

Research fellowship on “Nanostructured materials for hydrogen production” - Università Ca' Foscari Venezia

(Italian law 30 December 2010, n.240, art. 22 and subsequent amendments and additions)

The present document in English is to be considered as a mere summary of the main provisions of the notice of competition which is available in Italian at the following ([link](#)) The text in Italian is the official text of the notice of competition for all legal intents and purposes and, in the event of non-conformity with the present document, it shall prevail.

Description

The Department of Molecular Sciences and Nanosystems at Università Ca' Foscari Venezia invites applications for a fellowship titled “**Nanostructured materials for hydrogen production**”, SSD: ING-IND/22, lasting 18 months, project PRIN 2022 titled “Development of Transition Metal Carbo-Nitride catalysts for low-cost and highly-efficient Hydrogen production through water splitting ((TMCN-H₂))”, CUP H53D23003840001, cod.2022FNL89Y, tutor and principal investigator: Dr. Shifa Tofik Ahmed.

The fellowship is intended to provide the successful candidate with the opportunity to pursue his/her own research while benefiting from the range of expertise at Università Ca' Foscari Venezia.

Abstract: The research focuses on the development of two-dimensional materials for the realization of confined catalysis for the production of hydrogen. The grant holder will develop synthesis methodologies to produce two-dimensional nanostructures in which to confine appropriate zero-dimensional structures that act as catalysts for the oxygen evolution reaction (OER).

The project is divided into four work packages (WP), as follows:

WP1: Synthesis of materials

WP2: Characterization and theoretical model

WP3: Functional tests

WP4: Dissemination of results

The fellow is expected to carry out activities in all WPs, with the exception of the part relating to modeling (part of WP2).

The work will take place at the Department of Molecular Sciences and Nanosystems of the Ca' Foscari University of Venice.

Who can apply

Prospective candidates are expected to hold a **Master's degree Chemistry, Master's Degree in Physics, Master's Degree in Materials Science and Technology** or equivalent qualification obtained abroad and professional scientific curriculum suitable for carrying out research activities.

Ca' Foscari encourages applications from researchers with positive evaluation in all the criteria in individual proposals such as Marie Skłodowska Curie Actions - Individual Fellowships/ERC Starting Grants/FIRB (Italian Fund for basic research investments)/SIR (Scientific Young Independence Research) or similar.

Researchers having successfully completed Marie Skłodowska Curie Actions - Individual

Fellowships/ERC Starting Grants/FIRB (Italian Fund for basic research investments)/SIR (Scientific Young Independence Research) or similar funded projects are warmly encouraged to apply.

The following qualifications are considered as evaluation criteria:

- a. holding a PhD;
- b. having completed the attendance of a PhD programme, although not having yet obtained the PhD title;
- c. specialisation diplomas and attendance certificates at post-graduate specialisation courses, obtained both in Italy or abroad, documented research activity in public and private organisations with contracts, study grants or assignments both in Italy and abroad;
- d. Experience in the synthesis of nanostructured materials using vapor phase transport and condensation techniques.

Duration of contract: 18 months, approximately starting: in **January 2024**.

Stipend: The research fellowship amounts to **€ 21,762.96 per year gross of the recipient (equal to 32,644.44 euros for 18 months)**, net of the expenses to be sustained by the Provider.

Deadline for submission of applications 12th December 2023, at 12.00 noon.

How to apply:

Candidates shall submit:

1. The application form;
2. A motivation letter (max 1 page) along with their CV in European format, duly dated and signed, both to enclosed as a one single.pdf file ([link](#)); a declaration must be appended in the footnote of the curriculum, pursuant to the Italian DPR 445/2000 and subsequent amendments and additions, that the information provided corresponds to the truth. Moreover the candidates have to consent to the use of their personal data for the purposes of this selection procedure pursuant to the Italian Legislative Decree 196/2003 and to the EU Regulations 2016/679;
3. The attachments called “obligations and understanding” and “participation and compatibility”;
4. All documents, qualifications and publications relevant for the selection procedure (please, see the notice - [link](#));
5. A copy of a valid identity document (either Identity Card or Passport);
6. (If available) Evaluation Summary Reports of Marie Skłodowska Curie Actions - Individual Fellowships/ ERC Starting Grants/FIRB (Italian Fund for basic research investments)/SIR (Scientific Young Independence Research) individual proposals having passed all the evaluation thresholds;
7. (If available) Details of Marie Skłodowska Curie Actions - Individual Fellowships, ERC Starting Grants, FIRB (Italian Fund for basic research investments)/ SIR Scientific Young Independence Research funded projects;
8. Declaration on availability to held the interview in remote ([Link](#)) to be send via email at the following address: ricerca.dsmn@unive.it

All the schemes of the quoted documentation are available on the website ([link](#)).

Incomplete applications will be rejected.

How to submit your application

Applications should be submitted by the online procedure, available on this link:

<https://apps.unive.it/domandeconcorso-en/accesso/dsmn-arprin2022shifa>

The candidate, after the uploading, will receive a submission number and an e-mail acknowledging receipt of his/her application.

The candidate if necessary could access the procedures for updating any data and materials by the link provided by the e-mail, in any case any updates must be made no later than the deadline 12th December 2023, at 12.00 noon.

Please note that the University can be contacted for any support needs by the candidate until 24 hours prior to the deadline.

Please note that in case of an high number of applications and / or weight of the materials loaded by the candidates the system might become slower, Therefore it is suggested not to start the process close to the deadline.

NB: the University does not take on responsibility for wrong or late communication of addresses, nor for any communication problem not depending on the University.

Topics of the interview:

- Experience in synthesis and characterization of nanomaterials for energy, with emphasis on materials for hydrogen production;
- Assessment of the knowledge of the foreign English language through the conduct of part of the interview in English;
- Assessment of the Italian language for foreign candidates.

Evaluation

Up to 100 points, specifically:

For qualifications, publications and possible tests, from 0 to 60;

For interview, from 0 to 40.

Selection procedure

The interview will be on 19/12/2023 at 09:00 a.m.

The interview will be held in remote at the link:

<https://meet.google.com/txt-wtko-nrn?hs=122&authuser=0>

Information and contacts

Candidates may find further details about the application process and the research project in the official call published on the following ([link](#))

For further information please contact the Research Office, email: ricerca.dsmn@unive.it, Ph: 0412348633/8514.

Il Direttore del Dipartimento
di Scienze Molecolari e Nanosistemi
Prof. Maurizio Selva
f.to digitalmente ex art.24 Dlgs 82/2005 (CAD) e ss.mm.ii.

VISTO La responsabile del procedimento
La Segretaria del Dipartimento di Scienze Molecolari e Nanosistemi
Sonia Barizza: barizza@unive.it Telefono: 041-2348535