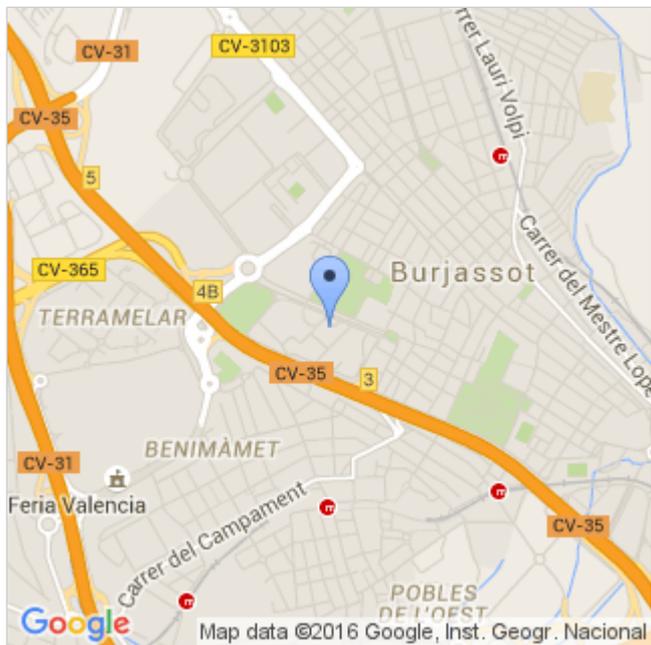


Expression of Interest



Contact Person/Scientist in Charge

- **Name and surname:** David Santamaria
- **Email:** David.Santamaria@uv.es

Universitat de València – Estudi General

Department / Institute / Centre

- **Name:** Instituto de Ciencias de Materiales -Departamento de Física Aplicada, Universidad de Valencia
- **Address:** C/Dr. Moliner 50, Burjassot, E-46100, Valencia, Spain
- **Province:** Valencia

Research Area

- Environmental Sciences and Geology (ENV)

Brief description of the institution:

The University of Valencia (UV) stands out as one of the main public research organisations in Spain, with more than three thousand researchers integrated in 90 departments, 19 institutes and other research units belonging to social, biomedical, human, experimental and formal sciences. Along with human resources, the UV state-of-art premises and facilities, guarantee the quality of a vast scientific and technological offer available to the service of society.

The UV is a leading academic organisation at national level. Shanghai 2014 ranks UV among the top 200-300 universities in the world, and 4th best university in Spain. As per URAP 2014, the University of Valencia ranks third among all Spanish universities, first in Valencia region and 193th in the world. University of Valencia is participating in several European projects under the subsequent RTD European Framework Programmes (I to VIII) and other European programmes: Erasmus, Leonardo, Life+, Cost, Third Health Programme, EEA Grants, Daphne III, Creative Europe... acting as several roles: coordinator, contractor, associated contractor, member, host institution... having experience in the development and

management of more than 300 European projects as a whole.

UV participated in 78 community actions financed under the VII FP (CSA, Collaborative Projects, MSCA, ERC grants, etc.) with the role of coordinator in 29 of them. Currently, we are participating in 20 projects financed under Horizon 2020, with the role of coordinator in 8 of them, and 16 projects under several European Programmes other than H2020

Brief description of the Centre/Research Group (including URL if applicable):

The research group is dedicated to study of materials and minerals under extreme pressure and temperature conditions. A part of the efforts of the group is also dedicated to the creation of novel materials, with potentially revolutionary properties and applications. The group works in a variety of subjects that goes from melting of metal and CO₂ trapping to semiconductor physics. We use different techniques: XRD, Raman, Optical measurements, transport measurements, laser heating, etc. and have several diamond-anvil cells and large-volume presses. The group is part of ICMUV (www.uv.es/icmuv/) and is part of the MALTA Consolider Consortium (<http://www.malta-consolider.com/>).

Project description:

We are looking for an experienced researcher to jointly apply for individual fellowships to the Marie Skodowska-Curie actions. The researcher would work in the group under the supervision Dr. David Santamaria-Perez and be involved in exploring the existence of novel carbonate phases and study the stability of oxidized vs reduced carbon forms at high pressures and temperatures. The researcher will have the unique opportunity of being involved in a dynamic group with large experience in extreme P-T conditions techniques and a number of active international collaborations.

We aim to explore the chemistry of oxidized carbon up to 1.5 Mbar and 5000 K. Phase diagrams and boundaries of (i) binary CO₂:SiO₂ and (ii) Earth's more representative systems will be determined, including the reduction conditions of carbonates. The crystal chemistry and reactivity of high-pressure carbonates will be analyzed using cutting-edge techniques such as diamond-anvil cells and heating lasers together with concurrent in situ characterization techniques, in both synchrotron radiation and in-home facilities.

Applications

Candidates should be excellent experienced researchers since the fellowships are granted in competitive process. Applications must be received by August 15th, 2016 (preferably by July 15th, 2016). They should include: Curriculum vitae; List of publications; Summary of past research; Research interests, and Contact address and affiliation of three persons who can provide references for him/her.