Research fellowship on: "Nanostructured materials from fish industry residues", PNRR iNEST Project, Interconnected North-East Innovation Ecosystem - Implementing Entity: University of Padua, - CUP: H43C22000540006
(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 "Centro temporaneo Progetto Ecosistema dell'Innovazione" at Università Ca' Foscari Venezia invites applications for 1 fellowship in:

Title Nanostructured materials from fish industry residues
SSD or Research sector CHEM-03/A Chimica generale e inorganica (Codice GSD: 03/CHEM-03) e CHEM-05/A Chimica organica (Codice GSD: 03/CHEM-05)
Scientific coordinator and supervisor Prof. Maurizio Selva, Prof. Matteo Gigli
Duration 12 months
Abstract The processing of crustaceans and fish generates large quantities of waste, commonly disposed of as special waste, posing a significant challenge to the fishing industry and the environment. However, these residues contain considerable amounts of organic and inorganic compounds, whose extraction and valorization are of great importance for the development of integrated sustainable and circular supply chains. In this context, the research project aims to address this challenge by studying new strategies for transforming fish waste into nanostructured materials with high applicability potential.
Specifically, the project will focus on: i) the isolation of chitin from fish waste by green approaches; ii) the preparation of chitin nanocrystals and functionalization strategies to modulate their physicochemical properties and study their self-assembling behavior; iii) the fabrication of biofilms from suitably modified and additivated chitin nanocrystals, and evaluation of their physic-mechanical and functional properties (antimicrobial, antioxidant, etc.); iv) the production of nanofibers from gelatin and (nano)hydroxyapatite derived from fish waste for application in tissue engineering and for the removal water pollutants.

Research fellowship results
The research fellow will produce the following deliverables:
• Final report

The research may be carried out in English.
The fellowship is intended to provide the successful candidate with the opportunity to pursue its own research while benefiting from the range of expertise at Università Ca' Foscari Venezia.

Who can apply

Prospective candidates are expected to hold a master's degree or equivalent title obtained abroad and a 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.

Duration of contract: 12 months (approximately starting in January 2025)

Stipend: the research fellowship amounts to 24.300,00 Euros per year gross percipient, net of charges to be borne by the institution.

Deadline for submission of applications: November 25, 2024 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.

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 at the following link**:**

https://apps.unive.it/domandeconcorso-en/accesso/inest04112024materiali

The candidate, after the uploading, will receive a submission number and an email 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 of **November 25, 2024 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 a 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.

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 short-list of the candidates admitted to the interview, the exact time or any postponement, will be published on the University's webpage on **December 04, 2024** (link).

Short-listed candidates will be invited for interview on **December 12, 2024 (Italian time)**.
The interview will be held in remote only. Further details on how to connect online will be published alongside the convocation notice.

It is the candidate's responsibility to check the admission results and, if admitted, to show up at the required date and time.

The interview may ascertain knowledge of the following topic:

- Strategies for the extraction of polysaccharides, inorganic compounds, and proteins from waste matrices of the fish industry;
- Strategies for chemical functionalization of polysaccharides;
- Methodologies for the production of nanostructures (nanoparticles, nanofibers, nanocrystals) from biobased matrices;
- Characterization techniques for the determination of physicochemical properties of biopolymers;
- Characterization techniques for determining the size and morphology of nanostructures;
- Testing for the evaluation of antibacterial and antimicrobial activity of low-weight molecules and bionanocomposites.

English language proficiency will also be assessed.

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 CESA, email: inest_pnrr@unive.it