

Postdoctoral Position

Reduced Modeling and Machine Learning for Forward and Inverse Problems

- **Starting Date:** Flexible. Ideally between December 2020 – March 2021.
- **Duration:** One year, extendable to two.
- **Location:** Paris Dauphine University
- **Monthly salary (before taxes):** around 2500 euros.
- **Contact:** [Olga Mula / mula@ceremade.dauphine.fr](mailto:mula@ceremade.dauphine.fr)
- **How to apply:** Please, send your CV with a list of publications, a short motivation letter and contact information of two references. Evaluation of applications will begin late September and continue until the position is filled.

Scientific setting

We are looking for a postdoctoral applied mathematician/computational scientist to join the research group [Models & Measures](#) financed by the Emergences Program of the Paris City Council lead by Prof. Olga Mula.

Current activities of the group focus on addressing forward and inverse problems with methods combining modern computational methods, such as reduced modelling of parametric PDEs, and recent machine learning techniques, in particular based on neural networks and optimal transport metrics. The developments seek to overcome known bottlenecks of classical algorithms and introduce entirely new approaches to solve problems of relevance to science and engineering. The postdoctoral fellow is expected to engage in different projects in line with the above vision.

As a support for our numerical tests, we will consider applications related to air pollution, fluid dynamics, and epidemiology.

Candidate profile

The ideal candidate will have the following skills:

- A PhD in Applied Mathematics, Data Science, or Statistics.
- Solid experience in the development of numerical methods or data analysis with Python, Julia, R or C++.
- Solid working knowledge in at least one of the following topics: reduced modeling of PDEs, optimal transport, machine learning, uncertainty quantification, optimization.

The effort is of a collaborative nature so strong interpersonal and communication skills are required. Working language is English or French.