recherche mathématique avancée (IRMA), Strasbourg, France, 7 October 2008. Statistics seminar, institut Elie Cartan, Nancy, France, 13rd June 2008.

Seminars for private companies

- **Criteo** Tech talk, Paris, France, January 2021
- **Google Brain**, Tech talk, Paris, France, April 2019
- **Tesla Motors** data scientists seminar, Palo Alto, California, USA, August 2015
- **Adobe Systems** Corporate Headquarters, San Jose, California, USA, January 2015

Tutorial in conferences, schools - short lectures

- (2025). Tutorial at ETICS Annual Research Schools [RT UQ - GdR MASCOT-NUM], Oct 2025.
- (2025). AI+Science Summer School. University of Chicago-Paris, July 2025.
- (2025). Spring School in Statistics and Machine Learning: Oxford-Imperial-Bocconi, 1 week. April
- (2022). Western Swiss Doctoral School in Statistics and Probability. Winter school, Les Diablerets, 4h30
- (2021). AI for Health Winter School, Paris, 2 days
- (2021). Introduction to Causality with JP Vert and A Dieng, Google Brain IA, Paris, 4h
- (2020). Applied Machine Learning Days, EPFL, Switzerland, 1h30
- (2020). Zurich R courses, Switzerland, 2-days
- (2018). Data Science Summer School, École Polytechnique Paris, France, 6h
- (2018). useR!2018, Brisbane, Australia, 3h
- (2018). Ecole d'Aussois. Modélisation Mathématiques et Biodiversité, France, 4h
- (2017). Missing values for ecologists, Biometry and Evolutionary Biology Lab, Lyon, 6h. (2017). Center of Data Sciences, Saclay, 3h. (2016). useR!2016 (The R user Conference), *Massive and missing data*, Stanford, Palo Alto, 3h. (2015). useR!2015 (The R user Conference), *Handling missing values with principal components methods*, Aalborg, Denmark, 3h. (2014). Stanford University, Palo Alto, 2 sessions, (Master and Phd students in Statistics), *Dealing with missing values*, 3h. (2011). Workshop of the French Statistical Society. Ateliers de la SFdS, *Multi-table methods using the software R*. Paris, 3h, (2010). useR!2010 (The R user Conference), Gaithersburg, Maryland, USA, *Clustering and multiway methods*, 3h. (2008). useR!2008 (The R user Conference), *Exploratory data analysis*, Dortmund, Germany, 3h.

Interdisciplinary consortium - Societal projects

- Traumatix project: Since 2016, I coordinate the Traumatix project in partnership with the École Polytechnique (IPP), the CNRS, EHESS (École des Hautes Études en Sciences Sociales), Inria, the traumabase group (30 hospitals) and APHP (les hopitaux de Paris) to improve the management and care of polytrauma patients. The project is funded by ARS (Agence Regional de Santé) and by the skill sponsorship of Capgemini Invent (10 data scientists, project managers, data managers). The project is mature and we will launch end 2024 a **mobile application in the ambulances** that collects data and predicts patient's outcomes to anticipate the resources needed and improve triage.
- ICUBAM (ICU Bed Availability Monitor) project. During the first waves of Covid crisis, I coordinated a **consortium of computer scientists, statisticians and clinicians** to create an application to visualize in real time covid+ bed availability (used by 130 ICU wards in 40 départements (regions) covering more than 2, 000 ICU beds).

Software

I am deeply involved in the open source R statistical software community. I organized the useR conference (500 participants) in 2009 in Rennes and I am regularly in the program committees of useR conferences (e.g., Chair of useR!2016 in Stanford). I am also in the board of the French R committee (organization for coordinating R conferences "Les rencontres R") and I am involved in a task Force on behalf of the R Foundation with the aim of **increasing the participation of women and under-represented groups in the STEM community** (I am a founding member in 2015). We have worked for instance on the implementation of code of conducts. We organized diversity committees to award scholarships, newbies session, etc.

In Nov. 2016, I have been elected as a member of the R foundation and of the R Foundation Conference Committee.

I use R for teaching, research, development, consulting, etc. R ensures reproducible research and transfer to different domains. I develop and maintain the following libraries:

- FactoMineR dedicated to principal component methods (PCA, Correspondence Analysis for contingency tables, Multiple Correspondence Analysis for categorical data, Multiple Factor Analysis for multi-blocks data). Users are from the public sector, private sector or research institution from all around the world. **(4 500 download/day; > 5 million in total, paper cited > 7000 times)** Google users group and Youtube videos are also available.
- missMDA to perform principal component methods (PCA, MCA, MFA) with missing values and to impute continuous, categorical and mixed data. Multiple imputation is available. **(250 download/day; > 400,000 in total; paper cited > 700 times)**
- denoiseR to approximate a low-rank matrix from noisy data (Gaussian and Poisson Noise). Singular values shrinkage methods are implemented.

To foster good practice for handling missing values, I have created with some students, colleagues, R-miss-tastic **a platform for missing data to gather and create resources for users**, researchers and students who often don't have lecture on missing values: bibliography, courses, tutorials, implementations, pipelines of analysis in R and Python. We have also provided a task-view (to **organize all R packages** on a topic) on missing values and recently I've recently federated colleagues to create one on causal inference.

Visiting researcher, invited stay

- **Simon Institute Berkeley**, USA. Invited as a research fellows of the causality semester (2022: stay 2 months over 6)
- **Stanford University**, USA, Statistics department, Host: Trevor Hastie. Visiting researcher (2018: 3 weeks, 2017: 2 weeks, 2016: 2 months, 2015: 3 months, 2014: 6 months, 2013: 5 months)
- Cornell University, USA, Department of Operations Research and Information Engineering, Host: Madeleine Udell (2019: 1 week)
- Geneve University, Switzerland, Mathematics department, Host: Sylvain Sardy (2017: 2 weeks, 2015: 1 week, 2014: 1 week)
- Washington State University, USA, Statistics department, Host: Peter Hoff (2018: 1 week. Visit January 2015: 1 week)
- Rotterdam Erasmus School of Economics, Econometrics, The Netherlands, Host: Patrick Groenen (2015: 2 weeks)
- Los Alamos National Laboratory, USA, Host: Nicolas Hentgarner (2015: 1 week)
- Wroclaw University, Poland, Mathematics department, Host: Gosia Bogdan (2014: 1 month)
- Leiden University, Host: Peter Kronenberg (2011: 3 months)

Teaching

My teaching activities are diverse from the point of view of the teaching (statistics, machine learning, software, projects, etc.), the level of the students (bachelor, master degrees, PhD) and the training involved (école d'ingénieurs, statistics, agronomy, geography, health, social-sciences etc.).

At École Polytechnique I was the head of the **Master data-sciences for business** in collaboration with the **HEC** business school (60 students from heterogeneous background: 15 from École Polytechnique, 15 from HEC and 30 international ones). Hence, I was in charge of supervising teachers' recruitment, programs, students enrollment, on top of giving lecture courses, tutorials, and labs.

Here is a list of my main activities:

École Polytechnique (IPP), Saclay (lecture and labs for engineers students, students in the master of data science (M2), master of data science for business (M1)):

- Causal inference and missing values (*20h/year*), 2019-2022.
Potential outcome framework, (conditional) average treatment effect estimation, causal forests, etc.; EM algorithms, multiple imputation, etc.
- Data Analysis and Unsupervised Learning (*36h/year*), 2019-2020.
PCA, hierarchical clustering, partition methods, mixture models, PCA with missing values - matrix completion, etc.
- R for Statistics (*64h/year*), 2016-2018.
Creation of packages, notebooks, visualisation with ggplot2, interactive graphs, Shiny applications, programming statistical methods with R: ex. EM algorithms
- Machine Learning (*36h/year*), 2017-2019.
Supervised learning with empirical risk minimization, discriminant analysis, tree based methods, k-nearest neighbors, stochastic gradient descent, etc.
- The art of Regression (*18h*), 2016.
Gaussian linear regression: likelihood, least squares, ridge regression, lasso, logistic regression, etc.
- DataCamp with companies such as Capgemini, (*20h/year*), 2017-2019.
- Research projects, 2017.

EHESS (School of Advanced Studies in the Social Sciences), Paris:

- Co-creation of the data challenge for social scientists lecture (*18h*), 2021-2023.
Kaggle type of competition

Agrocampus Ouest (Grande École d'ingénieur in Agronomy), Rennes (lecture and labs for engineers students and for students in a master degree in applied statistics, M1-M2):

- Experimental design, (*24h*), 2015.
Fractional factorial design, Response Surface Methods, Optimal design
- Principal component methods ("Analyse des données") (*24h/year*), 2014-2015.
PCA, Multiple Correspondence Analysis, Correspondence Analysis, Multiple Factor Analysis, Tucker3 models (3-ways methods).
- Statistics (*64h/year*), 2007-2014.
Point estimate, estimation with intervals, tests, ANOVA, etc.
- Missing values in principal components methods, (*3h/year*), 2012-2014.

Continuing education "Formation Continue" at Polytechnique for many companies Orange, SAP, SFR, etc:
Training on Unsupervised/Supervised Learning, Visualisation, DataCamp, programming with R, etc.

Other programs: DU pharmacologie 2025, Montpellier, Internes du DES de Santé Publique 2024, Master Université Pierre et Marie Curie Statistics, (*6h*), 2018. Master Big Data Dauphine, Paris, (*6h*), 2017. Master in applied statistics for industry and social sciences, University Rennes 2. (*12h/year*), 2014. Master in fisheries, Agrocampus Ouest, Rennes. (*3h/year*), 2013-2014. Master in statistics, National Economics and Statistics Schools (ENSAI). (*12h*), 2012. Bachelor in biology, Pierre Marie Curie University Paris - Agrocampus Ouest, Roscoff. (*30h*), 2012. Master in food science, AgroParisTech, Massy, Paris. (*3h*), 2011.

Master in geography, University Rennes 2. (*18h*), 2010. School of Public Health (EHESP), (*18h*), 2010. Supervision: 6 months students internship working in companies or public sector (4 students/year 2012-2016)
Other responsibilities: Coordination of the joint Master between Polytechnique and HEC data science for business (2016-2018). Member of the department committee École Polytechnique, Center of applied mathematics department. Member of the teaching committee, Agrocampus (2012-2014). Responsible of Statistical teaching for the engineers (L3), Agrocampus. (2011-2014). Coordinator of several statistical courses.

PhD Program:

- Stanford Statistics department. Principal component methods - Multi tables - Missing values, (*24h*), Stat 300, Summer 2015.

Students - Committee

Postdoc:

- Clément Berenfeld, March 2025 -
- Francisco Andrade, Jan 2025 - . Joint Supervision with Sarah Zohar and Moreno Ursino.
- Linus Bleinstein, March 2025 - . Joint Supervision with Aurelien Bellet.
- Mathieu Even, Oct. 2024 - .
- Houssam Zenati, Dec. 2023 - Dec 2024. Joint supervision with Bertrand Thirion and Judith Abecassis. Current position: Research Fellow at the Gatsby Computational Neuroscience Unit at the University College of London.
- Herb Susmann, Sept. 2023 - 2024. Joint supervision with Antoine Chambaz. Current position: postdoc NYU Grossman School of Medicine.
- Jeffrey Naf, Feb. 2023 - Dec. 2024. Current position: Assistant Professor in Statistics and Business Analytics at the Geneva School of Economics and Management.
- Kimia Nadjahi, Nov. 2021 - Nov. 2022. Joint supervision with Claire Boyer. Current position: junior researcher CNRS.
- Judith Abecassis, Sept. 2020 - Sept. 2022. Joint supervision with Bertrand Thirion. Current position: junior researcher Inria Saclay.
- Costanza Tortu, Sept. 2020 - Sept. 2021. (grant from Polytechnique's chaire). Current position: Research fellow, Scuola Superiore Sant'Anna, Italy.
- Marine Le Morvan, June 2019 - Sept. 2021. Joint supervision with Gael Varoquaux. Current position: junior researcher Inria Saclay.
- Fabien Laporte, Sept. 2018 - Sept 2019. Joint supervision with Christophe Biernaki and Gilles Celeux.
- Pavlo Mozharovskyi (grant from Henri Lebesgue Mathematical center) Sept. 2015 - Sept. 2016. Current position: Professor, Telecom Paris.

PhD students:

- Supervision of Laura Fuentes Vincente (grant Montpellier) with Antoine Chambaz, Nov 2024 -
- Supervision of Ahmed Boughdiri (grant Inria) with Erwan Scornet, Sep 2023 -
- Supervision of Rémi Khellaf (grant Montpellier) with Erwan Scornet, Sep 2023 -
- Supervision of Charlotte Voinot with Bernard Sebastien (grant Phd thesis Cifre **Sanofi**), Apr. 2023 -
- Supervision of the medical doctor (MD) Tobias Gauss with Pierre Bouzat (MD), Feb. 2023 -
- Supervision of the MD Maxime Fosset (grant Montpellier University, MUSE) with Nicolas Molinari and Boris Jung (MD), May 2022 -
- Supervision of Pan Zhao (grant Montpellier University, MUSE) with Antoine Chambaz, Sep 2021 - Sep 2024. Current position: Postdoc Cambridge Univ.

- Supervision of Paul Roussel (grant PhD thesis Cifre with **Sanofi**) with Bernard Sebastien, Oct 2020 - Oct 2021.
- Supervision of Margaux Zaffran (grant PhD thesis Cifre with **EDF**) with Aymeric Dieuleveut, Yannig Goude, Olivier Ferran. Sept 2020 - June 2024. Winner of the Séphora Berrebi Women in Advanced Mathematics & Computer Science, **Winner of the l'Oreal Unesco Young talent prize**. Current position: Postdoc Berkeley Univ with R. Tibshirani.
- Supervision of Benedicte Colnet (grant Inria) with Gael Varoquaux and Erwan Scornet. Sept 2020 - Sept 2023. Current position: French Ministry of Health, leader of the team dedicated to drugs and medical devices pricing and regulation for the French social security's direction.
- Imke Mayer (grant EHESS) with J-P. Nadal Sept. 2019 - 2021. **Winner of Google PhD Fellowships award in Machine Learning**. Current position: Researcher at Owkin.
- Supervision of Aude Sportisse with Claire Boyer. Sept 2018 - Sept 2021. Current position: Junior Researcher, CNRS, Grenoble.
- Supervision of Nicolas Prost with E. Scornet & G. Varoquaux Sept 2018 - Sept 2019.
- Supervision of Wei Jiang (grant École Polytechnique). Sept 2017 - Sept 2020.
- Supervision of Genevieve Robin (grant École Polytechnique) with Eric Moulines, Oct. 2016 - Oct 2019. **Winner of the L'Oréal-UNESCO Young talent prize**. Current position, Researcher at Owkin.
- Supervision of Vincent Audigier with François Husson, Sept 2013 - Sept 2015. Current position: Assistant professor in CNAM, Paris.

Master students supervision (internship):

- Christophe Muller, Oct 2024-March 2025, Laura Fuentes Vincente, April-Oct 2024, Pauline Bian Sep. 2023-Feb. 2023, Hélène Bonneau-Chloup Sep. 2023-Feb. 2023. Nour Oueghlani May 2023-September 2023. Rémi Khellaf, March 2023- August 2023. Manuel Pichon, April 2019 - Aug. 2019. Teresa Alves De Sousa, April 2019 - Aug. 2019. Antoine Ogier, April 2018 - Sept. 2018. Aravindh Chembu, May 2018. Nicolas Prost, April 2018 - Sept. 2018. Aude Sportisse, April 2018 -Sept. 2018. Wei Jiang, April 2017 - Sept. 2017. Tanu July 2017 - Sept. 2017. C. Laroche and B. Jolivet, June-Aug. 2016. Simon Grah, Avril - Aug. 2016. V. Audigier, March - Aug. 2012. K. A Ibrahim, March - Aug. 2011.

Member of PhD/HDR committees:

- PhD defense committee of Antoine Pitoy under the supervision of Solène Desm'ee and Hoai Thu Thai (SANOFI), March 2025.
- PhD defense committee of Hava Chaptoukaev under the supervision of Maria A. Zuluaga, March 2025.
- CSI Eugène Berta, under the supervision of Francis Bach and Michael Jordan. 2024 -
- PhD defense committee of Alexis Ayme under the supervision of Erwan Scornet, Claire Boyer and Aymeric Dieuleveut. Oct 2024.
- PhD defense committee of Noemie Simon Tillaux, under the supervision of Florence tubach. Nov 2024.
- HDR defense committee of Emilie Devijver. Nov 2024.
- PhD defense committee Floriane Jochum, under the supervision of Anne Sophie Hamy. December 2024.
- PhD defense committee (**rapporteur**) of Sophia Yazzourh under the supervision of Nicolas Savy and Philippe Saint Pierre.
- Habilitation of Boris Hejblum, May 2024
- CSI Rémy Chapelle, supervised by Bruno Falissard, Mohammed Sedki and Nicolas Vayatis. 2024 -
- PhD defense committee of Armand Lacombe under the supervision of Michelle Sebag. Jan 2024.
- CSI of Guillaume LeMailloux, supervised by Jean-Michel Marin. 2023 -
- PhD defense committee of Patrick Saux under the supervision of Oldaric Maillard, December 2023.
- CSI of Jean Baptiste Baitairian supervised by Agathe Guilloux. 2023-
- PhD defense committee of Giulia Marchello under the supervision of Charles Bouyveron and Marco Cornelli. December 2023.
- Reviewer (**rapporteur**) of the PhD thesis of François Grolleau under the supervision of Raphael Porcher. November 2023.
- Reviewer (**rapporteur**) of the PhD thesis of Lucas Etourneau under the supervision of Nelle Varoquaux and Thomas Burger. December 2023.
- Comité de suivi individuel (CSI) of Etienne Peyrot under the supervision of François Petit.
- Comité de suivi individuel (CSI) of Louis Vincent, under the supervision of by S. Allasonière, 2022 -.

- Reviewer (**rapporteur**) of the PhD thesis of Elise Dumas, under the supervision of F. Rey and C.A. Azencott. 2022.
- CSI of Renan Bernard supervised by C. Friguet and N. Courty, 2022 - 2023.
- PhD defense committee of Arthur Chatton under the supervision of Y. Fourchet. 2021.
- PhD defense committee of Tanguy Dubost (medical doctor, intensive care anesthetist). 2021.
- PhD defense committee of Menyssa Cheriffa under the supervision of S. Chevret, M. Resche-Rigon and R. Pirracchio. 2021.
- PhD defense committee of Patricia Dos Santos under the supervision of by J.P. Laurent. 2021.
- PhD defense committee of Gabriel Frisch under the supervision of J.B. Leger and Y. Granvallet. 2021.
- Reviewer (**rapporteur**) of the PhD of Lilith Fauchaux under the supervision of S. Chevret and V. Soumelis. 2021.
- PhD defense committee of Louis Capitaine under the supervision of R. Genuer and R. Thiebaut. 2020.
- Reviewer (**rapporteur**) of the DTU PhD-student Niels Bruun Ipsen under the supervision of B. Kjaer Ersboll and L. KaiHansen. 2020.
- Reviewer (**rapporteur**) of the PhD thesis of Lola Etievant under the supervision of V. Viallon. 2020.
- PhD defense committee of Arnaud Gloaguen under the supervision of A. Tenenhaus and V. Frouin.
- PhD defense committee of Marine Zulian under the supervision of M. Lavielle 2020.
- PhD defense committee of Maximilien Baudry under the supervision of C. Robert. 2020.
- PhD defense committee of Diyan Kalainatha under the supervision of I. Guyon. 2019.
- PhD defense committee of Manon Ansart under the supervision of S. Durrleman. 2019.
- Reviewer (**rapporteur**) of the PhD thesis of Pascaline Descloux under the supervision of S. Sardy. 2019.
- Reviewer (**rapporteur**) of the PhD thesis of Beyrem Khalfouli under the supervision of J.P. Vert. 2019.
- Reviewer (**rapporteur**) of the PhD thesis of Timothée Tabouy under the supervision of J. Chiquet and P. Parbillon. 2019.
- Reviewer (**rapporteur**) of the PhD thesis of Alyssa Imbert under the supervision of N. Villa-Vialaneix. 2018.
- PhD defense committee of Aurore Archimbaud under the supervision of A. Ruiz Gazen. 2018.
- PhD defense committee of Gautier Marti under the supervision of F. Nielsen. 2017.
- PhD defense committee of Pierre-Alexandre Mattei under the supervision of C. Bouyveron. 2017.
- Reviewer (**rapporteur**) of the PhD thesis of Belchin Kostov under the supervision of M. Becue. Spain, 2015.
- PhD defense committee of Anastasios Bellas under the supervision of C. Bouyveron and M. Cottrell. Paris 1, 2014.

Scientific responsibilities

Head of conference organization

- Organization of the online Workshop on *leveraging observational data with machine learning* with the start-up Owkin and the Prairie institute. June 2021. <https://files.inria.fr/leveraging2021/>
- Organization of a online Workshop in International Conference on Machine Learning 2020 (ICML2020), *Learning with missing values*, with G. Varoquaux, P.A. Mattei and J. Frelsen. July 2020. <https://artemiss-workshop.github.io/>
- President of the 1st conference on *missing values and matrix completion MissData*, Rennes, France, June 2015. <http://missdata2015.agrocampus-ouest.fr/>
- President of the international CARME (Correspondence Analysis conference), Agrocampus, Rennes, February 2011. (150 people). <http://carme2011.agrocampus-ouest.fr/>
- Vice-president of the international R conference useR!2009 conference, Agrocampus, Rennes, July 2009 (500 participants). <http://www.r-project.org/conferences/useR-2009/>

Member of conferences scientific committee

- Steering committee Eurocim,
- IMS International Conference on Data Science, Nice, France, December 2024.
- Methodological and Computational Advances in Survival Analysis Workshop, Nov 2024.
- useR!2024, Salzburg, July 2024.
- IMS International Conference on Statistical Data Science, Lisbonne, Portugal, December 2023.

- Journée de la société Française de Statistique, Bruxelles, Belgium 2023.
- Statlearn, Montpellier, France, April 2023.
- IMS International Conference on Data Science, Florence, Italy, December 2022.
- Mathematical Methods of Modern Statistics 3. Luminy, France, June 2022.
- Mathematical Methods of Modern Statistics 2. Luminy, Marseille, France. June 2020.
- useR!2017, Bruxelles, Belgium, June 2017.
- Les rencontres R, Anglet, France, June 2017.
- Chair of useR!2016, Stanford, CA, USA, July 2016.
- IWSM 2016, International Workshop on Statistical Modelling, Rennes, France, 2016. useR!2015 conference, Aalborg, Denmark, July 2015. MissData, Rennes, France, June 2015. ICCS 2015, Matrix Computational Methods for Modern Data Reykjavik, Iceland, June 2015. French statistical society meeting (SFdS), Lille, June 2015. International SensoMetrics conference, Chicago, United States, July 2014. Second "Rencontres R", Lyon, June 2013, International Sensometrics, Agrocampus, Rennes, July 2012. French Surveys, ENSAI, Rennes, November 2012.

Editorial - reviewing activities

- 2024 - . **Associate editor** of Foundations and Trends in Machine Learning
- 2021. **Area Chair** ICLR
- 2020. **Area Chair** Neurips
- 2017 - 2020. **Associate editor** of Journal of Computational and Graphical Statistics
- 2010 - 2017. **Associate editor** of Journal of Statistical Software
- Invited editor: PNAS, Statistical Science
- Referee for: Journal of the American Statistical Association, Journal of the Royal Statistical Society (C), Journal of Classification, Biometrics, JCGS, JMLR, BMC Bioinformatics, Journal of Statistical Software, Biometrics, Theoretical and Applied Genetics, Environmetrics, Statistical Analysis and Data Mining, Computational Statistic and Data Analysis, Modulad, Advances in Data Analysis and Classification, Statistics and Computing, Npj digital medicine, Statistics in Medicine, R journal, Journal of Statistical Planning and Inference, etc.
- **Evaluation of research projects** for funding agency or promotions for tenured Professor positions. ERC. Washignton University; John Hopkins University; ANRT (PhD Cifre); The FWO, Belgium ; the Israel Science Foundation (ISF), "Evaluation of the professorship ad personam", University of Zurich, Technion, University of Washington,

Other responsibilities: hiring committees, grants jury, etc.

- Scientific council Cluster IA PostGenAI@Paris Sorbonne Université -
- Committee on Nomination for the Institute of Mathematical Statistics (IMS) to select one candidate for IMS President. 2024 -
- Member of the committee to integrate an Inria Researcher.
- Member of the Searching Committee for ENDOMIC, Inria. 2024.
- Member of the committee Chaire de Professeur Junior, CBIO "Artificial Intelligence for Digital Health". Sep 2024.
- Member of the committee Chaire de Professeur Junior, ENS Lyon. June 2024.
- Member of the committee Chaire de Professeur Junior, Statistics and Public Health - Inria Rennes. May 2024.
- Advisory Board of HORIZON EUROPE (HORIZON-HLTH-2022-TOOL-11-02), more-europa.
- Comité scientifique et éthique du CHU de Montpellier. Dec 2023 -

- Member of the committee to hire two permanent researchers "Chargé de Recherche" (Inrae), Apprentissage statistique pour les sciences du vivant et de l'environnement. 2022.
- Member of the committee to hire an Associate Professor Toulouse 2. 2022.
- Member of the committee to hire the director of the Bio-informatic center of Ecole Nationale Supérieure des Mines de Paris. 2021.
- Member of "Comité du suivi doctoral" Inria Sophia, to allocate PhD grants extensions, etc. 2022.
- Member of the board for Region Occitanie to allocate PhD/postdoc grants in AI for health. 2022.
- Member of the committee to allocate PhD grants for a call Inria-Inserm. 2022.
- Member of the committee to hire an Associate Professor, statistic department, Polytechnique 2017. , Member of the committee to hire an Associate Professor, Statistics department Dauphine. 2017., Member of the committee to hire an Associate Professor, Statistics department, CNAM. 2017. Member of the committee to hire an Associate Professor, Statistics department, Paris 6 University. 2017. Member of the committee to hire an Associate Professor in the Probability and Statistics Department of University of Lille 1. 2015. Member of the committee to hire an Associate Professor in the statistic department of AgroParisTech. 2014.

Other responsibilities: Organisation of seminars, board of societies, etc.

- Organisation of the seminar of the missing data and causality group at Inria (2018 -)
- Co-responsible of the statistics seminar Polytechnique, ENSAE. (2018 - 2020).
- Board Member of the French Statistical Society (Elu au conseil SfdS) in charge of the communication. (2015 - 2018)
- Co-responsible of the Rennes statistics seminar (IRMAR). (2012-2015). Correspondent for the statistical semester 2016 of the Labex Centre de Mathématiques Henri Lebesgue

Outreach, interviews

- 2025, Vivatech, round table Healthcare for All? Balancing Innovation and Equity Using AI. video.
- 2025. Presentation de l'équipe Premedical, Mairie de Montpellier. Lancement de de l'association IA Montpellier Méditerranée.
- 2024. Table ronde sur l'IA Infravia.
- 2022. Femmes de Tech de l'Académie des technologies.
- 2022. Women in Machine Learning profile highlight invitation. Linkedin, tweeter
- 2022. Interview for Montpellier University.
- 2021. Take the twitter account for a week of the the American Statistical Association Committee on Women in Statistics.
- 2020. Interviews for the ICUBAM project (Inria), Polytechnique Insight.
- 2019. Video for the project TrauMatrix. Articles, media cover in in les echos, usine digitale, le cardiologue, pharमारadio
- 2019. Interview in authority magazine Women Leading The AI Industry
- 2018. Table ronde, France is IA conference. 2018: Talk at Women in Machine Learning meetup, Paris. 2018. Blog posts: <https://www.r-bloggers.com/multiple-imputation-for-continuous-and-categorical-data/> Blog posts: multivariate studies of the R community 2017. Table ronde, France is IA. 2017, Belgium. Presentation of the diversity initiative in the R community. 2017, Belgium. Animation of the Newbies session at userR! to present the R community to beginners. 2017, Paris. R ladies meetup. 2017, Polytechnique. Participation "Filles et maths : une équation lumineuse". 2014. ENS, Rennes. Participation mathC2+ pour Animath (Association pour l'animation mathématique). Présentation du métier de statisticien pour des lycéens. 2014, INSA, Rennes. Participation "Filles et maths: une équation lumineuse".

Consultancy/contract with companies

- Nov 2024 - . Collaboration with **Theremia**
- March 2023 - . Collaboration with **Elixir Health**
- April 2023 - Sept 2023. Collaboration with **Quinten Health**.
- Dec. 2020 - Nov. 2022. Member of the Chaire SANOFI-Polytechnique *Numerical Innovation and Data Science for Healthcare*.
- Sept 2023 - PhD thesis Cifre with SANOFI on causal inference.
- Oct. 2020 - Oct. 2021. PhD thesis Cifre with SANOFI on causal inference.
- Oct. 2020 - PhD thesis Cifre with EDF on price forecast.
- 2019 - 2020. Head of the Chaire Natixis Business analytics and future banking at Polytechnique.
- 2017. Committee for the challenge hackaton *Speed data scientist*, Société Générale - animath. 2014 - 2015. Consultant for Kepler the start-up easyKost. 2014. Consultant for DANONE research, *Assessment of fluid intake across countries around the world: methodological and public health implications*, Paris. 2013 - 2014. Consultant for L'OREAL Paris, *Clustering women of south Africa based on dermatology data, perception data and chemometrics data*. 2012. *Analysis of consumers*, (3h), CTIFL (interprofessional center for fruits and vegetables). 2012. Analysis of sensory data, presentation of the software SensoMineR to analyse sensory data. (12h), SICAVAC (interprofessional agronomic consulting in viticulture and oenology).