

**Marie Skłodowska Curie Action –Postdoctoral Fellowship 2024
(MSCA-PF-2024)**

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Department /Institute /Centre	Name	Laboratory for Bioinstrumentation and Nanomedicine / Center for Biomedical Technology
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	Province	Madrid
Research Area		Information Science and Engineering (ENG)
Brief description of the Centre/Research Group		<p>The research lines of the Bioinstrumentation and Nanomedicine Laboratory (LBN) of the Center for Biomedical Technology (CTB) are: i) development of technologies for nanomedicine, especially against cancer, ii) biosensors and bioinstruments for non-invasive diagnosis, and iii) applications for the inclusion of people with sensory disabilities. It has six permanent research professors with experience in electronics, software and data engineering, biomedical, biological, chemical and physical sciences. Currently eight doctoral students are carrying out their doctoral thesis in the laboratory itself, and seven combining it with professional activities, at different levels of progress. Other doctoral and postdoctoral researchers who carry out short research stays also collaborate with the LBN. It has material and software resources for research that include equipment for the development of software systems (artificial intelligence, augmented and virtual reality, serious games, signal processing and database management), electronics, prototyping (several printers 3D, integration of commercial sensors), and others oriented to nanomedicine.</p> <p>The CTB is made up of fourteen laboratories where a total of 180 researchers, including seniors and fellows, carry out their research in a multicultural environment since they come from more than twenty different nationalities. The center contains numerous common resources for cellular, animal and nanotechnology research.</p>

Expression of Interest – UPM Supervisor

<p>Project description</p>	<p>Title: <i>Development of applications for the inclusion of people with sensory disabilities, especially older adults, or those with blindness or low vision.</i></p> <p>Hypothesis: The difficulty in establishing correct control of body movement, particularly the abilities to maintain postural balance or orient oneself, can have its origin in vestibular pathologies, but much more frequently in people with low vision, blind people, and in older adults in a pre-existing situation. -fragility. The use of an appropriate combination of inertial sensors, artificial intelligence and augmented and virtual reality concepts for sensory substitution can allow the creation of solutions that improve their quality of life by facilitating a reduction in the risk of falling, better orientation and a general better subjective state of mind. well-being, also in caregivers where appropriate.</p> <p>Objectives: Development of specialized tools compatible with virtual assistants to meet the needs of orientation and improvement of balance and posture in people with low vision problems, older adults or with vestibular pathologies. Depending on the specific profile of the candidate, attention will focus on the development of software (artificial intelligence, virtual and augmented reality) and/or data analysis and/or integration of sensors.</p> <p>Methodology: We have previous developments (e-GLANCE project) including software and hardware, what would be the starting point for the propose research. The work is going to be carried out within a multidisciplinary team, so depending on the specific objectives assigned, other researchers will carry out the tasks to achieve the other objectives.</p>
<p>Applications: documents to be submitted and deadlines</p>	<p>CV and Letter of motivation. Deadline: 30th April 2024</p>