

**Objet** POSTDOCTORAL POSITION IN STATISTICS  
TAIL RISK ESTIMATION ACROSS TIME AND SPACE  
ENSAI (RENNES, FRANCE)

A postdoctoral position in statistics is available as part of the French ANR grant "Extremal Regression with Applications to Econometrics, Environment and Finance" (ExtremReg, ANR-19-CE40-0013-01). The postdoctoral fellow will be based at ENSAI and the CREST lab in Rennes, France, and will be supervised jointly by Gilles Stupfler (ENSAI) and Abdelaati Daouia (TSE, Toulouse, France).

**Project description:** The current state of the art in tail risk assessment relies on the use of quantile regression as a main instrument of risk protection. However, quantiles only measure the frequency of tail events and not their magnitude. The goal of this project is to paint a comprehensive picture of regression extremes by moving away from quantiles as a risk assessment tool, and by considering instead Conditional Tail Moments and generalised  $L^p$ -quantiles, in a realistic framework that allows for the geographical differentiation of tail risk across time.

Strands of work for this project include (i) adapting some very recent theory on Conditional Tail Moment and  $L^p$ -quantile regression from the standard i.i.d. setting to a setup combining weakly dependent time series and regression and (ii) developing computationally efficient methods with applications to the analysis of complex sets of rainfall and earthquake data in view.

**Qualifications:** The candidate should hold a PhD degree in probability or statistics and have an emerging track record of high-quality publications and data analysis. It is expected that the candidate will have expertise in either extreme value analysis, time series and/or theoretical aspects of stochastic processes. Substantial experience of Matlab, R, Python and/or C++ is necessary.

**Duration and salary:** The position starts at any time between September 1st, 2020 and September 1st, 2021 for a maximal duration of 12 months. Monthly net salary is approximately €2,000 (gross salary in the region of €3,700).

**Application procedure:** Please provide a full academic CV and a cover letter, in which you will in particular mention whether you are legally able to work in France. Applications will be reviewed as they are received. We especially welcome and encourage applications from women, people part of ethnic/religious minorities, people with disabilities, and LGBT colleagues.

Applications and enquiries should be made by email at [gilles.stupfler@ensai.fr](mailto:gilles.stupfler@ensai.fr) and [abdelaati.daouia@tse-fr.eu](mailto:abdelaati.daouia@tse-fr.eu).

**This position is open until filled. Early application is strongly encouraged.**