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EXPRESSIONS OF INTEREST (EOI) TO  
BE HOST INSTITUTION OF  
RESEARCHERS APPLYING TO  
MARIE SKLODOWSKA CURIE ACTIONS  
– INDIVIDUAL FELLOWSHIPS

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UNIVERSITAT  
POLITÈCNICA  
DE VALÈNCIA

30 DE MAYO DE 2017

UNIVERSITAT POLITÈCNICA DE VALÈNCIA (SPAIN)

Camino de Vera s/n – Valencia (Spain)

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## PRESENTATION

The 2017 European Call of the European Fellowship programme “Marie Skłodowska Curie Action – Individual Fellowships (MSCA IF)” will be open until next 14th September.

This European Fellowship Programme grants Experienced Researchers with a highly competitive salary, travel and personnel costs, during a research period from 12 to 36 months in a European Research Institution or in a combination of European and Third Country Institution (This last option only for Global Fellowships modality). It is open to all researchers having a PhD, or demonstrating a 4 year research experience, who fulfil a mobility rule, defined in the bases of the programme, and some other eligibility criteria.

Research Institutes, Centres and Departments at the Universitat Politècnica de València want to be Host Institution of Experienced Researchers applying for a MSCA IF Fellowship.

Following its Research areas, Universitat Politècnica de València offers 66 Expressions of Interest to be host institution of a research fellow in the different MSCA IF panels:

1. Chemistry
2. Social Sciences and Humanities
3. Economics
4. Information Sciences and Engineering
5. Environmental Sciences and Geology
6. Life Sciences
7. Mathematics
8. Physics

Universitat Politècnica de València (UPV) is the single Spanish Technical University that features in the main University world rankings. It is within the top 5 Spanish Universities with the highest revenue from both public research and knowledge transfer activities, and a national leader in patent license income and start up creation. Constituted in 1971, it comprises nearly 30.000 students, over 2500 academics, and 17 university research centres of excellence.

UPV has a relevant experience in the participation in international research programmes, with over 100 FP7 projects and 60 H2020 projects in the period 2014-2016. UPV researchers are also actively involved in all H2020 life program stages, from workprogramme drafting discussions, to project coordination. It is also taking part in several major partnering initiatives (JTs, PPPs, KICs...).

## PANEL 1. CHEMISTRY (CHE)

1. [Development of low modulus titanium alloys by powder metallurgy for biomedical applications](#)
2. [Development of conductive polymer-based materials for high-tech applications](#)
3. [Development of bio-based added-value polymer / polymer-based composites](#)
4. [Advanced encapsulation techniques of active chemicals from agricultural by-products for controlled delivery in active packaging.](#)
5. [Compact biophotonic platform for drug allergy diagnosis \(COBIOPHAD\).](#)
6. [Development of nanomaterials for controlled release applications.](#)
7. [Active films for food packaging applications based on biodegradable polymers](#)
8. [Synthesis and Electrochemistry characterization of protonic exchange membranes for energy application: PEMFC, DMFC, batteries and supercapacitors.](#)
9. [Synthesis and modification of new natural compatibilizers for application in mixtures of biobased polymers with application in medicine and packaging.](#)
10. [Use of biocompatible supports for the development of new antimicrobials and control release systems](#)
11. [Development of nanophotonic sensors for medical and environmental applications](#)
12. [Tuning the catalytic properties of Metal Organic Frameworks \(MOFs\) for the synthesis of fine chemicals](#)
13. [ABO<sub>3</sub> and A<sub>2</sub>X<sub>3</sub> compounds at extreme conditions of pressure and temperature](#)
14. [Development of fibre optic sensors for novel applications: ranging from medical to aerospace applications.](#)
15. [Searching new suitable zeolites for petrochemical applications using molecular dynamics](#)

## PANEL 2. SOCIAL SCIENCES AND HUMANITIES (SOC)

1. [Analysis of rhetoric elements of Academic English](#)
2. [Science, Technology and Society in the Early Modern period.](#)
3. [Profile: Science-society interaction and literary fiction](#)
4. [Profile: Academic knowledge flows, university-industry interaction channels and psychology of science](#)
5. [Privacy in Educational Social Contexts during the Childhood and Adolescence \(PESEDIA\)](#)
6. [Innovation in the study of dwelling](#)
7. [THE ARCHITECTURE OF THE FUTURE THROUGH ITS PRESENT TEACHING. Analysis of the Relationship Between Architectural Education and the Contemporary and Future Challenges of the Profession.](#)

## PANEL 3. ECONOMIC SCIENCES (ECO)

1. [IMPROVEMENT OF FOOD CONSUMPTION PATTERNS IN SPAIN: TOWARDS A MORE SUSTAINABLE AGRIFOOD CHAIN](#)
2. [Profile: Academic knowledge flows, university-industry interaction channels and psychology of science](#)

## PANEL 4. INFORMATION SCIENCES AND ENGINEERING (ENG)

1. [A Conceptual Model-driven Method for Big Data applications](#)
2. [Persuasion Technologies and their application to recommendation and decision-support systems - Intelligent System for integrated and sustainable management of urban fleets \(SURF\)](#)
3. [From requirements to code](#)
4. [Automated User Interface Testing](#)
5. [Design of Self-adaptive systems involving the human](#)
6. [Advanced topics on water resources and environmental engineering](#)
7. [Functionality of hydrocolloids in the reduction of in vitro lipid digestibility of food emulsions](#)
8. [Technologies for Emotional Virtual Human Organisations \(EmoTtech\)](#)
9. [Reversible computing in Erlang](#)
10. [Body Area Networks, 5G technologies, Digital Video Broadcasting](#)
11. [Modulation of brain activity \(neurofeedback\) to voluntarily control parameters related with pain perception in chronic pain patients](#)
12. [New applications of THz waves](#)
13. [IMMERSIVE & INTERACTIVE TV – Interactive and Immersive Omnidirectional and Multi-Sensorial Hybrid TV Consumption](#)
14. [Definition, implementation and objective/subjective assessment of media synchronization solutions for interactive and distributed Collaborative Virtual Environments, including multi-sensorial effects.](#)
15. [Dynamic Biomarkers based on Multiparametric Tissue Signatures for the follow-up and response to treatment assessment of patients with glioblastoma or prostate cancer](#)
16. [Development of nanophotonic sensors for medical and environmental applications](#)
17. [Novel optoelectronic devices based on silicon CMOS technologies](#)
18. [Development of online learning and interactive-predictive techniques for machine translation](#)
19. [Data Communication Solutions for Mobile Wireless Systems](#)
20. [Development of an intelligent application for face recognition by using profesional social networks as linkedin](#)

21. [GNSS and WSN Cloud Orchestration for Smart Agri-Food sector](#)
22. [Development of low modulus titanium alloys by powder metallurgy for biomedical applications](#)
23. [Privacy in Educational Social Contexts during the Childhood and Adolescence \(PESEDIA\)](#)
24. [Development of fibre optic sensors for novel applications: ranging from medical to aerospace applications.](#)
25. [Cardiac Regeneration Medicine](#)
26. [Building structures subjected to accidental actions/ extreme events](#)
27. [Exploring and exploiting the advanced multiobjective optimization tools for engineering applications.](#)
28. [Integration of artificial intelligence and latent variable-based multivariate statistical methods for Data Analytics in Big Data problems in Industry 4.0](#)
29. [Ubiquitous Networks for the Revolution of Mobile Communications](#)
30. [Persuasive Cognitive Assistants](#)
31. [Medical simulators for Cardiovascular system: personalized 3D-heart printing models for planning valve interventions \(Napoleon v.2\)](#)
32. [Electrohysterography: building bridges to clinical practice](#)

## PANEL 5. ENVIRONMENTAL SCIENCES AND GEOLOGY (ENV)

1. [Advanced topics on water resources and environmental engineering](#)
2. [Who is the culprit?](#)
3. [SILWAMED](#)
4. [Development of nanophotonic sensors for medical and environmental applications](#)
5. [Improvement of food consumption patterns in Spain: Towards a more sustainable agrifood chain](#)
6. [GNSS and WSN Cloud Orchestration for Smart Agri-Food sector](#)
7. [Innovation in the study of dwelling](#)
8. [Persuasion Technologies and their application to recommendation and decision-support systems - Intelligent System for integrated and sustainable management of urban fleets \(SURF\)](#)
9. [Advanced encapsulation techniques of active chemicals from agricultural by-products for controlled delivery in active packaging.](#)
10. [Synthesis and modification of new natural compatibilizers for application in mixtures of biobased polymers with application in medicine and packaging.](#)

## PANEL 6. LIFE SCIENCES (LIF)

1. [Functionality of hydrocolloids in the reduction of in vitro lipid digestibility of food emulsions](#)
2. [Use of biocompatible supports for the development of new antimicrobials and control release systems](#)
3. [Modulation of brain activity \(neurofeedback\) to voluntarily control parameters related with pain perception in chronic pain patients](#)
4. [Dynamic Biomarkers based on Multiparametric Tissue Signatures for the follow-up and response to treatment assessment of patients with glioblastoma or prostate cancer](#)
5. [SILWAMED](#)
6. [Development of nanophotonic sensors for medical and environmental applications](#)
7. [Ultrasonic assisted drying of by-products to obtain valuable products](#)
8. [New ways to improve the efficiency of microspore embryogenesis in recalcitrant solanaceae: study of hormonal regulation](#)
9. [New developments on PET detectors with high performance capabilities, especially focussed on sub 300 ps timing resolution.](#)
10. [Use of introgressomics for improvement of eggplant \(Solanum melongena\) and adaptation to climate change challenges](#)
11. [Compact biophotonic platform for drug allergy diagnosis \(COBIOPHAD\).](#)
12. [Alternative methods for the control of European eel reproduction](#)
13. [Active films for food packaging applications based on biodegradable polymers](#)
14. [Cardiac Regeneration Medicine](#)
15. [Medical simulators for Cardiovascular system: personalized 3D-heart printing models for planning valve interventions \(Napoleon v.2\)](#)
16. [Integrated weed management of Echinochloa spp. and Leptochloa spp. infestations in flooded rice fields.](#)
17. [Plant RNA viruses translocation through the plant and the pathogenesis process.](#)
18. [Electrohysterography: building bridges to clinical practice](#)
19. [ABA signaling. Extending half-life of ABA crop receptors to cope with drought stress](#)
20. [Development of fibre optic sensors for novel applications: ranging from medical to aerospace applications.](#)
21. [Novel optoelectronic devices based on silicon CMOS technologies](#)
22. [Innovation in the study of dwelling](#)
23. [Deciphering potassium transporter regulation in plants and yeast \(K-REG\)](#)



## PANEL 7. MATHEMATICS (MAT)

1. [Algorithms for Optimizing the Supply Chain Operations](#)
2. [Dynamic Biomarkers based on Multiparametric Tissue Signatures for the follow-up and response to treatment assessment of patients with glioblastoma or prostate cancer](#)
3. [Acoustic wave propagation in complex systems](#)
4. [Cardiac Regeneration Medicine](#)
5. [Integration of artificial intelligence and latent variable-based multivariate statistical methods for Data Analytics in Big Data problems in Industry 4.0](#)

## PANEL 8. PHYSICS (PHY)

1. [Novel optoelectronic devices based on silicon CMOS technologies](#)
2. [New applications of THz waves](#)
3. [Dynamic Biomarkers based on Multiparametric Tissue Signatures for the follow-up and response to treatment assessment of patients with glioblastoma or prostate cancer](#)
4. [Development of nanophotonic sensors for medical and environmental applications](#)
5. [Plasmomechanical devices: boosting cavity optomechanics via surface plasmons](#)
6. [ABO<sub>3</sub> and A<sub>2</sub>X<sub>3</sub> compounds at extreme conditions of pressure and temperature](#)
7. [New developments on PET detectors with high performance capabilities, especially focussed on sub 300 ps timing resolution.](#)
8. [Development of low modulus titanium alloys by powder metallurgy for biomedical applications](#)
9. [Acceleration of protons and ions by highly intense laser pulses](#)
10. [Acoustic wave propagation in complex systems](#)
11. [Cardiac Regeneration Medicine](#)
12. [Development of fibre optic sensors for novel applications: ranging from medical to aerospace applications.](#)
13. [Synthesis and Electrochemistry characterization of protonic exchange membranes for energy application: PEMFC, DMFC, batteries and supercapacitors.](#)