



Università
Ca' Foscari
Venezia

Dipartimento di Scienze
Molecolari e Nanosistemi

Dipartimento di Scienze Molecolari e Nanosistemi
Università Ca' Foscari Venezia
Campus Scientifico – Via Torino 155, 30170 Mestre (VE)
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Research fellowship on “Development of a catalytic process to convert CO₂ and propylene into propylene carbonate”- 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 Nanosystems and Molecular Sciences at Università Ca' Foscari Venezia invites applications for a fellowship in: “**Development of a catalytic process to convert CO₂ and propylene into propylene carbonate**”, GSD: 03/CHEM-04 SSD: CHEM-04/A, GSD: 03/CHEM-06 SSD:CHEM-06/A, GSD: 03/CHEM-07 SSD: CHEM-07/A, lasting 12 months, principal investigator and tutor: prof. Alvise Perosa, project “Collaborative research agreement between the company Braskem America Inc. and the DSMN - Scientific Manager prof. A. Perosa”, acronym “SMN. BRASKEM”, CUP: H73C24000500007.

Abstract

The research group where the postdoctoral fellow will work has developed a homogeneous catalytic methodology for the assisted-tandem direct oxidative carboxylation of terminal olefins into the corresponding cyclic organic carbonates using hydrogen peroxide and carbon dioxide. In this project, the postdoctoral fellow will develop and study new catalysts (both homogeneous and heterogeneous), new oxidants (peroxides, air, oxygen), and new reaction conditions (tandem in batch, continuous) for the direct conversion of a gaseous olefin such as propylene to produce propylene carbonate, without isolating propylene oxide.

Who can apply

Prospective candidates are expected to hold a **master degree in chemical and chemical-engineering disciplines or related disciplines.**

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:

- holding a PhD,
- having completed the attendance of a PhD program, although not having yet obtained the PhD title;
- specialization diplomas and attendance certificates at post-graduate specialization courses, obtained both in Italy or abroad, documented research activity in public and private organizations with contracts, study grants or assignments both in Italy and abroad;

Duration of contract: 12 months, approximately starting in October 2024.

Stipend: The research fellowship amounts to **36.480,57 Euros** per year, including taxes and social charges.

Deadline for submission of applications: 02nd September 2024 at 12.00 noon (Rome CET).

How to apply:

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: ricerca.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](#)).

Incomplete applications will be rejected.

How to submit your application

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

<https://apps.unive.it/domandeconcorso-en/accesso/dsms-arbraskem2024>

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 **of 02nd September 2024**.

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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Topics of the interview:

-Knowledge of:

- synthesis and characterization of both homogeneous and heterogeneous catalysts, ionic liquid synthesis, development of catalytic reactions, use of gaseous reagents, reactions under pressure, continuous flow reactions, use of CO₂ as reagent/solvent,
- organic synthesis, oxidation reagents, chemical characterization of products, NMR, GC, MS;

- assessment of the Italian language for foreign candidates and/or assessment of knowledge of the foreign language English.

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 19/09/2024 at 11:00 a.m.

by remote at the link:

meet.google.com/tms-oese-goj

The short-list of the candidates admitted to the interview and the related calendar, or any postponement, will be published on the University's webpage on 13th September 2024. ([link](#)).

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 Research Office, email: 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