MSCA Fellowship Opportunity: Advancing Nanoparticles Enhanced Radiotherapy for Cancer Treatments

Introduction: We are excited to announce an exceptional Marie Skłodowska-Curie Actions (MSCA) fellowship opportunity at the Institute for Molecular Science of University Paris-Saclay. We are seeking a highly motivated and talented researcher to join our team and contribute to groundbreaking research in the field of nanoparticles enhanced radiotherapy for cancer treatment. This fellowship offers a unique platform to make significant advancements in improving the effectiveness of cancer radiotherapy.

Research Project: The project aims to explore and develop novel approaches utilizing nanoparticles to enhance the efficacy of radiation therapy for cancer treatment. The fellow will work closely with our multidisciplinary team of experts in radiation oncology, nanotechnology, and biophysics to investigate the use of nanoparticles as sensitizers or delivery vehicles for radiation therapy. The project's outcomes will advance the field of cancer radiotherapy and potentially revolutionize treatment approaches.

Eligibility Requirements: We welcome applications from candidates who hold a Ph.D. in a relevant field, such as radiation oncology, medical physics, nanotechnology, or biophysics. Candidates should have some background in one or several of the following fields: radiation therapy, medical physics, nanoparticle synthesis and characterization, radiation-biology. Candidates should have experience in paper and project writing. Candidates should demonstrate a strong motivation for innovative and multidisciplinary research and collaborations, and translational applications.

Host Institution Information: University Paris-Saclay is a renowned research institution with a distinguished reputation in cancer research and treatment. Our institution houses state-of-the-art radiation oncology facilities, advanced imaging systems, and cutting-edge nanotechnology laboratories. We provide a vibrant and collaborative research environment, bringing together leading experts and fostering interdisciplinary collaborations for impactful research. We are coordinating INanoTheRad the new center for innovative cancer radiation therapies of University Paris-Saclay that fosters research and innovation, from lab to clinic, gathering more than 60 labs, 2 worldclass cancer treatment centers, 10 biotechs and more than 200 students. You will benefit from this unique ecosystem to develop your own ideas and research.

Supervision and Training: The successful fellow will be mentored by world-class experts in medical physics, nanotechnology, and radiobiology. They will have the opportunity to reinforce competencies in nanoparticle synthesis and characterization, cell biology and microscopy to characterize nanoparticle effects in radiation treatments. The fellow will have access to advanced research platforms (including synchrotron and medical facilities), trainings, and regular resources. They will have access to a strong and unique network at UPSaclay, in Europe and in the World to foster their professional development and facilitate knowledge exchange. The candidate will be able to access a large variety of trainings, including our writing Academy to improve articles and proposals writing, Intellectual property and transferable skills.

Working Environment: The fellow will become an integral part of our dynamic and collaborative research team, collaborating with radiation oncologists, medical physicists, and nanotechnology researchers. Our institution encourages cross-disciplinary collaborations and translational research, providing opportunities to work with clinical collaborators and access patient data. The fellow will

contribute to the development of innovative treatment strategies and potentially influence clinical practice.

Work Plan and Timeline: The candidate will receive support to write and apply to MSCA PF 2023. The fellowship of 24 months, with an anticipated start date of April 2024. The work plan will involve designing and conducting experiments, evaluating the interaction of nanoparticles with radiation, and assessing their impact on tumour response. The fellow will also collaborate with researchers from other institutions and present research findings at national and international conferences. Publication of research outcomes in high-impact scientific journals is strongly encouraged.

Benefits and Salary: The selected fellow will receive a competitive salary in accordance with the MSCA regulations, including appropriate social security and healthcare coverage. Additional funding will be available for conference travel, research expenses, and professional development activities. Our institution offers a supportive environment, including administrative support and assistance with relocation, to ensure a productive and successful fellowship experience.

Application Process: Interested candidates should submit a comprehensive curriculum vitae, a cover letter outlining their research experience and motivation for this fellowship, and contact information for two referees. Please send your application via email to inanotherad@universite-paris-saclay.fr no later than June 29. Shortlisted candidates will be invited for an online interview, and the final selection will be announced by July 13.