

## Engineer or Post Doc in image processing

One research engineer position in image processing is available within the Institut de Neuroscience des Systemes (INS) at Aix-Marseille University under direction of Prof. Viktor Jirsa. We are seeking highly motivated individuals interested to tackle multimodal human and rodent neuroimaging data challenges at the interface of the Human Brain Project (HBP) (<https://www.humanbrainproject.eu/en/>) and The Virtual Brain (TVB) (<http://www.thevirtualbrain.org>). Multimodal neuroimaging data sourced from multiple laboratories within the Human Brain Project will be integrated to provide both structural and functional datasets to drive development of connectome-based modeling with TVB and NEST simulators on HBP platforms.

This position will entail interfacing with other teams within HBP to design and build new workflows for aggregating and validating structural and functional data in atlases for use by TVB for connectome-based simulations. These workflows will be integrated with TVB software on the HBP infrastructure to create data-driven simulations with TVB and NEST.

Candidates should have a PhD or engineering diploma in a relevant field experience solving scientific problems in Python, MATLAB or similar, experience with relevant image processing techniques, and fluent technical English.

The contract is 1 year, renewable to 3 years, with salary based on experience. Please contact Mrs Lisa Otten ([lisa.otten@univ-amu.fr](mailto:lisa.otten@univ-amu.fr)) with a letter of motivation and CV, and arrange for two letters of reference.

Please see for more information: Institut de Neurosciences des Systèmes <https://ins-amu.fr/>.

## Engineer or Post Doc in signal processing

One research engineer position in image processing is available within the Institut de Neuroscience des Systemes (INS) at Aix-Marseille University under direction of Prof. Viktor Jirsa. We are seeking highly motivated individuals interested in addressing multimodal human clinical neuroimaging data challenges at the interface of the Human Brain Project (HBP) (<https://www.humanbrainproject.eu/en/>) and The Virtual Brain (TVB) (<http://www.thevirtualbrain.org>).

Clinical intracranial EEG (iEEG) sourced from multiple clinics participating with the Human Brain Project will be standardized in BIDS format on the HBP platforms into the largest iEEG database available.

This position will entail interfacing with other teams within HBP to design and build new workflows for analyzing iEEG data using connectome-based models within TVB. These workflows will be

integrated with TVB software on the HBP infrastructure, allowing clinicians to benefit from the simulation tools available within TVB & HBP.

Candidates should have a PhD or engineering diploma in a relevant field, experience solving scientific problems in Python, MATLAB or similar, experience with relevant signal processing techniques, and fluent technical English.

The contract is 1 year, renewable to 3 years, with salary based on experience. Please contact Mrs Lisa Otten ([lisa.otten@univ-amu.fr](mailto:lisa.otten@univ-amu.fr)) with a letter of motivation and CV, and arrange for two letters of reference.

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## Engineer or Post Doc in high-performance computing

One research engineer position in image processing is available within the Institut de Neuroscience des Systemes (INS) at Aix-Marseille University under direction of Prof. Viktor Jirsa. We are seeking highly motivated individuals interested in working on high-performance and high-throughput challenges related to connectome-based modeling using high performance and accelerated computing (HPAC) platforms in the Human Brain Project (HBP) (<https://www.humanbrainproject.eu/en/>) and The Virtual Brain (TVB) (<http://www.thevirtualbrain.org>). Recent models developed based on TVB are being tested in an ongoing clinical trial and should be generalized, optimized, integrated with other modeling efforts and deployed through the HBP HPAC platforms to researchers within the HBP and wider European community.

Responsibilities including interfacing with other HBP groups to deploy the TVB software to HPAC infrastructure, build integrations with other HPAC services and co-simulation with other simulators and help implement gradient calculations to support newer machine learning workflows.

Candidates should have a PhD or engineering diploma in a relevant field experience solving scientific problems in Python, MATLAB or similar, knowledge of relevant gradient-based statistics or machine learning techniques, experience with shared Linux HPC systems and fluent technical English.

The contract is 1 year, renewable to 3 years, with salary based on experience. Please contact Mrs Lisa Otten ([lisa.otten@univ-amu.fr](mailto:lisa.otten@univ-amu.fr)) with a letter of motivation and CV, and arrange for two letters of reference.

Please see for more information: Institut de Neurosciences des Systèmes <https://ins-amu.fr/>.