

**Strategic Japanese-Indian Cooperative Programme on  
“Multidisciplinary Research Field, which combines Information and  
Communications Technology with Other Fields (Multidisciplinary ICT)”**

**2<sup>nd</sup> Call for Proposals to be submitted by August 15<sup>th</sup>, 2008**

Based on the Memorandum of Understanding concluded between Japan Science and Technology Agency (hereinafter referred to as “JST”) and Department of Science and Technology (hereinafter referred to as “DST”) of the Government of India on December 8, 2006, JST and DST have initiated a programme for joint funding of Japanese-Indian cooperative research projects in the area of “Multidisciplinary Research Field, which combines Information and Communications Technology with Other Fields” (hereinafter referred to as “Multidisciplinary ICT”). The funding will be mainly allocated to enhance bilateral research collaboration with a special emphasis on enhancing exchange visits or joint meetings of scientists of both countries. Successful projects will be funded for a period of three years.

## **I. GENERAL DESCRIPTION**

### **1. Aim of Programme and Research Field**

The aim of the programme is to strengthen the collaboration between Japan and India within the field of “Multidisciplinary ICT” to achieve world-class scientific results, leading towards new innovative technologies. In the current call for proposals, priority would be given to the following areas: (1) ICT combined with nano-technology / nano-science; (2) Security and Cryptography; and (3) Software Technology and Theoretical Computer Science. However other areas of multidisciplinary ICT would also be considered on merit.

### **2. Prospective Applicants**

JST and DST invite Japanese and Indian researchers to submit proposals for cooperative research projects in the research field described above. An important criterion of the proposed collaboration is that it should build on and reinforce already on-going research activities in each research group and contribute significant added value to these. Researchers from the industry may participate in the joint collaboration. However the Indian Principal Investigator should be from a government university/academic institution/ laboratory/ research institute .

### **3. Financial support**

JST and DST plan to support cooperative research projects including dispatches and invitations of researchers to a counterpart country. In principle, JST will support expenses for Japanese researchers and DST will support expenses for Indian researchers. However, the exchange visits of researchers for approved activities under the programme would be supported in bilateral mode i.e. a dispatching side would provide a return air ticket and premium for overseas medical insurance and the inviting side would provide local hospitality (accommodation, meals or per diem in lieu of and local transport).

## II. APPLICATION

Japanese and Indian applicants shall write a common application form that shall be submitted to JST and DST in parallel. The application form shall be written in English. For Japanese applicants, a Japanese version is also required. Indian applicants would be required to also submit supplementary form.

### 1. Submittal of application Forms

Application forms prepared by Japanese researchers shall be submitted to JST by 17:00 (Japanese Standard Time) on July 16, through online application system (<http://www.e-rad.go.jp/index.html>) that has been newly established by Ministry of Education, Culture, Sports, Science and Technology as of January 2008.

Indian researchers shall submit 10 hard copies (one original + 9 copies) of the application + supplementary forms and one unsigned copy typed in Microsoft word on a CD to the following address through proper channel before or on the prescribed deadline :

Dr Rajiv Sharma, Adviser, International Cooperation Division, Department of Science & Technology, Technology Bhawan, New Mehrauli Road, New Delhi -110016.

One copy typed in Microsoft word may be sent by e-mail to : [rajivdst@nic.in](mailto:rajivdst@nic.in).

### 2. Application deadline for JST and DST : August 15<sup>th</sup>, 2008.

### 3. Application Forms\*

The following common application forms shall be prepared in English (E) and Japanese (J, for Japanese applicants only). Application forms issued by JST for Japanese researchers and by DST for Indian researchers may be slightly different from each other to reflect different circumstances of each organizations, applicants and relations between them.

Form 1 E Application outline (title of cooperative research project, names of research leaders, cooperative research period)

Form 2 J/E Information on research leaders (their CVs\*\*)

Form 3 J/E Name list of researchers committed to a cooperative research project in Japan and India

Form 4 J/E Description of a cooperative research project including the points stated above ( a - g), maximum 6 pages).

Form 5 J/E Plan for a cooperative project

Form 6 E Papers and other publications by research leader from Japanese side in the past 5 years.

Form 7 E Papers and other publications by research leader from Indian side in the past 5 years

Form 8 J/E Budget plan for a project

\* Application forms shall include:

- a) Project description including how collaboration will be carried out, with clear statements of what roles Japanese and Indian researchers will play respectively in a proposed project;

- b) Description on expected results of a proposed project, scientifically as well as in terms of its relevance to the industry and society;
  - c) Description on ongoing activities and specific advantages of Japanese and Indian groups respectively, which for the basis for a proposed project.
  - d) Description on expected added values from a proposed project, including how competence, technology and other resources in each group complement each other;
  - e) Description of how a proposed project is expected to help strengthen research cooperation between Japan and India in the long run;
  - f) Description on added values expected from a multidisciplinary approach in a proposed project; and
  - g) Discussion on how a proposed joint project excels in other comparable activities worldwide.
- \*\* The description shall include a short Curriculum Vitae (CV) from both Japanese and Indian research leaders, which include basic information on education, past and present positions and membership of relevant organizations/associations. Each description should not be more than 1/2 page A4.

**In addition to the above common application form, Indian applicants would be required to also submit supplementary forms.**

### **III. CONTENTS OF FINANCIAL SUPPORT**

JST shall provide approximately 5 million yen per project per year in average for an approved cooperative research project to be carried out by Japanese researchers but a total budget for each project over a full 3-year period (i.e., 36 months) should not exceed 15 million yen or equivalent, in principle. (Example: a proposal envisaging a budget of 6 million yen for the first year, 5 million yen for the second year, and 4 million yen for the third year is also possible.)

DST shall provide an approximately equivalent amount to JST's per project per year in average for approved activities to be carried out by Indian researchers in cooperative research projects. Budgets will differ depending on contents of activities and budgetary restrictions and assessment of JST and DST.

#### **1. Supporting Period**

The cooperative research period shall be 3 years (i.e., 36 months) in total, counting from the start date, likely in December 2008.

#### **2. Details of Support**

This programme is designed to support additional expenses related to Japanese-Indian research cooperation, with the precondition that main research infrastructures are already ensured in each research group.

##### **2.1 Treatment of intellectual property**

If intellectual property rights (patents, utility model or design rights, rights to programmes, databases and other intangible property and know-how and so on) are generated as a result of an supported project under this programme, concerned research institutes should adequately

discuss the ownership of them to one another. The Indian and Japanese research groups should have clear understanding of applicable national IPR laws and how the IPR would be shared.

For Indian researchers' information, a contract to be made between JST and Japanese institutes to which supported Japanese research leaders belong, stipulates that the Article 19 of the Industrial Technology Enhancement Act (Japanese version of the Bayh -Dole Act) and the Article 25 of the Act on Promotion of the Creation, Protection and Exploitation of Content (tentative translation) shall be applied to all intellectual property rights generated as results of this project, and that in principle these can be the properties of the institution with which the principal investigator is affiliated. |

## **2.2 Funded expenses**

Funded expenses include costs for implementing research exchanges and performing research activities.

The expenses funded by this project can be used for overall research activities. However, considering the aim of this programme is to promote research collaboration between international researchers, it is expected that more fund will be allocated for research exchange activities. Once approved, funds should be used in accordance to the limits prescribed for each item of expenditure and other terms of the grant mentioned in the project approval/ sanction letter.

### **(1) Direct Cost**

#### 1) Expenses for research exchanges

##### (a) Travel expenses

For Japanese researchers visiting India, JST provides a return air ticket and premium for overseas medical insurance and DST would provide them local hospitality (accommodation, meals or per diem in lieu of and local transport). Similarly for Indian scientists visiting Japan, DST provides a return air ticket and premium for overseas medical insurance and JST would provide them local hospitality (accommodation, meals or per diem in lieu of and local transport).

##### (b) Expenses for holding meetings

#### 2) Other expenses

##### (a) Expenses for accessories and minor equipment

##### (b) Expenses for consumables

##### (c) Expenses for personnel

##### (d) Others

Expenses for creating software, renting of leasing equipment, transporting equipment, etc.

### **(2) Indirect Cost**

Overhead expenses as per DST / JST\* norms

\*JST shall provide such an indirect cost only up to 10% of the total direct costs.

### **(3) Expenses not covered/ funded in the Programme**

No expenses stated below shall be covered under this programme :

- 1) Expenses related to acquiring real estate or constructing buildings or other facilities
- 2) Expenses related to procurement of major equipment
- 3) Expenses related to dealing with accidents or disasters occurring during cooperative research periods
- 4) Other expenses unrelated to implementation of this cooperative research project

#### **IV. EVALUATION OF PROJECT PROPOSALS**

##### **1. Evaluation procedure**

Committees consisting of experts selected by JST and DST respectively will evaluate all the proposals. Based on results of the evaluation, JST and DST will make a common decision regarding successful proposals. Decision of DST and JST regarding selection of projects would be final.

##### **2. Evaluation criteria**

The following general evaluation criteria will apply to each proposed project:

###### **2.1 Conformity with programme aims and designated research field:**

Proposed activities shall conform to the aims of the programme and the research field that the programme designates. In addition, proposed activities will be supported by institutional resources available.

###### **2.2 Capability of research leaders/ principal investigators (one on each side):**

Research leaders shall have the insight or experience necessary for pursuing proposed activities and the ability to manage cooperation and reach project goals during this programme's period of support.

###### **2.3 Appropriateness of plan and the budget requested for each item of expenditure :**

A plan shall incorporate an appropriate system for implementing proposed activities and be realistic in relation to a project budget.

###### **2.4 Effect of Activities:**

Proposed activities shall be expected to achieve any of the following, through cooperation with researchers in a counterpart country:

- Opening up of a new field or new advances in science and technology through creation of new scientific knowledge in an existing research field,
- Nurturing of researchers able to play a central role in future research exchanges with a counterpart country, and
- Sustained development of research exchanges with a counterpart country initiated by this activity.

###### **2.5 On-going research activity:**

A proposed collaboration shall build on, reinforce and add significant value to already on-going research activities in each research group.

##### **3. Announcement of decision**

A final decision regarding successful projects will be notified to the applicants around November 2008.

#### **4. Number of projects to be supported**

In principle, JST and DST will support approximately 5 projects for FY 2008. This number may be changed by DST and JST by mutual agreement depending upon merit of proposals received and funds availability.

### **V. RESPONSIBILITIES OF JAPANESE RESEARCH LEADERS AFTER PROPOSALS ARE APPROVED**

*Para graph nos. 1 to 4 related to the responsibilities of Japanese Research Leaders may be seen from the Guidelines issued by JST on their website .*

*In addition, the Indian and Japanese research leaders would be responsible for submitting reports :*

#### **5. Annual Progress Report**

At the end of each fiscal year, Japanese research leader shall promptly submit a progress report on the status of research exchanges, and the institute with which the research leader is affiliated shall promptly submit a financial report on supported expenses. Similar reports shall be submitted to DST by Indian research leader.

#### **6. Final Report to be Submitted to Both JST and DST**

After completion of a period of international research exchange, research leaders shall promptly submit a final report to both JST and DST. Not only a financial statement but also a report on research exchange activities is required. A report shall include a general summary (maximum 5 A4 pages) compiled jointly by both Japanese and Indian research groups.

If papers describing results of research exchange are presented to academic journals, societies and so on, please attach copies of such papers to the final report.

#### **Indian applicants should contact the following for further information:**

Dr. Rajiv Sharma, Scientist 'G' / Adviser  
International Cooperation,  
Department of Science and Technology (DST)  
Ministry of Science and Technology  
Technology Bhawan, New Mehrauli Road  
New Delhi-110016  
E-mail : [rajivdst@nic.in](mailto:rajivdst@nic.in)



#### **Japanese applicants should contact the following for further information:**

Mr. Hiroy Ohba  
Department of International Affairs  
Japan Science and Technology Agency (JST)  
Tel. +81-3-5214-7375 Fax +81-3-5214-7379  
Email: [sicpin@jst.go.jp](mailto:sicpin@jst.go.jp)



FY2005

Application Forms for Strategic Japanese -Indian Cooperative  
Program on “Multidisciplinary Research Field,  
which combines Information and Communications Technology with  
Other Fields (Multidisciplinary ICT)”

Research Field for Cooperation

Multidisciplinary Research Field, which combines Information and Communications  
Technology with Other Fields (Multidisciplinary ICT)

Title of Cooperative Research Project

Japanese Research Leader

Name (F) \_\_\_\_\_ (S) \_\_\_\_\_  
Organization \_\_\_\_\_  
Division/Department \_\_\_\_\_ Title \_\_\_\_\_

Indian Research Leader

Name (F) \_\_\_\_\_ (S) \_\_\_\_\_  
Organization \_\_\_\_\_  
Division/Department \_\_\_\_\_ Title \_\_\_\_\_

Proposed Period of Cooperative Research Project

/ / ~ / / (d/m/y)( Years & Months)

## Researchers in Japanese Research Team

Name	Organization, Division	Title	Degree	Specialty
( Leader )				
( Researchers )				

## Researchers in Indian Research Team

Name	Organization, Division	Title	Degree	Specialty
( Leader )				
( Researchers )				

Descriptions of the Cooperative Research Project – maximum 6 pages

(Note: should include expected outcome of the project incl. significance for industry and society, special strengths of the research groups, the expected added value incl. how the groups complement each other, how cooperation can be strengthened over time, expected added value due to combination of ICT and other fields (only if a multidisciplinary research field is chosen), how the proposed joint project differs from the other comparable international cooperative activities, method and agreement concerned Intellectual Property thereof.)

A large, empty rectangular box with a thin black border, intended for the user to write the description of the Cooperative Research Project. The box occupies most of the lower half of the page.

Plan for the Cooperative Project (with clear description of research activities on both sides as well as of the elements of cooperation and exchange)

Japanese-side (Starting Date of the Cooperative Project \_\_\_\_\_)

Indian-side (Starting Date of the Cooperative Project \_\_\_\_\_)

## Research Leader in Japanese Research Team

Name	( F )	( S )
Organization		
Main Scientific Publications or Patent Applications in <u>the last 5 years</u>		

## Research Leader in Indian Research Team

Name	( F )	( S )
Organization		
Main Scientific Publications or Patent Applications in <u>the last 5 years</u>		

Budget Plan for the Project (one for the Japanese side and one for the Indian side)

<For the Japanese side, 3 years research plan which runs from JFY 2006 to JFY 2009>

Japanese-side

- Japanese Fiscal Year (JFY) 2006 (Total            )
  - (1) Expenses for research exchanges
    - 1) Travel expenses
    - 2) Expenses for holding symposiums, seminars and meetings
  - (2) Expenses for research activities
    - 1) Expenses for facilities and equipment
    - 2) Expenses for consumables
    - 3) Expenses for personnel
    - 4) Others
  - (3) Overhead expenses
- JFY 2007 (Total            )
  - (1) Expenses for research exchanges
    - 1) Travel expenses
    - 2) Expenses for holding symposiums, seminars and meetings
  - (2) Expenses for research activities
    - 1) Expenses for facilities and equipment
    - 2) Expenses for consumables
    - 3) Expenses for personnel
    - 4) Others
  - (3) Overhead expenses
- JFY 2008 (Total            )
  - 
  - 
  -
- JFY 2009 (Total            )
  - 
  -

## Indian-side

- 1<sup>st</sup> year (Total            )

(1) Expenses for research exchanges

1) Travel expenses

2) Expenses for holding symposiums, seminars and meetings

(2) Expenses for research activities

1) Expenses for facilities and equipment

2) Expenses for consumables

3) Expenses for personnel

4) Others

(3) Overhead expenses

- 2<sup>nd</sup> year (Total            )

(1) Expenses for research exchanges

1) Travel expenses

2) Expenses for holding symposiums, seminars and meetings

(2) Expenses for research activities

1) Expenses for facilities and equipment

2) Expenses for consumables

3) Expenses for personnel

4) Others

(3) Overhead expenses

- 3<sup>rd</sup> year (Total            )

(1) Expenses for research exchanges

1) Travel expenses

2) Expenses for holding symposiums, seminars and meetings

(2) Expenses for research activities

1) Expenses for facilities and equipment

2) Expenses for consumables

3) Expenses for personnel

4) Others

(3) Overhead expenses

Grand Total (                    )

**SUPPLEMENTARY FORM FOR INDIAN SIDE**  
**FORMATS FOR BUDGET DETAILS FOR INDIAN SIDE**

1. Project Reference No. (to be filled at DST) : SCP/\_\_\_\_\_/08
2. Project Title
3. Duration in months
4. Total proposed cost
5. Name & Institute of Principal Investigator
6. Date of Birth:
7. Name & Institute of Japanese Investigator
8. Budget Estimates: Summary

	Item	BUDGET			(in Rupees)
		1st Year	2nd Year	3rd Year	Total
A.	Recurring				
	1. Salaries/wages				
	2. Consumables				
	3. Travel				
	4. Other costs				
B.	Equipment				

9. Budget Details and Justification

- 9.1 Salaries/ Wages

		BUDGET			(in Rupees)
		1st Year (m.m.*)	2nd Year (m.m.)	3rd Year (m.m.)	Total (m.m.)
Designation & number of persons	Monthly Emoluments				
Total					

\*m.m.: man months to be given within brackets before the budget amount

9.1.1. Justification for the manpower requirement.

9.2. Consumable Materials budget (in Rupees)

S.No.	Item	1st Year	2nd Year	3rd Year	Total
	Total				

9.2.1. Justification for consumable

9.3. Internal Travel budget in India (in Rupees)

	1st Year	2nd Year	3rd Year	Total
Number				
Budget in Rs.				

9.3.1. Justification for travel .

9.4. Eexchange visits and estimated expenditure:

	1st Year	2nd Year	3rd Year	Total
India – Japan				
Number of visits and Mandays for each visit				
Expenditure on Airfare, visa, transport and related expenditure in India				
Japan – India				
Number of visits and Mandays for each visit				
Expenditure on Hospitality (per diem @ 1000 per day + accommodation + local transport)				
Total budget				

9.4.1. Justification for travel .

9.5. Contingencies/ other costs Budget (in Rupees)

	1st Year	2nd Year	3rd Year	Total

9.5.1. Justification for specific costs/ contingences

9.6 Minor Equipment/ Accesories Budget

Sl. No.	Generic name of the Equipment along with make & model	Whetehr Imported/ Indigenous	Estimated Costs (in Rupees and Foreign Currency)*	Spare time for other users (in %)

\* includes transport, insurance and installation charges.

9.6.1. Justification for the proposed equipment.

9.6.2. List of facilities being extended by parent institution(s) for the project impleme ntation.

9.6.3 Equipment available with the Institute/ Group/ Department/ Other Institutes for the project:

Equipment available with	Generic Name of Equipment	Model, Make & year of purchase	Remarks including accessories available and current usage of equipment
PI & his group			
PI's Department			
Other Inst In the region			

9.7 Details of any other item of budget proposed and its justification

**C H E C K L I S T**

1. Title of the Project :
2. Initiating Institute of project :
3. Sponsoring Agency/Ministry :
4. Total cost of the project :
- Nature and Quantum of foreign collaboration sought
- (i) Financial support: :
- (ii) Equipment support :
- (iii) Technical support :
- (iv) Manpower training :
- (v) Miscellaneous :
5. Is there any possibility, however remote of use of data, information of result of the work which may impinge on India's national security? If yes, the nature of such a use may be indicated. (In case the concerned scrutinizing Ministry do not have clear answer, the matter should be referred to the DRDO and MHA for examination). :

**II. ORIGIN OF THE PROJECT AND ITS SPONSORS :**

6. If the proposal is foreign-originated, what is the background of the foreign agency or organization which is sponsoring the project? Information available, if any on past collaboration by foreign agency with Indian Institution.
7. Are the foreign agency, organization, scientists concerned, known to have taken up any project of military significance in the past or are known to be associated with any military organization or project? (if the above information is not known or if there is definite information that there is no such association, these should be clearly indicated).
8. Is the proposer (Indian) known to the foreign collaborator and his group for some time and has this emerged naturally from the research work done by the two sides?

### III. FUNDING OF THE PROJECT

9. Is the foreign source known to have funded research into sensitive and national security areas in its own country or in other countries?
10. Are there reasons to believe that the foreign source is a cover name for some other sponsor?

### IV. ADMINISTRATION AND CONTROL OF THE PROJECT

11. Give a list of the likely places of visit :  
within the country planned by the foreign collaborator. Also give a list of the institutions which the collaborator is likely to visit.
12. Will any sensitive source material be referred to during the course of the research?
13. (I) Does the collaboration involve
  - a) Transfer of biological material(s) :
  - b) Use of radioactive materials :
  - c) Use of environmentally or otherwise hazardous material(s) :
  - d) Use of Genetically Modified Organisms :
  - e) Field trials or testing :
  - f) Ethical issues :
  - g) Issues related to Intellectual Property Rights (IPR) :
14. If answer to any section of question 13 is yes, are the investigators/ proposers aware of the relevant regulations and have they agreed to abide by them? :
15. Will the research be conducted in accordance not only with the country's own ethical and environmental standards, but with international standards as well? :

Signature with date of the Principal Investigator

Signature with date and seal of Head of Department/ Institute

## PROJECT SUMMARY

1. Project Title:
2. Total cost of the project (Indian side) (in Rs.):
3. Duration of the Project.
4. Project Investigators (PIs) and Co-Investigators:
  - 4.1 Indian PIs
  - 4.2 Foreign
5. Other Project participants:
  - 5.3 Indian
  - 5.2 Foreign
6. Implementing Agencies / Institutions:
  - 6.1 Indian
  - 6.2 Foreign
7. Sponsoring Agency / Department / Ministry
  - 7.3 Indian
  - 7.2 Foreign
8. Administrative Ministry in Government of India:
9. Has the Project been cleared by Secretary of the Administrative/  
Sponsoring Ministry/Department from security/sensitivity angle?:  
Yes/No
10. If answer to (9) above is 'No', then does the Administrative/  
sponsoring Ministry/Department recommend the Project to  
be considered by High Level Committee of Secretaries?  
Yes/No

Signature of the concerned Officer  
in the Administrative/Sponsoring  
Ministry/Department