Decree of the Director of the Department of Molecular Sciences and Nanosystems 2019

Rep. n. Prot. n. - III/13 del

1 Research fellowship - Università Ca' Foscari Venezia (Italy) (Italian law 30 December 2010, n.240, art. 22)

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 in:

Title: "Titania-based nanostructures for photo-applications"

SSD: CHIM/03 and ING-IND/22

Coordinators and Tutors: Prof. Elisa Moretti and Prof. Alberto Vomiero

Duration: 24 months

Abstract:

The aim of the project is to develop innovative materials based on nanostructured oxides doped with transition metals and rare earth elements (powders, thin films, nanowires) through engineered electronic band structure, for several photo-applications, among which:
- realization of dye-sensitized solar cells (DSSCs),
- photodegradation of dyes and drugs for wastewater treatments,
- preferential photo-oxidation of CO to CO₂ (photo-PROX),
- water splitting,
- p-n junctions for photodetection and light photoconversion.

The research may be carried out in English. 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 (Italy).
Who can apply
Prospective candidates are expected to hold a PhD Degree in Chemistry, Physics or related disciplines.

The following qualifications are considered as evaluation criteria:

a. 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;

b. scientific publications on peer-reviewed International Journals;

c. experimental PhD thesis concerning 2D materials and their application in water splitting and/or related topics;

d. experience in the synthesis of inorganic nanomaterials through various chemical routes (hydro-solvothermal, sol-gel process, combustion synthesis, surfactant-based synthesis, electrodeposition);

e. expertise in physico-chemical and optical characterization (CVD, AFM, SEM, UV-vis, IR and Raman spectroscopies, XRD, XPS, PL/PLE).

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.

Duration of contract: 24 months, approximately starting: February 2020.

Salary: The research fellowship amounts to 24.426,00 Euros per year, including taxes and social charges

Deadline for submission of applications: 01/07/2020 at 12.00 (Italian time).
How to apply:
Candidates should 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)
3. A copy of a valid identity document (either Identity Card or Passport);
4. (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;
5. (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;
6. All documents, qualifications and publications relevant for the selection procedure (please, see the notice link).

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

How to submit your application
Applications should be submitted by the online procedure, available on the notice webpage (link)

Or submit here:

https://static.unive.it/domandeconcorso-en/accesso/dsmn-chim03-2019

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 01/07/2020 at 12.00 Italian time.

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.

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**Please note that: the University is closed from 12/24/2019 to 01/06/2020**

**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 held on January 10th 2020 at 11:00 a.m. (italian time) at the Department of Molecular Sciences and Nanosystems, Università Ca’ Foscari Venezia, Via Torino 155-30172 Mestre-Venice - Italy, at Prof. Elisa Moretti and Alberto Vomiero's office, Eta Building 1st Floor.**

**The list of candidates admitted to the interview will be published on January 08th 2020, on the University web page ([link](#)).**

Candidates living farther than 200 Kms from Venice (Italy) may ask to hold a telematic interview.

**Topics of the interview:**

- Expertise on the synthesis of nanostructured 2D-3D inorganic materials (mainly oxides);
- Previous experiences in physico-chemical and optical characterization of inorganic nanomaterials;
- Expertise on chemical vapour deposition (CVD) technique;
- Expertise on electrochemical methods for water splitting and other environmental applications;
- Assessment of knowledge of the English foreign language.
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 DSMN - Research Sector, tel.041-2348633 email: ricerca.dsmn@unive.it

Venice, December 3rd 2019

Il Direttore del Dipartimento di Scienze Molecolari e Nanosistemi
Prof. Pietro Riello

digitally signed 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 fax 041-2348517