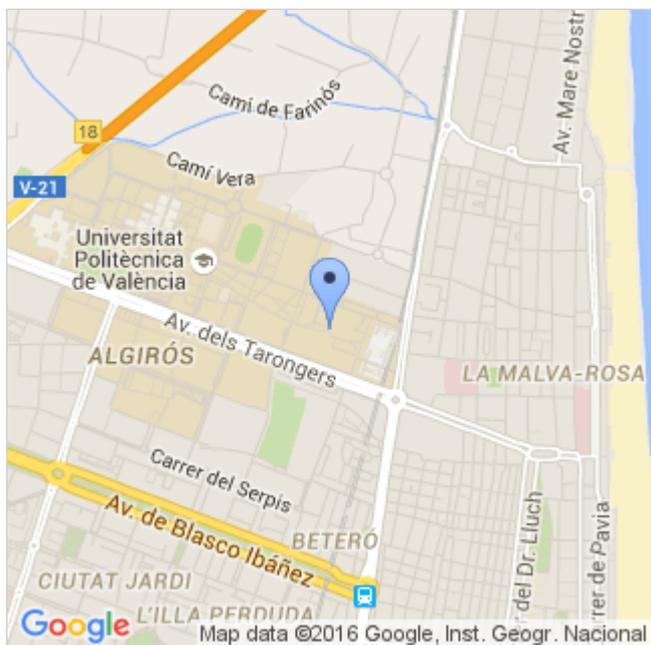


Expression of Interest



Contact Person/Scientist in Charge

- **Name and surname:** Luis M. Garcia-Raffi
- **Email:** lmgarcia@mat.upv.es

Universitat Politècnica de València (UPV)

Department / Institute / Centre

- **Name:** Instituto Universitario de Matemática Pura y Aplicada - Universitat Politècnica de València
- **Address:** Campus de Vera; Camino de Vera, s/n; Valencia (46022)
- **Province:** Valencia

Research Area

- Mathematics (MAT)
- Physics (PHY)

Brief description of the institution:

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 40 H2020 projects in the period 2014-2015. UPV researchers are also actively involved all H2020 life program stages, from workprogramme drafting discussions, to project coordination. It is also taking part in several major partnering initiatives (JTIs, PPPs, KICs...).

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

The institute of mathematics “Instituto Universitario de Matemática Pura y Aplicada IUMPA” was created in 2003 in the Universitat Politècnica de València. It is located in the Ciutat Politècnica de la Innovació, a building inside the University conceived especially for research and development. The Institute is devoted to research and training in pure and applied mathematics. The group of Functional Analysis and Application to Physics (Funaphy) is an interdisciplinary research group devoted to the study of mathematical problems and their applications to other areas. Some members of the Group collaborate with the group of Waves in Complex Media belonging to the "Instituto de Inv. para la Gestión Integrada de Zonas Costeras (IGIC)" at UPV. This group focuses their activity in the field of physics and more specifically in the field of propagation of acoustic waves through periodic, quasiperiodic, and complex systems in linear and nonlinear regime.

Project description:

Acoustic wave propagation in complex systems

On the base of basic and applied research in acoustics, we are interested in studying novel physical phenomena of sound waves interacting with artificially structured and periodically modulated linear and nonlinear media. Such media include the so called sonic or phononic crystals, lattices of coupled oscillators, axisymmetric structures and materials with internal resonances or metamaterials. Our project is focused on establishing a solid theoretical background and proposing innovative schemes for its practical realization.

Applications

The candidate should submit a CV and a letter of motivation.