



AMED-DFG NEUROSCIENCE “Computational Connectomics” RESEARCH COLLABORATION

Call Opens: 10 April 2020 (18 March 2020 for German side)

Call Closes: 17 June 2020

The Japan Agency for Medical Research and Development (**AMED**) and Deutsche Forschungsgemeinschaft e.V (**DFG**) of Germany are pleased to launch a call for proposals for **Japan-Germany collaborative research into neuroscience “Computational Connectomics”**. This jointly funded initiative is aimed at fostering collaborative links between researchers in Japan and Germany. We invite joint application (by parallel submission) from researchers based in Japan and Germany. The deadline for applications is **17 June 2020**. Successful awards will be announced in December 2020.

Background

AMED is committed to fostering collaboration between Japan and Germany. DFG has a strategic commitment to encourage international partnerships to tackle important and challenging research goals. In response to the promising potential for work between our two countries, this call is dedicated to strengthening collaborations between researchers in Japan and Germany with a focus on neuroscience.

Aim

The overarching aim of Japan-Germany collaborative initiative in neuroscience is to provide bilateral support to biomedical and health researchers in Japan and Germany that will allow them to forge lasting collaborations. This initiative aims to strengthen existing links or foster new links that add value to research taking place in both countries. This is expected to be achieved by facilitating exchange and catalysing innovative synergy amongst collaborators and is particularly aimed at those who are in the early stages of their careers as Japanese side. Therefore, it is expected that applications in Japan will be made by eligible early career researchers or by established researchers who explicitly wish to encourage the career development of their postdoctoral researchers. It is hoped that the partnerships established through these awards will lead to the development of long-term collaborative research programmes that will be competitive for international funding.

Objectives (for Japanese applicant)

The objective is to provide bilateral support for up to three, catalytic, innovative collaborative partnerships between researchers from Japan and Germany. These will enable important synergy between researchers with shared or complementary interests.

Specific objectives that underpin Japan-Germany research collaborative initiative in neuroscience are to promote:

- partnerships between Japan and Germany investigators in fields of biomedical, health and clinical research

- the exchange of scientists, particularly early career scientists,
- knowledge or methodology exchange,
- complementary access to facilities / resources / equipment
- stronger opportunity for collaborative research and catalyse further synergy

It is expected therefore that jointly planned collaborative Japan-Germany partnership project applications will be submitted. Applications from early career researchers or from established researchers who wish to encourage their postdoctoral scientists career development are particularly invited.

Scope

The field of connectomics aims to comprehensively describe the physical and functional coupling among the neural elements of the brain. Understanding brain networks across different scales is an important step towards understanding brain function. However, further progress will hinge on a close interplay of experiment, theory, and computational analysis. Connectomics data sets will be huge, representing prototypical “big data” that cannot be easily visualized and intuitively grasped by the human brain. These data sets will be highly structured and far from random, however. The goal of this joint programme is to uncover this structure, understand the principles governing the organization of the connectome, and understand how it forms through development and learning, how it gives rise to normal function, how it changes when we age or acquire a disease, and how such changes affect its function.

Along these lines, we invite research proposals to facilitate the automated reconstruction of connectivity from different types of data sets and support the curation and open-access distribution of large-scale connectomics data sets (Theme A), undertake systematic analyses of complex connectivity networks (Theme B), develop theories and models of their structure and development and explain how this structure gives rise to neural activity and cognitive functions (Theme C). Each project should take the form of a collaboration between Japan and Germany investigators with complementary expertise. Projects that combine at least two of the above research themes are particularly welcome.

We encourage applications for projects which: 1) study brain connectivity in different species from microscopic to macroscopic levels with the goal of obtaining comprehensive connectivity maps, 2) have a clear and innovative computational component, 3) have a clear plan for sharing data, analysis software and models, 4) study the dynamics of brain connectivity across different time scales, 5) study changes in brain connectivity during development and learning, 6) foster close interaction of experimental and theoretical research.

We discourage applications for projects which: 1) are not focused on the topic of connectomics as described above, 2) do not involve multiple PIs with complementary backgrounds and expertise, 3) aim mostly at data collection without an innovative data analysis or modelling component, 4) have no clear plan for sharing any data, analysis software, and models, 5) focus on functional connectivity without advancing our understanding of the underlying structural connectivity, 6) focus on altered connectivity in knock-out animals.



Within the scope of this topical framework, AMED defines the following research areas of interest for collaborative Japan-Germany partnership project applications:

- Macroscale neuronal connectivity for psychiatric disorders
- Clinical Connectomics for Deep Brain Stimulation (DBS) and repetitive Transcranial Magnetic Stimulation (rTMS)
- Multi-scale mechanisms in stroke and epilepsy

Funding

AMED and DFG will jointly provide bilateral support for up to three years to intensify productive collaboration in neuroscience research between Japan and Germany's leading researchers.

It is anticipated that 3 grants will be jointly supported by AMED and DFG, respectively.

[Budget per project for three years]

AMED (*1): 187,500 EUR = 22.5 million JPY [1 JPY= 120 EUR] (SICORP)

(*1) AMED does not cover a part of full cost including a salary of researchers of permanent position.

GUIDANCE FOR APPLICANTS

I. GENERAL GUIDANCE

AMED and DFG invite researchers based in Japan and Germany to submit jointly planned collaborative partnership projects in neuroscience “Computational Connectomics” research. For this initiative, parallel submission of each joint Japan-Germany collaborative project should be made to both the funding agencies AMED and DFG following the instructions below.

For each joint project, there will be a single Japan principal investigator and German principal investigator. These Co-principal investigators (**Co-PIs**) will lead the submission in their respective country to their respective agency (AMED in Japan and DFG in Germany). The Co-PIs must be eligible for the receipt of their respective agency funding.

In Germany –

Please see “SPP 2041_Call for Proposals” for German applicants as a reference.

In Japan –

Submissions to AMED must list the Japan-based Co-PI as the PI on the application with Germany-based Co-PI as the first named co-applicant. Submissions should be made on line using [e-Rad application system](#). Co-PIs must prepare and submit the same joint Japan-Germany Case for support in English using the call specific template. **The Japan-based Co-PI has to submit the additional application form “追加応募様式” written in Japanese. Co-PIs may only apply for one joint project in this Japan-Germany call.**

Collaborative Research Agreement (CRA)

It will be the responsibility of the Co-PIs and their research organisations to draw up a Collaborative Research Agreement (CRA) suitable to administer and manage the delivery of the project activities, finances, intellectual property rights (IPR) and to avoid disputes which might be detrimental to the completion of the project.

Start date and Duration

The duration of the joint collaborative research project shall be no longer than three years [thirty-six (36) months] in total from the start date. **Awards MUST start on 1 January 2021 in FY2020/21.**

II. ELIGIBILITY

The Co-PIs must be eligible for the receipt of their respective agency (AMED OR DFG) funding.

In Germany –

Please see SPP general guidelines (section I - 2.1) for German applicant as a reference.

In Japan –

The Japan-based Principal Investigator must be the person who will be the Co-PI for the project (and named as –cooperation partner on the proposal submitted to DFG).

The Japan-based Co-PI must be affiliated with a domestic Japanese University etc. * ¹research institution and will carry out the proposed project at this institution.

The following researchers may also submit applications:

- Researchers of foreign nationality who are affiliated with a domestic Japanese University etc. research institution.
- Researchers who are able to bear overall responsibility for an R&D project throughout the entire project period.

For further details, please refer to “**VII REPORTING**” and “**補足公募要領** (Supplemental guidelines: written in Japanese and English for Japan-based co-applicants)”.

III. FINANCIAL SUPPORT

In this joint call, AMED and DFG will fund **up to three collaborative research proposals** with bilateral support.

AMED will provide their support to the Japan based Co- PI at their research organisation, and DFG will support researchers based in Germany. DFG and AMED expect the costs on each side to accurately reflect the activities proposed in the application. Reciprocated funding for exchanged staff (to cover facilities and consumables) is anticipated.

It is anticipated that the requested costs will reflect the nature of the intended activities to fit the objectives of this call:

Major objective of the partnership is to carry out outstanding research.

- partnerships between Germany and Japan investigators in fields of biomedical, health and clinical research
- the exchange of scientists, particularly early career scientists
- knowledge or methodology exchange
- complementary access to facilities / resources / equipment
- stronger opportunity for collaborative research and catalyse further synergy

In Japan (Support by AMED)

AMED will provide 7.5 million yen per annum, over the three year period as its contribution to bilateral support for each awarded project.

Contract between Japan-based Co-PI and AMED

Support will be implemented in accordance with a contract for commissioned research which shall be entered into between AMED and the Japan-based co-PI’s Institution. The contract for commissioned research will be signed each fiscal year over the collaborative research period. Since the contract is agreed on condition that all administrative procedures related to the project in question shall be handled within the institution, the PI should consult with the department in charge at his/her institution.

Budget for Collaborative Research Projects: the total budget for each project proposed by Japan-based co-applicants over a full three (3)-year period (i.e. thirty-six (36) months) should not exceed 22.5 million yen in principle including indirect cost. The planned budget for research

¹ *: The term “University etc.” refers to educational corporations such as national, public and private university corporations; public research organizations such as national and public testing and research bodies, independent administrative agencies, and national R&D corporations; and public organizations such as benevolent corporations

projects may vary each fiscal year, depending on the planned activities specific to each project. Funding for Japan-based applicants are allowable for:

	Main item	Definition
Direct costs	Costs of goods (equipment/supplies)	Research facilities/equipment/prototypes, software (ready-made goods), book purchasing costs, purchasing costs for reagents/materials/consumables for use in research
	Travel costs	Travel costs of R&D participants, travel costs for invited participants such as external experts
	Personnel costs/ services costs	Personnel costs: personnel costs for researchers, etc., employed to conduct the relevant contracted R&D Service costs: expenditure for services such as lecture requests, guidance/advice, test subjects, interpreters/translators, and unskilled labor.
	Other	Costs for implementing the relevant contracted R&D other than the above. Examples: R&D results publication costs (academic paper contribution costs, academic paper offprint costs, website production costs, etc.), conference costs, equipment leasing costs, Equipment repair costs, printing costs, subcontract costs, testing costs, amount equivalent to consumption tax related to untaxed transactions, etc.
Indirect costs²	Expenditure used by research institutes and paid by AMED as necessary costs for managing the research institutes during implementation of the relevant R&D, paid at a fixed percentage of direct costs (within 30%) as an allowance.	

¹ Link from: <https://www.amed.go.jp/keiri/index.html>

² Implemented when AMED concludes a contracted R&D agreement with a national university corporation, inter-university research institute corporation, independent administrative corporation, special corporation, special private corporation, general incorporated association, general incorporated foundation, public interest incorporated association, public interest incorporated foundation or private university, etc., and does not apply in the case that the researcher is affiliated with a national facility or other institution (excluding the National Institute for Educational Policy Research). The fixed percentage will not exceed 30%. With regard to Subsidiary Institutions (excluding national facilities or other institutions) also, indirect costs are allocated in accordance with direct costs.

In Germany (Supported by DFG)

Please see SPP general guidelines (section II) for German applicant as a reference.

IV. HOW to APPLY (for Japanese Applicant)

For this initiative, parallel submission of each joint Japan-Germany collaborative project should be made to both the funding agencies AMED and DFG following the instructions for submission below. Please follow carefully and allow sufficient time for the appropriate administrative checks within your host research organisations.

The Co-PIs from Japan and Germany shall work together to write the appropriate 2 templates (“Project Description” and “Proposal Data and Obligations” documents) in English **provided in**

the elan portal (<https://elan.dfg.de>) or e-Rad application system (<https://www.e-rad.go.jp>) linked to AMED SICORP webpage (<https://www.amed.go.jp/en/program/list/03/01/003.html>). The format of the agencies' on line application systems may differ but must be filled as similarly as possible so that a similar joint application is submitted in parallel: Japanese and German Co-PIs shall submit to AMED and DFG, respectively.

[Reference for Joint Japan-Germany Application]

The joint project description must be identical in the proposals submitted to DFG and AMED. Using the template provided a jointly agreed application written in English should be submitted by the Japan and German-based Co-PIs as part of their application. Please follow the instructions in the application template and complete all sections as necessary.

- DFG's Proposal Preparation Instructions (Special instructions on SPP, see p. 11):
http://www.dfg.de/formulare/54_01/54_01_en.pdf
- Project Description - Project Proposal (Application Form):
http://www.dfg.de/formulare/53_01_elan/53_01_en_elan.rtf
- DFG's Guideline for Publication Lists (Instruction for CVs and publication lists):
https://www.dfg.de/formulare/1_91/1_91_en.pdf

For Japanese applicants, the application described your project must be submitted as a set of PDF of same all applications and CVs submitted by Germany PI using e-Rad application system. Please see “補足公募要領” for further information.

V. SUBMISSION of APPLICATION

In Japan

In Japan, submissions will be made through the online application system, e-Rad (<http://www.e-rad.go.jp/index.html>).

On the proposal form the Japan Co-PI should be listed as the principal investigator and the Germany Co-PI should be listed as the first named co-applicant.

Japan-Based Co-PI should electronically submit their application forms to AMED by **17:00** (Japanese Standard Time) on **17 June 2020**.

In Germany

In Germany, submissions will be made the online application system, the elan portal (<https://elan.dfg.de>). Please see the DFG's call for proposals for information for applicants.

The Germany-based Co-PI should electronically submit the application together with all applications to the DFG **on 17 June 2020**.

Sufficient time must be allowed for the submission process between submitting your proposal and the call closing date.

Failure to submit a valid application to both funders will invalidate both submissions.

VI. EVALUATION of PROPOSALS

Joint proposals will be individually and separately reviewed by DFG and AMED following the review processes of the respective funding authority. The results of the review process will be shared between the agencies. Support will be granted for those proposals where both DFG and AMED recommend funding. Please note that AMED sets a limit for the funding of joint projects to a maximum of three proposals.

On the Japanese side, proposals will be assessed according to key evaluation criteria using a common evaluation form. A scoring system from 1 to 10 will be used to evaluate the proposal's performance with respect to key evaluation criteria as AMED side, whereas DFG will not use a scoring system, but will assess projects by their scientific excellence, based on:

- Quality of the project
- Objectives and work programme
- Applicants' qualifications
- Work and research environment
- Fit to scientific scope of the SPP/SICORP

[AMED only]

(1) Key Evaluation Criteria:

1. Fit to joint call purpose
2. Importance, scientific/technological significance and clear benefit through collaborative activities
3. Quality and value for money of the implementation/appropriateness of the plan
4. Potential Impact

Other factors if they become relevant may be used as criteria -for example institutional location of awards as the funders would wish to diversify their support.

(2) Scoring system:

Score	Category
1	Extremely Poor
2	Very Poor
3	Poor
4	Marginal
5	Fair

Score	Category
6	Good
7	Very good
8	Excellent
9	Outstanding
10	Exceptional

(3) Announcement of Decision

Successful co-applicants will be notified of the final decision by AMED and DFG **by December 2020**.

VII. REPORTING

Awarded researchers and their affiliated institutions will observe the following when carrying out the collaborative research and utilizing funds provided by AMED.

- Annual Progress Report (for Japanese Applicant)

At the end of fiscal year, the co-PIs should promptly submit a joint progress report in English. In addition, successful applicants could be asked to present the project results during dedicated Review Seminars.

In Japan, Co-PIs will need to send the annual report by email to kokusai5931@amed.go.jp, and to complete the annual report submission through e-Rad system.

- Final Report (for Japanese Applicant)

AMED will request a brief final report on this collaborative activity. Joint final reports should be submitted within two (2) months after completion of the period of international collaborative research. The report should include a general summary compiled jointly by both the Japan and

the Germany research groups. If papers describing results of collaborative research are presented to academic journals, societies and so on, copies of such papers are to be attached to the final report.

In Japan, Co-PIs will need to send the final report by email to kokusai5931@amed.go.jp, and to complete the annual report submission through e-Rad system.

It will also be necessary for each funded group to report to AMED and DFG in accordance with the respective regulation.

VIII. TIMETABLE

- **Call opens: 10 April 2020 [18 March 2020 for German side]**
- **Closing date for proposals: 17 June 2020**
- **Evaluation of proposals: (June - November 2020)**
- **Exchange of results: (November 2020)**
- **Joint funding decision: (December 2020)**
- **Grant awarded: (December 2020)**
- **Project start: 1 January 2021**

IX. CONTACT INFORMATION

Japan-based co-applicants should contact the following for further information:

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