Geneviève Robin | PhD

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Statistics, Machine learning, Applications in healthcare

Professional experience

Chargée de Recherche CNRS — **Paris**
CNRS, MAP5, Université Paris Cité, France — *2025 -*

Exploratory Research Program Director — **Paris**
Owkin Inc, France — *2022 - 2025*
Scientific supervision and management of 4 research projects:
- High-dimensional statistics for Spatial Transcriptomics
- Generalizable foundation models for histopathology
- Transfer learning for preclinical data models
- Multimodal prediction models for healthcare applications

Chargée de Recherche CNRS — **Évry-Courcouronnes**
CNRS, Université d'Évry Val d'Essonne, France — *2020 - 2022*

Part-time Assistant Professor — **Palaiseau**
École Polytechnique, France — *2021 - 2022*

Post-doctoral Researcher — **Marne la Vallée**
INRIA, École des Ponts ParisTech, France — *2019 - 2020*

Visiting Student Researcher — **Stanford, CA**
Stanford University, États-Unis — *2018*

Teaching experience

Université d'Évry Val d'Esonne — **Évry**
Statistical learning (M1), Data analysis with missing values (M2) — *2020 - 2022*

École Polytechnique — **Palaiseau**
Statistics in Action, Machine learning, Data Challenge, Hackathon — *2020 - 2022*

Université Mohamed VI Polytechnique — **Ben Guerir, Morocco**
Regression, Supervised learning, Statistics, Sampling — *2019 - 2021*

ESSEC Business School — **Cergy**
Statistics (Lectures, TD and TP at L3 level) — *2019 - 2020*

Master Data Science for Business (X - HEC) — **Palaiseau**
Machine learning, Statistics, Statistics with R, Introduction to R — *2017 - 2019*

Education

PhD candidate — **Palaiseau**
École Polytechnique, Supervisors: J. Josse, É. Moulines — *2016 - 2019*
Jury: F. Bach (president), J. Bigot (reviewer), T. Hastie (reviewer), G. Biau, O. Klopp, K. Lounici, S. Robin

ENS de Cachan — **France**
MSc. Mathematics, Vision, Learning (highest honors) — *2015 - 2016*

École Polytechnique — **Palaiseau**
Diplôme d'Ingénieur, France — *2012 - 2015*

Publications

Distilling foundation models for robust and efficient models in digital pathology — *2025*
MICCAI 2025
A. Filiot, N. Dop, O. Tchita, A. Riou, R. Dubois, T. Peeters, D. Valter, M. Scalbert, C. Saillard, G. Robin, A. Olivier

Robust sensitivity control in digital pathology via tile score distribution matching
MICCAI 2025 *2025*
A. Pignet, J. Klein, G. Robin, A. Olivier

Optimizing the diffusion coefficient of overdamped Langevin dynamics
submitted *2024*
T. Lelièvre, G.A. Pavliotis, G. Robin, R. Santet, G Stoltz

A Statistical Learning Take on the Concordance Index for Survival Analysis
International Conference on Artificial Intelligence and Statistics *2023*
K. Elgui, A. Nowak, G. Robin

Generative methods for sampling transition paths in molecular dynamics
ESAIM: Proceedings and Surveys 73 *2023*
T. Lelièvre, G. Robin, I. Sekkat, G. Stoltz, G. Cardoso

Profiling the response to lumacaftor-ivacaftor in children with cystic between fibrosis
Pediatric Pulmonology *2022*
M. Cornet, G. Robin, F. Ciciriello, T. Bihouee, C. Marguet, V. Roy, M. Lebourgeois, F. Chedevergne, A.-S. Bonnel, M. Kelly, P. Reix, V. Lucidi, V. Stoven, I. Sermet-Gaudelus

A Patient-Specific Single Equivalent Dipole Model
Computing in Cardiology *2022*
G. Cardoso, G. Robin, A. Arrieula, M. Potse, M. Haïssaguerre, E. Moulines, R. Dubois

Inference of Mulstiscale Gaussian Graphical Model
Computo *2022*
D. E. Sanou, C. Ambroise, G. Robin

Federated Expectation-Maximization with variance reduction and heterogeneity mitigation
NeurIPS 2021 *2021*
A. Dieuleveut, G. Fort, É. Moulines, G. Robin

Outliers detection in networks with missing links
Computational Statistics and Data Analysis *2021*
S. Gaucher, O. Klopp, G. Robin

Imputation of large-scale monitoring count data via penalized estimation
Methods in Ecology and Evolution *2020*
M. Dakki, G. Robin, M. Suet, A. Qninba, M. A El Agbani, A. Ouassou, R. El Hamoumi, H. Azafzaf, S. Rebah, C. Feltrup-Azafzaf, N. Hamouda, W. AL Ibrahim, H. H Asran, A. A Elhady, H. Ibrahim, K. Etayeb, E. Bouras, A. Saied, A. Glidan, B. M Habib, M. S Sayoud, N. Bendjedda, L. Dami, C. Deschamps, E. Gaget, J.-Y. Mondain-Monval, P. Defos du Rau

Imputation of mixed data with multilevel SVD
Journal of Computational and Graphical Statistics *2019*
F. Husson, J. Josse, B. Narasimhan, G. Robin

Main effects and interactions in mixed and incomplete data frames
Journal of the American Statistical Association *2019*
G. Robin, O. Klopp, J. Josse, É. Moulines, R. Tibshirani

Low-rank model with covariates for count data analysis
Journal of Multivariate Analysis *2019*
G. Robin, J. Josse, É. Moulines, S. Sardy

Low-rank interaction and sparse additive effects model for large data frames
NeurIPS 2018 *2018*
G. Robin, H.-T. Wai, J. Josse, O. Klopp, É. Moulines

Incomplete graphical model inference via latent tree aggregation
Statistical Modelling *2018*
G. Robin, C. Ambroise, S. Robin

Talks in conferences

4+ Virtual conferences
NeurIPS 2021, Mathematical Aspects of Materials Science, CMStatistics, IMS One World Symposium *2020-2021*

51èmes Journées de Statistique **Nancy**
Université de Lorraine *2019*

Jerusalem Joint Statistical Event **Jerusalem**
Best student paper award *2018*

Advances in Neural Information Processing Systems 31 (NeurIPS 2018) — **Montréal**
Spotlight presentation, student award — *2018*

University of Helsinki — **Helsinki**
European Meeting of Statisticians — *2017*

New Challenges in Applied Mathematics — **Tehran**
Sharif University — *2017*

Statistical Methods for Post-Genomic Data — **London**
Imperial College London — *2017*

20+ invited talks in seminars
Stanford University, Université de Bordeaux, IACM Heraklion, Sorbonne Université, ENS de Lyon, etc. — *2017-present*

Awards

Fondation L'Oréal
Prix Jeunes Talents France L'Oréal-UNESCO Pour les Femmes et la Science — *2019*

France-Stanford Center for Interdisciplinary Studies
Visiting Student Researcher Fellowship — *2017-2018*

Software development

R package: `gsbm`: Outliers detection in networks with missing links
R package: `lori`: Imputation of count data using side information
R package: `mimi`: Estimation of main effects and interactions in mixed and incomplete data
Programming: R, Python, Julia, Matlab, C++

Languages

Languages: French (native), English (fluent), Arabic (advanced), German (intermediate)

Associative commitment

Solidarités Saint Bernard — **Paris**
French lessons for refugees, France — *2018-2019*

Proxité — **Paris**
Scientific tutoring for higher education students newly arrived in France, France — *2017-2018*

Afev — **Paris**
Animations for children and teenagers in asylum seeker centers, France — *2015-2016*

Fondation Apprentis d'Auteuil — **La Loupe**
Tutoring and animation for school-dropout teenagers , France — *2012-2013*