Post-doctoral fellowship
Propagating fronts in reaction-diffusion equations

Starting date : september 1st, 2024

Length : 1 year, renewable 1 year

Work context : the post-doctoral position fits within the framework of the ANR projects Indyana (2021-25) and ReaCh (2023-28). Both projets propose new mathematical developments in the theory of reaction-diffusion propagating fronts, and in parallel, the exploration of new questions in epidemiology, ecology, social sciences, neurosciences *via* the developed theoretical concepts.

Location : the hired candidate will be based at the Institut de Mathématiques de Toulouse, Université Toulouse III-Paul Sabatier the first year, and, in case of a successful experience, at the Institut de Mathématiques de Marseille, Aix-Marseille Université, the second year. We thus offer to the selected candidate the opportunity to enrich his/her training through contacts with two different research teams, working on a common mathematical research program.

Mission : it is expected that the hired candidate shall work on a given problem, based on his/her own scientific interests and established in agreement with the principal investigators of the projects. The chosen project shall be related to the questions investigated by the Toulouse and Marseille teams : speed of propagating fronts in inhomogeneous environment and/or with variations of dimensionality or of geometry, fronts triggered by higher codimension structures, transition fronts, precise asymptotics, nonlocal diffusion fronts.
Throughout the post-doctoral period, frequent visits between the various members of the two ANR projects will be encouraged. Dedicated fundings will be allocated to these visits.

Expected profile : holder of a PhD thesis at the starting date of the contract, with a strong background in the analysis of PDEs or in infinite dimensional dynamical systems, with significant contributions in the domain during the PhD or an eventual first post-doctorate.

Income : between 2810 and 3756 euros gross salary depending on experience per month for the first year.

Application : submit *exclusively* at the following email address

`contact.reach.4440@gmail.com`

a *unique PDF file* including

- a letter of motivation describing the scientific interests of the candidate and his/her professional project, (maximum 1 page),
- a CV (academic background, PhD, eventual post-doctoral experiences, list of publications, names and coordinates of two contacts that can provide a letter of recommendation). Do not include the PhD manuscript, or any (pre)-publications, only provide an external link where the documents can be downloaded (HAL, Arxiv, theses.fr, personal webpage),
- (optional) reports of the PhD,
- a summary of the key results obtained so far (maximum 2 pages).

The selection process will start on December 22nd, 2023.

Contacts :
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