

POSTDOCTORAL POSITION AVAILABLE (12 MONTHS, extended up to 38 MONTHS) - STARTING DATE 01/02/2023 at latest.

SYNTHESIS OF ACTIVE PHARMACEUTICAL INGREDIENTS (APIs) BY RESONANT ACOUSTIC MIXING (RAM)

POSITION SUMMARY

Post-Doc Position in the field of mechanochemistry applied to organic/medicinal chemistry (medicinal mechanochemistry), via Resonant Acoustic Mixing (RAM). *Project acronym:* IMPACTIVE (Innovative Mechanochemical Processes to synthesize **ACTIVE** pharmaceutical ingredients). Full-time, temporary employment. The position is limited to a maximum of 38 months. *Salary:* Depending on the experience.

CONTEXT

We are looking for a Post-Doc who wants to contribute to the allow successful delivery of APIs or key intermediates, by the use of novel technologies such Resonant Acoustic Mixing (RAM) as enabling mechanochemical technology. Mechanochemistry has been identified by IUPAC as one of the ten top emerging technologies that will change the world. A unique opportunity for you to work in a scientific area of great importance, innovative and disruptive, in a setting at the interface with the industrial needs and in close interactions with excellent academic groups members of the European Programme Horizon IMPACTIVE (Innovative Mechanochemical Processes to synthesize **ACTIVE** pharmaceutical ingredients).

MAIN TASKS

Postdoc position will work under the responsibility of Dr. Evelina Colacino, who focuses on the development of sustainable methodologies for organic synthesis, with a special attention to the mechanochemical preparation of value-added compounds for the pharmaceutical industry, from laboratory to large-scale, by Resonant Acoustic Mixing (RAM).

RESEARCH ACTIVITIES

As a Post-Doc, you will deal with the synthesis and development of APIs or key intermediates, and their characterization (including at the solid state). Your main research objectives will be to propose and design straightforward access (meaning specifically route scouting) to APIs by mechanochemistry, in alternative to solution-based procedures and to improve the ecological footprint of each synthesis at laboratory and large scales. The daily synthesis work will be performed at the Université de Montpellier (Charles Gerhardt Institute of Montpellier, ICGM) in France.

The research activity will mainly focus on:

- Design of scalable and green routes for APIs or key intermediates by Resonant Acoustic Mixing (RAM) in batch, in alternative to solution-based processes currently used in the industry;
- Investigation of the mechanochemical process parameters to be optimized depending on the reaction scale.
- Green Chemistry metrics applied to the processes developed within the project;
- Solid state characterization of each APIs or key intermediates;
- Process development to access new pharmaceutical forms.

QUALIFICATIONS and CANDIDATE PROFILE

To qualify for the position of Post-Doc, you must have a doctoral degree in a relevant field such as medicinal chemistry and preparative organic chemistry. Experience in green chemistry, mechanochemistry and solid state characterization is considered meritorious for this position, but not compulsory.

We are looking for you who can work independently but also in close collaboration with the group members and as a part of the European Programme Horizon IMPACTIVE. You can plan and organize your own work, take your own initiatives and responsibility, be analytical and creative and be able to deliver results in time. You also need to be able to report to the founders, hence, need good communication skills and an interest for multidisciplinary research.

The position requires sound verbal and written communication skills in English.

TO APPLY

To apply send by e-mail your application to Evelina COLACINO: evelina.colacino@umontpellier.fr

The application should be marked with Ref. IMPACTIVE and written in English. The application should be sent electronically and be attached as pdf-files, as below:

CV: *(Please name the document as: CV, Surname, Ref. IMPACTIVE)* including:

- CV, include complete list of publications;
- Name and contact details of three references.

Personal letter: *(Please name the document as: Personal letter, Family name, Ref. IMPACTIVE)* 1-3 pages where you:

- Introduce yourself
- Describe your previous research fields and main research results
- Describe your future goals and future research focus

Deadline for application: 16th december 2022

Starting date: 1st february 2023 (at latest)