



Call for a 2-years post-doctoral position – SOCOT

The [ANR project SOCOT](#) (Stochastic Orders and Constrained Optimal Transport) offers a 2-years post doctoral position at the [Université de Haute Alsace](#), in [Mulhouse \(France\)](#). The contract can start in September 2025 or later.

Research topics. The postdoc is financed by the ANR French national project SOCOT :
The aim of the project is to deepen the understanding of stochastic orders, ubiquitous objects in the mathematics of decision-making, in relation to weak and multimarginal optimal transport problems. Both are important frameworks of generalized mass transport and are vector of new applications. Our team includes analysts, probabilists, specialists of optimization and data scientists.

Among other possible subjects we propose to study the structure of the space of optimizers for optimal transport problems with constraints, to work around the Cantelli conjecture, or to couple infinitely many random variables under metric or ordering constraints such as in the theorem of Kellerer.

Key words. Stochastic optimal transport, Functional inequalities, Stochastic processes, Wasserstein barycenters, Decision-making, Image processing, Convex geometry.

Location The selected post-doc will join [the Mathematics Department of IRIMAS](#) (Institut de Recherche en Informatique, Mathématiques, Automatique et Signal), located on the Illberg campus in Mulhouse where she/he is expected to interact with the mulhousian [members of the project](#). Further collaborations with participant researchers of SOCOT are much encouraged.

Candidate profile. Young researchers interested in working on topics at the boundary between probability and analysis are encouraged to apply. We are in particular interested in all candidates with a strong background in optimal transport.

Conditions. The post-doctoral contract can be established for a duration of 24 month starting from September 2025 or later. The monthly salary is of approximately 2400€. The position has no teaching duties. The successful applicant will be entitled to use research funds from the SOCOT project, in particular for visits or invitations.

Requirements. Candidates must hold a PhD in Mathematics at the starting date of the contract.

Application. Interested candidates are required to apply by **April 20th, 2025** :

- Cover letter containing the contacts of two researchers willing to act as a referee,
 - Curriculum Vitae with publication list (with web links to retrieve them),
 - Other documents that the applicant wishes to present (e.g. a research statement).
- The contact address is nicolas.juillet@uha.fr. The applications will be evaluated by members of the project. The selection process can include interviews for shortlisted candidates.