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Strategic Japanese-Swiss Science and Technology Program

Swiss National Science Foundation (SNSF)

And

Japan Science and Technology Agency (JST)

Joint Research Projects:

Call for Proposals 2017

“Research on Hydrogen as a renewable energy carrier”

Opening date: 15 August 2017

Closing date: 14 November 2017 (10:00 CET)
14/November 2017 (18:00 Japan Time)

1. Introduction

On 5 May 2017, the Swiss Federal Council and the government of Japan signed a framework agreement on technical and scientific cooperation. The purpose of this agreement is to facilitate the expansion and strengthening of relations between scientific research organisations, institutes, higher education institutions and other legal entities and natural persons of the States of the contracting parties by creating favourable conditions for cooperation and its development on a mutually beneficial and balanced basis.

Joint Research Projects (JRPs) are one of the funding schemes that resulted from the above mentioned agreement. The Swiss National Science Foundation (SNSF) was mandated by the Swiss State Secretariat for Education, Research and Innovation (SERI) to implement the call for JRPs on the Swiss side, while Japan Science and Technology Agency (JST) was mandated by the Ministry of Education, Culture, Sports, Science and Technology (MEXT) to do so on the Japanese side. Consequently, the SNSF and JST agreed to launch a joint call for proposals to fund JRPs.

The financial support provided by Switzerland comes from within the framework of item 8.2 Bilateral Programmes of the Service Contract 2013-2016 between the Swiss Confederation and the Swiss National Science Foundation of 12 December 2012.

2. Joint Research Projects (JRPs)

Grants for JRPs have the purpose of promoting collaborative projects with clearly defined goals involving at least one partner based in Switzerland and one based in Japan. Applications should describe ambitious research and propose innovative approaches. The research is to be carried out at the research facilities involved; reciprocal visits and short stays in Switzerland for researchers from Japan and vice versa are also possible within the scope of a JRP.

Project duration: the JRPs can last up to 36 months.

3. Research fields

In order to make targeted use of the financial resources available, the call is limited to the following thematic area:

Research on hydrogen as a renewable energy carrier, such as production, transportation, and storage. Examples of possible topics are:

- Hydrogen production technologies using (photo)electrolysis, photocatalysis or thermal decomposition, etc.
- Hydrogen storage and transportation technologies using metal hydrides, organic hydrides, or liquid hydrogen, etc.
- Hydrogen utilization technologies such as renewable fuel cells or hydrogen turbines, etc.

Please note that the call is not exclusive to these topics and is open to any other research addressing problems related to hydrogen technology. Proposals that are oriented towards emerging technologies or ideas based on unique and innovative concepts are encouraged.

Proposals outside of the overall thematic area are not eligible and will not be accepted.

4. Eligibility

Each proposal for a JRP must have at least one main applicant based in Switzerland and one main applicant based in Japan; they are the lead scientists on the Swiss and Japanese sides respectively. They are the main contacts for the SNSF and JST respectively and bear the main responsibility for the project, including its technical and administrative coordination as well as the timely delivery of scientific and financial reports. Further applicants based in Switzerland and/or in Japan can also participate in the consortia, but each applicant/co-applicant can only apply for one project within this call.

Eligibility criteria in Switzerland

The regular SNSF eligibility criteria for project funding apply to applicants requesting funding. The SNSF Funding Regulations (in effect from 1 January 2016) and the Regulations on Project Funding (in effect from 2 April 2016) are applicable or applicable mutatis mutandis where not stated otherwise. Each applicant/co-applicant may only apply for one project. Project partners as described in Article 11.2 of the SNSF Funding Regulations are not entitled to receive funds from the SNSF if their affiliated institution is located in Japan. During the running time of the JRP, grantees may receive grants from all SNSF funding schemes with the exception of Ambizione, PRIMA and SNSF professorships.

Eligibility criteria in Japan

Any independent researcher personally affiliated with and actively conducting research at a domestic Japanese research institution (or who would fulfil this requirement by the start of the research project), regardless of nationality, is eligible to apply.

Note: "Domestic Japanese research institution" in Japan refers to universities, independent administrative institutions, national/public testing and Research Institutions, specially authorized corporations, public-service corporations and enterprises, etc. that must satisfy pre-determined requirements designated by MEXT. Please refer to the MEXT homepage for more information:

http://www.mext.go.jp/a_menu/kansa/houkoku/1324571.htm (in Japanese only).

5. Funding

JRP proposals must contain two separate budgets: one budget in CHF for the Swiss part (paid by the SNSF according to its rules) and one budget in JPY for the Japanese applicant(s) (paid by JST according to their respective rules). In Switzerland, up to CHF 750,000 have been earmarked for this call, while JST has set aside a total amount of JPY 54 million. This will allow for approximately 3 projects to be funded for a period of up to 3 years, provided a sufficient number of high-quality proposals are received.

SNSF-eligible costs in Switzerland

The maximum permissible budget for a project is CHF 250,000.

The funding categories are:

- **Equipment:** Costs of material of enduring value (indicate manufacturer, type and distributor). Quotations – if possible, from different competitors – must be enclosed for items whose purchase price exceeds CHF 20,000.
- **Research funds:** Funds needed to carry out the project, such as travel costs, room and board costs, field expenses, expendable items and unavoidable sundry expenses. The SNSF does not finance the acquisition or maintenance of expendable items that are part of the infrastructure of an institution (books, PCs, rental costs, etc.).
- **Salaries:** The funding is sufficient to support the salary of a PhD student for three years or the salary of a postdoc for two years (salaries for main or co-applicants are not eligible).
- **Social security contributions**

In addition, costs for granting access to research data (Open Research Data) can be charged up to a maximum of CHF 10,000, following the SNSF regulations (Paragraph 2.13 of the General implementation regulations for the Funding Regulations).

The SNSF regulations apply to the Swiss budget. However, no overhead costs will be granted for these projects.

JST-eligible costs in Japan

The JST will support each Japanese team with up to 13.8 million Yen as direct cost (the overhead cost of 30% of direct cost is added separately) for maximum 36 months.

In principle, eligible direct costs are those costs directly necessary for accomplishing the research, indicated below. Please refer to the guidance documents available at the following link for further details of eligible direct costs:

<http://www.jst.go.jp/inter/sicorp/contract.html> (in Japanese only).

- **Facilities, Equipment and Consumables:** costs of research equipment, spare parts, prototypes, software (in-line products) and purchase of books, reagents, materials and consumables.
- **Travel Expenses:** costs and associated living expenses of the project members registered in the project plan, and costs of inviting external experts.
- **Salaries and Honoraria:** costs of the researchers, temporary staff, post-docs, etc., who are hired for the research and other costs such as honoraria for invited lecturers.
- **Others:** costs for the organisation of small scientific events in Japan including rental costs for the venue, food & beverage (excluding alcohol) costs and other costs which are deemed to be necessary for organizing the event.

Note: Please refer to the following link for the provisions regarding indirect costs:

<http://www8.cao.go.jp/cstp/compefund/shishin2.pdf> (in Japanese only).

Visiting costs between Switzerland and Japan

When budgeting visits between the Swiss and Japanese partners, all related expenses are to

be covered by the visiting side according to national rules and restrictions. Research visits between Switzerland and Japan must be balanced in number and duration.

Please note that there will be a kick-off event as well as a final event organised for the project participants; one of these will take place in Japan, the other in Switzerland. Representatives from the Swiss and Japanese teams are expected to attend these events; the travel costs must be covered from the project budgets.

6. Submission

The applicants must jointly prepare and submit their proposal via the electronic submission system *mySNF* (www.mysnf.ch).

After logging in, the correct funding scheme must be chosen (Programmes (national and international) > Bilateral Co-operation (Initiatives of the State Secretariat for Education, Research and Innovation) > Japanese-Swiss Joint Research Programme (JST).

The application consists of two parts:

- The administrative part, which must be completed online:
 - Personal data of the Swiss main applicant
 - Personal data of the Japanese main applicant
 - Personal data of the co-applicant(s) from Switzerland and Japan
 - Basic project data (e.g. title, research field, starting date, duration, summary)
 - Funding requested from the SNSF
 - Information on authorisations required
 - Other information (e.g. whether the project is related to other projects, name of the Swiss/Japanese university/research institution at which the planned project will be implemented, information concerning national and international collaborations, information concerning already available funds or funds requested elsewhere)
- PDF documents that are to be uploaded to *mySNF*:
 - The project proposal (**must have the structure indicated in Annex 1**)
 - The CVs and publication lists of all applicants and other researchers involved in Switzerland and Japan (please note the formal requirements listed on *mySNF*)
 - If applicable, equipment quotes
 - Data Management Plan (DMP) (see Annex 2)
 - Other documents

For specific questions related to www.mysnf.ch, please contact the support team by e-mail (mysnf.support@snf.ch) or telephone (+41 31 308 22 00). Please note that you need a user account in order to submit proposals via *mySNF*. To open an account, please register with the SNSF as a user. Applicants with existing user accounts need not apply for new ones.

Language: all documents must be submitted in English.

The deadline for submission of applications is 10:00 (CET) / 18:00 (Japan time), Tuesday 14 November 2017 (TBC).

Only one online proposal per project is needed, so one of the main applicants should submit the proposal via *mySNF* on behalf of the whole consortium. Late or incomplete applications will not be considered. No requests for extension of the deadline will be considered.

In addition to the joint application process, **Japanese applicants** will also have to:

- Register their applications on the Cross-Ministerial R&D Management System (e-Rad): <https://www.e-rad.go.jp/index.html>.
- Complete a research ethics training program conducted by the research institute with which they are affiliated and then declare the completion of the program to JST within 30 days after the deadline of the call for proposals. If it would be very difficult for them to undertake a program provided by their own institute, they should contact JST to register for a research ethics program provided by CITI Japan. Unless applicants complete a research ethics program, their application will be deemed ineligible for funding.
- Submit additional documents that are required for domestic use including a project title, a summary of the project, and detailed budget information in Japanese with authorization documents on e-Rad, as described in the additional guidelines for Japanese researchers (in Japanese).

7. Evaluation

Evaluation panel: An evaluation panel will be set up, composed of international experts proposed by the SNSF and JST. The evaluation panel will assign each project to one of six rating categories. Funding recommendations made by the panel will include rationale. Proposals assigned to the category in which the funding line lies will be rediscussed and ranked. Priority will be given to applications in the highest categories regardless of the research area.

Decision: At the SNSF, the rating effected by the evaluation panel will need to be approved by the Specialised Committee for International Co-operation and the Presiding Board. At JST, the final decision has to be approved by the Presiding Board.

Evaluation criteria (not listed in order of priority):

- *Applicants' scientific track record and expertise:*
What are the scientific qualifications of each applicant based on their research output?
- *Scientific relevance:*
Are the research questions, objectives and methods important to the discipline in question and beyond?
- *Originality of aims and objectives:*
Are the research aims and approaches innovative?
- *Appropriateness of the methodology and feasibility:*
Are the methods and resources suited to achieving the stated objectives?
- *Complementarity of the research partners:*
Do the collaboration add value, in particular for the proposed research?
- *Broader impact:*
Does the research promise an impact beyond the scientific field, e.g. to other disciplines and to wider society?

The evaluation results will be communicated to the researchers as soon as the final decision is taken and approved by all parties involved (latest in April 2018). The Swiss main applicant will receive a standard decision letter from the SNSF. In case of rejection, the main reasons leading to the decision will be given. In case of approval, the Swiss budget and the conditions will be listed. If applicable, the Swiss main applicant will be responsible for communicating the decision to the other Swiss applicants. For Japanese applicants, the funding decisions will be announced by a standard decision letter from the JST as well as a press release on the JST homepage. If applicable, the Japanese main applicant will be responsible for communicating the decision to the other Japanese applicants.

Earliest possible starting dates of the projects: 1 May 2018.

The projects can last up to 36 months and must be completed by 31st June 2021.

8. Payments

SNSF funding

The standard SNSF rules apply. In principle, the budgets for JRPs are transferred in annual instalments to the Swiss principal investigator (PI) at the beginning of a project year.

JST funding

JST's support will be implemented according to a multiple-year contract for commissioned research entered into between JST and institution to which the Japan based principal investigator (PI) belongs. Since the contract is agreed on condition that all administrative procedures related to the funded research are handled within the institution, the Japan based PI should consult with the relevant department(s) at his/her institution.

9. Reporting

Swiss and Japanese project partners will report separately to the SNSF and JST. Scientific and financial reports are to be submitted annually. JST and SNSF will prepare a common template for the scientific report, so that the consortia will only need to prepare one scientific report to be submitted to both organisations.

SNSF reporting:

The Swiss main applicant will be responsible for the reporting to the SNSF. Both for the financial and the scientific report, the standard SNSF regulations will apply. However, scientific reports are to be submitted annually. They include a qualitative (template will be provided) and a quantitative part (output data).

JST reporting

Japan-based PIs shall submit to JST annual research plans for the year ahead and reports on the progress in the past year, and the institution with which the PI is affiliated shall submit an annual financial report.

At the end of the period of support and after completion of the joint research activities, the Japan-based PI shall promptly submit to JST a final report which shall include a financial report and a description of the research activities and outcomes. The report shall include a

general summary of the activities of both the Japanese and the Swiss research teams. If papers describing results of the research activities are presented to academic journals, societies etc., a list of those papers and other related information should be attached to the final report. Detailed instructions for preparation of the final report will be provided to the Japan-based PI during the final year of the project. Completed projects will be duly evaluated and excellent outcomes may be made public.

10. VAT

In Switzerland (SNSF funding):

The JRP grants are not subject to VAT or other taxes and charges. However, research expenses are not excluded from VAT. Therefore, all costs budgeted in a JRP (e.g. equipment, consumables, etc.) can be charged to the programme, VAT included, unless the research institution (e.g. university, public research organisation, etc.) is able to recover the VAT.

11. Publications and intellectual property

The PIs are obliged to publish research results obtained in the JRPs in appropriate form and according to SNSF and JST standards, also acknowledging the support received.

PIs funded in this call are required to conclude a Collaborative Research Agreement listing the rights and responsibilities of each project partner, and including regulations on the handling of Intellectual Property Rights. This Agreement shall be signed among the project participants before the project starts as a condition of funding.

Scientific and technological outcomes and any other information derived from the collaborative activities funded in this call can be announced, published or commercially exploited with the agreement of all partners in a funded project and according to their national regulations as well as international agreements concerning intellectual property rights.

12. Further information and contacts

At SNSF

Swiss National Science Foundation
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Wildhainweg 3, P.O. Box 8232
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Website: www.snsf.ch

At JST

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Website: <http://www.jst.go.jp/inter/>

Annex 1: Guidelines for writing the project proposal

For your project proposal, we kindly ask you to use the section headings (points 1 to 6) indicated below. In order to ensure that the scientific content of your proposal can be adequately assessed, please provide detailed documentation which sets out clearly the aims, subject matter and methods of the project you are planning.

1. Summary of the research plan (max. 8,000 characters)

This should include the most important features of your research plan and place your project in a broader scientific context. This summary must be identical with the one you have provided in the *mySNF* data container "Basic data II".

2. Research plan

The research plan (i.e. subsections 2.1-2.5) must not exceed 20 pages and 80,000 characters (including spaces). These upper limits include any blank space, figures, tables, formulae and references. The font size should be 10pt or higher. Unless indicated otherwise, the research plan should not contain any annexes.

2.1 Current state of research in the field

By citing the most important publications in the relevant field, please set out the scientific background and basis of the project, explain the need to perform research on the topic you propose and briefly describe important research currently being conducted internationally.

2.2 Current state of your own research and partnership aspect

- Please describe briefly the work done by the different applicants in the relevant research field or in related fields and indicate the relevant publications.
- Explain how the different applicants complement each other for the proposed research project.
- If applicable, describe past collaborations between the Swiss and Japanese partners.

2.3 Detailed research plan

Against the background described in sections 2.1. and 2.2., state the aims that you plan to attain during the lifetime of the project. Please consider the following points:

- Which investigations and/or experiments do you plan to carry out/are necessary to attain the stated aims?
- What is the rationale for getting the project started and how do you intend to develop the work later on?
- What is the expected added value (synergistic benefit) of the collaboration?

Information concerning the methods necessary to attain the aims:

- Which are the methods immediately available to you?
- To which other methods do you have access and how?
- Which methods need to be developed?

Data and data collection:

- What data is available to you and from where?
- What data needs to be collected?

2.4 Work division, schedule and milestones

- Please indicate how you plan to divide the work among the different partners.
- As far as possible, please give an approximate schedule for the work to be carried out within the project and indicate the most important milestones. In particular, please describe the major tasks of any staff to be employed within the project by the different partners.
- List the planned visits between the Swiss and Japanese research groups (visiting scientist, hosting scientist, purpose of visit, date and duration of visit), and describe how/if the collaboration will be sustained after the period of support. (Make sure to include the kick-off meeting and the final meeting in this list.)

2.5 Importance, impact and results

Scientific importance and impact

Please describe briefly the importance of your research for the scientific community and the impact you expect from the project in your field/discipline. Indicate how you plan to publish/communicate your results.

Expected results and dissemination plan

Describe in detail the project outcomes you envisage. Explain how you will share these findings with stakeholders and the community. Address the potential for knowledge transfer to industry (if applicable).

Broader impact

Please state whether and to what extent the proposed project will have a broader impact and what this impact will be. Points such as the following should be addressed:

- Need for research as perceived by practitioners/industry: are there any knowledge gaps? Are innovations and improvements expected?
- Transferability of results: to what degree can research results be put into practice?
- Other potential impact: in which spheres outside science could the implementation of the research results lead to changes and what is the nature of these changes?

3. Ethical, safety and regulatory issues

Does your proposed work raise ethical, safety or regulatory issues? If yes, how will you deal with them? Indicate this clearly. For Japanese researchers, it is required to submit a document regarding ethical, safety and regulatory issues on e-Rad system, as described in the additional guidelines for Japanese researchers (in Japanese).

4. List of ongoing and/or recent research projects between the Japanese and Swiss applicants

Project title	Research area	Project duration (mm/yy – mm/yy)	Amount of funds & funding source

Insert additional rows into the table if required.

5. Planned visits

5.1 Japan to Switzerland

	Visiting scientist(s)	Period & duration of visit	Purpose of visit
1st year			
2nd year			
3rd year			

Insert additional rows into the tables as required

5.2 Switzerland to Japan

	Visiting scientist(s)	Period & duration of visit	Purpose of visit
1st year			
2nd year			
3rd year			

Insert additional rows into the tables as required

6. Requested funds (Japan)

(For the Swiss side, please see corresponding data container on *mySNF*.)

For the Japanese side, please indicate the requested amount in the table below. Please specify the currency and conversion rate to CHF or € if in the amount is entered in JPY (e.g. 1,000 JPY = 8.73 CHF).

Year	Facilities, Equipment and Consumables	Travel Expenses	Salaries and Honoraria	Others	Total
1st year					
2nd year					
3rd year					
TOTAL					

Annex 2: Guidelines for the Data Management Plan (DMP)

The aim of a Data Management Plan (DMP) is to plan the life cycle of data. It offers a long-term perspective by outlining how data will be generated, collected, documented, shared and preserved. The DMP is an integral part of the grant proposal. The proposal can only be submitted once the DMP has been completed. There is a specific space in mySNF where the DMP can be submitted.

The DMP form comprises four sections: (1) data collection and documentation, (2) ethics, legal and security issues, (3) data storage and preservation, and (4) data sharing and reuse.

The submitted DMP is considered a notice of intention. Its content is assessed by the SNSF Administrative Offices for its plausibility and adherence to the SNSF policy on open research data. It is not part of the scientific evaluation process. The DMP remains editable during the entire lifetime of the grant. Its contents can be adapted as the project evolves. The final version of the DMP will be made available on the SNSF's P3 database. This will increase the visibility and impact of the research outcomes by making it easier for other researchers to access and reuse the datasets.

The costs of enabling access to research data that is collected, observed or generated under an SNSF grant are eligible if the research data is deposited in recognised scientific, digital data archives (data repositories) that meet the FAIR principles (Findable, Accessible, Interoperable, Re-usable) and do not serve any commercial purposes (IR 2.13). It is permissible to upload data to commercial repositories, but only the data preparation costs will be covered by the SNSF.

More information on Open Research Data (ORD) and on the DMP are provided on the SNSF website.