

Ph.D. research topic

- Title of the proposed topic: Effective AI based Detection of Prostate Cancer from Multiparametric MRI
 - Research axis of the 3iA: 2
 - **Supervisor (name, affiliation, email): Hervé Delingette, Inria, Herve.Delingette@inria.fr**
 - Potential co-supervisor (name, affiliation): Nicholas Ayache, Inria
 - The laboratory and/or research group: Epione, Inria
-

Apply by sending an email directly to the supervisor.

The application will include:

- Letter of recommendation of the supervisor indicated above
- Curriculum vitæ.
- Motivation Letter.
- Academic transcripts of a master's degree(s) or equivalent.
- At least, one letter of recommendation.
- Internship report, if possible.

⇒ **All the requested documents must be gathered and concatenated in a single PDF file named in the following format: LAST NAME of the candidate_Last Name of the supervisor_2023.pdf**

- Description of the topic:

This thesis will take place within a joint team of computer scientists from Inria and radiologists from Paris Hospitals who has initiated a research project to assist radiologists in the interpretation of mp-MRI through machine learning. In particular this has led to the creation of two large high quality databases of mp-MR images.

The goal of the thesis is to develop effective machine learning solutions to automatically detect significant prostate lesions from multiparametric Magnetic Resonance Imaging. In particular, this requires to exploit the temporal dimension of perfusion images and to assess the quality of images necessary to obtain good prediction from AI algorithms. Furthermore, it is essential to provide interpretable or explainable solutions for the lesion detection in order to make their use by practitioners trustworthy.