

## OPEN POSTDOC POSITION ON HYPERSPECTRAL IMAGING

### RESEARCH PROJECT

This position is part of the [ANR ASTRID FuMultiSPOC](#) project, which brings together teams from four French research labs (GIPSA-Lab, IPAG, ONERA and MAP5), to design and improve novel hyperspectral interferometric acquisition system with unprecedented levels of spatial and spectral resolution for a single-snapshot miniaturized device. Starting from the patented ImSPOC concept, this project aims at improving resolution and quality by co-designed optical, and digital restoration techniques.

### YOUR MISSION

Your role as a postdoc at MAP5 will be to take part in the design, implementation and test of image restoration algorithms for hyperspectral imaging. These algorithms shall take advantage both of prior knowledge of hyperspectral images and of accurate mathematical models of the novel instruments that are being developed by the optics and engineering teams of the project.

Among possible methods to address the problem are Bayesian and Variational Image restoration techniques, Deep Learning, Plug & Play methods, as well as statistical techniques for posterior sampling, uncertainty quantification and joint image restoration and parameter calibration.

### YOUR PROFILE

The successful candidate is expected to hold a PhD in Applied Mathematics, Computer Science, Electrical Engineering, or a closely related discipline.

In addition the following qualifications are desired:

- Solid background in Computational Imaging, Image Restoration. Previous experience on Interferometric Hyperspectral Imaging would be welcome.
- Solid background in one or several of the following areas :
  - Variational Methods in Imaging
  - Deep Learning & Machine Learning
  - Bayesian Methods for Inverse Problems
- Good programming skills (*e.g.* Python, Matlab, C/C++, PyTorch, TensorFlow, JAX)
- Fluent in either French or English (written and spoken) and good communication and interpersonal skills.

### START DATE

No later than June 1st 2023.

### TERM OF EMPLOYMENT

Fixed-term (CDD) for 1 year.

### SALARY

Monthly net salary of approximately 3000 euros.

### APPLICATION

Applications shall be processed on a rolling basis, until a successful candidate is recruited. Applications should include a detailed CV and list of publications. You may also include the name of a few persons we can contact for reference. Applicants should contact us by email and submit their application via the following link

<http://up5.fr/postdoc-MAP5-2023>

### CONTACT

For inquiries and applications, please contact [remy.abergel@parisdescartes.fr](mailto:remy.abergel@parisdescartes.fr), [andres.almansa@parisdescartes.fr](mailto:andres.almansa@parisdescartes.fr), or [lionel.moisan@parisdescartes.fr](mailto:lionel.moisan@parisdescartes.fr).