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Venezia

## Marie Curie Post-doc Positions at Ca' Foscari University of Venice

**“Expression of Interest” for hosting Marie Skłodowska-Curie Fellows – Call 2019**

### 1. Interested institution (legal person):

Ca' Foscari University of Venice

### 2. Department/Centre:

Department of Molecular Science and Nanosystems

*The Polyphenols Chemistry & material Science laboratory at Ca' Foscari university in Venice is one of the few Italian Laboratories with significant R&D activities in the field of sustainable chemistry and materials with a specific focus in lignin biorefinery, development of new hybrid materials and nanomaterials from renewable polyphenolic biopolymers. The work is focused at their structural characterization, catalysis, biomimetic catalysis and biotechnology in lignin, lignans and tannins oxidative modifications.*

Present research activity is mainly directed towards the following topics:

- Development of new hybrid nanomaterials from lignins: Lignin nanostructures; Lignin nanocapsules and nanoparticles for active controlled release; Lignin nanofibers for biomedical and cosmetic devices, carbon nanoparticles and nanofibers from lignin nanostructures.
- Development of new materials and products by structural modification of natural polyphenols: person and home care products development with specific adhesion properties on hard surfaces.
- Lignin purification and catalytic upgrade *via* flow processes.
- Development of supported catalysts and biomimetic catalysts for the activation of oxygen and hydrogen peroxide to the selective oxidation and functionalization of natural substances.
- Biocatalysis in processes of lignin degradation.
- Structural characterization of polyphenolic biomolecules (lignins and tannins) by advanced heteronuclear NMR techniques and quantitative 2D heterocorrelated NMR spectroscopy.
- Study of supramolecular association-dissociation behavior in lignin. Structural characterization of archaeological wood materials. Evaluation of ageing processes.

### 3. Position, scientific requirements, topic, scientific panel:

#### Position:

Post-doc Position

#### Scientific requirements:

PhD in Chemistry

The fellow should have experience in Lignin chemistry and/or polymer chemistry or organic chemistry.

The fellow should have leadership abilities and international experience in research and/or teaching.

#### Topic(s):

We are interested in Marie Skłodowska-Curie research proposals covering the following topics:

- 1) Development of new hybrid nanomaterials from lignins
- 2) **Development of new materials and products by structural modification of natural polyphenols**
- 3) Lignin purification and catalytic upgrade *via* flow processes.
- 4) Study of supramolecular association-dissociation behavior in lignin. Structural characterization of archaeological wood materials. Evaluation of ageing processes.
- 5) **Structural characterization** of polyphenolic biomolecules (lignins and tannins) by advanced heteronuclear NMR techniques and quantitative 2D heterocorrelated NMR spectroscopy



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**Scientific Panel:**

- X Chemistry (CHE)
- Social Sciences and Humanities (SOC)
- Economic Sciences (ECO)
- Information Science (ENG)
- Environment/Climate changes (ENV)
- Life Sciences (LIF)
- Mathematics (MAT)
- Physics (PHY)

For further details, see the list of descriptors: [http://ec.europa.eu/research/participants/data/ref/h2020/other/guides\\_for\\_applicants/h2020-guide-appl-msca-if\\_en.pdf](http://ec.europa.eu/research/participants/data/ref/h2020/other/guides_for_applicants/h2020-guide-appl-msca-if_en.pdf)

**4. Contact person:**

Prof. Claudia Crestini

Email: [Claudia.crestini@unive.it](mailto:Claudia.crestini@unive.it)

**5. Deadline and proposal drafting:**

Next MSCA-IF Call deadline is **September 11<sup>th</sup>, 2019**.

Drafting a Marie Curie proposal requires some time to be accurately revised and shared with the supervisor and the research advisors. Please contact us as soon as possible and **no later than May 31<sup>st</sup>, 2019**.

**6. Further information:**

Marie Skłodowska-Curie Individual Fellowships – IF: <http://www.unive.it/pag/28536/>

Meet our fellows: <http://www.unive.it/pag/30982/>

Ca' Foscari International Research Office, Individual Funding Unit – [mariecurie@unive.it](mailto:mariecurie@unive.it)