FLAG-ERA

JOINT TRANSNATIONAL CALL (JTC) 2019

www.flagera.eu/flag-era-calls/jtc-2019

SUPPORTING TRANSNATIONAL RESEARCH PROJECTS IN SYNERGY WITH THE TWO FET FLAGSHIPS

GRAPHENE FLAGSHIP
HUMAN BRAIN PROJECT



Call pre-announcement:
November 7, 2018

Call announcement:
November 19, 2018

Submission deadline:
February 19, 2019, 17:00 CET

FLAG-ERA is supported by the European Commission under the ERA-NET scheme of the Horizon 2020 programme

FLAG-ERA

FLAG-ERA (the Flagship ERA-NET) gathers National and Regional Funding Organisations (NRFOs) in Europe and beyond with the goal of supporting, together with the European Commission, the FET Flagship initiatives, i.e., the Graphene Flagship and the Human Brain Project (HBP).

TOPICS OF JTC 2019

GRAPHENE

1. Synthesis and characterization of layered materials beyond graphene
2. Graphene and related materials (GRMs) for Quantum Technologies
3. Optimized GRM-based tunnel barriers for efficient spin injection and detection into graphene under operational conditions
4. Spin torque and layered-materials-based memory building block
5. Synthesis of monolayers of non-layered compounds
6. Bacterial degradation of GRMs
7. Osteoinductivity and immunisation capacity of GRMs
8. Soft graphene-based materials for tissue engineering
9. GRM-based large-area light emitters and arrays
10. Low temperature growth of layered semiconductors for flexible applications
11. Nanofluidics based on GRMs
12. CVD growth of graphene on insulators
13. Sensors from GRMs and their heterostructures
14. Passive components for radio frequency electronics based on GRMs
15. Infrared photodetectors based on GRMs and their heterostructures
16. LIDAR based on GRMs for autonomous vehicles
17. Moore's law continued through GRMs
18. GRM-based tandem solar modules
19. Graphene-based cathode materials for Li-ion batteries
20. Re-usable templates for graphene production

HBP (BASIC AND APPLIED RESEARCH)

1. Human brain intracranial data and their relationship to other aspects of brain organisation
2. Comparing morphology and physiology of cortical cell types in human and non-human primates
3. Comparative aspects of brain function and connectivity
4. Cross-species multi-scale data constraints for visuo-motor integration
5. The neural bases of spatial navigation and episodic memory
6. Models of auditory processing
7. Dynamics and representation in multi-level systems of human cognitive functions
8. Modelling dendrites within active networks
9. Testing predictive coding and attractor network models
10. Biological deep learning
11. Disease modelling and simulation
12. Innovative modelling for allosteric drug discovery
13. Integration of simulation tools, neuromorphic computing and robotics with brain and behavioural studies for developing next-generation brain-computer interfaces
14. Text mining of cellular, synaptic, connectomic or functional properties of the brain

The FLAG-ERA JTC 2019 comprises two topics, one for each Flagship. The Graphene part of the call is sub-divided into two sub-calls, one for basic research and one for applied research and innovation. All Graphene topic areas are open to both sub-call, and it is up to the applicants to decide under which sub-call they apply, taking into account the lists of participating countries and the weights on the evaluation criteria.

Projects may be funded for up to 36 months

ELIGIBILITY OF APPLICANTS AND CONSORTIA

While applications will be submitted jointly by groups from several countries, each group will be funded by its respective national or regional funding organisation. The applications are therefore subject to eligibility criteria of individual funding organisations. Please refer to the call announcement on:

https://www.flagera.eu/flag-era-calls/jtc-2019

Consortia must be international. They must involve at least

- 3 partners requesting funding from 3 participating countries

or

- 2 partners requesting funding from 2 participating countries and a partner from another country securing its own funding as a Flagship Core Project partner.

In both cases, partners requesting funding may be Flagship Core Project members. In any case, the consortium coordinator must be a partner requesting funding (and be eligible for funding) from an organisation participating in the call.

EVALUATION AND SELECTION OF PROPOSALS

JTC2019 follows a 2-stage evaluation and selection process. Proposals are assessed by an independent international Scientific Evaluation Panel with the help of external reviewers. They are evaluated and ranked according to the following criteria:

1. Excellence (Scientific and/or technological quality);
2. Implementation;
3. Impact.

These criteria are weighed differently depending on the sub-call

ASSOCIATION TO THE FLAGSHIP

Projects recommended for funding will be invited to proceed with the formal association to the Flagship, using the Flagship standard association procedure. Any issue at this stage will be treated through classical project risk management.

CONTACT POINTS FOR THE NRFOS PARTICIPATING IN THE JTC

Country	NRFO	Name	E-mail	Phone	Graphene		HBP
					Basic	Applied	
Belgium	FNRS	Florence Quist	florence.quist@frs-fnrs.be	+32 2 504 93 51	X		X
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FLAG-ERA JTC 2019 Call partners

