

CONSORZIO INTERUNIVERSITARIO PER LO SVILUPPO DEI SISTEMI A GRANDE INTERFASE

CSGI
c/o Dipartimento di Chimica "Ugo Schiff"
Università degli Studi di Firenze



Direttore Prof. Emiliano Fratini

CALL ID: CSGI-CA-13/2023

The *Center for Colloid and Surface Science (CSGI)* has an open position for a young researcher with expertise in the **experimental study of mechanochemical kinetics and its theoretical and numerical modelling**.

The successful candidate will have the opportunity to join the international, multidisciplinary team working at the cutting edge of scientific research in **mechanochemistry** within the project entitled **Innovative Mechanochemical Processes to synthesize ACTIVE pharmaceutical ingredients (IMPACTIVE)** supported by the Horizon Europe programme through the EU HORIZON-HLTH-2021-IND-07 call.

Time period:

February 1st, 2024 – January 31st, 2025

Location:

CSGI, Cagliari research unit – **Department of Mechanical, Chemical and Materials Engineering** of the University of Cagliari, via Marengo 2, 09123 Cagliari (Italy), **Department of Chemical and Geological Sciences** and **Department of Physics** of the University of Cagliari, Cittadella Universitaria di Monserrato, 09042 Monserrato (CA) (Italy)

Job Requirements:

CSGI is looking for a highly motivated young researcher with a Master degree in **“Chemical Engineering”** and years of experience in the **kinetic study of mechanochemical transformations in inorganic and organic chemical systems and materials using a combination of experimental, theoretical and numerical methods**. More specifically, the candidate must meet the following **mandatory** requirements:

- Master degree in **“Chemical Engineering”**;
- At least **three years** of experience in the study of the relationship between **rates of mechanochemical transformations**, conditions of **mechanical processing** and **properties of chemicals and materials** processed on the laboratory scale;
- At least **six months** spent in a laboratory located in a country different from the native one to hone the **skills in mechanochemical kinetics** and develop **teamwork ability**;
- **Direct experience** in the use, experimental characterization and numerical modelling of **ball mills** (i) imparting **one-, two- and three-dimensional oscillation** to the milling jars or (ii) taking advantage of **planetary** movements;
- **Proven expertise** in the production and analysis of kinetic data from the **investigation of global and local mechanochemical kinetics**;
- **Proven expertise** in the description and interpretation of kinetic data through the **development of analytical and numerical kinetic models**;
- **Track record** of publications in **international peer-reviewed scientific journals** in the field of mechanochemistry (**at least 11 publications in the last 5 years**).

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The recruited candidate will have to:

- **Organize and perform** planned research work, **manage** laboratory activities, **design and set-up** new experimental, theoretical and numerical methodologies;
- **Analyse** experimental data, **write** suitable reports, **participate** in the **IMPACTIVE consortium meetings** online and in person;
- **Develop** suitable analytical and numerical models to **describe and interpret** the **kinetics of mechanochemical transformations** at different length scales;
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Gross salary: up to EUR. 30.000,00

For more information, please contact Prof. Francesco Delogu (francesco.delogu@unica.it)

All applicants must send:

1. [This signed application letter](#);
2. Academic CV (including a list of publications, a list of courses attended, and a list of talks given), description of research interests and research agenda;
3. Degree certificates;
4. List of all titles, documents and publications that can be relevant for the selection;
5. Contact details of -at least- two potential references;
6. Copy of a personal I.D. (printed on both sides);

All applications must be sent by email to recruitment@csgi.unifi.it **no later than 07th January 2024 – 17:00 CET.**

Please report the CALL ID (CSGI-CA-13/2023) in the subject of the email.

A colloquium with the evaluating committee might be requested. The colloquium can take place either face-to-face or via telematic meeting.

The commission will rank the suitable candidates; the ranking will be published on the CSGI website at https://www.csgi.unifi.it/work_with_us.php and will remain effective for a period of one year from the date of its approval. This ranking may be used by CSGI to replace the appointed candidates in the event of renunciation, non-employment, forfeiture, termination of the employment relationship, or for equivalent positions.

The winner of this position may be excluded if he/she would postpone the beginning of the research activity later than March 1st, 2024.

Personal data will be collected and handled according to the GDPR- General Data Protection Regulation (EU) 2016/679.

Sesto F.no, 5th December 2023