



# JSPS and its Program Officer System

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Japan Society for the Promotion of Science  
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# I

## JSPS at a Glance

# *Introduction of “日本學術振興会”*



## 日 本 学 術 振 興 会

“Gakujutsu (學術)” may be defined as knowledge-generating endeavor freely undertaken by curiosity-driven researchers in universities and other research institutes.

## JAPAN SOCIETY FOR THE PROMOTION OF SCIENCE

“Science” is “the intellectual and practical activity encompassing the systematic study of structure and behaviour of the physical and natural world through observation and experiment.”

(Oxford English Dictionary)



## Introduction of “日本学術振興会”

### JSPS:

- supports research conducted based on researchers unrestrained ideas,
- covers a wide spectrum of fields from the humanities and social sciences to the natural sciences including engineering and medicine,
- supports university research,
- selects projects through peer review, and
- takes bottom-up approach.

#### cf.) Science and Technology Basic Law

##### Article 1

The objective of this law is to achieve a higher standard of science and technology (hereinafter referred to as "S&T"), to contribute to the development of the economy and society in Japan and to the improvement of the welfare of the nation, as well as to contribute to the progress of S&T in the world and the sustainable development of human society, through prescribing the basic policy requirements for the promotion of **S&T (excluding those relevant only to the humanities in this law)** and comprehensively and systematically promoting policies for the progress of S&T.

# *Major Functions of JSPS*



## ■ Funding research initiatives

Competitive research funding: Grants-in-Aid

## ■ Fostering next generation of scientists

Research fellowships for young scientists

## ■ Promoting university reform

Joint programs with MEXT

## ■ Advancing international collaborations

Collaborations with overseas partners



# *JSPS Organization: Executives*

**President: Motoyuki ONO**



**Executive: Director: Naoki MURATA**



**Executive: Director: Makoto KOBAYASHI**

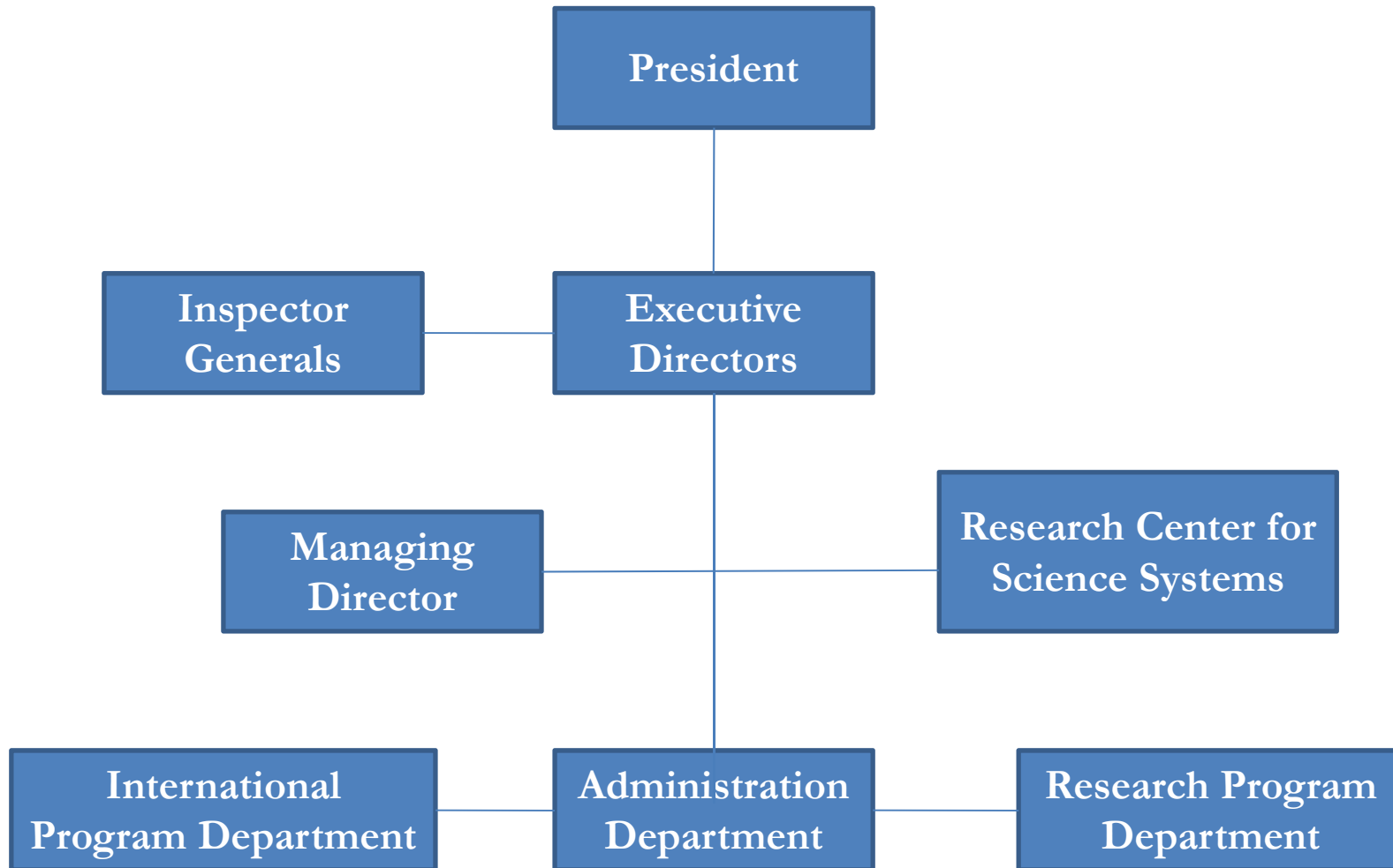


★2008  
Nobel Prize  
in Physics

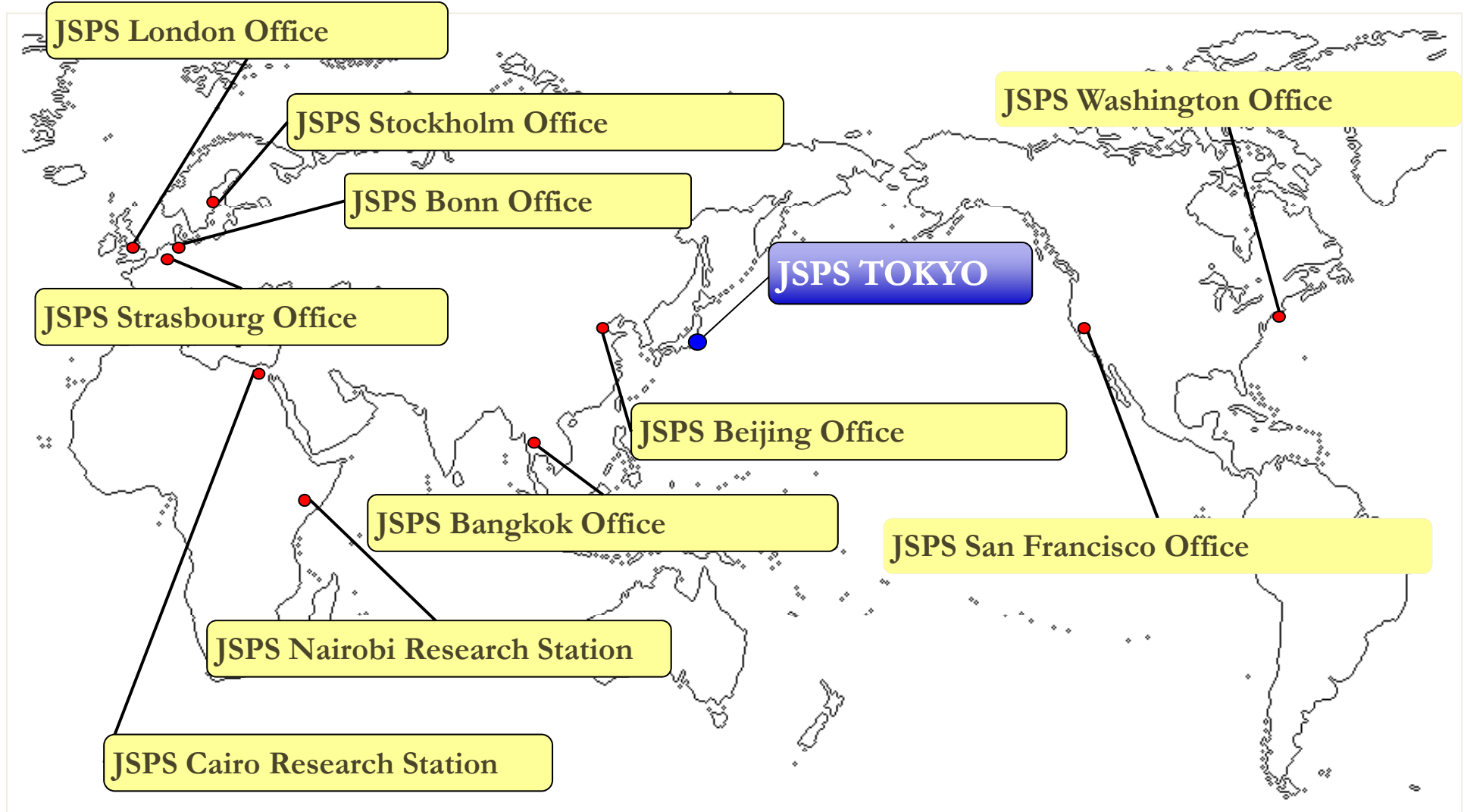
**Inspector Generals: Hirochika INOUE  
Tsuneo NAKAHARA**



# *JSPS Organization Chart*



# *JSPS Organization Chart: Overseas Offices*



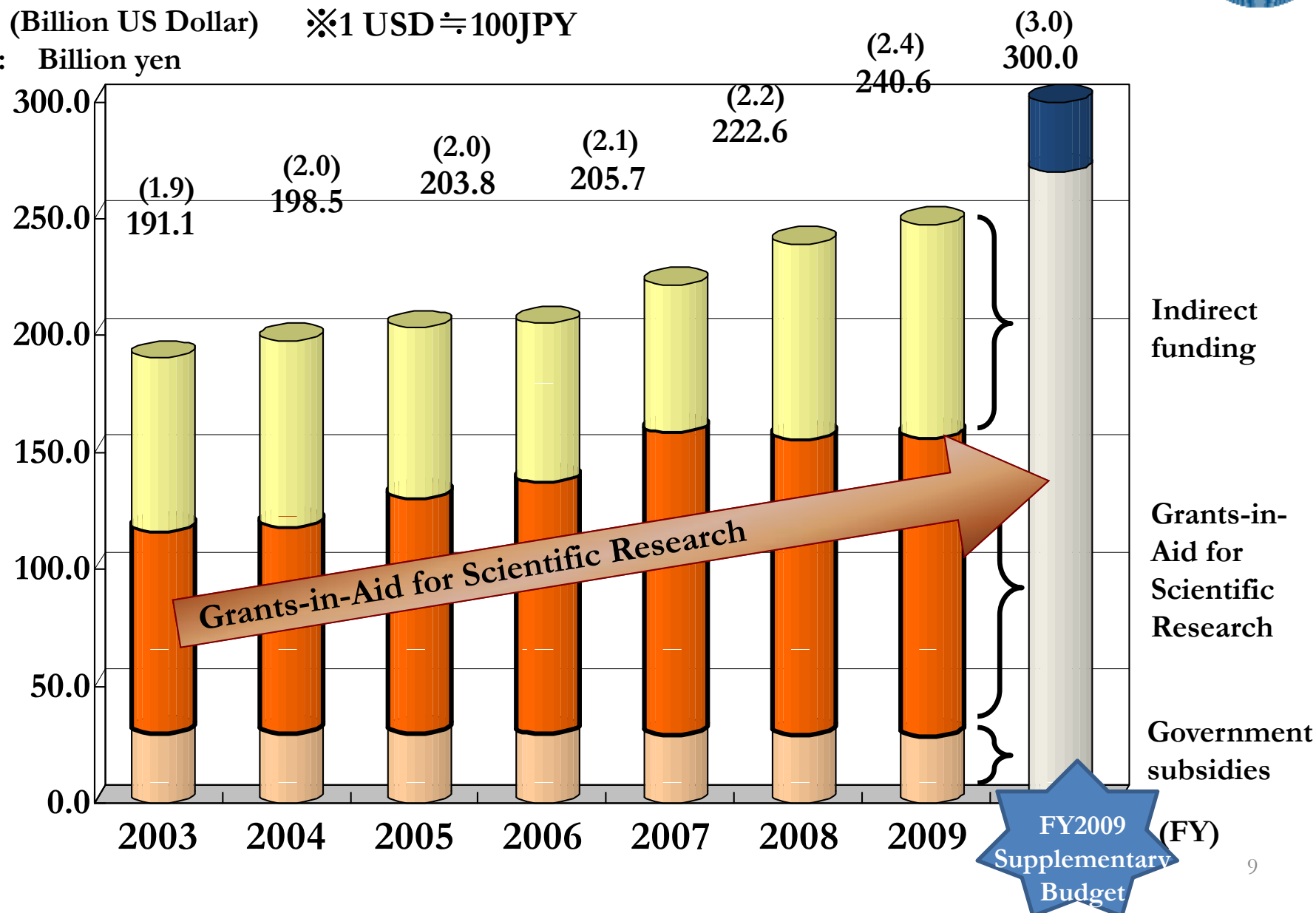




# Budget of JSPS

(Billion US Dollar) ※1 USD ≒ 100JPY

Unit: Billion yen





# II

## JSPS's Programs: Funding research initiatives



## ***“KAKENHI” grants at a Glance***

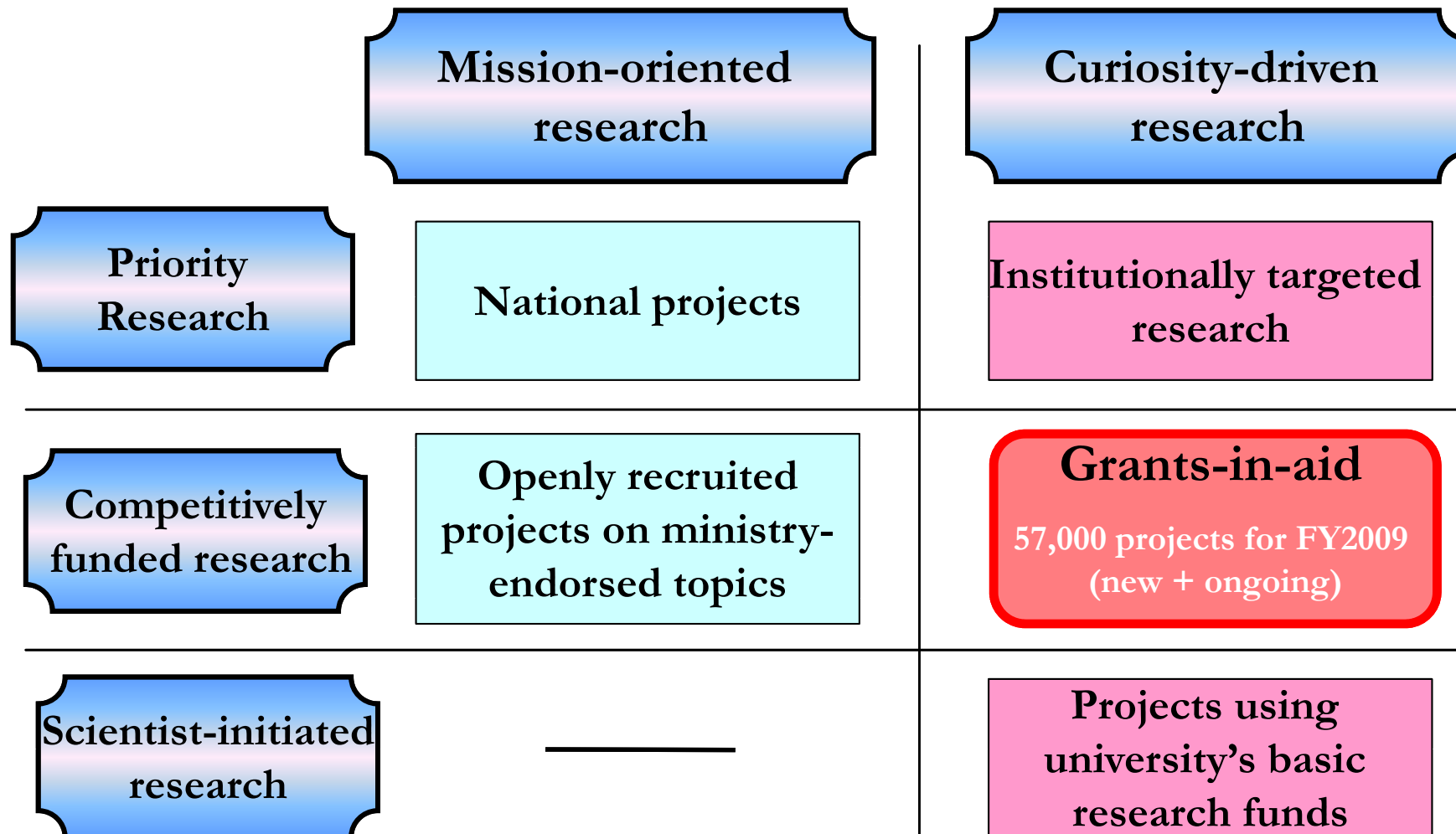
### **Grants-in-Aid for Scientific Research (KAKENHI):**

- **Competitive funding to support a high-caliber research based on the free ideas of researchers**
- **Covers entire spectrum of academic fields including the humanities, social sciences, and natural sciences**
- **Budget: ¥197 billion Yen (Fiscal 2009)**
  - **6% of Japan’s total S&T budget (¥3,5 trillion)**
  - **40% of the government’s competitive funding (¥491.3 billion)**
- **5,500 researchers used in JSPS peer reviews**
- **24,000 newly selected projects out of 100,000 applications**  
**(Selection ratio: 24%)**
- **57,000 new and carry-over projects supported**

# Grants-in-Aid for Scientific Research (KAKENHI)

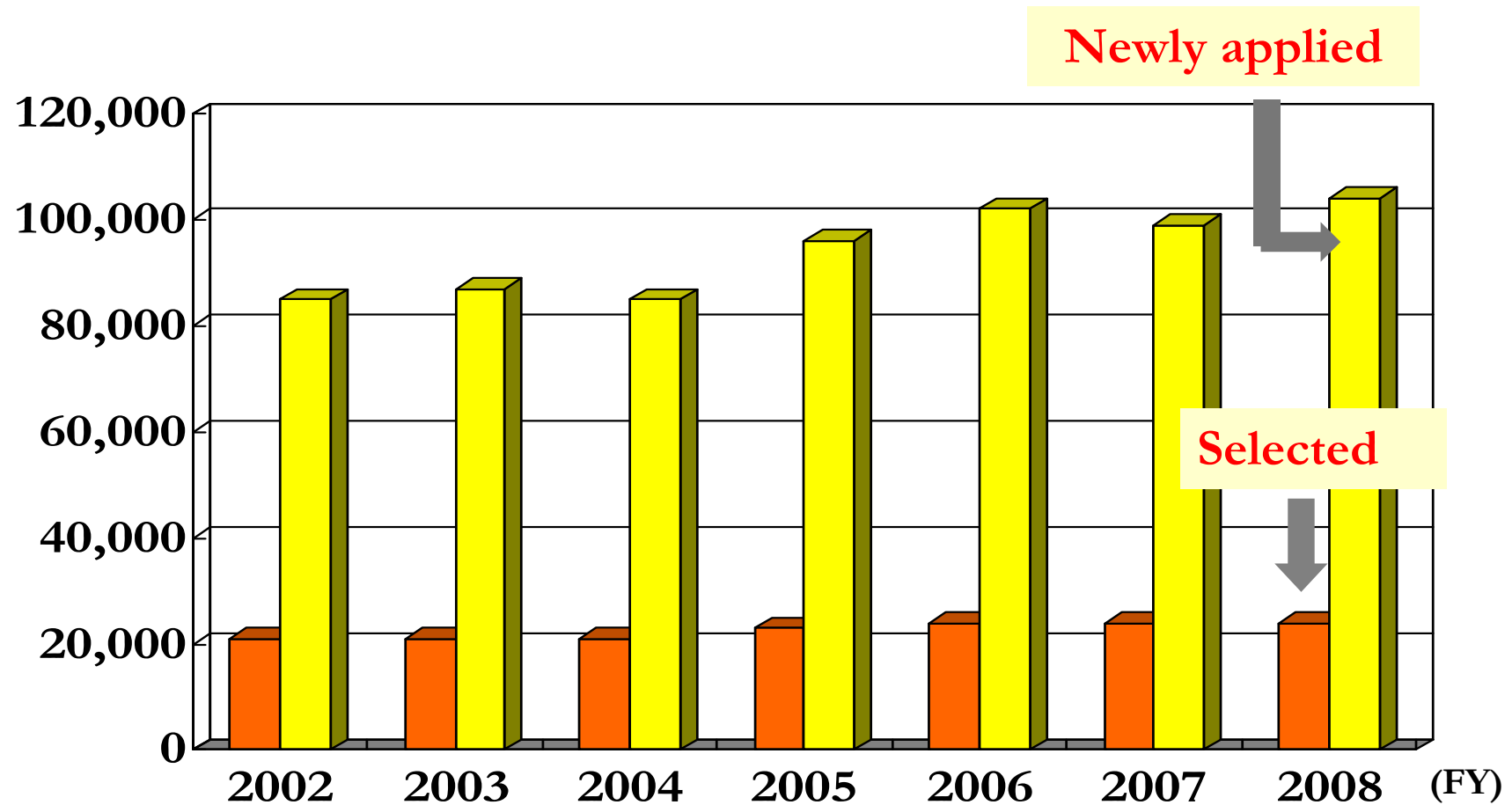


## Position of Grants-in-Aid within government's research framework





# Grants-in-Aid Applications and Selections



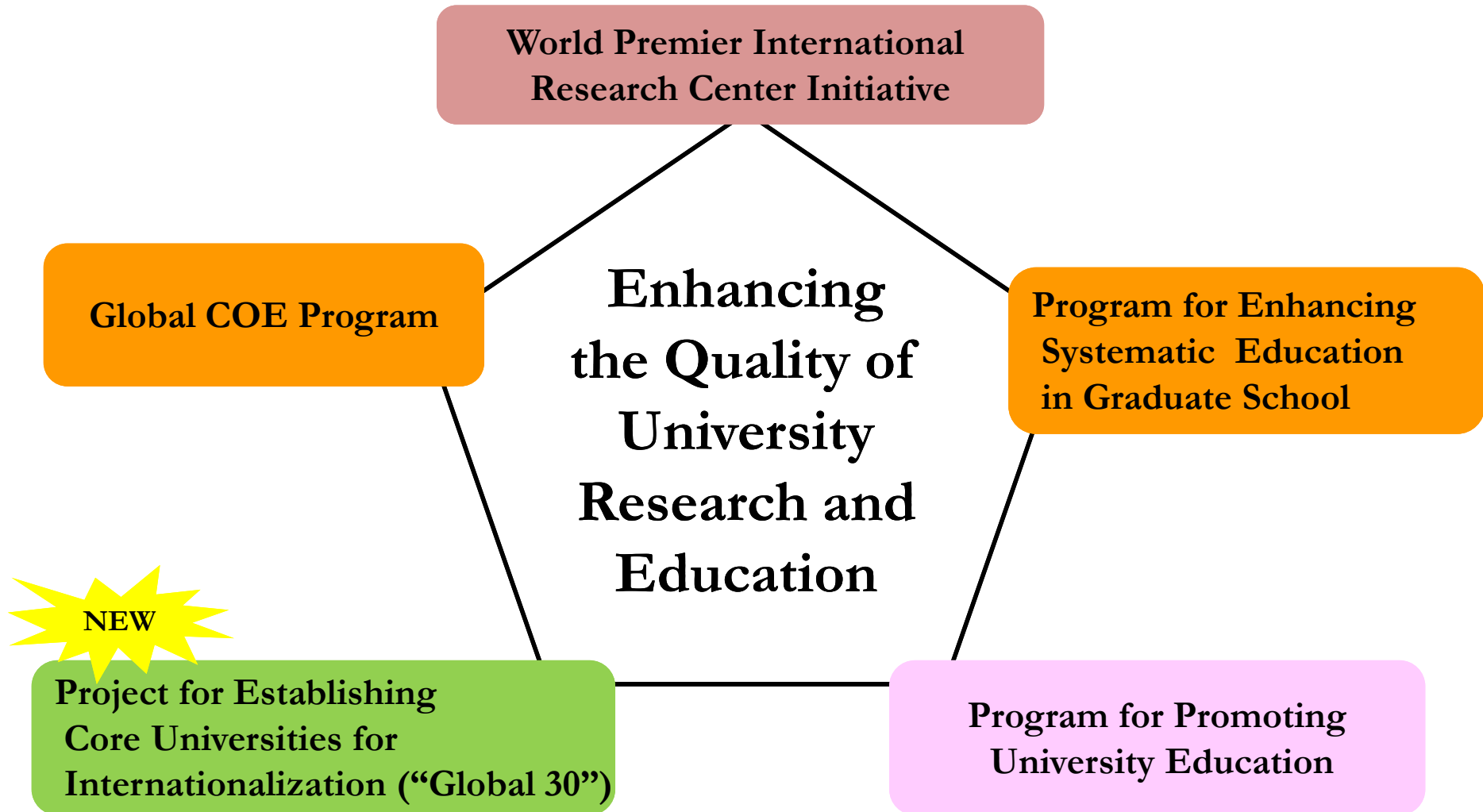
Fiscal Year	2002	2003	2004	2005	2006	2007	2008
Selection ratio (%)	24.6	23.7	24.8	24.0	23.5	24.3	22.7



# III

## JSPS's Programs: Promoting university reform

# Promoting University Reform





# Promoting University Reform

## ■ Global COE Program (Since FY2007)

Number of Selections: 131 (¥34.2 billion)

To enhance and strengthen the functions of education and research in Japan's graduate schools and, by so doing, foster highly creative young people who can go on to become world leaders in their respective fields.

⇒ Strengthen the global competitiveness of the universities.

**Committee set up in JSPS that screens and evaluates on a fair and equitable basis.**

## ■ World Premier International Research Center Initiative (Since FY2007)

Number of grants: 5 (¥7.1 billion)

By introducing system reforms and measures to promote the taking of autonomous initiatives by universities, the program seeks to elevate the level of research in subject fields.

⇒ Foster internationally conversant researchers by globalizing the research institutes of Japanese universities and Japan's overall research environment.

**Committee set up in JSPS that screens and evaluates on a fair and equitable basis.**

**Full-time program director is assigned to handle administrative functions.**

※Number of Selections are total numbers to FY2008.  
The budget in ( ) is estimated amount for FY2009.





# Promoting University Reform

## ■ Program for Promoting University Education (Since FY2009)

Number of programs to be selected in FY2009: around 80 (¥7 billion)

To encourage universities to improve their educational capacities, with an aim to fostering human resources to support societal development. Priority is given to program that can achieve remarkable outcomes.

⇒ Organizational enhancements toward improving higher educational quality.

**Committee set up in JSPS that screens and evaluates on a fair and equitable basis.**

## ■ Support Program for Improving Graduate School Education (Since FY2007)

Numbers of Selections:192 (¥5.7 billion)

Priority support is given to highly effective, systematic initiatives directed at improving education in master's and doctoral programs at Japanese university graduate schools.

⇒ Dramatically enhance course curriculum development and, hence, graduate education quality.

**Committee set up in JSPS that screens and evaluates on a fair and equitable basis.**

※Number of Selections are total numbers to FY2008.  
The budget in ( ) is estimated amount for FY2009.



## *Promoting University Reform*

### ■ Project for Establishing Core Universities for Internationalization (“Global 30”) (Since FY2009)

Number of Selections in FY2009: 12 (¥4.1 billion)

Interlinked with the “300,000 International Students Action Plan” enacted in July 2008, this new program aims to strengthen the global competitiveness of universities, which function as high-quality centers for receiving and educating students from overseas.

JSPS supports the following efforts of Japanese universities:

- Establish courses that allow degrees to be earned in English
- Provide a receptive environment for overseas students
- Carry out strategic international exchange collaborations



# IV

## JSPS's Programs: Fostering next generation of scientists

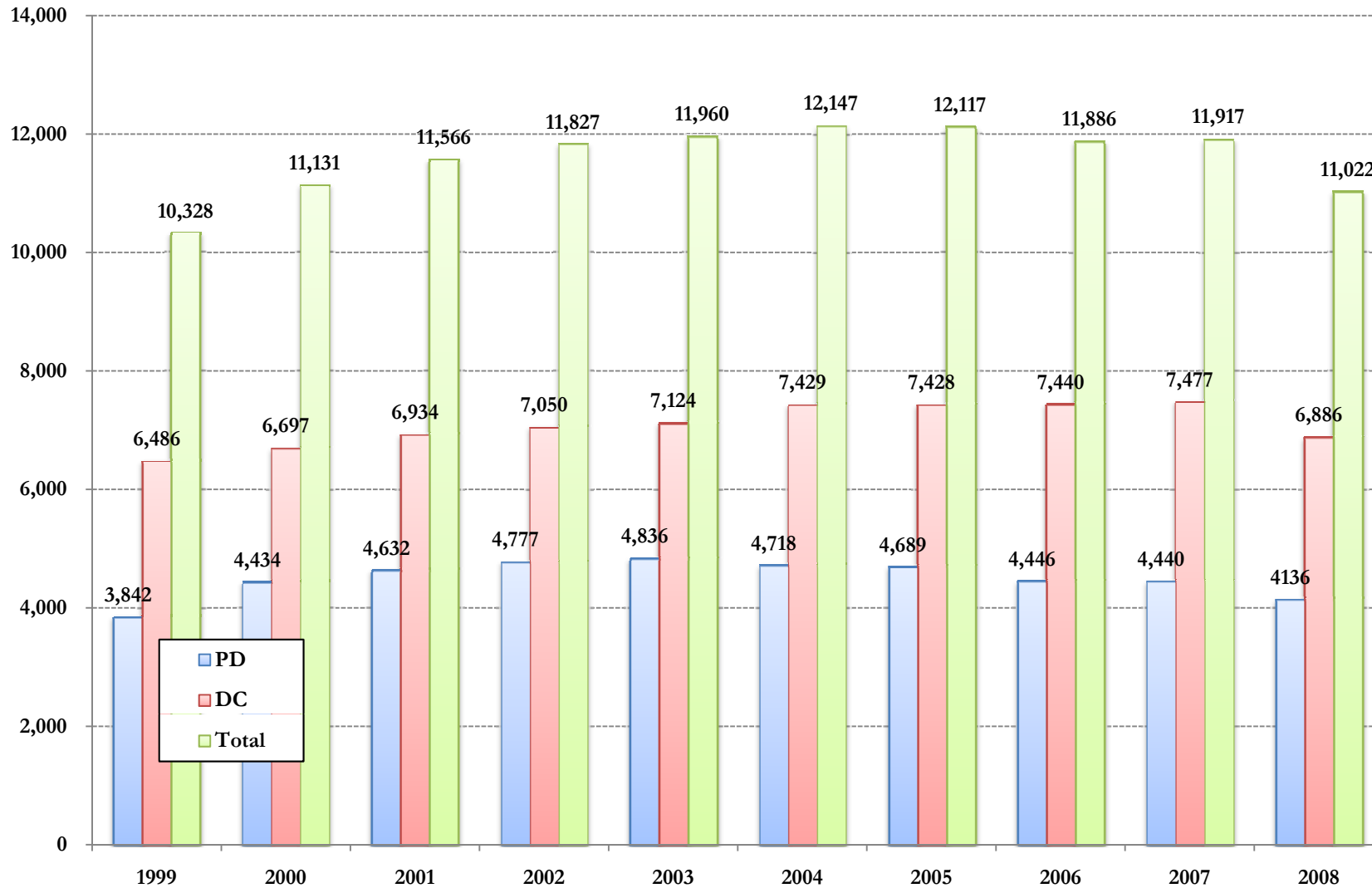


## *Fellowship Categories for Young Japanese Researchers*

- **SPD:** Superlative Postdocs  
(Select from PD candidates)
- **PD:** Postdoctoral Researchers
- **DC:** Doctoral Course Students
- **RPD:** Restart Postdocs (since 2006)  
(For postdoc researchers who have suspended their research for child bearing or raising)

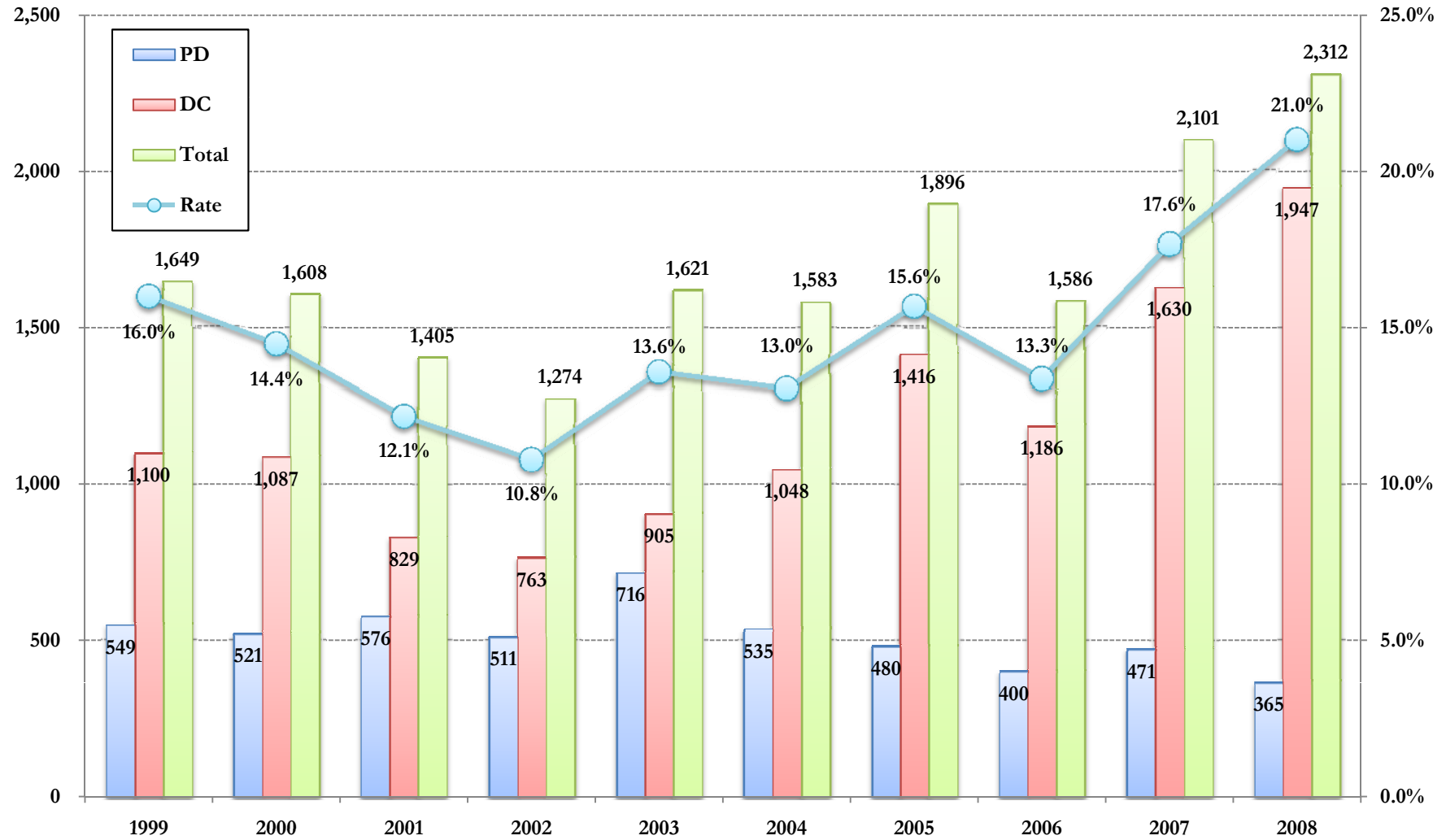


# *Fellowship Applications*





# Fellowship Awards: Number of Awards and Selection Ratio



# *Terms of Fellowship*



<b>Category</b>	<b>Tenure</b>	<b>Monthly stipend</b>	<b>Research grant (yearly)</b>
<b>SPD</b>	<b>3 years</b>	<b>446,000 yen</b>	<b>up to 3 mil. yen</b>
<b>PD</b>	<b>3 years</b>	<b>364,000 yen</b>	<b>up to 1.5 mil. yen</b>
<b>DC</b>	<b>2-3 years</b>	<b>200,000 yen</b>	<b>up to 1.5 mil. yen</b>
<b>RPD</b>	<b>2 years</b>	<b>364,000 yen</b>	<b>up to 1.5 mil. yen</b>



## *JSPS Prize for Young Scientists*

- Founded in 2004
- Awarded young researchers under-45 years old
- Up to 25 researchers awarded for outstanding accomplishments
- 5 researchers awarded Japan Academy Medal from the Japan Academy



### At Ceremony for 4th JSPS Prize

Prince and Princess Akishino, Japan Academy President Saburo Nagakura,  
JSPS President Motoyuki Ono, and Prize recipients

(March 3, 2008 at the Japan Academy)





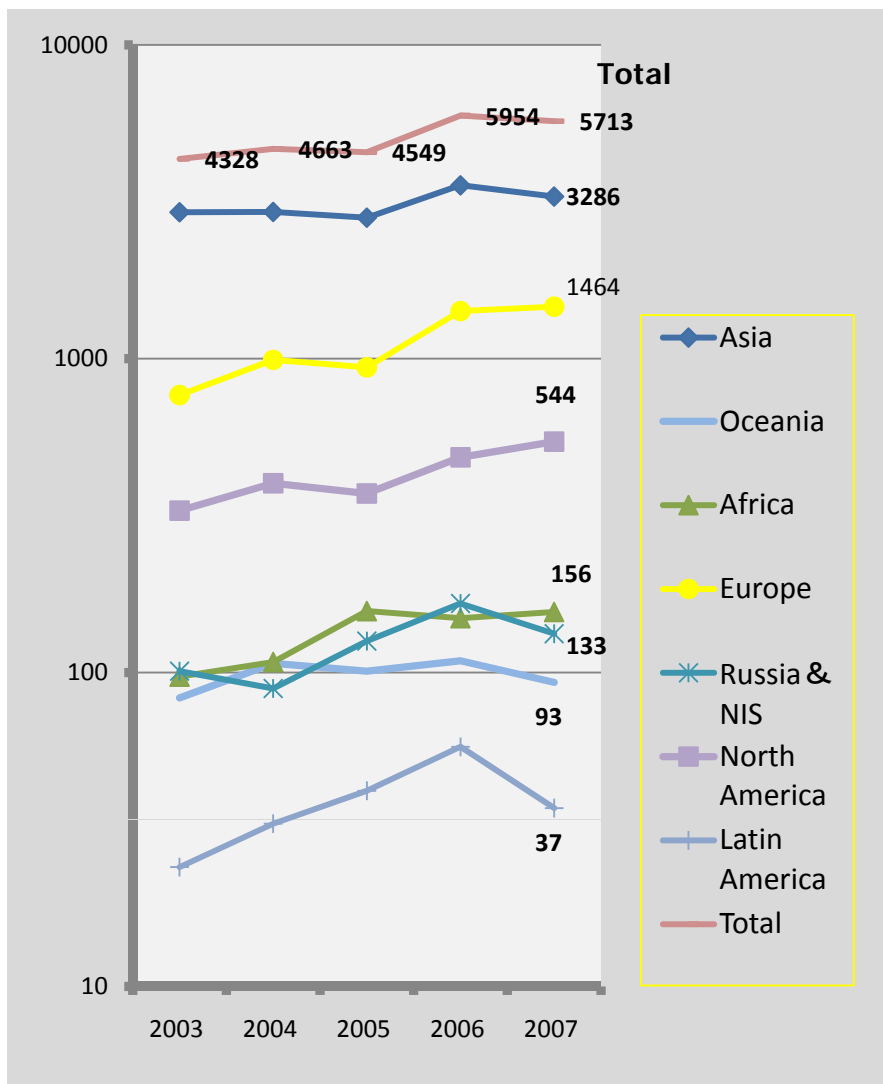
# V

## JSPS's Programs: Advancing international collaborations

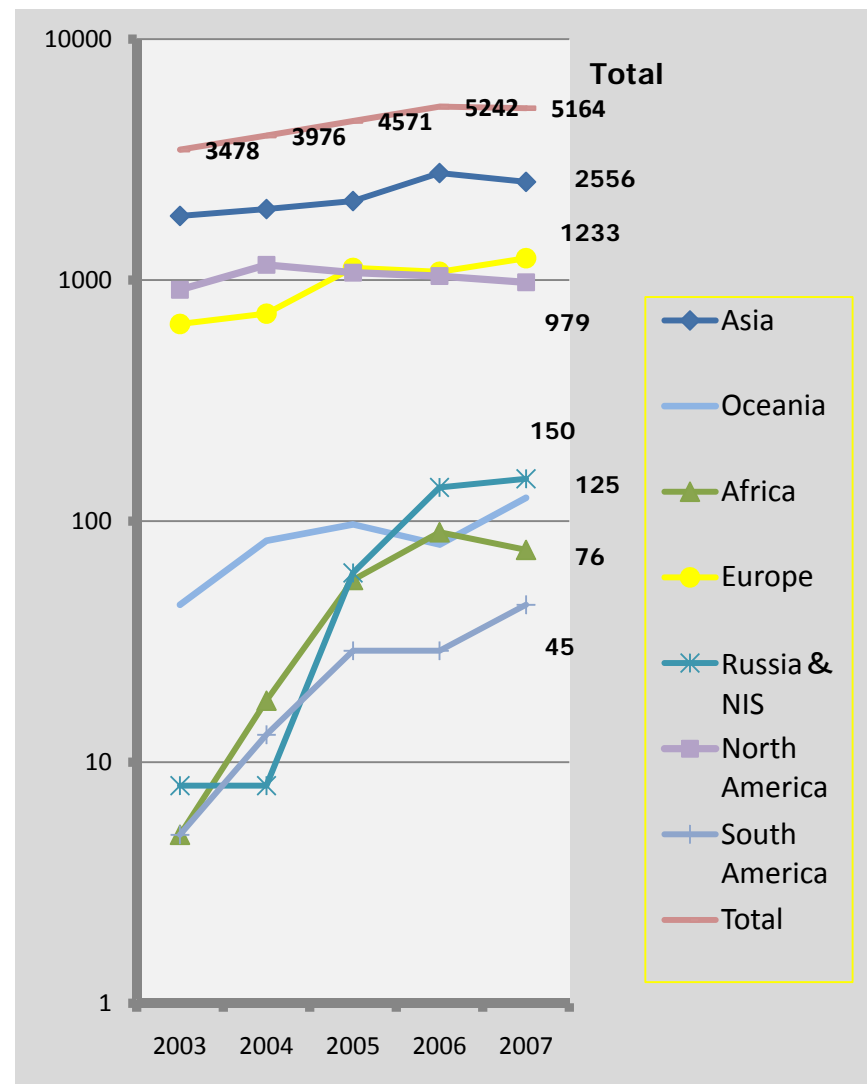


# Number of Researchers Exchanged

## <To Japan>



## <From Japan>





## *Objectives of International Programs*

- Respond to global advances in scientific research
- Create a world-standard research environment capable of amassing excellent researchers from both Japan and overseas
- Elevate the international competitiveness of scientific research conducted in Japan
- Foster young researchers who can play active roles within the international scientific community
- Support researchers from developing countries and contribute to fostering young researchers in these countries



## *JSPS's International Programs*

- **Cooperation through counterpart institutions**

Bilateral programs, HORCs, Symposia, Lindau Meeting

- **Sending Japanese researchers, Inviting foreign researchers**

Fellowships, ITP, JENESYS

- **Creating world-class research hubs**

Core-to-Core Program

- **Collaborations with Asian and African countries**

Asian Core Program, Asia-Africa Platform Program, HOPE Meetings

- **Support for university internationalization**

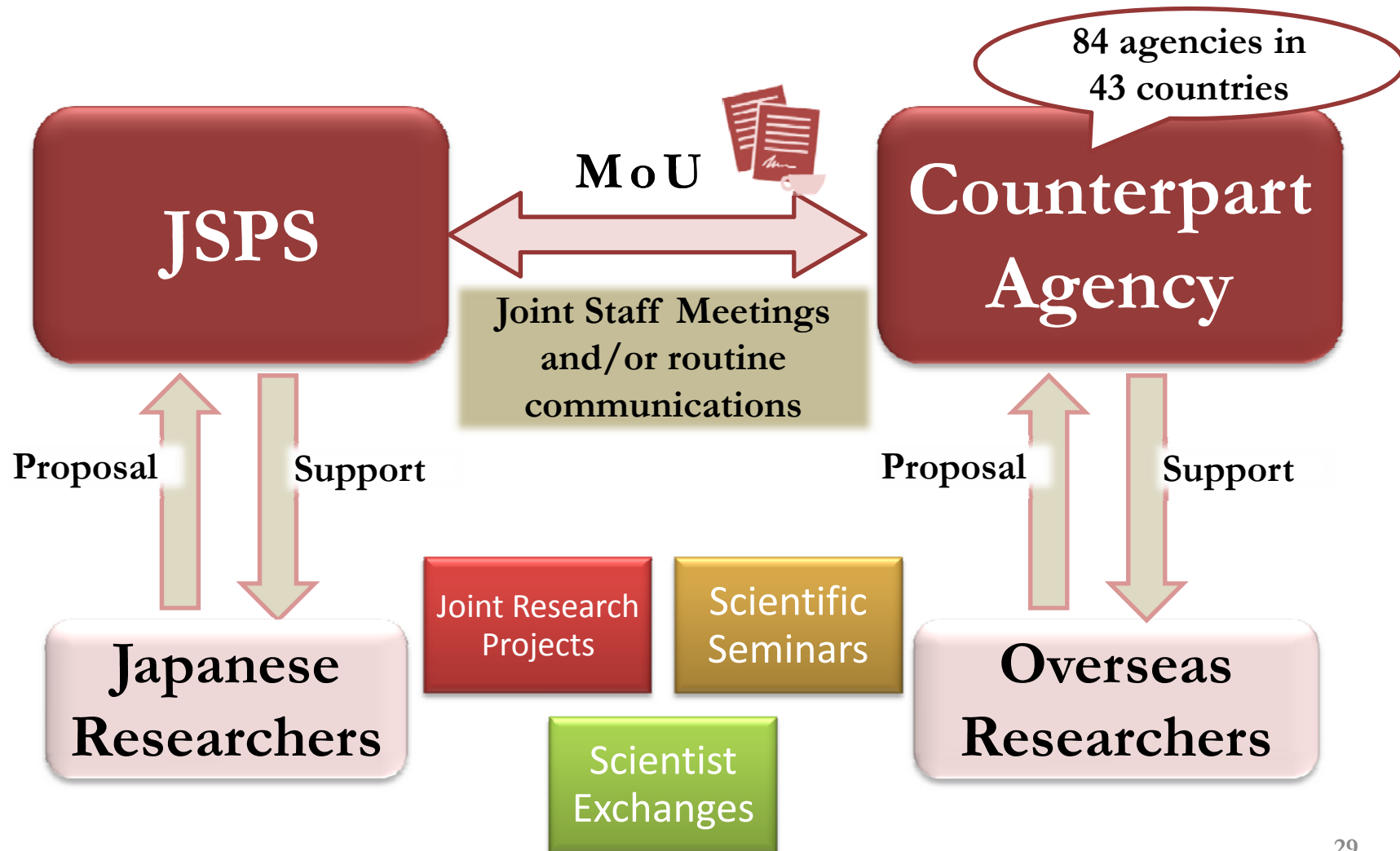
Strategic Fund for Establishing International Headquarters in Universities

- **Activities of overseas offices**

# Cooperation through counterpart institutions



## (1) Bilateral Cooperation Based on MoUs



# Cooperation through counterpart institutions



## (2) Heads of Research Councils Meetings

➤ Free Discussion, exchange of views from a range of perspectives on areas of common interest

### 1. G8 HORCs Meetings- once a year (in May)

**NRC, NSERC**, (Canada), **CNRS** (France), **DFG, MPG** (Germany), **CNR** (Italy), **RFBR** (Russia), **EPSRC** (UK), **NSF** (USA), **JSPS** (Japan),



### 2. A-HORCs Meetings- once a year (in November)

**NSFC** (China), **KOSEF** (Korea), **JSPS**(Japan)



### 3. ASIA-HORCs Meetings- Started from 2007

**NSFC** (China), **DST**(India), **LIPI**(Indonesia), **KOSEF**(Korea), **VCC**(Malaysia), **DOST**( Philippines), **A\*STAR**(Singapore), **NRCT**(Thailand), **VAST**(Vietnam), **JSPS**(Japan)





## *Sending Japanese researchers, Inviting foreign researchers*

### ◆ From Japan to Overseas

## (1) Postdoctoral Fellowship for Research Abroad



Japanese  
young  
researchers

- Started from 1982
- Target: Young researchers  
(less than 34 years old)
- Recruitment (FY2009\*) : 132
- Tenure: 2 years

### Number of researchers sent overseas

FY2006	FY2007	FY2008
306	302	304

\*:FY2009 is estimated number.



# Sending Japanese researchers, Inviting foreign researchers

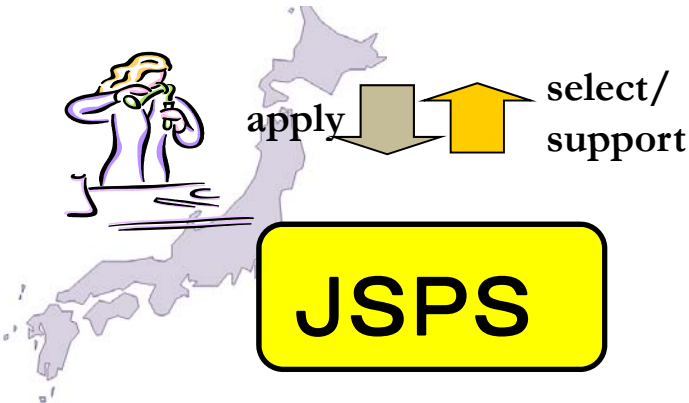
◆ From Japan to Overseas

## (2) International Training Program (ITP) - (launched in FY2007) *-To strengthen overseas research and education opportunities for young researchers-*

**Organizational support to Young Researchers**

- 10 persons (2 months -1 year)
- ¥20M x 10 projects
- 5 years

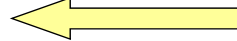
**Japanese University**



*Provide international research and education experiences*



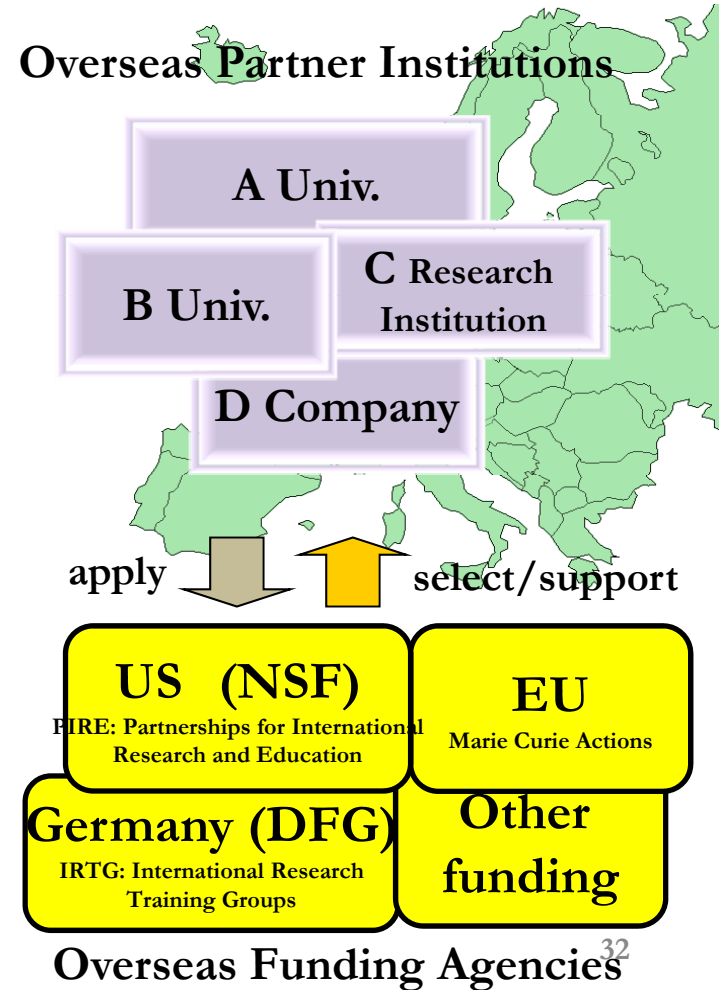
- Joint research projects
- Educational programs
- Internships



Project that implement two-way exchanges (from and to Japan) using matching funds by overseas funding agencies are highly evaluated in the selection process.



*-Periodical exchange of information*  
*-Multi-funding under flexible collaboration*



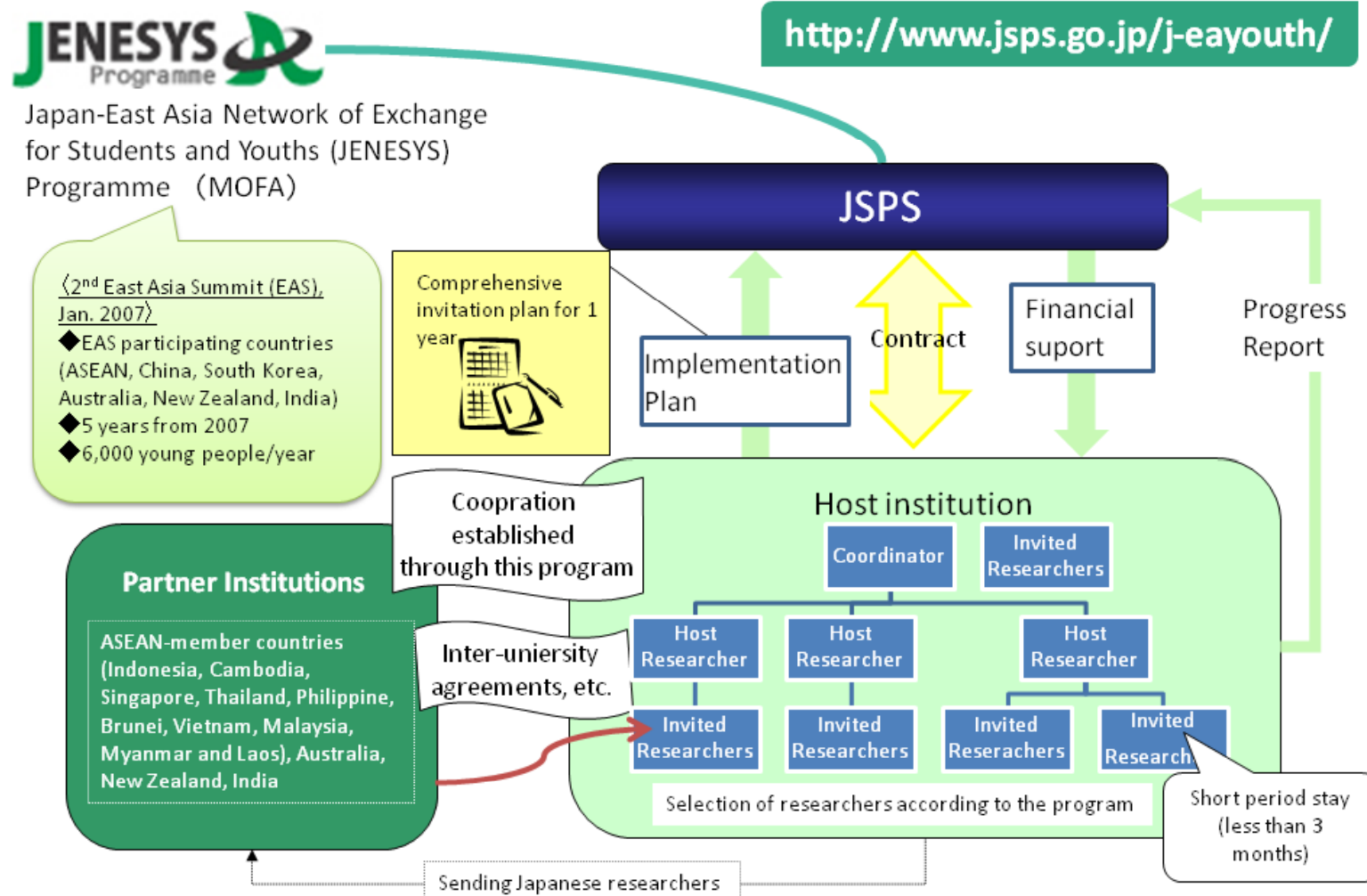




# Sending Japanese researchers, Inviting foreign researchers

◆ From Overseas to Japan

## (3) JENESYS - Exchange Program for East Asian Young Researchers





# Sending Japanese researchers, Inviting foreign researchers

◆ From Overseas to Japan

## (4) Fellowship Programs to Japan



Ph.D

### Career Stages of Researchers

Ph.D. Courses ▼ 6 years after Ph.D. Mid career Professor Nobel Prize level

**Postdoctoral Fellowships (Standard)**

1 - 2 years  
About 500

**Invitation fellowships For Research in Japan**

(Long-Term)	(Short-Term)
2 -10 months	14-60 days
About 80	About 300

**Award for Eminent Scientists**

**Summer Program**

2 months  
About 110

**Postdoctoral Fellowships (Short-term)**

1 - 12 months  
About 150

### Number of invited researchers

FY2006	FY2007	FY2008
2,419	2,220	1,978



# Creating world-class research hubs

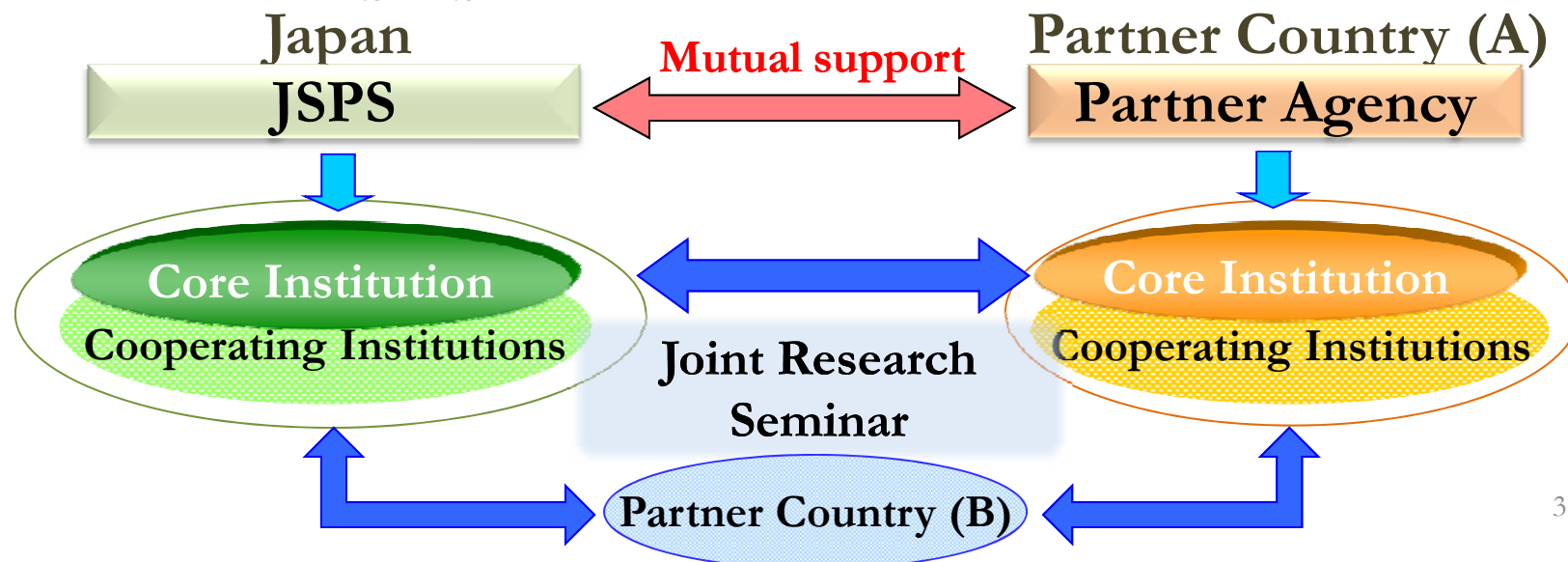
## JSPS Core-to-Core Program (since 2003)

### OBJECTIVE

- Promote international collaboration in cutting-edge fields and create world-class research hubs
- Foster young researchers through networking among the most advanced research institutions in Japan and other countries

### FUNDING

- ¥10-30 million (~~€63,700-\$191,000~~ 0.1-0.3 USD) a year per project x 2-5 years



# Collaborations with Asian and African countries



## Creating Research Hubs with Asian & African Countries

- Large-scale collaborative programs for building partnerships with counterpart countries started in 2005

### Asian CORE Program

- Building Asian research hubs based on equal partnership
- Conducting world-class research, fostering new generations of talented young scientists
- Targeted countries: Asian countries
- Granted projects: 2005: 6 2006: 3 2007: 3 2008: 5

### Asia-Africa Science Platform Program

- Japanese research institutions take the lead in building research hubs and fostering young researchers
- Targeted countries: countries of Asia and Africa
- Grant projects: 2005: 11 2006: 5 2007: 5 2008: 10

### A3 Foresight Program

- JSPS, KOSEF and NSFC work as a consortium in supporting trilateral research projects with an aim to establishing a top-level research hub in Asia. Theme is decided via consultation among the three agencies
- Targeted countries: China, Korea
- Grant projects: 2005: 2 2006: 2 2007: 1 2008: 2



# Collaborations with Asian and African countries

## HOPE Meeting

- Foster talented young researchers in 14 Asia-Pacific countries and areas
- Invite PhD students from the region to interact with Nobel Laureates and other leading scientists

### ✓ The 2<sup>nd</sup> HOPE Meeting

- September 2009 in Hakone, Japan
- Theme: Art in Science
- Subjected field: Chemistry and related fields including Physics and Biology
- Organized by Dr. Ryoji Noyori (Nobel Laureate in Chemistry 2002)
- Attended by 7 Nobel laureates, 3 special guests, and about 100 doctoral students



Dr. Ryoji Noyori



Peter Agre  
(Chemistry '03)



Yuan T. Lee  
(Chemistry '86)



Leo Esaki  
(Physics '73)



Koichi Tanaka  
(Chemistry '02)



Makoto Kobayashi  
(Physics '08)



Susumu Tonegawa  
(Physiology or  
Medicine '87)

### The 1<sup>st</sup> HOPE Meeting

- February 2008 in Tsukuba, Japan
- Theme: Nanoscience/Nanotechnology
- Organized by Dr. Leo Esaki (Nobel Laureate in Physics 1973)
- Attended by 5 Nobel laureates, 8 distinguished lecturers, and 81 doctoral students

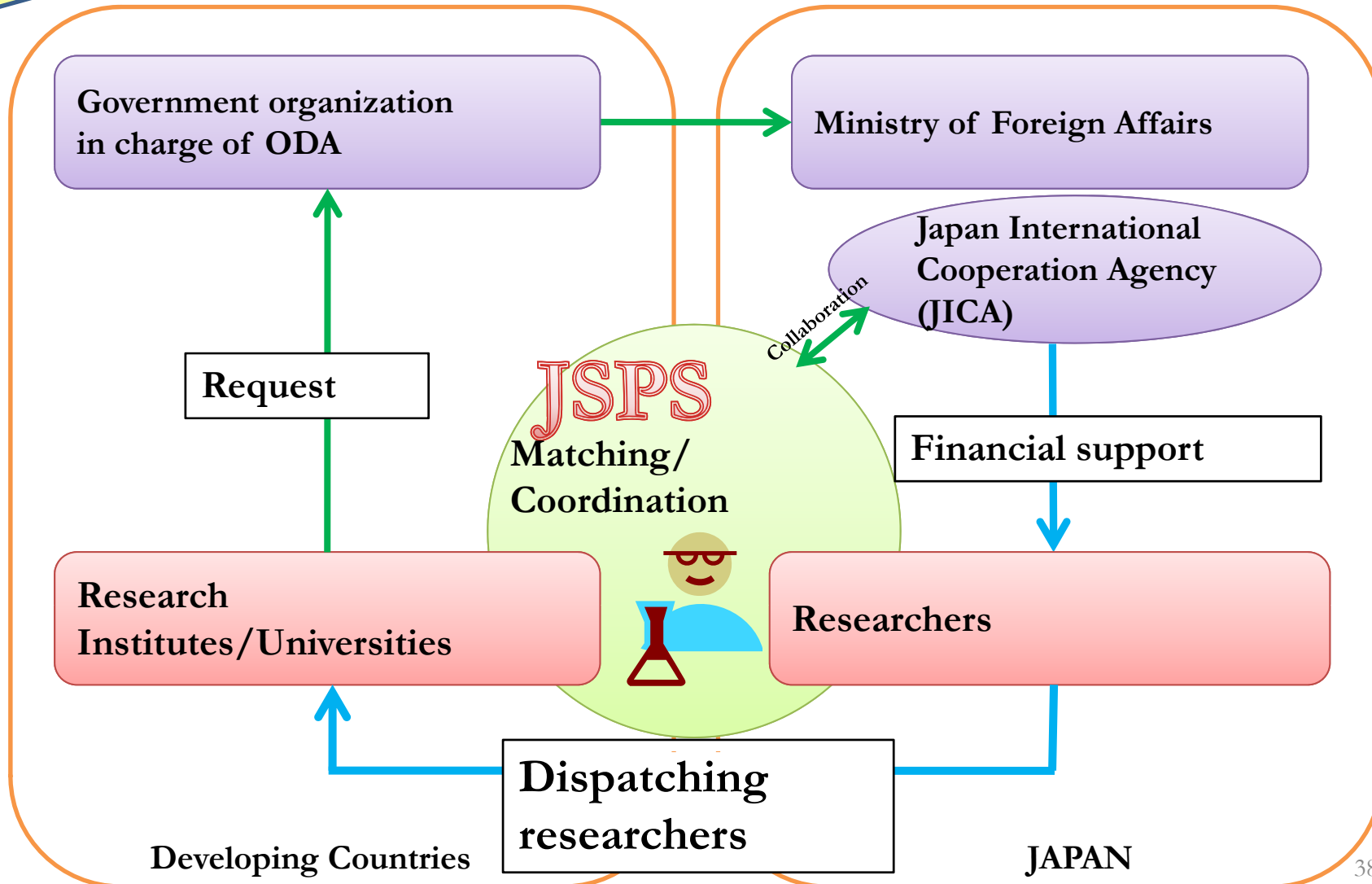
# Collaborations with Asian and African countries



Support for Japan's ODA



## Dispatch of Science and Technology Researchers





# Support for university internationalization

## Strategic Fund for Establishing International Headquarters in Universities

- Program launched in 2005 by MEXT
- Project duration: 5 years (with each project funded at ¥10-40 million per year)

20 Pilot Universities  
international strategy headquarters

Advance institution-wide international activities  
by strengthening the functions of their “international strategy headquarters”

Fund Support

### JSPS

- Provide advice to pilot universities (Analyze activities, Extract good practices)
- Develop strategic models for university internationalization
- Disseminate good practice to other universities

Select Universities  
Evaluate Projects

Fund

MEXT



# *JSPS Fellow Alumni Associations*

JSPS alumni associations have been established in the US, the UK, Sweden, Germany, France, Egypt and Kenya in cooperation with JSPS Overseas Offices. In addition, former Indian, Korean, Bangladesh, and Finnish fellows have recently established JSPS alumni associations in their countries.

**UK**  
First General Assembly  
(4 June 2004)



**Germany**  
12th Anniversary of the German JSPS-Club  
(11-12 May 2007)



**Sweden**  
General Assembly 2007  
(29 January 2007)



**India**  
First meeting held in Japan  
(28 October 2006)



**France**  
Executive Meeting  
(7 July 2006)



**US**  
General Assembly  
(17 November 2007)



**Korea**  
First General Meeting  
(19 July, 2008)



**Kenya (Eastern Africa)**  
First Assembly  
(30 July, 2007)



**Egypt**  
Inauguration Ceremony (10 April, 2008)



**Bangladesh**  
Inauguration Ceremony (21 March, 2009)



**Finland**  
Inauguration Ceremony (5 June, 2009)







# VI

## JSPS's Program Officer System

# Research Center for Science Systems (RCSS)



**Established in 2003  
as Part of System Reform in  
Competitive Research Funding**

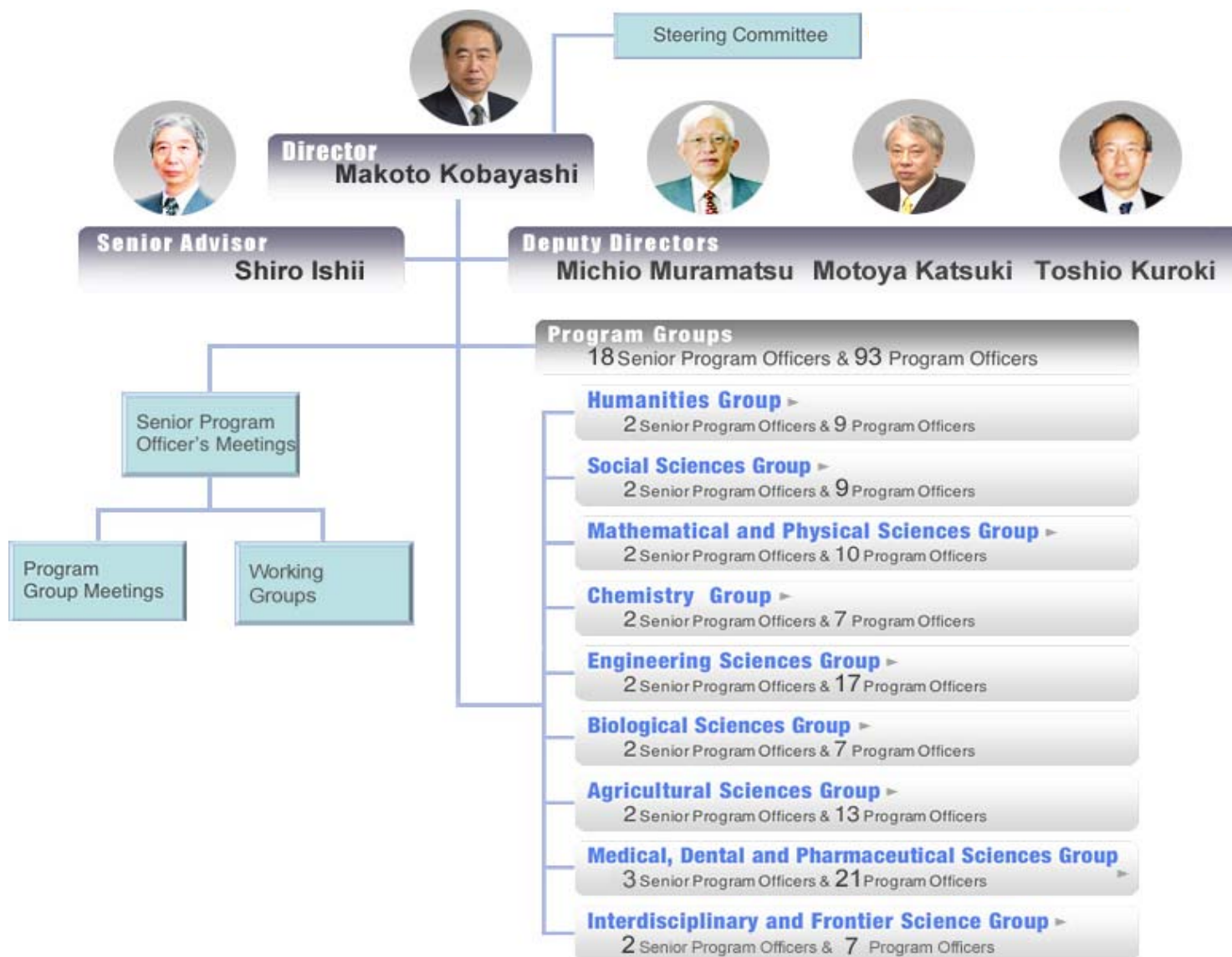
Staffed by 116 frontline researchers as program officers

- ✓ **Reflects researcher expertise in programs**
- ✓ **Ensures impartial screening and assessment functions**

- Oversees application screening and project assessment for JSPS programs
- Provides advice to JSPS's administration
- Surveys science-promotion policies and research trends



# Organizational Chart of RCSS





## *RCSS's Features*

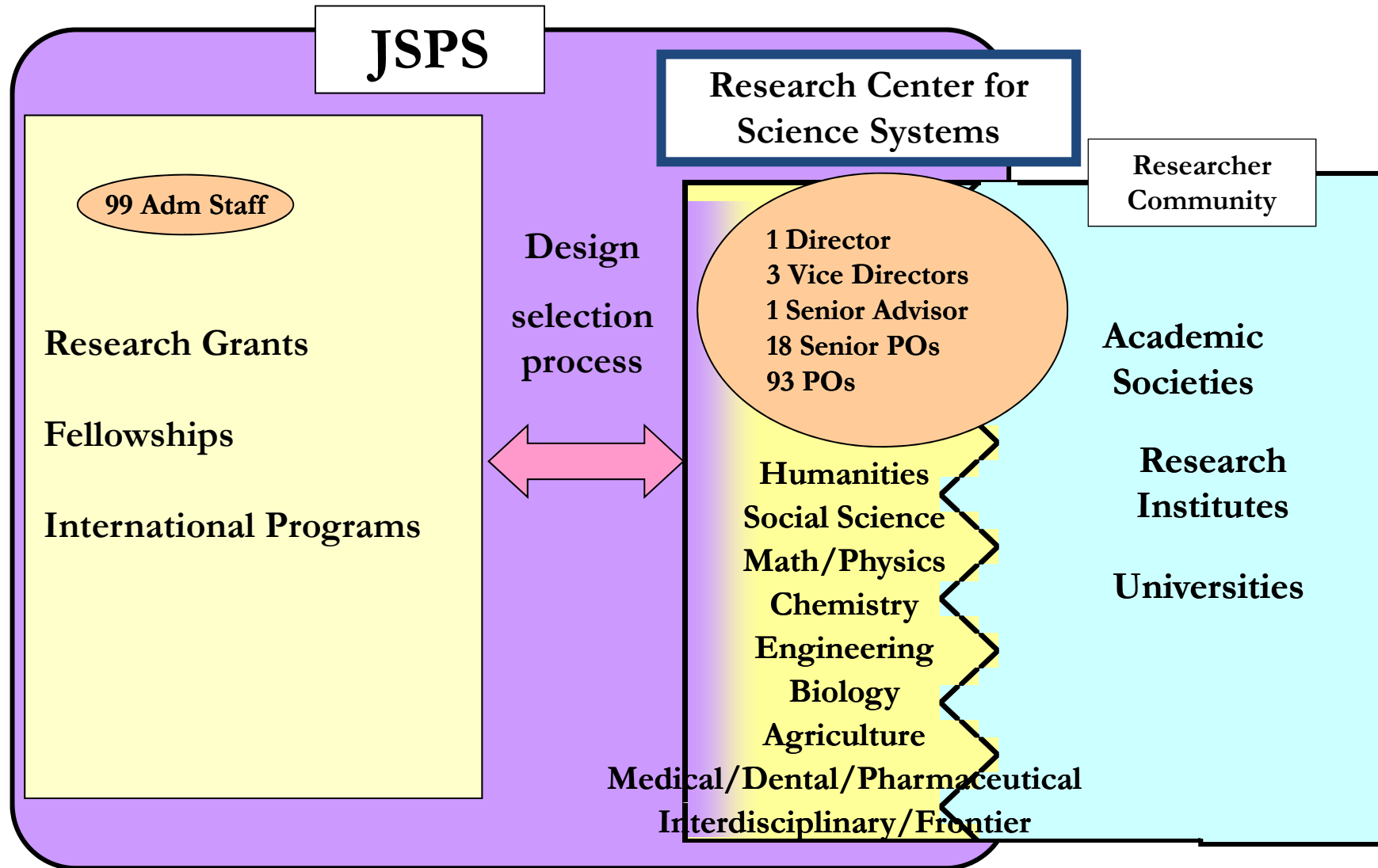
- Knowledge of frontline researchers utilized in Center's operation
  - JSPS's program officers are all at part-time position and active researchers in cutting-edge fields at universities and research institutions.
- Fair and impartial recruitment
  - Program officer appointments are for three years.
- No involvement in screening or selection processes
  - To ensure fairness and transparency, program officers do not participate in the screening or selection processes.

### **“System Reform in Competitive Research Funding”**

by the Council for Science and Technology Policy (CSTP)

- In order to attain the most effective usage of competitive research funds, a program officer system should be put in place within funding agencies.
- Program officers, with carrier as researchers, perform a whole range of project functions from proposal selection, project assessment to post-project follow up.

# RCSS: Interfacing the Researcher Community and Funding Agency



## Appendix: FY2009 Supplementary Budget



Under the FY2009 supplementary budget, a JPY300 billion will be allocated to JSPS for the purpose of supporting leading-edge research programs

- **Funding Program for World-Leading Innovative R&D on Science and Technology**  
(5 years, USD2.7 billion /EUR2 billion)
  - Select and support about 30 research themes
  - Flexible use of grants/Robust support teams
  - >> Create environment that allows researchers to devote themselves to their research
- **International Research Experience for Students and Young Researchers**  
(5 years, USD300 million /EUR230 million)
  - Send 15,000-30,000 undergraduate/graduate students and young researchers overseas
  - >> Increase opportunities for young researchers to conduct research in overseas research institutions and research venues

# *Japan Society for the Promotion of Science*



For more information, please  
visit our website.



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**Thank you.**