

# JOINT TRANSNATIONAL CALL (JTC) 2019

[www.flagera.eu/flag-era-calls/jtc-2019](http://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

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|--|--|
| 1. Synthesis and characterization of layered materials beyond graphene   | 10. Low temperature growth of layered semiconductors for flexible applications |
| 2. Graphene and related materials (GRMs) for Quantum Technologies  | 11. Nanofluidics based on GRMs   |
| 3. Optimized GRM-based tunnel barriers for efficient spin injection and detection into graphene under operational conditions | 12. CVD growth of graphene on insulators                                       |
| 4. Spin torque and layered-materials-based memory building block   | 13. Sensors from GRMs and their heterostructures                               |
| 5. Synthesis of monolayers of non-layered compounds  | 14. Passive components for radio frequency electronics based on GRMs           |
| 6. Bacterial degradation of GRMs   | 15. Infrared photodetectors based on GRMs and their heterostructures           |
| 7. Osteoinductivity and immunisation capacity of GRMs  | 16. LIDAR based on GRMs for autonomous vehicles                                |
| 8. Soft graphene-based materials for tissue engineering  | 17. Moore's law continued through GRMs   |
| 9. GRM-based large-area light emitters and arrays  | 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 | 8. Modelling dendrites within active networks  |
| 2. Comparing morphology and physiology of cortical cell types in human and non-human primates  | 9. Testing predictive coding and attractor network models  |
| 3. Comparative aspects of brain function and connectivity                                      | 10. Biological deep learning   |
| 4. Cross-species multi-scale data constraints for visuo-motor integration                      | 11. Disease modelling and simulation   |
| 5. The neural bases of spatial navigation and episodic memory                                  | 12. Innovative modelling for allosteric drug discovery   |
| 6. Models of auditory processing   | 13. Integration of simulation tools, neuromorphic computing and robotics with brain and behavioural studies for developing next-generation brain-computer interfaces |
| 7. Dynamics and representation in multi-level systems of human cognitive functions             | 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						
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