

Marie Skłodowska Curie Action – Postdoctoral Fellowship 2023
Expression of interest – Hosting offer
(MSCA-PF-2023)

Contact Person/Scientist in charge	Name	Pedro
	Surname	Velarde
	Email	pedro.velarde@upm.es
Department /Institute /Centre	Name	Instituto de Fusión Nuclear – Guillermo Velarde
	Address	José Gutiérrez Abascal 2, Madrid 28006
	Province	Madrid
Research Area		Information Science and Engineering (ENG) Mathematics (MAT) Physics (PHY)
Brief description of the Centre/Research Group		The <i>Instituto de Fusión Nuclear</i> (IFN, www.denim.upm.es) is dedicated to generating scientific knowledge and providing technological solutions in the fields related to nuclear fusion with the additional vocation of transferring it to training programmes and disseminating it to society. The IFN has 19 staff members and several PhDs and postdocs. The research lines are <i>high laser intensity produced plasmas</i> , <i>materials for fusion reactors</i> , <i>neutronic</i> and <i>hydrogen</i> . The IFN has a computer facility (GPU-CPU cluster) devoted to nuclear fusion studies and several two experimental labs on materials and coatings related to fusion reactors. The Institute has 7 competitive projects (European and national) active every year on average, plus 6 research contracts for PhDs and postdocs.
Project description		The research focus of this project is <i>high laser intensity produced plasmas</i> , with two possible branches: one on the design of ICF targets (shock ignition and alternative schemes) and the other on the interaction of Xray lasers with matter. In both cases it is required to develop and implement new numerical methods that implement the physics of the problem for fluid dynamics, electron and radiation energy transport, non-equilibrium atomic physics and electron and radiation transport in dense plasmas. Also included in both branches is the analysis of relevant experiments and the preparation of new experiments relevant to high-power laser installations. We are currently 4 staff members and 3 PhDs working in this line of research.
Applications: documents to be submitted and deadlines		CV, letter of references, letter of motivation. Deadline: 30/04/2023