

Call for Proposals for  
**"Working Groups for Harmonisation and  
Alignment in Brain Imaging Methods for  
Neurodegeneration"**

**Final version**

January 2016

**Submission deadline for proposals: 10<sup>th</sup> March 2016, 23:59h C.E.T.**

For further information, please visit us on the web

**<http://www.jpnd.eu/>**

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**The trans-national 30-member state Joint Programme - Neurodegenerative Disease Research (JPND) is the largest global research initiative aimed at tackling the challenge of neurodegenerative disease (ND). JPND is pleased to launch a rapid-action call for leading scientists in the field to establish working groups to bring forward novel approaches to enhance the use of brain imaging for neurodegenerative disease research. The working groups must address innovative and new ideas within the area of brain imaging.**

**The working groups will be community-led and will establish 'best practice' guidelines and/or methodological frameworks to overcome barriers regarding the use of brain imaging in ND research. The call is not intended to support direct research studies. Supported groups will provide outputs within a 9 month timeframe that will be of value to the broader ND research community. These will be made available through the JPND website. Guidelines will be used for further JPND actions.**

## **1. Background to the call**

Imaging techniques such as MR, PET, and EEG mapping have brought about a dramatic improvement in the understanding of early development and progression of brain changes in persons with cognitive disorders of old age such as Alzheimer's disease. Advances have been made in the past few years regarding access to state-of-the-art and cutting edge imaging technology, harmonisation of acquisition procedures across scanners and vendors, and access to platforms for advanced image analysis. However, a number of challenges are apparent looking forward; such as undertaking multi-centre clinical trials of an unprecedented scale, facilitating multimodal connectivity and data transfer across imaging centres, and the use of imaging for diagnostics and/or to measure clinical outcomes. These issues will require new methodologies and an ability to undertake image acquisition and analysis at scale and at the global level.

Any new ideas that will encourage harmonization and alignment in brain imaging will be welcome. As examples, the following aspects have been identified that might merit further attention by the scientific expert community:

- **Harmonisation of acquisition for current markers**  
Development of multi-vendor/model acquisition and harmonization of procedures, for example for MR, FDG PET, and EEG signals that are as independent as possible from operators for current disease markers to be used in multi-centre studies (e.g. defining acquisition sequences and parameters; developing data quality assurance protocols and automated quality assurance analytical tools; building a repository for acquisition protocol information, analysis pipelines, and exemplar data).
- **Simplification of web access to image analysis environments**  
Improving the secure access to innovative web-based image analysis environments for neurodegenerative diseases, thereby facilitating data upload, download, exchange and expansion to other services (e.g. quality control, image analysis pipelines, statistical analysis including machine learning technologies for biomarker research, data management services, archiving, customized data sharing).
- **Promoting the development of innovative PET molecular markers**  
Fostering the use of established and experimental PET methods for the development of innovative PET molecular ligands (e.g. providing novel PET tracers and standardized data analysis, facilitating the use of PET tracers in multidisciplinary studies, developing innovative multimodal data analysis techniques for standardized and efficient use in multi-centre studies).
- **Innovative ultra-high field (UHF) MR markers**  
Development of innovative imaging markers based on UHF MR (e.g. listing candidates

for disease specific UHF imaging markers with new diagnostic significance on a functional, structural or molecular level; pooling data and expertise; developing optimized and standardised data acquisition and analysis protocols).

There will of course be other imaging concepts worthy of consideration.

JPND has decided that such issues can be progressed most effectively through assembling motivated groups of leading experts in the ND field. Accordingly community-led Working Groups are to be supported that can push forward the conceptualization of such topics in order to provide guidelines and/or best practice frameworks of value to the wider research community. Synergies with and linkage to other existing major initiatives in brain imaging are encouraged.

## **2. Focus of the call**

To establish a limited number of JPND-sponsored expert Working Groups to address issues of key relevance for the future use of brain imaging techniques in ND research. Areas to be considered are highlighted above, although any other topics that are similar in theme and relevance may be proposed.

The following neurodegenerative diseases are included in the call:

- Alzheimer's disease and other dementias
- Parkinson's disease and PD-related disorders
- Prion diseases
- Motor neuron diseases
- Huntington's disease
- Spinocerebellar ataxia (SCA)
- Spinal muscular atrophy (SMA).

Studies primarily relevant to other diseases with a neurodegenerative component (e. g., multiple sclerosis) are not included in the call.

## **3. Characteristics and mode of operation of Working Groups**

- Involve key opinion leaders with an internationally competitive track record in ND research and/or neuroimaging. The core membership will be drawn from within JPND member countries. However, the inclusion of experts from other countries beyond JPND is encouraged.
- Led by an individual with the energy and commitment to drive a collaborative and output-directed process. This individual need not be the most senior person in the group.
- Guided by a clear project plan.
- A typical arrangement would entail small workshops at the beginning and end of the process, with sub-groups established to achieve more focused work through remote-working.
- Consideration should be given to establishing an external reference group to ensure that objectivity is maintained in developing the Working Group's conclusions and recommendations.

## **4. Funds available and form of support**

Each working group can bid up to 50,000 € for support of its activities, which are expected to run for a maximum of 9 months with the possibility for the country funding agencies to approve an extension of up to 12 months in total.

- Funding will cover the costs of meetings and travel required to deliver the Working Groups' objectives

- It is expected the budget will allow for two small workshops, with further work to be undertaken through email, tele-, video- or web-conferencing.

A working group might organize a joint workshop for exchange of results between all working groups. For such an activity, another up to 50.000€ may be requested. Applications should indicate whether or not working groups are interested in organizing this workshop and a case will be requested from relevant award holders at a later date.

This funding will not provide support for:

- direct research activity;
- equipment;
- the salaries of investigators or scientific staff, although funds to part-support an administrative co-coordinator for the activity will be permitted;
- student stipends.

## 5. Eligibility

- Applications are to be led by a coordinator from an eligible institution within one of the participating JPND member countries (in accordance with the Terms and Conditions of the relevant national funding organisations).
- As a cross-JPND activity, experts from all JPND member countries may participate in Working Groups, including countries who are not financial participants to the call. In addition, Working Groups are encouraged to include key expertise from non-JPND countries.
- The JPND countries contributing funding to this call are:
  - **Canada, Canadian Institutes of Health Research**
  - **Denmark, Innovation Fund Denmark**
  - **France, French National Research Agency**
  - **Germany, Federal Ministry of Education and Research**
  - **Ireland, Health Research Board**
  - **Italy, Ministry of Health**
  - **Netherlands, The Netherlands Organisation for Health Research and Development**
  - **Norway, The Research Council of Norway**
  - **Spain, National Institute of Health Carlos III**
  - **Sweden, Swedish Research Council**
  - **Switzerland, Swiss National Science Foundation**
  - **United Kingdom, Medical Research Council**
- Only trans-national research groups will be funded. To qualify for funding, each proposal must involve research experts from three or more of the 30 JPND countries.
- Working Group contributors are permitted to be members of Working Groups in more than one proposal. However, individuals may not act as the Coordinator for more than one proposal.
- The best proposals and funding priorities will be identified following assessment, as detailed in section 8.
- Following the review, a JPND Sponsor Group will align working groups with the funding available. There will be the flexibility to do this because groups are expected

to have members from at least three and probably many more countries.

## 6. Outputs

Working Groups are required to produce a report at the end of the funding period that contains guidelines or a methodological framework, to be published on the JPND website. This report is expected to act as a reference point for the wider ND research community in planning and delivering future research studies. Applicants should also put forward an appropriate plan to disseminate the outcomes, for example, through publication in a journal.

A common workshop will be organized at the end of the process to bring together and present the combined outputs from the Working Groups funded under this call, to encourage further cross-fertilisation of ideas and wider dissemination to stakeholder groups.

## 7. Applications

Applicants will be required to cover the following:

- the rationale for the proposed activity, identifying the research-need or barrier to progress being addressed;
- why the outputs (whether guidelines or a methodological framework) will uniquely contribute to moving ND research forward;
- the positioning of the proposed activity relative to related activity being pursued through existing neuroimaging initiatives
- the objectives and mode of operation of the Working Group, specifying the work-plan and timeline for delivery;
- the identity of the experts to be involved, specifying the leadership /coordinator for the exercise;
- where appropriate, the identity of experts who will act as an advisory reference group for the process to help validate the outputs;
- a breakdown of the budget request;
- the expected outcomes and deliverables, including plans for dissemination.

Applications must be submitted by the coordinator in electronic format no later than 23:59h C.E.T. on March 10, 2016 via the electronic submission system (<https://www.pt-it.de/ptoutline/application/Imaging>). No other means of submission will be accepted. The proposal template is available through the JPND website (<http://www.neurodegenerationresearch.eu/initiatives/annual-calls-for-proposals/brain-imaging-working-groups-2016/>).

## 8. Assessment Criteria

Applications will be assessed by an international and independent review group. Applications will be assessed on the following criteria:

- The scientific fit to the call
- The distinctiveness and likely impact of the activity
- The timeliness and relevance of the ideas proposed for discussion
- The standing of the experts within the proposed working group and whether as a group they have the appropriate mix of scientific skills
- The feasibility and appropriateness of the project plan
- Plans for dissemination and the potential impact of the outcomes to the field

## 9. Awards

Awards will be made on a national basis by the relevant funding organisations and administered according to their terms and conditions, taking into account all other applicable regulations and legal frameworks. Successful projects are expected to start in 2016.

## 10. Enquiries

For any enquiries please contact the JPND Joint Call Secretariat:

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