

# Corentin Ségalas

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Born on the 9th March 1993

French Nationality

Professional page

## RESEARCH EXPERIENCE

### **Research Fellow in Statistics** Feb 2023 – Now

*Université de Bordeaux*

- Area of research: longitudinal data, functional data, random survival forest, survival outcome prediction, longitudinal outcome prediction.

### **Research Fellow in Statistics** Jan 2022 – Nov 2022

*Université Paris-Cité*

- Area of research: causal inference, observational data, personalized medicine, machine learning, individualized treatment regime, dynamic treatment regime.

### **Research Fellow in Medical Statistics** Jan 2020 – Dec 2021

*London School of Hygiene and Tropical Medicine*

- Area of research: pharmaco-epidemiology, high dimension, machine learning, causal inference, confounding, propensity score, missing data, electronic health record data.

### **PhD in Biostatistics** Oct 2016 – Dec 2019

*Université de Bordeaux & Bordeaux Population Health Research Center*

- Area of research: dementia, neuro-degenerative diseases, longitudinal data, non-linear mixed models, changepoint models, hypothesis test, observational data.

## EDUCATION

### **MSc – Statistics** Sept 2014 – Jun 2016

*Université de Bordeaux*

### **BSc – Mathematics** Sept 2011 – Jun 2014

*Université de Bordeaux*

## ORAL COMMUNICATIONS

### **Annual French Biometric Societies Conference**, Toulouse Nov 2023

*Robustness to missing data: a comparison between linear mixed models and functional principal component analysis*

### **Bordeaux Public Health Data Science Network Conference**, Bordeaux July 2023

*Longitudinal data analysis with dropout: mixed models or functional principal component analysis?*

### **Annual French Statistical Society Conference**, Brussels July 2023

*Propensity score matching after multiple imputation when a confounder has missing data*

**Annual ISCB Conference**, Lyon July 2021

*Multiple imputation in propensity score matching: obtaining correct confidence intervals*

**Annual French Biometric Society Young Researcher Conference**, Paris Oct 2020

*Inference for random changepoint models: application to the pre-dementia cognitive decline*, Daniel Schwartz Award talk

**Annual IWSM Conference**, Bilbao July 2020

*A semi-latent class model for estimating the time of differentiation of cognitive decline between cases and controls*

**Annual ISCB Conference**, Leuven July 2019

*Inferential methods for random changepoint models*

**IBS Channel Network Conference**, Rothamstead Research July 2019

*Curvilinear bivariate mixed model with random changepoint to compare times of change between cognitive markers in Alzheimer's disease*

**IBS Conference**, Barcelona July 2018

*Testing the Existence of a Random Changepoint in a Mixed Model*

**Annual French Statistical Society Conference**, Paris May 2018

*Testing the Existence of a Random Changepoint in a Mixed Model*

**Annual French Biometric Societies Conference**, Bordeaux Oct 2017

*Testing the Existence of a Random Changepoint in a Mixed Model*

## SCIENTIFIC PUBLICATIONS

### PREPRINTS

- **Ségalas C**, Helmer C, Genuer R, Proust-Lima C. [Functional principal component analysis as an alternative to mixed-effect models for describing sparse repeated measures in presence of missing data](#). *arXiv preprint*.
- Bouvier F, Peyrot E, Balendran A, **Ségalas C**, Roberts I, Petit F, Porcher R. [Do machine learning methods lead to similar individualized treatment rules ? A comparison study on real data](#), *arXiv preprint*.

### PEER-REVIEWED

- Thurin N, Jové J, Lassalle R, Rouyer R, Lamarque S, Bosco-Levy P, **Ségalas C**, Schneeweiss S, Blin P, Droz-Perroteau C. [Strong instrumental variables biased propensity scores in comparative effectiveness research: A case study in oncology](#), *Journal of Clinical Epidemiology*, 2023.
- **Ségalas C**, Leyrat C, Carpenter JR, Williamson E. [Propensity score matching after multiple imputation when a confounder has missing data](#), *Statistics in Medicine*, 2023.
- **Ségalas C**, Leyrat C, Williamson E. [Pulling Unmeasured Confounding Out by your Bootstraps: Too Good to be True?](#), *Journal of Statistical Research*, 2022.
- Mulot M, **Ségalas C**, Leyrat C, Besançon L. [Re : Subramanian and Kumar. Vaccination rates and COVID-19 cases](#), *European Journal of Epidemiology*, 2021.
- Besançon L, Peiffer-Smadja N, **Ségalas C**, Jiang H, Masuzzo P, Smout C, Billy E, Deforet M, Leyrat C. [Open science saves lives : Lessons from the COVID-19 pandemic](#), *BMC Medical Research Methodology*, 2020.

- **Ségalas C**, Helmer C, Jacqmin-Gadda H. *A curvilinear bivariate random changepoint model to assess temporal order of markers* *Statistical Methods in Medical Research*, 2020.
- Gosse P, **Ségalas C**, Rubin S, Boulestreau R, Jacqmin-Gadda H, Leffondre K, Combe C, Cremer A. *Long term evolution of renal function in essential hypertensive patients with no baseline proteinuria*, *Journal of Human Hypertension*, 2020.
- **Ségalas C**, Amieva H, Jacqmin-Gadda H. *A hypothesis testing procedure for random Changepoint mixed models*, *Statistics in Medicine*, 2019.

## PROCEEDINGS

- **Segalas C**, Jacqmin-Gadda H. *A semi-latent class model for estimating the time of differentiation of cognitive decline between cases and controls*, *Proceedings of the 35th International Workshop on Statistical Modelling*, 2020.

## GRANT & AWARDS

**Daniel Schwartz PhD Award 2020**  
*French Biometrics Society*

**PhD Grant 2016**  
*Université de Bordeaux*

## TEACHING EXPERIENCE

**Université de Bordeaux 2023-2024**

- MSc in Public Health Data Science  
*Introduction to machine learning: CART and Random Forests (6h)*

**Université Paris-Cité 2022-2023**

- MSc in Biotechnology  
*Introduction to Statistical inference (3h)*

**London School of Hygiene and Tropical Medicine 2021-2022**

- MSc in Health Data Science  
*Linear and logistic regression (9h)*

**London School of Hygiene and Tropical Medicine 2020-2021**

- MSc in Health Data Science  
*Linear and logistic regression (9h)*

**Université de Bordeaux 2018-2019**

- MSc in Epidemiology  
*Introduction to R and RStudio (3h)*
- MSc in Public Health  
*Linear regression models (14h)*  
*Hypothesis testing (16h)*
- MSc in Psychology  
*Multidimensional data analysis (32h)*

**Université de Bordeaux 2017-2018**

- BSc in Psychology  
*Introduction to data analysis (24h)*
- MSc in Psychology  
*Multidimensional data analysis (8h)*

## SCIENTIFIC SOCIETIES MEMBERSHIP

**Société Française de Statistique**

**Société Française de Biométrie**