



Postdoctoral Fellowship in Institute of Advanced Materials – Post-1

A Postdoctoral Fellowship is available in the group of Dr. Iván Mora-Seró at the Institute of Advanced Materials (INAM; www.inam.uji.es) at the Universidad de Jaume I in the framework of the European ERC Consolidator Grant project "No-Limit".

The post is available as part of the No-LIMIT European Research Council Consolidator Grant project, with Ass. Prof. Iván Mora-Seró as Principal Investigator. The objective of the project is boosting photovoltaic performance by the synergistic interaction of halide perovskites and semiconductor quantum dots. Photovoltaic conversion has the extraordinary property of transforming the solar energy directly into electric power. However, the available electrical power is known to be severely limited by the so-called Shockley-Queisser (SQ) photoconversion limit. The maximum efficiency for a single absorber is limited as photons with energy lower than the bandgap (BG) cannot be absorbed, and just an energy equivalent to the BG can be used for photons with higher energy than the BG, due to thermalization. No-LIMIT will exploit the interaction between halide perovskite and semiconductor colloidal quantum dots and the resulting synergies in order to break the SQ limit. The achievement of this ambitious final objective, together with the intermediate steps, will have a colossal impact on photovoltaics.

The project requires a multidisciplinary approach from the syntheses of perovskite with tailored properties to the structural, chemical and optoelectronic characterization of materials and final devices, including also an important feedback from theoretical analysis of materials and interfaces. We encourage applications from researchers with high-level skills directly relevant to the synthesis and characterization of these kind of materials and optoelectronic devices prepared with them who can make a strong contribution to the project.

ORGANISATION/COMPANY: Universitat Jaume I de Castelló, Spain

RESEARCH FIELD: Chemistry, Physics or Engineering (Materials)

RESEARCHER PROFILE: Recognised Researcher (R1)

APPLICATION DEADLINE: 17/10/2021 23:59 - Europe/Brussels

LOCATION: Spain › Castellón de la Plana

TYPE OF CONTRACT: Temporary

JOB STATUS: Full-time

HOURS PER WEEK: 37,5

OFFER STARTING DATE: 01/01/2022

EU RESEARCH FRAMEWORK PROGRAMME: H2020 / ERC

GRANT AGREEMENT NUMBER: 724424

Requirements

- **REQUIRED EDUCATION LEVEL**
Doctor degree in Chemistry, Physics or Material Engineering or related
- **REQUIRED LANGUAGES**
ENGLISH: Excellent

Skills/Qualifications

Applicants must have a PhD in Chemistry, Physics or Material Engineering of a relevant subject area, or have submitted their thesis prior to taking up the appointment.

General skills and characteristics:

- Capability for autonomous elaboration of scientific manuscripts.
- Capability of supervision of PhD students.
- Demonstrated ability to take ownership and responsibility for projects
- High scientific motivation.
- Excellent publication record.
- Excellent interpersonal and communication skills
- Proven teamwork experience and efficient collaboration skills
- Fluent in English

Specific Requirements

- Experience in theoretical work on the characterization of perovskites or halides and colloidal quantum dots, their interaction and interface.
- Experience in theoretical analysis including first principles computational methods, including density functional theory (DFT).

Postdoc will directly supervise at least one Ph.D student and advise the rest of group members, take part in discussions to agree targets for their work, and supervise their day-to-day laboratory

activity under risk assessments agreed with Ass. Prof. Mora-Seró. Your work will be directly supervised by Ass. Prof. Mora-Seró.

Additional Information

Benefits

The candidate shall be appointed with a full-time (37.5 hours/week) employment contract for 14 months (until the end of the project), according to the Spanish legislation and covered under the Spanish social security scheme.

The estimated start date is 1st of January 2022, but could vary depending of the selection process or visa process.

How to apply

Applications should be addressed to:

For Postdoctoral positions, please check the following link:

<http://www.inam.uji.es/job-offers/postdoctoral-position-p1-no-limit-project-consolidator-grant-european-research-council>

Applications will be considered as received. Please note that because of the large number of applications expected we will not be able to give individual feedback to unsuccessful applications. Your application will be treated confidentially.

Web site for additional job information

<http://www.inam.uji.es/job-offers/postdoctoral-position-p1-no-limit-project-consolidator-grant-european-research-council>

Documentation

The formal application should be submitted online via <http://www.inam.uji.es/job-offers/postdoctoral-position-p1-no-limit-project-consolidator-grant-european-research-council> before October 17, 2021, 23:59 CET

Reference: “Postdoctoral Position - 1” – GA - 724424 — No-LIMIT

The following documents must be submitted with your application:

- a. A detailed curriculum vitae, including – if applicable – relevant publications;
- b. Evidence on English and Spanish proficiency;
- c. Two reference letters
- d. A copy of your identity card or passport.

Selection process

Applications will be evaluated for technical and eligibility requirements at the end for the application process.

The best applications overcoming those requirements will be shortlisted, and asked for further information, as well as for an interview.

The interview will be handled face to face or by teleconference (Skype or similar) and will be arranged at convenience of both parts.

Scale:

Relevant academic and curricular background 0-40

Specific requirements 0-15

Relevant publications/work experience 0-20

Interview 0-25