Expression of Interest

UNIVERSITAT POLITÈCNICA DE VALÈNCIA

Contact Person/Scientist in Charge

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Universitat Politècnica de València (UPV)

Department / Institute / Centre

- **Name:** Communications Department / Gandia Campus / Polytechnic University of Valencia (UPV)
- **Address:** Campus de Gandía; Carrer Paranimf, 1; Grau de Gandia (46730)
- **Province:** Valencia

Research Area
Information Science and Engineering (ENG)

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):

Interactive and Immersive Media (IIM) R&D Group is composed of several professors, researchers and Msc/PhD students, most of them belonging to Gandia Campus at the Polytechnic University of Valencia.Members and (national and international) collaborators of our group have background and experience in many areas: Telecommunications, Informatics, Electronics, Multimedia Systems, Quality of Service/Experience (QoS/E), Acoustics, Audiovisual Communications, Music Composition, 3D, Animation, UI Design, Media Art, Video Games, Mathematics, Marketing and Social Media.

Our research lines are:

- Media Synchronization, in all its variants: Intra-Media Sync, Inter-Media Sync; Inter-Device Sync (IDES); Inter-Destination Media Sync (IDMS); and Hybrid Broadcast/Broadband Sync.
- Distributed & Interactive Multimedia Systems (including QoS/E evaluation)
- MulSeMedia: Multi-Sensorial Media experiences (with stimulation of all senses)
- 3D Virtual Reality (VR) immersive scenarios.
- Multi-Touch Collaborative Screens.
- Motion Capture (MOCAP) & Gesture Interaction.

We collaborate with other Universities, Research Centers from Spain and Europe, as well as with relevant Institutions and companies. We publish our research contributions in High-Impact Journals (IEEE COMMAG, Computer Networks, Multimedia Systems…) and top Conferences (ACM Multimedia, ACM MMSYS, IEEE LCN…) and contribute to the specification of Standards (e.g. IETF – RFC 7272 -, W3C, MPEG...).We also participate in research projects with relevant companies.

Project description:

IMMERSIVE & INTERACTIVE TV – Interactive and Immersive Omnidirectional andMulti-Sensorial Hybrid TV Consumption

The project targets the creation of Interactive & Immersive TV experiences, including omnidirectional contents (360º video), Computer Generated Imagery (CGI) and multisensorialeffects (e.g., olfactory data, wind, vibration, temperature…). The content scan be generated by either the same or different content providers, can be delivered via either the same or different technologies (broadcast/broadband) and can be consumed, in a synchronized manner, in multi-device environments (TVs, tablets,smartphones, Head Mounted Displays or HMDs...), including both local and distributed scenarios (remote shared experiences, e.g. Social TV).It includes four main goals, which are focused on overcoming technological challenges and on providing solutions for: 1) the production and edition of omnidirectional contents and CGI; 2) the adaptive delivery of such contents; 3) the synchronization of hybrid contents in multi-device environments; and 4) the inclusion of mulsemedia effects.

The contributions of the project will be fully compatible with, and/or provide improvements to, the existing tools, technologies and standards, such as Adobe Premiere, Unity3D, HbbTV (Hybrid Broadband-Broadcast TV) and DASH (DynamicAdaptive Streaming over HTTP), increasing the real impact of the project.The contributions will be implemented/integrated and evaluated in a real testbed, being ready to evolve from an experimental to a real production environment. We expect the contributions of the projects will be of high interest to both the scientific community and the industry.

Applications

Candidates should provide:

- A complete CV, including the candidate's contributions (publications, participationin projects, experience in standardization, awards…).
- A motivation letter explaining why the candidate is interested in this position andhow the candidate can contribute to the IIM group's research lines (highlighting thecandidate's background and skills).
- Up to 3 Reference Letters from international researchers / professors.

Deadline: July 8, 2016 (to manifest interest)