The HBP SGA3 Calls for Expression of Interest
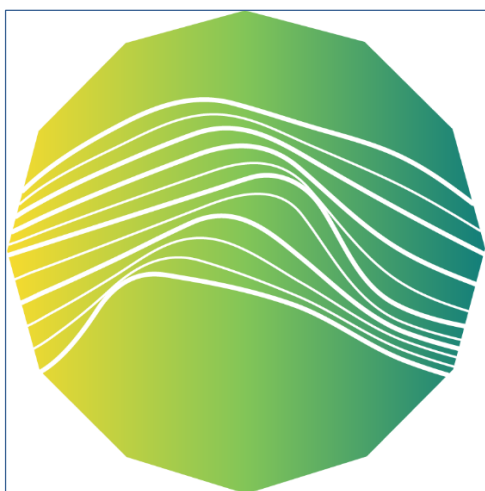## "Brain Atlas and simulation engine adapter construction"

Call Text

Project Number:	945539	Project Title:	Human Brain Project SGA3

Document Title:	HBP SGA3 CEoI - Brain atlas and simulation engine adapter construction – Call Text
Document Filename:	HBP SGA3 CEoI - Brain Atlas - Call Text
Dissemination Level:	PU = Public
Abstract:	Calls for Expression of Interest for SGA3, Call Text
Keywords:	Brain atlas, The Virtual Brain, Knowledge Graph, HIP, software adapter
Target Users/Readers:	Applicants, all interested
Call Publication Date:	5 August 2020
Pre-proposal Submission Deadline:	16 September 2020 17:00 Brussels time
Proposal Submission Deadline:	16 October 2020 17:00 Brussels time
Proposal submission online platform	HBP Open Call Platform
Total Call Budget:	EUR 450,000 Direct Costs. Maximum funding per proposal: EUR 450,000 (plus 25% Indirect Costs), one proposal will be selected.
More information:	info@opencalls.humanbrainproject.eu

This Call aims to attract **experts in computer engineering and software development** with interest to contribute to the building of one of the largest computational infrastructures in Europe dedicated to neuroscience. The new team(s) will be integrated into HBP's efforts of translating state-of-the-art neuroscience into digital approaches and workflows, will benefit from access to informatics and HPC tools and resources in EBRAINS, and will contribute to shaping the next generation of neuroscience research and translation.

The new partners will perform **software development enabling the seamless execution of workflows** in support of the showcases[1] in Work Package 1 (WP1) "*The human multiscale brain connectome and its variability – from synapses to large-scale networks and function*", making use of [**FENIX**](#)[2] **tooling** and [**EBRAINS services**](#)[3].

In particular, they will **contribute to the informatics integration** of

- brain atlases
- The Virtual Brain (TVB) simulation engine
- [Knowledge Graph](#)[4]
- Human Intracerebral EEG data Platform (HIP)

and **validation and model inversion processes** in WP1, operating in the EBRAINS IT infrastructure.

The **construction of efficient software adapters** between TVB simulation engine, atlas services and data repositories is of fundamental importance to realise TVB-based simulations making full use of the heterogeneous multiscale data in the brain atlases and intracranial data in HIP in EBRAINS.

Software adaptors shall be created for efficient I/O between TVB simulation engine and storage of heterogeneous neuroscientific datasets on EBRAINS's distributed systems. HBP partners in WP1 are expected to group up with the applicants to ensure a tight coordination and integration with the science and existing engineering efforts.

Potential new partners could include **engineers and developers** with a demonstrated capacity to **develop robust and efficient communication layers on distributed computing systems**. 10% of the budget is foreseen for interactions with the HBP High Level Support Team to ensure HBP-wide close integration of the new efforts.

---

[1] Showcase 1 - Degeneracy in neuroscience - when is Big Data big enough? Showcase 2 - Improving epilepsy surgery with the Virtual BigBrain
[2] https://fenix-ri.eu/infrastructure/services
[3] https://ebrains.eu/services
[4] https://kg.ebrains.eu/search/?facet_type%5b0%5d=Software