

PhD thesis on reaction-diffusion-convection pattern formation

Description

Within the CREDI project, the Nonlinear Physical Chemistry Unit of the Université libre de Bruxelles invites applications for one **PhD fellowship to begin in January 2023**.

CREDI (“Control of reaction-diffusion-convection fronts for environmental purposes”) is a research project aiming to **characterize and control the properties of reaction-diffusion-convection fronts** to optimize their efficiency in terms of environmental gain. We will study both theoretically and experimentally two classes of fronts, (i) frontal polymerization fronts, and (ii) autocatalytic fronts. We seek to hire a PhD student who will perform **theoretical and numerical analyses of pattern formation around travelling reaction-diffusion fronts, both with and without natural convection**. He/She will also develop postprocessing analysis of experimental data obtained in parallel in the group. Our objective is to investigate how the amount and spatio-temporal distribution of the product of the reaction depends on the geometry of the system and experimental parameters.

Type of appointment

48 months full time starting January 2023 or as soon as possible after that. The salary is approximately 2100 € net/month.

Required Qualifications

Master in Physics, Physical Chemistry, Engineering or related fields. Good oral and written communication skills in English are a plus to work in a multidisciplinary team environment and be able to write scientific publications and deliver scientific presentations in English.

Contact Persons

Profs. Laurence Rongy and Anne De Wit

Université libre de Bruxelles (ULB), Nonlinear Physical Chemistry Unit

Campus de la Plaine, CP 231, Boulevard du Triomphe, B-1050 Bruxelles, Belgium

E-mail: laurence.rongy@ulb.be and anne.de.wit@ulb.be

Web site : <https://nlpc.ulb.be/>

Application Procedure and Deadline

Applicants should submit a cover letter including a brief but detailed statement of interest, a curriculum vitae and the name and address of two persons of reference to both L. Rongy and A. De Wit via email.

Review of applications will **begin on December 10, 2022**, and continue until the position is filled.