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CALL FOR APPLICATIONS 2025 – FELLOWS

Supervisor	Nadjia Kachenoura
Supervisor page	https://www.researchgate.net/profile/Nadjia-Kachenoura
Host Institution	Sorbonne Université https://www.sorbonne-universite.fr/en
Research Lab	Biomedical Imaging Lab https://www.lib.upmc.fr/about-lib/?lang=en
Research Team	Cardiovascular Imaging (ICV) https://www.lib.upmc.fr/team-3-cardiovascular-imaging/?lang=en

Project Title

Value of automated 4D flow MRI hemodynamic quantitative analysis in phenotyping patients with hypertrophic cardiomyopathy (HCM)

Project Description

HCM is a major cause of sudden cardiac death in young. Applicant aim is to enrich MRI (leading modality in HCM) tissue and morphology biomarkers by developing novel AI-Based tools to: 1) extract pressure gradients and vortex patterns in the heart from 4D flow MRI, 2) quantify intra-ventricular obstruction (known as predictor of sudden death), 3) use hosting team OPTIM (>1000 HCM pts) project MRI data to evaluate added value of the proposed biomarkers against existing parameters.

Keywords

cardiovascular diseases, artificial intelligence, 4D flow MRI

Description of the Host Research Lab

The Biomedical Imaging Lab (LIB – Laboratoire d'Imagerie Biomédicale) specializes in fundamental research and applications of biomedical imaging methods for morphologic, functional and molecular exploration of small animals and humans. The main investigation foci are are among the twenty-first century public health priorities: bone, cancer, cardiovascular and neurological diseases. We develop new diagnosis and treatment methodologies in our main field of investigation, including bright light microscopy, ultrasound, MRI, CT and SPECT-PET.

**To submit your application, please send an email with the required documents to
msca-pf@sorbonne-universite.fr**