

Edmond Sanou

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PhD student in Applied Mathematics

Education

- **Université Paris-Saclay** France
PhD in Mathematics Applied to Life Sciences 2019 - 2022
The goal of my research is to develop an approach for integrating hybrid data through mixed graphical models. The model will help better understand how oaks and poplars adapt to climate change at the gene level.
- **Ecole Nationale de la Statistique et de l'Analyse de l'Information (ENSAI)** France
MSc Biostatistics 2016 - 2019
- **Université Nazi Boni** Burkina Faso
Bachelor's degree in Statistics-Computer Science 2013 - 2016

Work Experience

- **Radioprotection and Nuclear Safety Institute** France
(April - September) 2019
 - Characterization of the inter-individual variation of the gene response to irradiation
- **Genetic project** France
(2 months) 2019
 - Discriminated immune cell types through their genetic expression
 - Visualized data through UMAP and PCA
 - Evaluated the prediction performance of sPLS-DA, Lasso and Elastic-net
- **Omics data analysis project** France
(2 months) 2018
 - Compared the omics data of Alzheimer's patients and healthy controls with non-adjusted and adjusted methods
 - Studied the top SNPs identified
- **Radioprotection and Nuclear Safety Institute** France
(3 months) 2018
 - Modeled temporal kinetics of transcriptomic and proteomic data for the study of the endothelial cells response to irradiation with GAM model
 - Clustered the kinetics curves with PAM algorithm
- **Second year statistics project** France
(5 months) 2018
 - Clustered in subgroups patients with breast cancer through RNA sequencing, proteomic and mutation data (TCGA) with K-means and Hierarchical Clustering
 - Validated clusters by bootstrap

- **Statistician intern at Centre Muraz** (Health research center)
(4 months)

Burkina Faso
2016

- Collected geographical data on some locations
- Built a database
- Achieved a two stage sampling plan

Published paper: SOMDA et al. 2019, Developing an area-based sampling system in the urban district of Bobo Dioulasso, Burkina Faso.

Main Skills

- *Statistics* : Gaussian graphical modeling, Convex Optimization, Kernel method, Regularization, Omics data analysis, Clustering, Linear and non-linear regression, Mixed models, Clinical tests, Survival Analysis, Sampling, Meta-analysis
- *Computer Science* : R , C++, Python, SAS, WinBUGS, STATA, Microsoft Office,
- *Language* : French (native language), English (working proficiency)

Miscellaneous

Running, Chess