

# Raphaël Jauslin

Switzerland | [jauslin.raphael@gmail.com](mailto:jauslin.raphael@gmail.com) | +41 79 706 41 74 | [rjauslin.github.io](https://rjauslin.github.io)

## SUMMARY

Statistician, programmer, and mathematician with expertise in programming and in survey statistics methodology. Currently working as a methodological statistics specialist at the Swiss Federal Statistical Office. Experienced in implementing statistical methods and programs for data analysis and visualization using R, SAS, and Python, and optimizing code with C++ to improve efficiency and computational cost. Ph.D. research focused on enhancing statistical methods for finite populations.

## WORK EXPERIENCE

### **Swiss Federal Statistical Office (SFSO), Neuchâtel, Switzerland (March 2023 - Current)**

#### **Specialist in methodological statistics:**

- Improving the methodological aspect of several surveys conducted by the SFSO.
- Writing methodological reports to explain theoretical and programming subtleties.
- Delivered in-house courses on probabilities and descriptive statistics to SFSO employees.

### **Institute of Statistics, University of Neuchâtel, (February 2019 – March 2023)**

#### **Researcher and Ph.D. candidate:**

- Conducted research on spatial statistics in context of finite populations.
- Implementing algorithms in C++ and R to make the methods available to everyone and as supplementary material for publications.

### **Laboratory of Soil Biodiversity, University of Neuchâtel, (September 2018 – January 2019)**

#### **Statistician:**

- Developed bioinformatic tools (C++ and Python) to extract and clean datasets.
- Statistical analysis and data visualization on Global distribution modelling of soil protist.

### **Philip Morris International, Neuchâtel, Switzerland (February 2017 - August 2017)**

#### **Statistician in internship:**

- Completed an internship as a statistician in the context of preclinical studies.
- Programmed software tools to calibrate bioassays such as protein detection (ELISA, AlphaLISA, Luminex).

## SKILLS

### **Programming**

- Maintainer of several R packages available on CRAN
- Encapsulation of C++ code using RcppArmadillo and Rcpp to decrease computational cost of several functions.
- Python, SAS, Matlab, Github
- MS office
- VS code

### **Data management and visualization**

- LaTeX, writing scientific project using knitr and markdown.
- ggplot2, shiny dashboard.

## LANGUAGES

- French (Native)
- English (Fluent)
- German (Basic)

## EDUCATION

**Doctorat ès Sciences (2019-2023)**, University of Neuchâtel, Institute of Statistics, Switzerland

Title: Spatially balanced sampling, stratification and statistical matching

Doi: [10.35662/unine-thesis-3020](https://doi.org/10.35662/unine-thesis-3020)

**Master of Science in Applied mathematics (2015-2018)**, EPFL, Switzerland

**Bachelor of Science in mathematics (2011-2015)**, EPFL, Switzerland

## SELECTED PUBLICATIONS

- Jauslin, R., Panahbehagh, B. & Tillé, Y., (2022), Sequential Spatially Balanced Sampling, *Environmetrics*, 33(8), e2776.  
[doi:10.1002/env.2776](https://doi.org/10.1002/env.2776)
- Jauslin, R. & Tillé, Y., (2023), An Efficient Approach for Statistical Matching of Survey Data Through Calibration, Optimal Transport and Balanced Sampling, *Journal of Statistical Planning and Inference*, 225, 121–131.  
[doi:10.1016/j.jspi.2022.12.003](https://doi.org/10.1016/j.jspi.2022.12.003)
- Jauslin, R., Eustache, E. & Tillé, Y., (2021), Enhanced cube implementation for highly stratified population, *Japanese Journal of Statistics and Data Science*, 4, 783–795.  
[doi:10.1007/s42081-021-00134-y](https://doi.org/10.1007/s42081-021-00134-y)
- Jauslin, R & Tillé, Y., (2020), Spatial Spread Sampling Using Weakly Associated Vectors, *Journal of Agricultural, Biological and Environmental Statistics*, 25(3), 431–451.  
[doi:10.1007/s13253-020-00407-1](https://doi.org/10.1007/s13253-020-00407-1)
- Bruni, E. P., Rusconi, O., Broennimann, O., Adde, A., Jauslin, R., Krashevskaya, V., Kosakyan, A., Armynot du Châtelet, E., Alcino, J. P. B., Beyens, L., Blandenier, Q., Bobrov, A., Burdman, L., Duckert, C., Fernandez, L. D., Gomes e Souza, M. B., Heger, T. J., Koenig, I., Lahr, D. J. G. ... Mitchell, E. A. D. (2024). Global distribution modelling of a conspicuous Gondwanian soil protist reveals latitudinal dispersal limitation and range contraction in response to climate warming. *Diversity and Distributions*, 30, e13779.  
[doi:10.1111/ddi.13779](https://doi.org/10.1111/ddi.13779)
- Eustache, E., Jauslin, R. & Tillé, Y., (2022), Spatiotemporal sampling with spatial spreading and rotation of units in time, *Spatial Statistics*, 47.  
[doi:10.1016/j.spasta.2022.100613](https://doi.org/10.1016/j.spasta.2022.100613)

## R PACKAGES

- Jauslin, R. and Tillé, Y. (2025). WaveSampling: Weakly Associated Vectors (WAVE) Sampling. R Foundation for Statistical Computing, Vienna, Austria. R package version 0.1.4.
- Jauslin, R., Eustache, E., Panahbehagh, B., and Tillé, Y. (2025). StratifiedSampling: Different Methods for Stratified Sampling. R Foundation for Statistical Computing, Vienna, Austria. R package version 0.4.2.