# Job announcement for a 18-months postdoctoral position
# Co-clustering of Massive Longitudinal Data

July 19, 2019

## Project

Longitudinal data that are collected over time are ubiquitous in sociological, behavioral, and medical studies. Longitudinal data are different from functional data and from time series in multiple aspects including non-regular and infrequent observation intervals, measurement error susceptibility, and presence of missingness due to staggered study entry or dropout. Modern technologies such as smartphones, wearable bands, and smart watches, provide convenient options for collecting such longitudinal data on massive number of individuals as well as massive number of variables over time. In this setting, efficient summaries of information over both dimensions, individuals and variables, are of particular interest to researchers.

This project aims to address the problem of co-clustering – a simultaneous clustering of the individuals and the variables – to summarize complex information contained in such longitudinal data. While co-clustering methods have recently been developed for functional and textual data, extending these methods to longitudinal settings presents particular methodological and practical challenges. Our ongoing work in this direction includes extending co-clustering models to incorporate random effects. The successful candidate will work on further model development, specific for longitudinal data, as well as on derivation and implementation of estimation algorithms, design of numerical experiments and simulation studies, and applications to real data.

## Candidate Profile

The ideal candidate will have a strong academic backgrounds in computational and applied statistics, and a desire to work on challenging problems in statistical methodology for the social sciences. Experience in model-based clustering is beneficial but not a necessary condition.

- Duration: 18 months
- Expected start date: 1st October 2019.
- Salary: gross salary per month 3000 EUR (i.e. approx. 2400 EUR after tax)
- Hosting laboratory: Maasai, INRIA joint-team with Université Côte d'Azur
- Involved teams:
  - Maasai, INRIA joint-team with Université Côte d'Azur
  - Laboratoire J.A. Dieudonné, UMR CNRS 7351, Université Côte d'Azur
  - Dpt. of Statistics, University of Washington, Seattle, USA
- Supervisors:
  - Pr. Charles Bouveyron, Université Côte d'Azur & Chair Inria in Data Science
  - Pr. Elena Erosheva, University of Washington & UCA international chair in Data Science

## Work environment

The candidate will have an office located in the Maasai, INRIA joint-team with Université Côte d'Azur at Sophia-Antipolis, Nice, France. INRIA and UCA campuses offer a vibrant and stimulating work environment. This project is aligned with the objective of the UCA Jedi program, in particular with the Data Science strategic program, and is a funding element of the new UCA/Inria joint team Maasai, which is headed by Charles Bouveyron and which was the result of the UCA Jedi initiative. This project will have strong ties and a possibility of a short visit to the department of Statistics of the University of Washington, Seattle, USA, through collaboration with Elena Erosheva, UCA International Chair in Data Science and Professor of Statistics and Social Work at the University of Washington, Seattle. This project is also part of the Institut 3IA Côte d'Azur that has been recently funded by the French AI initiative.

## How to apply

Please email you application to both Charles Bouveyron, `charles.bouveyron@univ-cotedazur.fr`, and Elena Erosheva, `erosheva@uw.edu`, by 1st October 2019, including the words "UCA-post-doc" in the e-mail subject line. Women, persons with disabilities, and underrepresented minorities are especially encouraged to apply.

The application should contain:

1. a CV including a publication list
2. a letter describing motivation, academic strengths, and related experience to the position
3. a writing sample (publication or thesis in pdf format)