European Research Council
Working session
Ad hoc activity for Got Energy Talent MSCA fellows
23 July 2020

Location: Online – Blackboard Collaborate
Date: 23 July 2020
Time: 09:30-13:00
Registration: Send an email to tecnico.cofund@uah.es

ERC stands for European Research Council. Its mission is to encourage the highest quality research in Europe through competitive funding and to support investigator-driven frontier research across all fields, on the basis of scientific excellence.

The aim of this training session is to provide MSCA Cofund fellows and members of URJC and UAH research community with an overview and practical information about these grants and the application procedure, with success stories from URJC and UAH.

More information: https://eshorizonte2020.es/ciencia-excelente/consejo-europeo-de-investigacion-erc and https://erc.europa.eu/

09:30-09:45 **Welcoming words**
Elena García Barriocanal, Academic Director of the European Project Office of UAH, and Rosa María Mesa Vélez, Chief Director of the European Projects Office at Rey Juan Carlos University

09:45-10:45 **European Research Council – Overview – Starting & Consolidator Grants**
Estefanía Muñoz Sánchez, Spanish Expert and National Contact Point European Research Council (ERC) Programme. Oficina Europea - FECYT.

10:45-12:45 **Success stories – Exchange of experience**
Prof. Miguel González Herráez, UAH, Department of Electronics
https://www.uah.es/es/estudios/profesor/Miguel-Gonzalez-Herraez/

Prof. Miguel Angel Otaduy, URJC, Department of Computer Science
http://mslab.es/otaduy/

12:45–13:00 **Final remarks**

This project has received funding from the European Union's Horizon 2020 Research and Innovation Programme under the Marie Skłodowska-Curie grant agreement No 754382.

About the European Research Council

https://erc.europa.eu/

The ERC's mission is to encourage the highest quality research in Europe through competitive funding and to support investigator-driven frontier research across all fields, on the basis of scientific excellence.

The ERC complements other funding activities in Europe such as those of the national research funding agencies, and is a flagship component of Horizon 2020, the European Union's Research Framework Programme for 2014 to 2020.

Being 'investigator-driven', or 'bottom-up', in nature, the ERC approach allows researchers to identify new opportunities and directions in any field of research, rather than being led by priorities set by politicians. This ensures that funds are channelled into new and promising areas of research with a greater degree of flexibility.

ERC grants are awarded through open competition to projects headed by starting and established researchers, irrespective of their origins, who are working or moving to work in Europe. **The sole criterion for selection is scientific excellence.** The aim here is to recognise the best ideas, and confer status and visibility on the best brains in Europe, while also attracting talent from abroad.

ERC Grants

ERC STARTING GRANTS

Grants up to 1.5€ million for 5 years

For promising early-career researchers with 2 to 7 years experience after PhD

ERC CONSOLIDATOR GRANTS

Grants up to 2€ million for 5 years

For excellent researchers with 7 to 12 years experience after PhD

ERC ADVANCED GRANTS

Grants up to 2.5€ million for 5 years

For established research leaders with a recognised track record of research achievements

ERC PROOF OF CONCEPT

Lump Sum Grant of 150.000€

For existing ERC grant holders to bring their research ideas closer to market

SYNERGY GRANTS

Grants up to 10€ million for 6 years

To address ambitious research questions that can only be answered by the coordinated work of a small group of 2-4 principal Investigators

ADDITIONAL OPPORTUNITIES

For researchers wishing to work or gain experience in an ERC grantee's team

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OUR SPEAKERS

Prof. Miguel González Herráez is currently a Professor in Photonics at University of Alcala. His research interests are primarily related to distributed optical fiber sensing systems. He has received several important recognitions to his basic research activity and technology transfer contributions in this area, including the European Research Council Starting Grant and Proof of Concept, "Miguel Catalan" Prize given by the Regional Government of Madrid, and the "Agustin de Betancourt" prize of the Spanish Royal Academy of Engineering.

Experience in European Research Council

Prof. González Herráez has won two ERC grants. In 2013, his U-FINE (Ubiquitous optical FIbre NErve) was awarded a starting grant funded with € 1,477,330. The project run from 1 December 2012 to 31 May 2018.

About U-FINE: https://cordis.europa.eu/project/id/307441/es

> "Distributed fibre sensors have become a widely used tool for critical asset monitoring in civil engineering and energy transport. Beyond these specific fields, little or no application has been found for these sensors. The aim of U-FINE is to develop a new class of multi-scale distributed optical fibre sensors that would find use in a wide range of new application domains ranging from biomechanics to smart grids".

In 2020, Prof. González Herráez obtained a second grant from the ERC, category Proof-of-Concept, for his project Ocean-DAS (Ocean-Bottom Distributed Acoustic Sensors: new tools for Underwater Seismology). The project started on 1 January 2020 and will run until June 2021.

About Ocean-DAS: https://cordis.europa.eu/project/id/875302

> "Seismometers can detect and record waves emitted by even the smallest of earthquakes. While ocean-bottom seismometers (OBS) are useful in the study of offshore seismicity, they are expensive and their utility is limited by rapid data telemetry requirements and battery life. The EU-funded Ocean-DAS project will develop a low-cost deployable alternative for monitoring seismicity in remote areas of the ocean. It will retrofit existing optical fibre cables used for telecommunication and transform them (with no basic change in the cable) into powerful seismic sensing arrays. With an optoelectronic unit at the end of the cable (onshore), a full span of 50 km or more could be monitored, with thousands of measuring points interrogated."

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Prof. Miguel Ángel Otaduy Tristán is currently the director of the Multimodal Simulation Lab, and professor of computer science at URJC. He holds a BS in Electrical Engineering from Mondragon University, and MS and PhD in Computer Science from the University of North Carolina at Chapel Hill. From 2005 to 2008 he was a senior researcher at the Computer Graphics Laboratory at ETH Zurich. In his research, he designs computer models of biomechanics, the objects around us, and our interaction. He is co-founder and CSO of SEDDI, creating digital solutions for fashion. His lab is incubating CLAP, a solution for natural XR interaction.

Experience in European Research Council

Prof. Otaduy Tristán is recipient of ERC Starting Grant with his project ANIMETRICS (2012-2016), an ERC Consolidator Grant with his project TouchDesign (2018-2023), and three grants Proof-of-Concept (2020): FabricMetrics (2017-2018), CLAP (2019-2020), feelware project (2020-2022).

About ANIMETRICS: https://cordis.europa.eu/project/id/280135

> "The Animetrics project proposes a modeling and animation methodology, which consists of a multi-scale decomposition of complex processes, the description of the process at each scale through combination of simple local models, and fitting the parameters of those local models using large amounts of data from example effects. The modeling and animation methodology will be explored on specific problems arising in complex mechanical phenomena, including viscoelasticity of solids and thin shells, multi-body contact, granular and liquid flow, and fracture of solids."

About TouchDesign: https://cordis.europa.eu/project/id/772738

> "TouchDesign will define a formal and comprehensive computational design methodology for haptic synthesis, applied to both tactile digital communication and to computational design and fabrication of objects with desired tactile properties. Haptic synthesis will be formulated as an optimization problem, with the objective function defined based on haptic perceptual metrics, and with the design space defined by the high-dimensional parameter space of a fabrication process or a haptic interface."

And three grants proof-of-concept:

- Computer-Aided Fashion with Yarn-Level Fabric Models (FabricMetrics): https://cordis.europa.eu/project/id/713742/it
- Natural Hands for Intuitive Virtual 3D Interaction (CLAP): https://cordis.europa.eu/project/id/790469/es
- Computational Design Solutions for Touch Interfaces (feelware): https://cordis.europa.eu/project/id/899961

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Estefanía Muñoz Sánchez is currently Spanish Expert and National Contact Point ERC Programme at FECYT. She holds a MS in Urban and Regional Planning from Universidad Politécnica de Madrid (UPM), a BS in Anthropology from UNED and MS in Architecture from Universidad de Alcalá de Henares. Since 2009 she has been linked to international R&D projects and programmes, promoting funding opportunities and advising in the design and implementation of a wide number of proposals at the International Projects Office at UPM, where she worked during more than ten years. She has extensive experience as a trainer of the European. Framework Programmes for R&D and especially in the European Research Council.

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