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| **Titre de l'annonce** | # Postdoc in machine learning for large-scale brain network models |
| **Ville** | Marseille |
| **Pays** | France |
| **Texte de l'offre** | The Theoretical Neuroscience Group (Head: Viktor Jirsa) is seeking to fill a post-doctoral position in the context of the Human Brain Project (HBP) to work on development of parameter inference workflows for connectome-based large-scale brain network models (see The Virtual Brain http://www.thevirtualbrain.org/) applied to brain imaging data (EEG, MEG, fMRI). In particular, the project will involve the application and evaluation of Bayesian estimation techniques such as Markov-Chain Monte-Carlo and Hamiltonian Monte-Carlo algorithms to high-dimensional biophysical and phenomenological time-series models based on ODE/SDE involving latent state-space variables. These were previously successfully applied in the context of estimation of brain excitability based on personalized brain models and SEEG recordings of seizure propagation in epileptic patients. The project requires inverting the in-vitro and in-vivo datasets in Bayesian setup for brain network models and providing posterior distributions of the inferred parameters. The issues of degeneracy in the models based on the posterior estimates will also be addressed using the state-of-the-art Bayesian inference techniques.The successful candidate will join a team working towards generalizing these approaches for other paradigms such as stimulation, resting state and aging. |
| **Date de fin de publication :** | 15/06/2021 |
| **Type d'emploi** | Post-Doctorat - Post-Doctoral position |
| **Type de contrat** | CDD |
| **Date limite de candidature** | **15/06/2021** |

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