# Research funding and peer review system in JSPS

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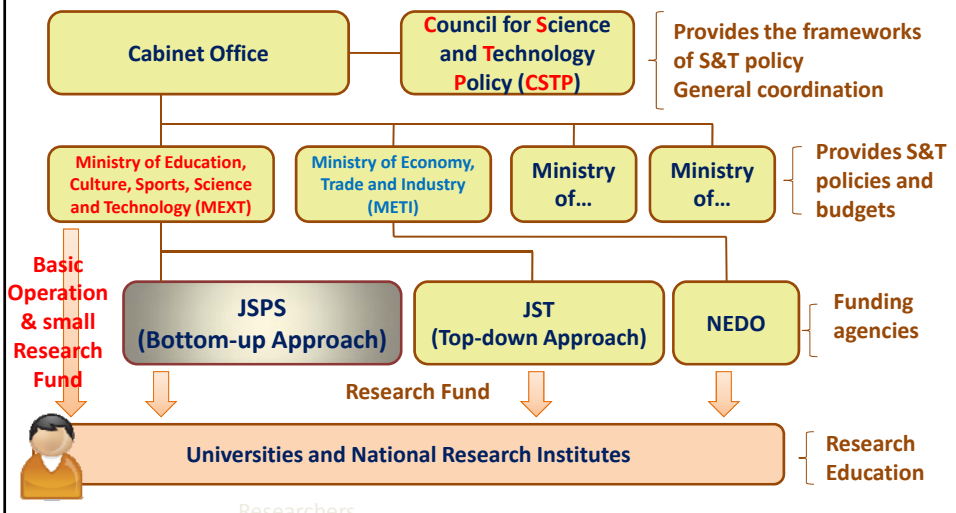
1

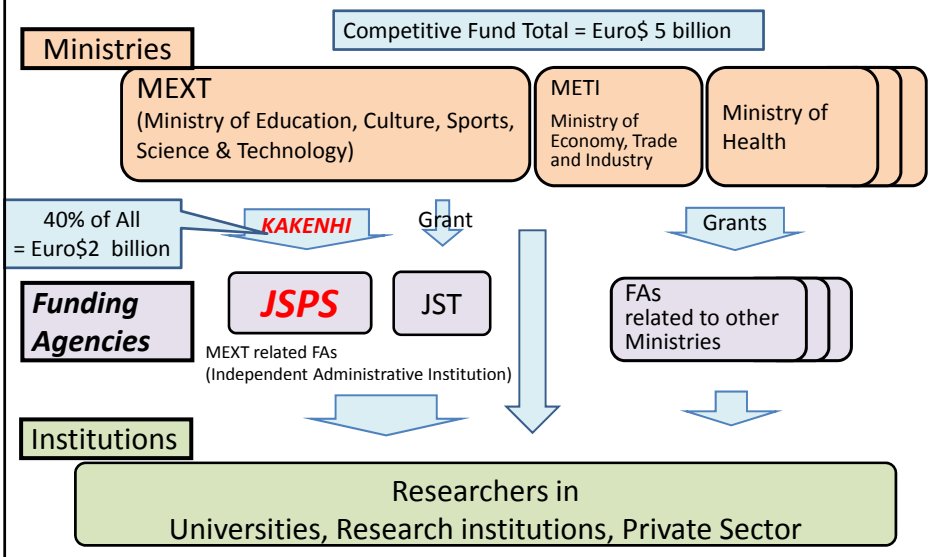
## S&T Policy System in Japan




Other funding is available for Medical research and Information & Communication

2

## Competitive Research Funding System in Japan




## JSPS: Japan Society of Promotion of Science

**founded in 1932**

**1) Research funding individual res. Grant etc.**

**Grants-in-Aid for Scientific Research (*Kakenhi*)**

**2) Fellowships doctoral students,**
**post-doctoral fellowship**
**overseas fellowship**

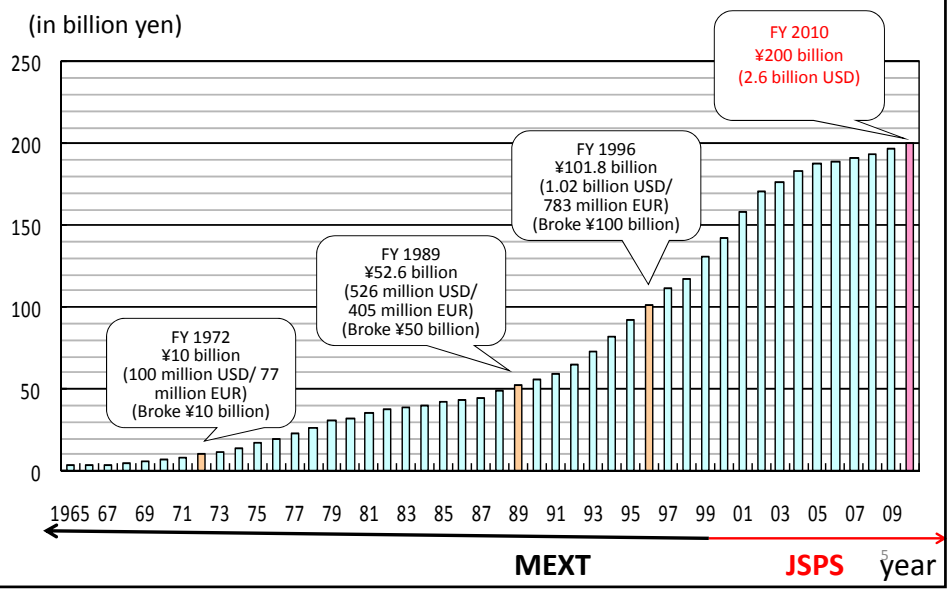
**3) International scientific cooperation**
**workshops**
**inviting scholars**

**annual budget approx. 3000M$Eueo**

**staff 130 (all administrative)**

***Res. Center* of Science Systems 18 Senior POs**
**(founded in 2004) 100 Pos**
**(3 years appointment)**

## Grants-in-Aid for Scientific Research (*Kakenhi*)
## — Grants for Strengthening Japan's Basic Research Prowess —




5

## *Kakenhi* (Scientific-Grant-Aid)

- Covers **entire spectrum of academic fields** including the humanities, social sciences, and natural sciences.
- **Competitive funding fair to any field of area/age**
- **Perfectly bottom-up grant (curiosity-driven)**

**So,**

- **Most popular governmental research fund for university professors** and researchers in gov. and private research institutes.

**Approx. 250,000** researchers eligible to apply *kakenhi*

200,000 males, 50,000 females

more than 90% University professor

About 25**%** receives JSPS grant Kakenhi as PI

6

# Major Grant Categories of KAKENHI

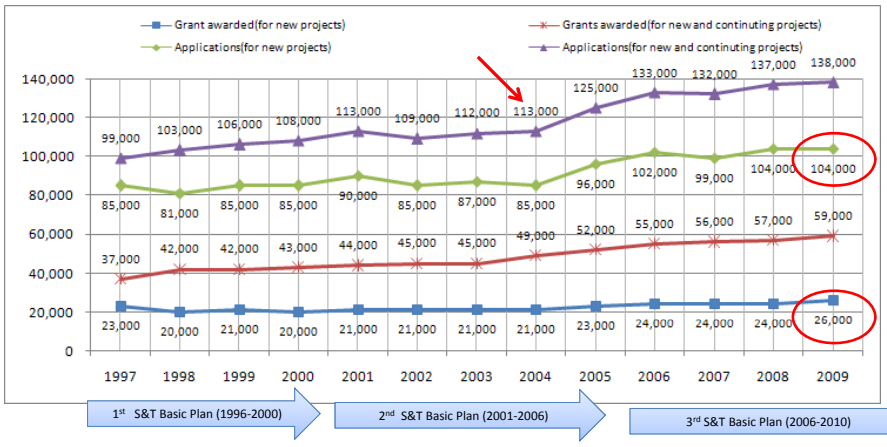
✓ Covers All Disciplines including Humanities, Social Sciences

| Categories | | Characteristics<br>Duration<br>Total Grant per Project ($ 1 = JP¥ 100) | Newly Awarded Projects<br>Success Rate<br>(FY2009) |
|---|---|---|---|
| **Specially Promoted Research** | | Internationally highly appraised research<br>3 - 5 years<br>**Max 5M$Euro + 30% indirect cost** | 19 projects, 16.7 %<br>(FY 2008) |
| **Scientific Research** | S | 5 years / max **2M$Euro +30%** | 86 projects, 15.6%<br>(FY2008) |
| | A<br>B<br>C | 3 - 5 years<br>A : $ 200,000 - 500,000<br>B : $ 50,000 - 200,000<br>C : Up to $ 50,000 **50,000$Euro + 30%** | A : 567 projects, 24.0%<br>B : 2,749 projects, 24.9%<br>C : 7,765 projects, 23.5% |
| Challenging Exploratory Research | | Early-stage challenging research with very unique concept and very high goal<br>1-3 years Up to $ 50,000 | 1,640 projects, 12.3% |
| **Encouragement of Young Scientists** | S<br>A<br>B | Research carried out by individual young researchers<br>( S : up to age 42, A &B : up to age 39)<br>2 - 4 years<br>S : $ 200.000 - $ 1,000,000 A : $ 50.000 – 200,000<br>B : Up to $ 50,000 | S: 39 projects, 4.8%<br>(FY2008)<br>A: 350 projects, 18.7%<br>B : 6,487 projects, 27.8% |
| Start Up | | Start-up research conducted by a newly tenured researcher<br>2 years Up to $ 30,000 | 934 projects, 24.9%<br>(FY2008) |

7

# Application & Grants Awarded in KAKENHI

Over 100 thousands New Applications per year




| Fiscal Year | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Selection Ratio(%) | 27.1 | 24.8 | 24.3 | 23.9 | 23.1 | 24.6 | 23.7 | 24.8 | 24.0 | 23.5 | 24.3 | 22.7 | **24.9** |

8

# Big Ban

- On April 1, 2004, all national Universities underwent "Big Ban" of reform, i.e."Incorporation".
- Expecting to be more responsive, more agile, more globally competitive with high standard and quality of education and research.
- Budgets are basically covered by the government.
- Faculties and staffs are not government employees

9

| Category | Area | Discipline | Research Field |
|---|---|---|---|
| **Humanity & Social sciences** | Humanities | | |
| | Economics | | |
| **Science & Eng.** | Math/Physics | | |
| | Chemistry | | |
| | Engineering Sci. | Civil Eng | |
| | | Mechanical Eng. | Fluid Engineering |
| | | …… | Dynamics/Control |
| **Biological Sciences** | Biology | | |
| | Agricultural Science | | |
| | Medical Science | | |
| **Comprehensive fields & New Innovative fields (Interdisciplinary)** | | | |
| | Informatics | | |
| | Environmental science | | |
| | Medical eng. | | |
| | Nano tech. etc | | |

**Total No. of research fields approx. 300**

**All proposals are submitted to one of the research fields**

**Once per year (application in November, decision in end of March)**

# Application and awarded

## 1) Basic grant

| | Appl. | Awarded | Success rate |
|---|---|---|---|
| SS | 100 | 15 | 15% |
| S | 500 | 90 | 20% |
| A | 2,000 | 500 | 25% |
| B | 10,000 | 2,500 | 25% |
| C | 30,000 | 10,000 | 30% |

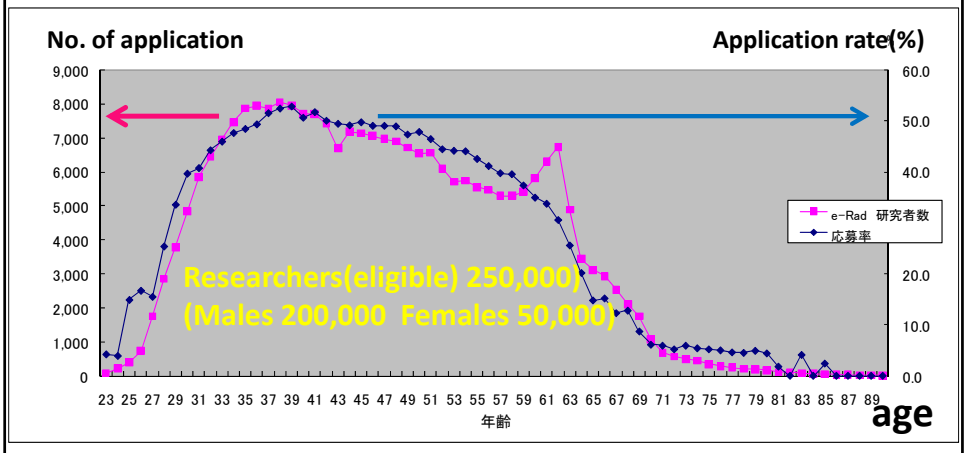
## 2) Grant for young

| | | | |
|---|---|---|---|
| (YS) | not called | | |
| YA | 2,000 | 500 | 25% |
| YB | 22,000 | 7,000 | 30% |

The success rate is more or less the same regardless of the research fields.

11

# Researchers' number(registered) and application rate (to *Kakenhi*) -age distribution-



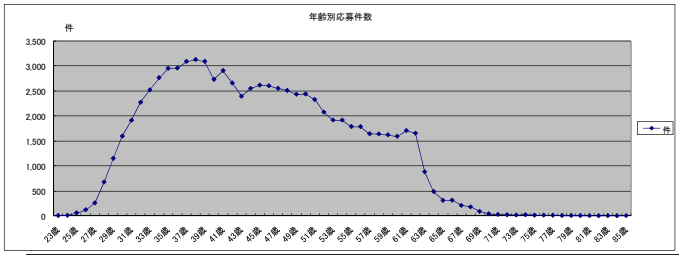

Comments;

1) Researcher's population has a peak around 35 years old and around 62.
2) Application rate has a peak around 35 years old. This is probably because incentive program for young people in *Kakenhi.*

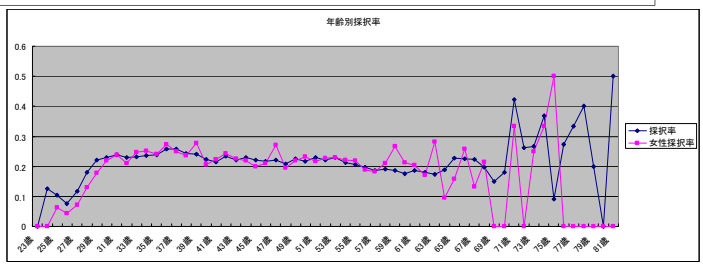
12

# Applications and success rate -age distribution-

**Applications**




**Success rate**

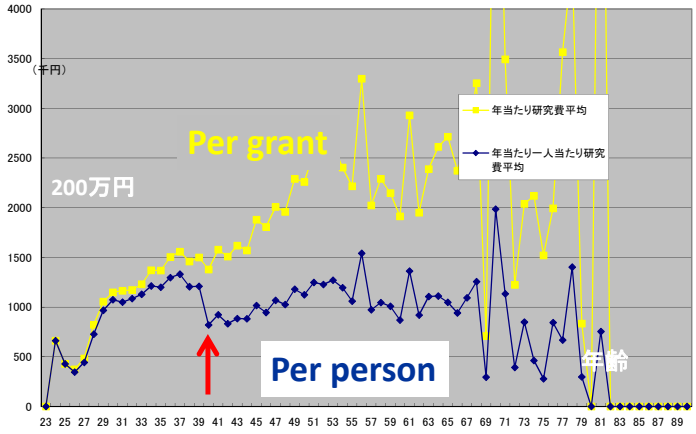



**Comments**

1) **The success rate is very flat; somewhat larger for younger researchers**
2) **The success rate is almost the same for males and femails**

13

# Average grant size awarded per year , per grant and per researchers




**age**

14

Approx. 90,000 proposals are submitted.
20,000 are awarded (70,000 are declined)

**Selection Process for A,B, C, YA, YB**

First review : 4-6 peer reviewers in research field
each reviewer handles 50 or more proposals
Second review: panel (each discipline)

**Selection Process for SS, S**

First review: 3-6 peer reviewers
(+ overseas reviewers)
Second review: interview (20min. -25 min. in total)

6000 reviewers are selected by PO, SPO of JSPS RCSS.

**Review overall grade (relative)**

| | | |
|---|---|---|
| grade | 5 | 5-15% |
| | 4 | 15-25% |
| | 3 | 35-55% |
| | 2 | 15-25% |
| | 1 | 5-15% |

+ comments (1/3 -0.5 page)

Checking points grade 1 to 5 for each (absolute)
academic excellence
originality
research plan/feasibility
impact S&T/industry/culture/society
research capability
(improvement from previous research)

16

**Reply to proposal submitters from JSPS**

**Selection Process for A,B, C, YA, YB**

**Yes/no**

**for No, ranking (top 25% etc.)**

**weak points (selected from typical ones)**

**Selection Process for SS and S**

**Yes/no**

**for No, review result edited by panel members**

**(project evaluation in final/intermediate stage)**

**Review comments in A,B, C, YA and YB are not sent back to the proposal submitters directly.**

**next step; more direct feedback from reviewers to proposal submitters**

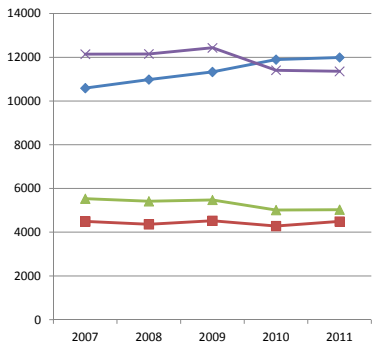
17

| Category | Area | Discipline | Research Field |
|---|---|---|---|
| • **Humanity & Social sciences** | Humanities Economics | | |
| • **Science & Eng.** | Math/Physics | | |
| • **Biological Sciences** | Biology | | |
| • **Comprehensive fields & New Multidisciplinary fields (Interdisciplinary)** | | | |
| • | Informatics | Environmental science | |
| • | Biomedical eng. | Nano-tech. | |
| • | Social/Safety system science | Genome science | |
| • | Brain …. etc | more than 40 interdisciplinary fields | |
| • | | Interdisciplinary fields of research are prepared. | |

**Total No. of research fields approx. 300**

**All proposals are submitted to one of the research fields**

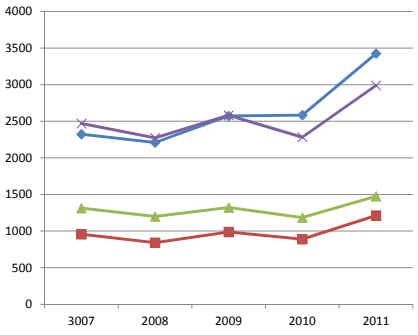
In MEXT, *New Frontier Research program*
*Call for new research field every year*
*Call for proposals for the newly approved research fields.*




**applications**

Comprehensive.
Interdisplinary
Phyical Sci.
Engineering.

**awarded**




Comprehensice
Interdisplinary
Phyical Sci.
Engineering.

19

## Selection of Interdisciplinary Research Proposals

- Basically selection process is the same to the basic/discipline-oriented research proposals.
- Panel + external peer reviewers
- In each research field, the reviewers are selected from wide areas.
- In each research filed, the panels consists of members with various disciplines
- The scores by reviewers have larger variations than those of other proposals.
- Elaborate discussions in the panel are needed.

20

# Remarks

- More direct feedback from reviewers to proposal submitters
- Introduce “Interdisciplinary fields” in addition to existing ones. The proposals in this is treated in special manner

21