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UOR-RPA SGPD – Servizio Gestione Personale Docente  
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Oggetto Bando di selezione per il conferimento di assegni di ricerca  
Subject Selection call to grant temporary research fellowships for  
research activities

Dipartimento di Chimica, Materiali e Ingegneria Chimica “Giulio Natta”  
Department of Chemistry, Materials and Chemical Engineering “Giulio Natta”

Titolo del Programma di Ricerca

Nanovettori per il recupero di prodotti ad elevato valore aggiunto da rifiuti  
urbani

Ricerca nell'ambito del progetto Cariplo 2019 REVENUE

Research Title

Nanoplatfrom for recovery of high value products from urban biowaste

Research within the framework of the Cariplo 2019 REVENUE project

Codice Procedura / Procedure Code 2020\_ASSEGNI\_DCMC\_21

Scadenza / Deadline 16/10/2020

## SELECTION CALL TO GRANT TEMPORARY RESEARCH FELLOWSHIPS FOR RESEARCH ACTIVITIES UOR DCMC

**HAVING REGARD** to the Law of 9.5.1989, n. 168, and in particular Article 6, according to which the Universities are allowed to issue autonomous regulations;

**HAVING REGARD** to Law 24.12.1993, n. 537, "Corrective actions of public finance";

**HAVING REGARD** to the Decree of the President of the Republic of 28.12.2000, n. 445 - Consolidated laws and regulations on administrative documentation and subsequent amendments and additions;

**HAVING REGARD** to Legislative Decree n. 196 of 2003, "Code concerning the protection of personal data" and later amendments;

**HAVING REGARD** to the Regulation (EU) 2016/679 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data;

**HAVING REGARD** the Legislative Decree n. 198 of 11 April 2006 "Code on equal opportunities between man and woman, by virtue of Article 6 of Law No. 246 of 28 November 2005", and later amendments;

**HAVING REGARD** to the Law of 30.12.2010, n. 240, and in particular Article 22;

**HAVING REGARD** to Directorial Decree 29.7.2011, n. 336 "Determination of the call sectors grouped into call macro-sectors pursuant to Article 15 of Law 240/2010" and later amendments;

**HAVING REGARD** to Rector's Decree n. 41/AG of 17 May 2005, by which is issued the Regulation on the contribution for participation both in reserved internal examinations and in public entrance examinations organised by Politecnico di Milano;

**HAVING REGARD** to the Statute of Politecnico di Milano adopted by Rectoral Decree n. 623/AG on 23/2/2012, published on the O.J. of 2/3/2012, n. 52;

**HAVING REGARD** to Rectoral decree n. 667/AG of 28.02.2011 by which has been issued the Regulations for granting of temporary research fellowships for research activities on internally funded programmes, as amended by Rectoral Decrees No. 2471 of 02.10.2012, 3455 of 13.10.2014, 4674 of 19.12.2014, 2013 of 30.04.2015, 3398 of 29.07.2016, 8268 of 20.12.2017 and n. 6605 of 27.09.2018 and further modified with Rectoral Decree n. 3983/AFNI of 29.05.2019;

**HAVING REGARD** to the resolution of the Department of Department of Chemistry Materials and Chemical Engineering by which it is approved the call proposal for a public selection for the assignment of n° 1 temporary research fellowship to carry out the research activity, on a fixed-term basis, within the programme called "Nanoplatfrom for recovery of high value products from urban biowaste ";

**PROVIDED** the financial availability,

### **Article 1 - Scope of the contract**

A public selection is hereby organized to grant n° 1 temporary research fellowship to grant research activity, on a fixed-term basis:

**Department:** Department of Chemistry Materials and Chemical Engineering

**Location:** DIPARTIMENTO DI CHIMICA, MATERIALI E INGEGNERIA CHIMICA "GIULIO NATTA"

**Area:** 09 - Industrial and Information Engineering

**Academic Discipline:** ING-IND/23 - APPLIED PHYSICAL CHEMISTRY

**Duration of the contract (months):** 12

**Expected start date of activity:** 16 november 2020

## **Article 2 - Research Programme**

### **Research Title (and research sub-programme):**

Nanoplatfrom for recovery of high value products from urban biowaste  
Research within the framework of the Cariplo 2019 REVENUE project

### **Research programme description:**

In circular bioeconomy, the recycling of biowaste is a crucial strategy for optimizing the use of the available biomass resource base. Urban biowaste is traditionally seen as a costly problem in economic and environmental terms. This equation can be reversed by designing more effective recovery and processing systems to turn organic waste into a source of value and contribute to restoring natural capital. The liquid fraction, rich of solubilized organics due to thermal pretreatment, will be fermented into marketable fatty acids as short-chain-carboxylates and recovered using magnetic nanoparticles.

### **Starting and implementation of the research programme:**

Development and optimization of methods of extraction and adsorption of produced volatile fatty acids with innovative magnetic nanoparticles in order to increase values of products and expand the range of application.

### **Activities that the Temporary Research Fellow will carry out, obligations of the Temporary Research Fellow and conditions :**

Synthesis and characterization of magnetic nanoparticles and adsorption tests of liquid fraction from waste.

### **Countries and structures in which the research activity can be carried out:**

EUROPA

## **Article 3 - Participation requirements**

In order to participate to the selection procedure, candidates must possess a **"Laurea Magistrale" (equivalent to Master of Science) of the classes (LM-21) Biomedical engineering or (LM-22) Chemical engineering or related degrees that are considered equated and equivalent ex lege or other possible qualifications that are considered equivalent ex lege to the corresponding degrees under the old educational system<sup>1</sup>**

If the academic qualification/s mentioned above is/are/was/were obtained abroad, it/they must be the official qualification/s of the foreign university system, issued by an institution officially recognized in the foreign system of reference. With reference to the Master of Science mentioned in the previous paragraph, if obtained abroad, this must be equivalent, for the sole purpose of selection, by type, level and correspondence of study subject, to the related Italian qualification indicated above and it can allow the access to a Ph.D. programme in Italy.

Equivalence, as regards the correspondence of study subjects, will be notified by the Head of the Department where the research activity will be carried out.

**Candidates must have obtained the required academic qualifications by the deadline indicated in Article 4, in order for the application to be valid.**

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<sup>1</sup> The Interministerial Decree 9.7.2009 relating to the **equivalence** between old university system degrees, laurea specialistica and laurea magistrale study programmes, is made available at the following link: <http://attiministeriali.miur.it/UserFiles/3160.pdf>  
The Interministerial Decrees that establish the **equipollence** of Italian academic qualifications applied to participation in public calls for application are available at the following link: <http://www.istruzione.it/archivio/web/universita/equipollenze-titoli.html>

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#### **Article 4 - Application and participation deadline**

**For the purposes of selection, the candidate must fill out and send, within the compulsory deadline of 16 October 2020 or s/he will be excluded from the call, the admission application by accessing the Online Services of Politecnico di Milano - section Open competitions and selections - Open competition/selection for allocation of job/post - Calls for temporary research fellowships, and attach what required by the Call.**

If the aforementioned deadline falls on a holiday, it will shift to the immediately next weekday other than a holiday.

#### **Article 5 - Participation contribution**

Applicants must pay by the deadline for submitting the application, and under penalty of exclusion from the selection procedure, a contribution fee of **25.82 Euro**, without the right to a refund in the event of non-participation for any reason, through the unified system for electronic payments to the public administration **PagoPA**, following the instructions of the online application submission procedure.

Alternatively, **only for those who are unable to proceed with the aforementioned payment system** (in particular, in case of payments made abroad if the candidate is not a credit card holder, or in case the credit card is not accepted by the system), it is possible to proceed through a bank transfer on the Current Account registered to Politecnico di Milano - P.zza Leonardo da Vinci, 32 - 20133 Milan, with the following bank details:

**IBAN: IT34T0569601620000001600X69 SWIFT: POSOIT22**

Reason for payment: "(...) Procedure Code 2020\_ASSEGNI\_DCMC\_21".

**Is required to upload the payment receipt/authorization.**

#### **Article 6 - Exclusion and withdrawal**

The candidate is provisionally admitted to the selection. The Head of the Procedure can decide, at any time, to **exclude from the selection** by fax, registered letter, telegram or PEC, for the following reasons:

- **the electronic submission of the admission application after the compulsory deadline mentioned in Article 4 of the call;**
- **lack of a professional scientific curriculum vitae written in Italian or English;**
- **lack of the copy of a valid identity document;**
- **failure to pay the participatory contribution within the deadline provided;**

- **lack of compliance with requirements of Article 3 of the call;**
- **incompatibility situations of Article 14 of the call;**
- **Any other breach of the requirements of the call.**

If the reasons for the exclusion have been ascertained after the selection process, the Head of the Procedure **can withdraw the rights for participation in the selection**; the withdrawal of candidates will be applied to candidates that stated false declarations in the admission application for the selection or false declarations given, according to the Presidential Decree 445/2000.

### **Article 7 - Selection Board**

The selection is carried out by a specialized Commission, appointed by Directorial Decree, whose members are designated by the Director of the Department concerned.

The Commission consists of three components chosen among professors and researchers with research experience on the topics subject of the call, guaranteeing, as a rule, adequate gender representation.

### **Article 8 - Selection procedure**

The selection board proceeds to the selection, for which it has a total of **100 points**, by the evaluation of qualifications and curriculum vitae submitted by the candidate and the interview, taken through the procedures defined by the board, aimed at assessing the candidate's aptitude for the research object of the selection , according to the following criteria:

- **Relevance of qualifications with the research programme object of selection points 10**
- **Consistency of the candidate's overall profile with respect to the content of the research programme object of selection points 10**
- **Relevance of publications, thesis and scientific products presented with the research programme object of selection points 10**
- **Interview aimed at ascertaining the candidate's aptitude for the research object of the selection points 70**

Texts accepted for publication can be considered for the assessment. The abstracts of the university graduation thesis/scientific publications/texts accepted for publication/scientific products can also be assessed. In case it will be submitted more than 3 publications/texts accepted for publication (or related abstracts), only the first three documents will be evaluated. Furthermore, the university graduation thesis/scientific publications/texts accepted for publication/scientific products (or related abstracts), in order to be evaluated, must be submitted and/or written/translated in one of the following languages: Italian, English, French, German and Spanish. The translated texts must be submitted together with the text in the original language.

**The selection is considered as successfully passed with a minimum score of 70 points.**

In the event of an equal score, the holder of a Ph.D. qualification, where not necessarily required for the purposes of admission to this selection, will be considered as preferential title for the assignment of the temporary research fellowship. After that, preference shall be accorded to the younger candidate.

## **Article 9 - Selection interview**

**The interview**, aimed at assessing the candidate's aptitude for the research object of the selection, **will be held**, unless there is an impediment by one or more members of the selection board to be present or connected electronically and it is not possible to replace him/her/them<sup>2</sup>, **on 02/11/2020 at 14:30 , exclusively by means of teleconference.**

**Candidates must ensure that the workstation from which they will perform the interview is equipped with a webcam, essential for their recognition, as well as a microphone and headphones/audio speakers.**

**At the beginning of the interview, candidates must present a valid identity document to the Commission, preferably using the one previously attached to the application.**

**This call is also a convocation notification for candidates.**

**Failure to connect electronically to the interview, on the established date and time, or late connection, even if due to force majeure, will be considered as a waiver of participation in the selection.**

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<sup>2</sup> In this case, it will be responsibility of the P.A. notify candidates of any change of the interview date.

## **Article 10 - Approval of the Procedure and Ranking list**

The decree approving the procedure and the ranking list of the winner candidates and other suitable candidates for selection will be published on the Official Noticeboard of Politecnico di Milano and on the Politecnico Web site.

The publication on the Web site counts as official notification to candidates pursuant to the law.

From the date of publication of the aforementioned decree, it will start the terms for submitting appeals.

## **Article 11 - Conditions for execution of the contract and the commencement of activities**

**The candidate declared winner of the selection who has obtained abroad the qualifications required in Article 3 above** , if these qualifications have not already been declared equivalent in accordance with the legislation in force, must send to the Teaching Staff Management Service, before signing the contract or they will forfeit the right to sign it:

- the original or authenticated copy of the foreign academic qualification, legalised<sup>3</sup> and accompanied by a certified or sworn translation (in Italian, English, French or Spanish if written in a language different from those mentioned above);
- the diploma supplement, or the certificate of equivalence of qualification, or the transcripts of examinations taken relating to the degree required for participation<sup>4</sup>.

**For non-EU candidates who are not yet in possession of an Italian Residence Permit, this submission must be compulsorily carried out before the starting of activity.**

**Non-EU candidate declared winner of the selection procedure and who obtained the qualification**

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### **Starting and implementation of the research programme:**

Development and optimization of methods of extraction and adsorption of produced volatile fatty acids with innovative magnetic nanoparticles in order to increase values of products and expand the range of application.

### **Activities that the Temporary Research Fellow will carry out, obligations of the Temporary Research Fellow and conditions :**

Synthesis and characterization of magnetic nanoparticles and adsorption tests of liquid fraction from waste.

### **Countries and structures in which the research activity can be carried out:**

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