

PhD Position in Medical Image Analysis and Machine Learning (Inria & Microsoft Research)

[Inria](#) is the French Institute for **Research In Computer Science and Applied Mathematics**. The position is proposed in the [Asclepios research team](#) of the [INRIA Sophia Antipolis - Méditerranée](#) Research Centre, located on the French Riviera.



The [Asclepios](#) research team addresses a wide range of research topics in Medical Image Analysis and Simulation. The team counts about 30 people, including four permanent researchers. The available PhD position is funded through collaboration with the team of Antonio Criminisi at **Microsoft Research** in Cambridge (UK).

Research Topic: *Toward a smart atlas of 4-D Cardiac images*

Cardiac image sequences are increasingly used to guide the diagnosis of cardiac diseases. However, their direct analysis becomes challenging as their size and complexity increase. The objective of this research is to propose a smart atlas of 4-D cardiac image sequences (3-D + time) to assist their interpretation: given an unseen cardiac sequence, the system would pull closely relevant sequences from a database of previously diagnosed patients.

The PhD candidate will propose original and efficient metrics between cardiac image sequences (based on texture, shape and motion features) and will explore modern manifold learning techniques on large databases of 4-D cardiac images to reduce the dimensionality and help the analysis.

Requirements:

- MSc in computer science or applied mathematics
- Good knowledge of 3D/4D image processing, manifold learning
- Fluent in English (Reading, Writing, Speaking)
- C++, Matlab

Practical Information

The PhD funding is for 3 years starting in fall 2015 with a gross remuneration around 2000 Euros/month (net is about 1600 Euros).

Contact Information

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