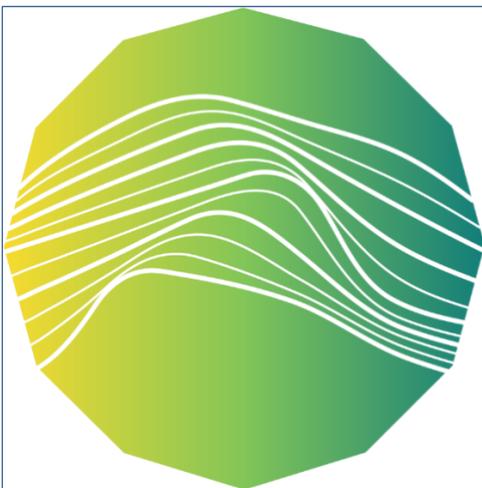


*The HBP Calls for Expression of Interest for SGA3
“EBRAINS Workshops”*

Guide for Applicants



Human Brain Project



EBRAINS

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Abstract:	Calls for Expression of Interest for SGA3, Guide for Applicants who would like to submit a proposal to organise an EBRAINS Workshop in SGA3		
Keywords:	EBRAINS Workshop, research infrastructure, tutorial,		
Target Users/Readers:	PIs from the scientific community, both inside and outside the HBP Consortium		
Call publication date:	1 October 2020		
Proposal Submission Deadline:	This Call is permanently open. Proposals will be evaluated after specific cut-off dates. The upcoming cut-off dates can be found on call's website.		
Call topic	EBRAINS Workshops		
Total budget/human recourses	Total budget for one EBRAINS Workshop: 22,000 € + 3-4 person-months provided by the HBP Education Programme Office		
More information	workshop.edu@humanbrainproject.eu		
Proposal submission	HBP Open Call Platform		

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1. EBRAINS Workshops

EBRAINS Workshops are multi-day events that offer plenary lectures in combination with parallel hands-on workshop modules under an overarching theme. The programme should give an advanced introduction to specific topics, guide attendees through the opportunities of specific parts of EBRAINS Research Infrastructure (EBRAINS RI) and give introductory tutorials and trainings on specific parts of the Platforms. The goal is to introduce participants to the opportunities provided by the EBRAINS RI and educate them on the resources that are offered by EBRAINS.

Workshop modules can be independent of each other content-wise, enabling the planning of parallel sessions in order to reach a significant number of participants per event. The plenary sessions give the opportunity to present an overview of EBRAINS offers and / or EBRAINS-related research results. Submitters can propose on-site events as well as hybrid formats, which are a combination of on-site and virtual sessions¹.

The HBP Education Programme supports EBRAINS Workshop events that showcase one or more of the existing and upcoming EBRAINS areas and educate participants on how to use the respective resources and tools provided by EBRAINS:

- Data and knowledge: <https://ebrains.eu/services/data-knowledge>
- Brain atlases: <https://ebrains.eu/services/atlas>
- Brain modelling and simulation: <https://ebrains.eu/services/simulation>
- Neurorobotics: <https://ebrains.eu/services/ai-and-robotics/neurorobotics>
- Massive computing: <https://www.humanbrainproject.eu/en/massive-computing/>
- Neuromorphic computing: <https://www.humanbrainproject.eu/en/silicon-brains/>
- Medical informatics: <https://mip.ebrains.eu/>

In addition, applicants have to outline in detail how the proposed EBRAINS Workshop relates to selected take-up measures for the achievement of one or more of the HBP SGA3 Outcomes².

1.1 Administrative support provided by the HBP Education Programme Office

Administrative support requirements vary from event to event. The below list provides an overview of administrative and financial support offered by the HBP Education Programme Office to applicants. Support details will be agreed upon during a first meeting between both parties.

- Coordination of programme committee
- Management of registrations
- Communication with participants
- Promotion and outreach (newsletter, social media, event calendars)
- Collection of registration fees

¹ Proposals on **fully virtual EBRAINS Workshops** will be considered as eligible for evaluation in case of exceptional circumstances preventing the event taking place on-site within a reasonable time frame, such as nationally regulated Covid-19 prevention measures. If applicants propose a fully virtual event due to exceptional circumstances, they are asked to clarify in the proposal under “type of event” why this event is expected to hold a similar educational value and impact, compared to its on-site alternative.

² The Human Brain Project Outcomes, Main Take-up Challenges and Measures in SGA3 can be found in Annex Annex 1.

- Management of budget / budget transfers
- Management of financial student support
- Management of speaker reimbursements
- Coordination venue logistics (in collaboration with local host) and catering
- Preparation of event materials (e.g. programme, badges, etc.)
- On-site administrative support / web-conferencing software support
- On-site media support (photographing, video recording if required)
- Post-processing of event (photo and video editing if required, report, Workshop survey)
- Event report

Effort: 3-4 person/months provided by the HBP Education Programme

Budget: Up to EUR 22,000 to cover costs that occur in the context of the event

1.2 Financial support offered by the HBP Education Programme Office

The HBP Education Programme Office can contribute up to EUR 22,000 per event (depending on duration, location and size of the event), while the remaining amount can be covered by participant tuition fees.

Financial support provided by the EPO can cover the cost for the EBRAINS Workshops venue (incl. licensing for software components related to virtual event parts if clearly assignable), catering, on-site material, as well as accommodation and travel for a certain number of speakers.

The following example (Table 1) gives an overview of the costs that should be considered when planning an EBRAINS Workshop event. The estimates are based on a 3-days Workshop event running 3 parallel modules, with a total of 100 participants and 30 speakers / tutors (10 local speakers / tutors, 20 non-local speakers / tutors).

Table 1: Budget example

Cost category	Cost explanation	Sum
Speaker travel & accommodation	EUR 700 per speaker (20 speakers)	EUR 14,000
Venue Cost		EUR 1,500
Catering	EUR 100 (130 participants)	EUR 13,000
Material	Print material	EUR 500
Total costs		EUR 29,000
HBP Education Programme Office contribution		EUR 22,000
Tuition fees	EUR 50 for students, EUR 90 for other participants	EUR 7,000
Total revenue		EUR 29,000

The costs may vary (depending on the event location, venue, number and travels of speakers, etc.) and will be finalised during a first meeting with the local host, when final costs and tuition fees are defined. If a scientific chair foresees more speakers/faculty, they are asked to cover the costs from their own budget, or speakers may cover the expenses themselves as a contribution to education in the HBP (if they work within the HBP).

1.3 Duration and dates

EBRAINS Workshop Events can be of different duration (usually 2-3 full days).

Applicants are welcome to suggest dates for an EBRAINS Workshop Event.

In case suggested dates overlap with other HBP events, alternative dates can be proposed by the HBP Education Programme Office.

1.4 Local host, Scientific Chair and composition of faculty

Local Hosts (=Applicants) for EBRAINS Workshops may be affiliated with the Human Brain Project, but can also be Project externals and are responsible for the submission of the proposal. The Scientific Chair(s), however, should come from within the HBP as they are qualified to design the programme in correspondence with the HBP's Objectives and Outcomes as defined in the SGA3 Grant Agreement. As an example, the applicant can be a non-HBP local host providing the venue for an EBRAINS Workshop, while the Scientific Chair(s) from within the HBP are responsible for the contents of the Workshop's plenary sessions and for the selection of suitable parallel Workshop modules. Workshop modules are led by a Workshop Module Chair, who is responsible for the programme details of the specific parallel Workshop module, the communication with speakers / tutors within the specific module and the communication of technical requirements to the EPO.

Interested applicants are encouraged to get in touch with the HBP Education Programme during the application stage.

Speakers / faculty may come from within as well as from outside the Human Brain Project. The inclusion of men and women in the list of speakers is required and a gender balance should be aimed for. A single-gendered faculty will not be considered by the Programme Committee, unless the proposers can provide convincing arguments why only male or only female speakers are included. An explanation should also be given if gender balance cannot be achieved.

1.5 Event governance

A programme committee to steer the programme planning and take decisions regarding the scientific programme is set up during a first meeting. The programme committee is composed of:

- Local Host*
- Scientific Chair*
- Workshop Module Chairs
- Representatives of the Education Programme Office

*Please note that scientific chair and local host can be the same person.

Individual tasks are outlined below.

1.5.1 Task of Local Host

- Responsible for proposal submission
- Confirmation of date
- Venue booking (in collaboration with HBP Education Programme Office)
- Coordination of technical equipment with Workshop module leaders / scientific chair
- Regular meeting attendance with HBP Education Programme Office to discuss progress of event
- On-site attendance

1.5.2 *Tasks of Scientific Chair*

- Set-up of overall programme schedule and programme planning of plenary sessions
- Speaker invitation & communication with speakers regarding scientific programme
- Regular meeting attendance with HBP Education Programme Office to discuss progress of event
- On-site attendance

1.5.3 *Tasks of Workshop Module Chairs*

- Set-up of Workshop module programme schedule
- Speaker invitation & communication with speakers regarding Workshop module programme (in collaboration with local host)
- Forwarding speaker information to EPO for reimbursement process
- Clarification of technical requirements with local host and EPO
- Regular meeting attendance with HBP Education Programme office to discuss progress of event
- On-site attendance

1.6 Event design and target group

Generally, EBRAINS Workshops should aim towards 100 participants to be accommodated in the **Workshop's plenary session**, however, smaller audiences may be acceptable if arguments for lower participation can be provided. The accompanying parallel hands-on **Workshop modules** should reflect the overall event capacity in terms of numbers (please note that both plenary sessions and Workshop modules can have on-site and virtual elements). There is no limitation of the maximum number of participants, it will depend on the Workshop modules' programmes, the number of parallel modules, capacity of tutors and the venue (or streaming software). Offering live streaming of parts of the programme and/or offering hybrid events, i.e. delivering (parts of) the event online (e.g. introductory lectures being delivered online and hands-on parts delivered on-site) in order to enable virtual participation is encouraged by the HBP Education Programme Office.

Annex 2: Examples of draft event programme schedules shows examples of draft EBRAINS Workshops schedules. Please note that these are only for illustration purposes, proposal submitters are free to design their event programme in accordance with the general guidelines stated here.

Gender balance must be considered when selecting participants (e.g. in case of waiting list for Workshop modules). EBRAINS Workshops will be open to participants from within as well as outside the HBP. The target audience can be:

- Early-career researchers
- Participants who are interested in learning about different EBRAINS offers as outlined in the suggested target audiences and beyond (e.g. developers, senior scientists, data analysts)

1.7 Venue

Applicants can propose a suitable venue for EBRAINS Workshops in the proposal. The venue must be located in a European country or a country associated with the EU. It needs to be accessible by public transport and accommodation options must be available in vicinity to the Workshop venue. A description of the venue as well as the regional proximity to potential target groups for the Workshops have to be outlined in the proposal.

1.8 Timeline of event planning and organisation

The following example gives an overview of the timeline that should be considered when planning an EBRAINS Workshop. The event planning timeline can be discussed beforehand together with the HBP Education Programme Office. Applicants are encouraged to allow for enough time for planning and organisation leading up to the event.

- 6 months before the event: First meeting between Programme Committee and HBP Education Programme Office to initiate planning of the event. Confirm speakers, define final budget. Release of Call for Workshop modules in case not all slots are occupied (the latter is optional).
- 5 months before: event announcement, preliminary programme and speakers. Registration opens.
- 2 months before: Organisation of catering and logistics.
- 2 weeks before: Registration closes (or earlier if Workshop is fully booked)

1.9 Evaluation and selection of proposals

The proposals will be reviewed by the HBP Education Programme Office as well as the HBP Education Programme Committee. Evaluation dimensions are (1) quality of proposal/scientific content (weight: 40 %), (2) quality of the programme and draft schedule (weight: 40 %), and (3) quality of resources (weight: 20 %).

Selection of proposals will be approved by the HBP Directorate. Incomplete proposals will not be considered.

Please note that proposals need to meet the SGA3 Outcomes of the Human Brain Project and foster the utilisation of EBRAINS Research Infrastructure.

2. Template

All proposals must use the specific template for this SGA3 Call.

Annex

Annex 1: The Human Brain Project Outcomes, Take-up Challenges, and Measures to address Challenges

Outcome	Main Take-Up Challenges	Measures to Address Challenges
<p>OC1. Thanks to the HBP achieving PO1, EBRAINS will facilitate access to and the enrichment of research tools, allowing constantly updated knowledge on brain function and brain-derived AI to be quickly shared across Europe, leading to a considerable increase in the amount of scientific data, educational material and research on advanced AI produced by the communities.</p>	<ul style="list-style-type: none"> Brain-derived AI (i.e. deeply brain-inspired), is still in its infancy, with fragmented dissemination channels (congresses, journals, etc.). Few teams working on this, lack of awareness, few successful examples to bootstrap take-off), training and education lacking (and perhaps funding). Insufficient number of success stories to push external take-up. Need user friendly access, high bandwidth, largescale storage and access capabilities with long-term guarantee (EBRAINS operates in a competitive environment regarding scientific data). Lack of awareness about curation requirements. Lack of guarantee for data providers that their data will not be abused. 	<p>M1.1 Integrate community engagement efforts, and create joint formats.</p> <p>M1.2 Collaborate with external partners in the field to get critical mass.</p> <p>M1.3 Increase success stories and their visibility.</p> <p>M1.4 Stay in close contact with the communities to adapt technological development accordingly.</p> <p>M1.5 Use showcases to demonstrate the advantage of EBRAINS, and make them public.</p> <p>M1.6 Help the communities to curate data (HLST), and show the concrete advantages (e.g., higher citations, download by other users).</p> <p>M1.7 Transparent communication about ethics and data standards, rigorous security checks.</p>
<p>OC2. Thanks to HBP activities that support massively parallel execution of virtual experiments on high performance computers (including modelling and simulation of the brain as well as neurorobotics), basic brain science will explore new avenues and new industry-driven research will be launched on devices such as implants and prostheses, as a direct outcome of PO1, PO3 and PO5.</p>	<ul style="list-style-type: none"> Virtual experiments on HPC not yet common and methods unfamiliar to the neuroscience community. Insufficient number of teams working on this (and perhaps funding), lack of awareness. Maturity gap, from academic developments (TRL4-) to industrial relevance (TRL7+). Lack of involvement of RTOs and of support or interest by large European companies, or SMEs. 	<p>M2.1 Increase dissemination, education events, generate high-level publications.</p> <p>M2.2 Successful examples to bootstrap the take-off, training and education.</p> <p>M2.3 Increase proportion of developments with high TRL.</p> <p>M2.4 Develop strategies (e.g. specific forums, presentation at trade shows, targeted calls, activities in National Hubs) to increase engagement.</p>
<p>OC3. Thanks to EBRAINS simulation services (including their many analytical workflows (PO3) and data security measures), there will be a rapid change in how the brain research community manages and uses its data and, consequently, an increase in research into multi-level brain complexity (in space and time), hopefully leading to related new discoveries.</p>	<ul style="list-style-type: none"> Difficult elements of cultural shift on FAIR may slow down the process. Possible competitive solutions from other continents (especially the USA). Lack of support for some types of data (storage, visualisation, mining). Integrating different simulation approaches to study multi-level brain from researchers who so far focused on one level of organisation using one simulation engine (now have to collaborate to generate tools bridging many scales). 	<p>M3.1 Show the success stories of brain simulation</p> <p>M3.2 Address the lingering simulation science skepticism issue directly</p> <p>M3.3 Showcase the advantages and uniqueness of EBRAINS simulation solutions</p> <p>M3.4 Activate relevant communities to develop support</p> <p>M3.5 Provide interfaces to the different communities and show the advantages in take up when collaborating at scale</p> <p>M3.6 Increase engagement with external partners, encourage simulation science engagement via National Hubs.</p>

	<ul style="list-style-type: none"> Few teams working on this, lack of awareness, few successful examples to bootstrap take-off), training and education lacking (and perhaps funding). 	
<p>OC4. Thanks to EBRAINS Atlas tools for combining, analysing and integrating brain data in 3D space (PO2), interventions in patients' brains will be better guided. In particular, thanks to the Human Brain Atlas, neurologists and neurosurgeons in clinical practice will be able to develop a wide range of tools for preparing personalised brain models for patients undergoing surgery (such as the TVB application for epilepsy patients). They will also start to provide software for stereotaxic interventions, such as deep brain stimulation (DBS) in patients with Parkinson's, or to support surgery on brain tumors, by providing microstructurally plausible information on target brain regions.</p>	<ul style="list-style-type: none"> Neurologists and neurosurgeons are heavily occupied by clinical duties, and may have not enough time for co-designing such tools. Engagement with the respective professional associations to obtain their support is necessary. Medical products law foresees extensive procedures for any product applied in the clinical setting. 	<p>M4.1 Identify individuals and groups who have an intrinsic interest to develop such methods, identify physician scientists to support.</p> <p>M4.2 Use EBC, EBRA and IMI as mediators.</p> <p>M4.3 Use National Hubs as interface to national associations.</p> <p>M4.4 Build on experience of existing activities to speed up exploitation life cycle.</p>
<p>OC5. Thanks to the building blocks offered by the EBRAINS Neurorobotics Platform (PO1), roboticists will be supported throughout the whole robot development process; from initial design, to simulation for the development of controllers, through to the final 3D print. As a result, they will be able deliver new, low-cost, special-purpose robots built on demand; particularly for medical use-cases, where they might simply be discarded after a single use.</p>	<ul style="list-style-type: none"> Lack of motivation by industry (lacks awareness of possibilities, advantages, costs, examples, adequate documentation, training and support). Medical certification is time-consuming and involves the interaction of many stakeholders, which means that industrial take up may partly start only after SGA3. Difficult to enter medical arena, even for prototypes. Lack of information or documentation on the HBP API that allows robust connection to existing complementary services supporting design and 3D printing of robotic systems. 	<p>M5.1 Make showcases visible, use industry forums like trade fairs, technological congresses, technical academies, etc. to demonstrate value.</p> <p>M5.2 Build on experience of existing activities to speed up exploitation life cycle.</p> <p>M5.3 Build on existing HBP networks, e.g., hospitals participating in the MIP; team-up with EBC and National Hubs.</p> <p>M5.4 Build trust to overcome and obtain legal support.</p>
<p>OC6. Thanks to the HBP's contributions and leading role envisaged in PO7, the International Brain Initiative will deliver solid neuroethics guidance to neuroscience projects in the world; in particular, regarding the ethics of large neuroscience research infrastructures.</p>	<ul style="list-style-type: none"> Ethics standards differ around the world, e.g. on data protection and privacy, animal welfare, etc. The development of a common understanding and guidelines requires time and solid initial proposals. 	<p>M6.1 Try to identify common ground, and move on from there</p> <p>M6.2 Learn from past involvement, where multilaterally supported guidelines have been developed</p>
<p>OC7. Thanks to HBP findings, including theoretical models and related simulations, new clinical settings will be explored to assess the level of consciousness in patients with consciousness disorders (e.g. comatose patients) and sets of information will be proposed for supporting prognosis and therapeutic decision-making (PO4, PO6).</p>	<ul style="list-style-type: none"> Measuring consciousness depends on complex equipment with appropriately trained teams. Need to find motivated teams and/or motivate teams with enough time and appropriate support. Clinical products, diagnostic tools or methods require extensive procedures to get marketing authorisation, which may delay application in hospitals until beyond 2023. Information package needs to be presented in an appropriate form, even for pre-use in very special medical environments. 	<p>M7.1 Team up with international partners, which can play a pioneering role.</p> <p>M7.2 Identify interested and engaged partners, use HBP networks.</p> <p>M7.3 Learn from experience in past years to speed up.</p> <p>M7.4 Present information in an appropriate way, communicate with clinicians to find out what the best format is.</p>
<p>OC8. Thanks to HBP efforts in translating neuroscientific knowledge into medicine (PO6), a new clinical procedure will</p>	<ul style="list-style-type: none"> Long, stepwise process has to be followed to get authorisation for a new clinical trial. 	<p>M8.1 Learn from early experiences in past years to speed up exploitation life-cycle.</p>

<p>be trialled for epilepsy patients, building on the current EPINOV study in France, and a multi-centre, preclinical study of rare diseases will be launched.</p>	<ul style="list-style-type: none"> • A multi-centre study requires the commitment and coordination of many hospitals. • Need to find motivated teams and/or motivate teams with enough time and appropriate support. 	<p>M8.2 Use existing networks to get other parties involved, show the advantage of such studies</p> <p>M8.3 Identify motivated clinicians, search for colleagues with clinical scientist profile who are working at the interface of medicine and research.</p> <p>M8.4 Use ongoing collaboration as starting point.</p> <p>M8.5 Be present at large congresses.</p> <p>M8.6 Make success stories visible.</p>
<p>OC9. Thanks to EBRAINS making available new, high performance, closed-loop functions based on insights into human cognition (PO5), industry will be able to develop advanced prototypes for industrial and service robots, advanced autonomous systems, or prostheses, e.g., for the visually impaired.</p>	<ul style="list-style-type: none"> • Industry teams and business need to be aware of potential benefits (competitive performance, technological maturity and new markets). • Limited availability of spare resources for engaging in method; limited support/training available, and few existing examples. • Issues stemming from lack of transparency of neuromorphic technology, which are challenging in safety-critical applications. • Prototypes based on closed-loop simulations going to real-world scenarios might be too simplistic. 	<p>M9.1 Develop targeted showcases to demonstrate the benefits of Neurorobotics Platform use.</p> <p>M9.2 Use digital education pathways and training to reach a broader, global audience.</p> <p>M9.3 Build trusting collaboration with users, communicate, participate in the respective communities.</p> <p>M9.4 Increase complexity by integrating new features learnt from the brain in an iterative way.</p>

Annex 2: Examples of draft event programme schedules

Example 1:

Time	Day 1			Day 2			Day 3		
8:30-9:00	Coffee and registration Day 1			Coffee and registration Day 2			Coffee and registration Day 3		
9:00-10:00	Welcome & Plenary 1 (virtual)			Plenary 2 (virtual)			Plenary 3 (virtual)		
10:00-11:00									
11:00-11:15	Coffee Break			Coffee Break			Coffee Break		
11:15-12:30	Module 1	Module 2	Module 3	Module 1	Module 2	Module 3	Module 1	Module 2	Module 3
12:30-13:30	Lunch Break			Lunch Break			Lunch Break		
13:30-15:00	Module 1	Module 2	Module 3	Module 1	Module 2	Module 3	Module 1	Module 2	Module 3
15:00-15:15	Coffee Break			Coffee Break			Coffee Break		
15:15-16:30	Module 1	Module 2	Module 3	Module 1	Module 2	Module 3	Panel Discussion & Closing session		
16:30-18:30	Get-together			Networking					

Example 2:

Time	Day 1			Day 2			Day 3		
8:30-9:00	Coffee and registration Day 1			Coffee and registration Day 2			Coffee and registration Day 3		
9:00-10:00	Welcome & Plenary 1 (virtual)			Module 1	Module 2	Module 3 (virtual)	Module 1	Module 2	Module 3
10:00-11:00				Module 1	Module 2	Module 3 (virtual)	Module 1	Module 2	Module 3
11:00-11:15	Coffee Break			Coffee Break			Coffee Break		
11:15-12:30	Module 1	Module 2	Module 3 (virtual)	Module 1	Module 2	Module 3 (virtual)	Module 1	Module 2	Module 3
12:30-13:30	Lunch Break			Lunch Break			Lunch Break		
13:30-15:00	Module 1	Module 2	Module 3 (virtual)	Module 1	Module 2	Module 3 (virtual)	Module 1	Module 2	Module 3
15:00-15:15	Coffee Break			Coffee Break			Coffee Break		
15:15-16:30	Module 1	Module 2	Module 3 (virtual)	Module 1	Module 2	Module 3 (virtual)	Panel Discussion & Closing session		
16:30-18:30	Posters & networking			Posters & networking					