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

Contact Person/Scientist in charge *(data of the principal investigator of the research group/lab or scientific supervisor)*	**Name**	Anne
	Surname	Varenne
	Email	anne.varenne@chimieparistech.psl.eu
Department /Institute /Centre *(data of the centre/department where the fellow would be located)*	**Name**	SEISAD Institute of Chemistry for Life and Health Sciences UMR CNRS 8060 Chimie ParisTech PSL
	Address	11 rue Pierre et Marie Curie 75005 Paris
Research Area *(Please select the research area: corresponding to the eight MSCA evaluation panels. You can select between one and up to three scientific areas per EOI)*		Life Sciences (LIF) Chemistry (CHE)
Brief description of the Centre/Research Group/Team *(max. 1,600 characters including spaces: information about the research centre or research group, scientific staff. Please include URL if possible)*		The SEISAD Team develops researchs aimed at elaborating chemical technologies for environmental and health sciences, and in particular chemical and analytical methodologies for (i) environmental analysis (detection or depletion/recycling of emerging pollutants), (ii) recycling raw and waste materials (rare/strategic or precious metallic elements, electronic wastes …), (iii) design and development of theragnostic tools and (iv) early detection of relevant biomarkers *ex vivo* and *in vivo* . The fundamental and methodological investigations are performed via conventional and/or miniaturized tools based on microfluidics at the interface between fundamental developments, technological innovations and biomedical or environmental applications. To achieve these objectives, the team has the following expertises -Molecular synthesis in mini– and continuous micro-flow reactors -Electrochemistry and electrokinetic methods for biological and environmental systems -Design and microfabrication of miniaturized integrated total analysis systems (polymeric, paper-based, hybrid) for applications ranging from environmental control to *in-vitro* medical diagnosis -Design, (bio)functionalization and characterization of nanomaterials as tools for improving the performances of analytical systems (transducers, labels, selective nanoobjects, multimodal theragnostic agents, etc.) and the study of their specific and non-specific interactions -Molecular magnetic resonance imaging MRI methods and functional optical imaging methods https://iclehs.fr/research/seisad/

Project description / Topic of interest *(max. 1,800 characters including spaces: short description of the research project / research line where the fellow would be hosted and develop his /her project)*	Here are some topics of interest • development of instrumental and methodological tools for separation of submicro - and nanoplastics in water : from their physico-chemical characterization, the study of their interaction in the environment and their toxicity to their removal • development of miniaturized methodologies for the analysis and recycling of strategic or polluting molecules • design and formulation of new nano-objects for biomedical applications : from their synthesis to their ex-vivo physico-chemical and ex-vitro and in-vivo biological characterization • protein-corona characterization in micro-channels : an ex-vivo study for an efficient design of multi-modal nano-objects • development of new methodologies for carbene X-H (X = C, O, N, S) insertion in flow under catalytic conditions integrating catalyst recycling • development of original custom miniaturized sensing electrodes integrated in microfluidic systems, for the analysis of environmental ultra-trace pollutants in water and for early diagnosis of disease biomarkers • development of versatile electrochemical methodologies for surface functionalization of microfluidic materials
Applications: documents to be submitted and deadlines *(Please indicate the documents that the candidate fellow should submit to establish contact: CV, letter of motivation, letter of references, etc., please indicate deadline. Recommended deadline: April 2023)*	If you are interested in our team please send your CV, Letter of motivation, and Letters of references before the end of **May 2023**