

# Two PhD positions at the Euler Institute, Faculty of Informatics at the Università della Svizzera italiana

Università della Svizzera italiana (USI) is a young and lively university, a hub of opportunity open to the world where students are offered a quality interdisciplinary education in which they can be fully engaged and take center stage, and where our researchers can count on having the space to freely pursue their initiative.

Established in 1996, USI is in constant evolution, always taking on new challenges while remaining true to its three guiding principles: quality, openness, and responsibility.

The Euler Institute is USI's central node for interdisciplinary research and the connection between exact sciences and life sciences. By fostering interdisciplinary cooperation in Life Sciences, Medicine, Physics, Mathematics and Quantitative Methods, Euler provides the basis for truly interdisciplinary research in Ticino.

The Institute invites applications for **two PhD positions (100%, 4 years)** funded by the SNSF starting grant "Multiresolution methods for unstructured data" within the research group of Michael Multerer (<http://usi.to/3ps>).

## The project

Rapidly increasing unstructured data is omnipresent in our everyday lives. Typical examples are data from social networks, text and audio data, photos, and videos, but also scientific measurements and simulation data. Efficient processing and analysis of these data have become vital for our society.

In "Multiresolution methods for unstructured data", we develop novel and fully discrete data-centric multiresolution approaches tailored to unstructured data, focusing on efficient algorithms for computational uncertainty quantification and adaptive strategies for active learning and non-smooth data.

## Candidates' profile

Ideal candidates should satisfy the following requirements:

- Master's degree in Mathematics or Computer Science within the fields of numerical simulation, preferably multilevel methods.
- Working knowledge in C/C++ and a scripting language like Matlab or Python.
- Knowledge of hierarchical matrices or wavelet methods and kernel methods is desirable.

## General terms

Workplace is USI Università della Svizzera italiana, located in Lugano, Switzerland.

Availability to travel to other parts of Switzerland and abroad (for purposes of collaboration and research) is needed.

Starting date is 1. February 2023 (at the earliest).

**The Application**

Applications should contain: (1) a letter in which the applicants describe their research interests and the motivation to apply, (2) a complete CV, (3) copies of relevant diplomas and certificates.

Please send your application in electronic form or requests for further information to Michael Multerer (michael.multerer@usi.ch).

Applications received before 15. December 2022 will be given priority. However, applications will be received until the position is filled.

As an institution that values diversity, USI particularly encourages applications from women and from all individuals from underrepresented groups.

Lugano, 17. November 2022