

is hiring a **post-doctoral fellow**
within the **RETIMAGER H2020 EIC Pathfinder project**

University level	PhD in Medical Imaging, Physics, Engineering, Industrial science and technology.
Domain	In vivo live imaging research, experimental.
Specialty	PET / Ultrasound / Hybrid and multimodal imaging.
Position	Post-doctoral position EU, immediately available, up to 3 years (mid 2027).
Laboratory	In vivo Imaging research team, Paris Cardiovascular Research Center. Inserm - Université Paris Cité. 56 rue Leblanc, 75015 Paris, France
Context	<ul style="list-style-type: none">• Horizon2020 EIU-Pathfinder “RETIMAGER” https://retimager.eu/ is a European consortium to build a Real Time Molecular Imager with Unsurpassed Resolution.• Current clinical PET scanners are limited to spatial resolutions higher than 2.5 mm and temporal resolutions longer than 5 seconds. RETIMAGER is building a molecular imaging system with a ten-fold spatial and temporal improvement of the reconstructed image with respect to current PET devices. This will enable new applications in cardiology, vascular medicine, oncology, neurology, etc.
Background and Environment	<ul style="list-style-type: none">• In 2018 we released PETRUS (PET Registered Ultrafast Ultrasound), the first concurrent hybrid PET/CT/Ultrafast ultrasound system for preclinical studies. PETRUS is patented and will be going clinical in 2024.• Our team runs a 4.7T/40 Bruker MRI with cryoprobe, a Mediso Nanoscan PET/CT, and 3 ultrafast ultrasound systems. Clinical equipment includes 1.5 and 3 T MRI, X- ray double energy scanner, 6-ring GE PET-CT, interventional radiology, and ultrafast ultrasounds.• Preclinical research focuses on imaging the links between vascularization and metabolism using animal models to explore angiogenesis in tumors and cardiomyopathies.• On-going collaborations in radiotracer development, Machine learning and Artificial intelligence, imaging of tissue repair, and cardiac MRI.
Mission	<ul style="list-style-type: none">• The main mission of the researcher will be to exploit multimodal data and prepare the compatibility of PETRUS with the RETIMAGER prototype.• Develop registration algorithms for multimodal imaging.• Improve the resolution of PET data using information contained in ultrasound images.• Explore other quantitative parameters obtained only by ultrasound and correlate them with the metabolic characteristics studied in PET.• Prepare the experimental protocols required for in-vitro and in-vivo experimental work, as well as documents for scientific dissemination (patents and articles).
Knowledge and know how	<ul style="list-style-type: none">• Design and Engineering: Design and develop instruments, master sensors, calibration and data acquisition.• Electronics and Automation: Manage electronics, programming and instrument automation.• Data Analysis: Interpret data and use statistical skills.• Materials and Manufacturing: Understand materials and manufacturing techniques.• Project Management: Plan and coordinate projects and experiments.• Technical Communication: Communicate effectively with experts, write technical reports.• Innovation: Propose innovative solutions and collaborate with experts in other fields.
Conditions	Government employee contract with Inserm, up to 3 years. Position is open now.
Apply to	Bertrand TAVITIAN, bertrand.tavitian@inserm.fr Meet at EMIM or cell +33 7 81 06 68 46