

Clinical Scientist
Group Leader in Advanced Clinical Neuroimaging
at Neurospin (CEA-Saclay)

Neurospin (CEA-Saclay) is welcoming applications of confirmed clinical researchers aiming at building a research group dedicated to innovative neuroimaging approaches for the prediction, diagnosis, prognosis and treatment of adult brain pathologies.

Deadline : December 17 2018

1. Proposed position

NeuroSpin seeks to strengthen its clinical research by creating a new transversal team dedicated to **advanced neuroimaging research on adult brain pathologies** (neurology, sensory deficits, rehabilitation, medicine...), with a special emphasis on **emerging neurotechnologies for patient management and care** (i.e. personalized medicine, brain-computer interfaces, neuromodulation, innovative rehabilitation techniques...).

The applicant should develop research at NeuroSpin while possessing a strong clinical expertise and strong links to a University hospital in the greater Paris area. He/she will be encouraged to develop collaborations with the future Saclay Hospital and the joint research platform initiated by the CEA.

To develop his/her research, he/she will be offered a position at Neurospin – either a part-time such as *contrat d'interface* <https://recherche.aphp.fr/candidatures-internes/>, or a permanent position if durable links of the team with a University hospital can be established. NeuroSpin will provide office space for up to 6 collaborators, active support for research at all steps (study design, regulatory issues, search for funding, data acquisition, data analysis...), and free scanner slots. Help will be offered to apply for the FRM funding for emerging teams (https://www.frm.org/upload/pdf/espace-chercheur/frm_aje2018.pdf).

2. Research environment

NeuroSpin is an international brain imaging research center located on the campus of Paris-Saclay University (http://joliot.cea.fr/drf/joliot/Pages/Entites_de_recherche/NeuroSpin.aspx). The goal of NeuroSpin is to push the current limits of brain imaging with ultra-high field (UHF) MRI and MRS, cutting-edge MEG/EEG and 3-photon imaging in order to shed light on the structure and function of the human brain in health and in disease, across all ages.

NeuroSpin is funded by the Direction of Fundamental Research of the CEA, and is headed by Stanislas Dehaene, Member of the Academy of Sciences. Combining the forces of multiple institutions including CEA, Inserm, INRIA and CNRS, it comprises 180 researchers in three main domains: MRI research and neurocomputing, cognitive neuroimaging, and clinical and translational imaging.

NeuroSpin is equipped with

1. two state-of-the-art 3T and 7T whole-body MRI systems, and three preclinical MRI systems operating at 7T, 11.7T and 17T. A world premiere 11.7T whole-body system is currently being installed.
2. 306-channel MEG, 256-channel EEG systems,
3. 3-photon imager
4. A clinical facility to conduct research protocols with human volunteers of all ages (patients and healthy controls), with 8 daytime beds, test/examination rooms, nursing facility, mock scanner,
5. A preclinical facility (rodents and primates)
6. Several platforms for electronics, mechanics, chemistry, histology and cell culture.

NeuroSpin teams develop **advanced post-processing tools** for structural image processing (BrainVisa), fMRI data analysis (Nilearn), diffusion imaging (Connectomist), M/EEG analysis (MNE) and generic machine learning solutions (scikit learn, joblib). A 150-terabyte data archiving system, a large local computer cluster and access to the new CEA supercomputer are available.

Neurospin's environment also benefits from the new NeuroPSI building, dedicated to fundamental neuroscience and opening in 2019.

7. Selection criteria

Candidates should hold both a PhD and an MD (with a capacity to register to the French National Medical Council). A significant experience in brain imaging and/or related neurotechnologies is essential. Candidates should meet criteria for obtaining significant funding, such as European Research Council, ATIP-Avenir (<https://sp2013.inserm.fr/sites/eva/appels-a-projets/Pages/Page1.aspx>), Fondation pour la Recherche Médicale (https://www.frm.org/upload/pdf/espace-chercheur/frm_aje2018.pdf, etc.). They are expected to attract PhD students and post-docs, and progressively build a viable team bridging between NeuroSpin and the appropriate clinical groups at a University Hospital.

Applications (in English) should include :

- A full CV
- A motivation letter
- A brief research plan for the next 5 years, including main past research results, feasibility and risk assessment, team building and funding strategy.
- Up to 2 letters of recommendation.

Applications should be sent to:

Nathalie Blancho

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Deadline : December 17th 2018



Short-listed candidates will be invited to present their projects in Neurospin in January 2019.