

**Research fellowship on “Development of lignocellulosic biomass materials for environmental applications” - 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 lasting 18 months titled “Development of lignocellulosic biomass materials for environmental applications”, SSD: CHEM-06/A, GSD: 03/CHEM-06, project PRIN 2022 titled “Lignin Utilization to Cultivate Engineered microalgae for polysaccharides accumulation (LUCE)”, COD. 2022AFJRZJ, CUP H53C24000740006, tutor and principal investigator: prof. Matteo Gigli.

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 project aims to valorize lignin, the primary byproduct of the pulp and paper industry, by utilizing it as stimulant for the production of polysaccharides by microalgae. Initially, various technical lignins will be selected, characterized and fractionated, and their solubility in culture media will be assessed. Additionally, lignin model compounds will be synthesized to test their efficacy in stimulating algal growth. Subsequently, sustainable methodologies will be developed for the extraction of different components from algal biomass, with a specific focus on polysaccharides and lipids. Nanocrystals and nanofibrils will be produced from the obtained cellulose and characterized in terms of size and morphology. Finally, lignin nanoparticles will be synthesized and added to polysaccharide matrices to develop bionanocomposites for active packaging applications. The produced materials will be characterized in terms of their physico-mechanical and functional properties such as antioxidant activity, UV protection, and antimicrobial activity.*

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.

### **Who can apply**

Prospective candidates are expected to hold a master's degree in **Master Degree in Chemistry, Industrial Chemistry, Environmental Sciences, Materials Sciences**, or related disciplines.

Preferred fields of specialization are:

- a. PhD graduation;
- b. the completion of attendance of a PhD course pending the awarding of the title;
- c. specialization diplomas and certificates of attendance of post-graduate specialization courses, obtained both in Italy and abroad, the carrying out of documented research activities at public and private entities with contracts, scholarships or assignments both in Italy and abroad.



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:** 18 months (approximately starting: February 2025)

**Stipend:** The research fellowship amounts to 19.456,30 Euros per year, including taxes and social charges.

**Deadline for submission of applications:** January 13<sup>th</sup> 2025, 12.00 noon.

#### 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. Declaration on availability to held the interview in remote ([Link](#)) to be send via email at the following address: [ricercar.dsmn@unive.it](mailto:ricercar.dsmn@unive.it);
7. 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://apps.unive.it/domandeconcorso-en/accesso/dsmn-18mesi-prin2022gigli>

#### By inserting their Italian Tax Code.

Foreign citizens not yet in possession of the Italian Tax Code can use the following link

<https://apps.unive.it/utills/cf> to obtain a temporary one and be able to proceed with the request.

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 January 13<sup>th</sup> 2025. 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.

### Evaluation

Up to 100 points, specifically:  
For qualifications, publications and possible tests, from 0 to 60;  
For interview, from 0 to 40.

### Selection procedure

Short-listed candidates will be invited for interview on

**January 21<sup>st</sup> 2025 at 9:30 a.m.**

**by remote at the link:**

**[meet.google.com/ojg-pitt-efs](https://meet.google.com/ojg-pitt-efs)**

The short-list of the candidates admitted to the interview, or any postponement, will be published on the University's webpage on January 17<sup>th</sup> 2025 ([link](#)). The interview will be held in remote only.

### 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](mailto:ricerca.dsmn@unive.it),  
Ph: 0412348633/8514.

The Head of Department of  
Molecular Sciences and Nanosystems  
Prof. Maurizio Selva

Responsible for administrative procedure  
The Secretary of Department  
Mrs. Sonia Barizza