

Partnering Opportunity

Profile Status: Published

Research & Development Request

Industrial partner sought for a joint doctorate / advanced training in mechanistic electrochemical studies, call H2020-MSCA-ITN-2020.

Summary

A consortium of European universities require industrial partners to participate in a European Joint Doctorate (call H2020-MSCA-ITN-2020) in the field of electrochemistry. The cooperation will be based on the placement of highly trained PHd in industries to study the fundamentals of mechanistic electrochemistry with the aim of developing novel electrocatalytic materials and to testing them in real conditions.

Creation Date	18 November 2019
Last Update	21 November 2019
Expiration Date	10 January 2020
Reference	RDES20191118001
Public Link	https://een.ec.europa.eu/tools/services/PRO/Profile/Detail/e58cd0f1-bf72-449c-bfbc-8b47472a3526

Details

Description

A consortium of universities is searching for industrial partners whose main activity focuses in the field of Electrochemistry that might be willing to participate in an application for a European Joint Doctorate under the call H2020-MSCA-ITN-2020. The company should have activities related with fuel cells development, chlor-alkali or chlorate processes, metal electrodeposition and/or an interest in nanoparticle catalysts preparation for carbon dioxide reduction, oxygen/hydrogen reduction/evolution reactions or similar reactions.

The topic of the project is the mechanistic study of the electrochemical reactions related with the processes mentioned above. The projects seeks to study the fundamental details of these reactions, to develop novel electrocatalytic materials and to test them under real conditions.

The research partners of the consortium includes universities from France, Italy, Germany, Spain, Belgium and Finland. The academic partners have extensive experience in:

-Mechanistic studies of electrochemical reactions including the use of non-electrochemical techniques such as X-Ray absorption, IR and Raman spectroscopies and other ultrahigh vacuum related methodologies.

-Calculation of fundamental properties using computational methods such as DFT and molecular dynamics simulations.

-Scale up of electrochemical processes to pilot plan scale.

The goals of the project will be:

-Synthesis and characterization of more efficient materials and material architectures as electro-, photo-, and photoelectro-catalysts for energy conversion processes in combination with the production of value added products.

-Development of new methodologies/protocols for the characterization of the electrode materials and architectures.

-Study of electrodeposition processes in aqueous and ionic liquid solvents as a method for catalyst preparation with possible application in surface treatment and microelectronic applications.

-Test of the novel electrocatalytic materials in the pilot plan scale.

The role of the industrial partner will be to host one or several Early Stage Researchers during periods between 3 months to 1 year to complement the training of the researcher with an industrial perspective.

The network seeks to train 12-16 PhD students in a multidisciplinary programme involving training-by-research, joint courses of technical, scientific and transferrable skills, participation to scientific events, and an intense networking through an extensive plan of multiple secondments within the different academic and industrial partners.

The deadline for the call is 14 January 2020.

The deadline for reception of EOIs is on 10/January/2020.

Funding and further financial conditions will be set in accordance of the terms set on the call for proposals.

Advantages and Innovations

Through the research carried out in the project a greater understanding of the mechanism of the studied electrochemical reactions will be gained. Such knowledge will allow the rational development of new improved materials for the use as electrocatalysts in different reaction of industrial interest such as oxygen and hydrogen evolution or other reactions relevant in the field of fuel cells.

Stage of Development

Concept stage

IPR Status

Secret Know-how

Keywords

Technology

04002001

Fuel cells

04008003

Micro- and Nanotechnology related to energy

05001001 Analytical Chemistry
05001003 Inorganic Chemistry

Market

06001006 Chemicals and materials
08001017 Industrial chemicals
08001020 Electronic chemicals

NACE

M.72.1.1 Research and experimental development on biotechnology
M.72.1.9 Other research and experimental development on natural sciences and engineering
M.72.2.0 Research and experimental development on social sciences and humanities
P.85.4.1 Post-secondary non-tertiary education
P.85.4.2 Tertiary education

Network Contact

Issuing Partner

ZACHODNIOPOMORSKI UNIWERSYTET TECHNOLOGICZNY W SZCZECINIE

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Open for EOI : Yes

Client

Type and Size of Organisation Behind the Profile

Ref: RDES20191118001

University

Year Established

1979

Already Engaged in Trans-National Cooperation

Yes

Languages Spoken

English
Spanish

Client Country

Spain

Partner Sought

Type and Role of Partner Sought

Industrial partners whose main activity is based on the field of Electrochemistry. The company should have activities related with one or various of the following topics:

- fuel cells,
- chlor-alkali or chlorate processes,
- metal electrodeposition,
- Ink catalysts preparation for carbon dioxide reduction, oxygen/hydrogen reduction/evolution reactions or fuel cell related reactions.

Type and Size of Partner Sought

SME 11-50, SME <10,>500 MNE,251-500,SME 51-250,>500

Type of Partnership Considered

Research cooperation agreement

Program - Call

Framework Program

H2020

Call title and identifier

MSCA-ITN-ETN European Training Networks, MSCA-ITN-EJD European Joint Doctorates ,
MSCA-ITN-EID European Industrial Doctorates.

Marie Skłodowska-Curie Innovative Training Networks / Call ID: H2020-MSCA-ITN-2020.

Coordinator Required

No

Deadline for EOI

10 Jan 2020

Ref: RDES20191118001

Deadline of the Call

14 Jan 2020

Project Duration

208 week(s)

Weblink to the Call

<https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/msca-itn-2020>