

# Survey Results on International Research Exchange for FY2013

※“Short-term” refers to a maximum period of stay of one month (30 days). “Mid-to long-term” refers to a period of stay exceeding one month (30 days).

※The definition for researchers accepted was changed in the survey for FY2013 from the one that had been adopted in the surveys for FY2012 and before (double-counting of researchers accepted at more than one institution was avoided in FY2013. See Reference 5).

## 1. Number of overseas researchers accepted, and the number of Japanese researchers dispatched abroad

### 1) The number of overseas researchers accepted

Number of overseas researchers accepted for FY2013

➤ Short-term:

The number had been increasing until FY2009, but then decreased through to FY2011 due to the impacts of the Great East Japan Earthquake and other factors. Since then, the number has been rising again.

➤ Mid-to long-term:

The number has been fluctuating between 12,000 and 15,000 since FY2000. Although the figure for FY2013 decreased from that of the previous year, this may be because the definition for overseas researchers accepted was changed in the survey for FY2013 (double-counting of researchers accepted at more than one institution was avoided in FY2013).

※The number of overseas researchers accepted includes both postdoctoral fellows, research fellows and others from FY2010.

※The definition for researchers accepted was changed in the survey for FY2013 (double-counting of researchers accepted at more than one institution was avoided in FY2013).

### 2) Number of Japanese researchers dispatched abroad

Number of Japanese researchers dispatched abroad for FY2013

➤ Short-term:

The number has been increasing since the survey started.

➤ Mid-to long-term:

The number was on the decrease from FY2000 to FY2007. Since 2008, the number has been fluctuating between 4,000 and 5,000.

※The number of researchers dispatched abroad includes postdoctoral fellows from FY2008, and both postdoctoral fellows, research fellows and others from FY2010.

## **2.Situation on international research exchanges per organization**

### **1)Number of overseas researchers accepted per organization**

Number of overseas researchers accepted per organization for FY2013

➤ Short-term:

National universities account for about 70 to 80% of the total number of researchers accepted under a short-term contract ("short-term researchers"). The number was on the rise until FY2009, but then decreased through to FY2011 due to the impacts of the Great East Japan Earthquake and other factors. Since then, the number has been rising again. At other types of organizations, the number has been remaining at almost the same level.

➤ Mid- to long-term:

National universities account for about 50 to 60% of the total number of researchers accepted under a mid- to long-term contract ("mid- to long-term researchers"). The number of such researchers has been growing at private universities since the survey started. At other types of organizations, the number has been remaining at almost the same level.

➤ The number was on the rise until FY2009, but then decreased through to FY2011 due to the impacts of the Great East Japan Earthquake and other factors. Since then, the number has been rising again. At other types of organizations, the number has been remaining at almost the same level. Although the figure for FY2013 decreased from that of the previous year, this may be because the definition for overseas researchers accepted was changed in the survey for FY2013 (double-counting of researchers accepted at more than one institution was avoided in FY2013).

※Only data after FY2002 is used on the number of short-term and mid-to long-term research dispatches per organization.

※The number of accepted researchers includes postdoctoral fellows, research fellows and others from FY2010.

※The definition for researchers accepted was changed in the survey for FY2013 (double-counting of researchers accepted at more than one institution was avoided in FY2013).

### **2) Number of Japanese researchers dispatched abroad per organization**

Number of Japanese researchers dispatched abroad per organization for FY2013

➤ Short-term:

The number is increasing for all types of organizations.

➤ Mid-to long-term:

The number of mid- to long-term researchers dispatched from national universities, etc. was on the

decrease until FY2007, but then has been increasing since FY2008. The number for FY2013 decreased from the previous year, dropping to almost the same level as FY2010. At other types of organizations, the number has been remaining at almost the same level.

※Only data after FY2002 is used on the number of short-term and mid-to long-term research dispatches per organization. For organizational transitions, refer to “(Reference 4) Additional conditions of subject organizations”.

※The number of accepted researchers includes post doctorates postdoctoral fellows from FY2008, and both post-doctorates postdoctoral fellows, research fellows and others from FY2010.

### 3) Main universities and research organizations with the highest number of overseas researchers accepted and Japanese researchers dispatched abroad (FY2013)

**Chart 1: Main universities and research organizations with the highest number of overseas researchers accepted**

	Total Number (including short term and mid-to long-term)		Short Term		Mid-to Long-Term	
	Organization	Number of research ers	Organization	Number of research ers	Organization	Number of research ers
1	The University of Tokyo	3,286	The University of Tokyo	2,448	The University of Tokyo	838
2	Kyoto University	3,053	Kyoto University	2,312	Waseda University	789
3	High Energy Acceleratory Research Organization	1,485	High Energy Acceleratory Research Organization	1,390	Kyoto University	741
4	University of Tsukuba	1,371	University of Tsukuba	975	Osaka University	453
5	Osaka University	1,331	Tohoku University	901	University of Tsukuba	396
6	Tohoku University	1,247	Osaka University	878	Tohoku University	346
7	Institute of Physical and Chemical Research	1,003	Kyushu University	729	Institute of Physical and Chemical Research	346
8	Hokkaido University	980	Hokkaido University	704	National Institute of Advanced Industrial Science and Technology	325

9	Kyushu University	916	Institute of Physical and Chemical Research	657	Nagoya University	288
10	Waseda University	815	Tokyo Institute of Technology	556	Hokkaido University	276
11	Nagoya University	802	National Institutes of Natural Sciences	537	National Institute for Materials Science	239
12	Tokyo Institute of Technology	788	Nagoya University	514	Tokyo Institute of Technology	232
13	National Institute for Materials Science	635	Okinawa Institute of Science and Technology Graduate University	461	Kyushu University	187
14	National Institutes of Natural Sciences	585	National Institute of Radiological Sciences	430	Keio University	176
15	Okinawa Institute of Science and Technology Graduate University	574	National Institute for Materials Science	396	Kobe University	139
16	National Institute of Radiological Sciences	488	National Institutes of Natural Sciences	351	Kansei Gakuin University	138
17	Kobe University	474	Kobe University	335	Ritsumeikan University	137
18	National Institutes of Natural Sciences	458	Research Organization of Information and Systems	312	Hiroshima University	130
19	Hiroshima University	431	Hiroshima University	301	Okayama University	127
20	Research Organization of Information and Systems	398	Ritsumeikan University	240	Kumamoto University Sophia University	115
	Accepted researchers Overall Total	35,649	Short-term researchers accepted Total	23,719	Mid-to long-term researchers accepted Total	11,930

**Chart 2 : Main universities and research organizations with the highest number of Japanese researchers dispatched abroad**

	Total Number (including short term and mid-to long-term)		Short Term		Mid-to Long-Term	
	Organization	Number of researche rs	Organization	Number of researche rs	Organization	Number of researche rs
1	The University of Tokyo	10,735	The University of Tokyo	10,433	The University of Tokyo	302
2	Kyoto University	8,416	Kyoto University	8,119	Kyoto University	297
3	Osaka University	6,759	Osaka University	6,577	Osaka University	182
4	Tohoku University	5,702	Tohoku University	5,560	Waseda University	180
5	Waseda University	4,055	Kyushu University	3,900	Tohoku University	142
6	Kyushu University	3,975	Waseda University	3,875	Kobe University	117
7	Hokkaido University	3,814	Hokkaido University	3,698	Hokkaido University	116
8	Nagoya University	3,669	Nagoya University	3,557	Japan International Research Center for Agricultural Sciences	116
9	University of Tsukuba	2,944	University of Tsukuba	2,895	Nagoya University	112
10	Keio University	2,841	Tokyo Institute of Technology	2,786	Kyushu University	75
11	Tokyo Institute of Technology	2,834	Keio University	2,782	Ritsumeikan University	66
12	Institute of Physical and Chemical Research	2,782	Institute of Physical and Chemical Research	2,719	Institute of Physical and Chemical Research	63
13	National Institute of Advanced Industrial Science and Technology	2,627	National Institute of Advanced Industrial Science and Technology	2,567	National Institute of Advanced Industrial Science and Technology	60
14	Kobe University	2,489	Kobe University	2,372	Keio University	59
15	Hiroshima University	2,162	Hiroshima University	2,141	Nihon University	58
16	Chiba University	1,720	Chiba University	1,692	Research Organization of Information and Systems	56
17	Nihon University	1,679	Nihon University	1,621	Kumamoto University	54
18	Japan Atomic Energy Agency	1,496	Japan Atomic Energy Agency	1,452	High Energy Acceleratory Research Organization	53
19	Kumamoto University	1,356	Okayama University	1,305	University of Tsukuba	49

20	Okayama University	1,316	Kumamoto University	1,302	Tokyo Institute of Technology	48
	Dispatched researchers Overall Total	172,592	Short Term dispatched researchers Total	168,225	Mid-to Long-Term dispatched researchers Total	4,367

### 3. Situation on research exchange per region

#### 1) Number of overseas researchers accepted per region

Number of overseas researchers accepted per region for FY2013

➤ Total:

The number of overseas researchers accepted from Asia is the highest, followed by those from Europe 4 and North America, in terms of both short-term and mid- to long-term contracts.

➤ Short-term:

The number was increasing until 2009, but then decreased through to FY2011 due to the impacts of the Great East Japan Earthquake and other factors. Since then, the numbers have been rising again.

➤ Mid-to long-term:

The numbers of mid- to long-term researchers accepted from Asia, Europe and North America have been remaining at almost the same level since FY2000. Although the figure for FY2013 decreased from that of the previous year, this may be because the definition for overseas researchers accepted was changed in the survey for FY2013 (double-counting of researchers accepted at more than one institution was avoided in FY2013).

※ Surveys for FY2009 and before did not clearly define whether postdoctoral fellows and research fellows were included in the number of researchers accepted. These groups are included in surveys for FY2010 onward.

※ Since some dispatch areas are unclear, the total number of researchers per region is not consistent with other total figures.

※ The definition for researchers accepted was changed in the survey for FY2013 (double-counting of researchers accepted at more than one institution was avoided in FY2013).

#### 2) Number of Japanese researchers dispatched abroad per region

Number of Japanese researchers dispatched abroad per region for FY2013

➤ Total:

The number of short-term researchers dispatched to Asia was the highest, followed by Europe and North America. The number of mid- to long-term researchers dispatched to Europe was the highest, followed by North America and Asia.

➤ Short-term:

The number of short-term researchers dispatched is on the rise in all regions including Asia, Europe and North America.

➤ Mid-to long-term:

The number had been decreasing for Europe and North America since the survey started. However, the numbers have been rising for Europe and North America since 2010 and 2011, respectively. The number for FY2013 decreased from the previous year, declining to almost the same level as FY2010. For other regions, the number has been remaining at almost the same level.

※ Surveys for FY2009 and before did not clearly define whether postdoctoral fellows and research fellows were included in the number of researchers accepted. Postdoctoral fellows are included from the survey for 2008, and research fellows from the survey for FY2010.

### 3) List of main countries (regions) with highest number of overseas researchers accepted and Japanese researchers dispatched abroad.

Chart 3 : Main countries(Regions) with highest number of accepted overseas researchers

	Overall Total (including both short-term and mid-to long-term)			Short-term			Mid-to long-term		
	Country(Region)	Number of researchers	Distribution ratio(%)	Country(Region)	Number of researchers	Distribution ratio(%)	Country(Region)	Number of researchers	Distribution ratio(%)
1	United States of America	5,615	15.8	United States of America	4,146	17.5	People's Republic of China	2,686	22.5
2	People's Republic of China	5,376	15.1	People's Republic of China	2,690	11.3	United States of America	1,469	12.3
3	Republic of Korea	3,203	9.0	Republic of Korea	2,135	9.0	Republic of Korea	1,068	9.0
4	Federal Republic of Germany	1,775	5.0	Federal Republic of Germany	1,370	5.8	United Kingdom	572	4.8
5	French Republic	1,679	4.7	French Republic	1,249	5.3	India	444	3.7
6	United Kingdom	1,637	4.6	United Kingdom	1,065	4.5	French Republic	430	3.6
7	Taiwan	1,240	3.5	Taiwan	989	4.2	Federal Republic of Germany	405	3.4
8	Kingdom of Thailand	1,181	3.3	Kingdom of Thailand	892	3.8	Kingdom of Thailand	289	2.4
9	India	1,009	2.8	Republic of	659	2.8	Republic of	282	2.4

				Indonesia			Indonesia		
10	Republic of Indonesia	941	2.6	Vietnam	595	2.5	Taiwan	251	2.1
11	Canada	806	2.3	Canada	576	2.4	Canada	230	1.9
12	Vietnam	791	2.2	India	565	2.4	Arab Republic of Egypt	230	1.9
13	Russian Federation	659	1.8	Italian Republic	497	2.1	Russian Federation	207	1.7
14	Australia	631	1.8	Russian Federation	452	1.9	Australia	200	1.7
15	Italian Republic	618	1.7	Australia	431	1.8	Vietnam	196	1.6
16	Malaysia	449	1.3	Malaysia	357	1.5	People's Republic of Bangladesh	186	1.6
17	Spain	363	1.0	Swiss Confederation	294	1.2	Italian Republic	121	1.0
18	Swiss Confederation	357	1.0	Republic of the Philippines	244	1.0	Spain	119	1.0
19	Republic of the Philippines	354	1.0	Spain	244	1.0	Republic of the Philippines	110	0.9
20	Arab Republic of Egypt	296	0.8	Republic of Singapore	242	1.0	Republic of Poland	96	0.8
	Accepted researchers Overall Total	35,649	100	Accepted short-term researchers Total	23,719	100	Accepted mid-to-long term researchers Total	11,930	100

**Chart 4 : Countries(Regions) with highest number of Japanese researchers dispatched abroad**

	Overall Total (including both short-term and mid-to long-term)			Short-term			Mid-to long-term		
	Country(Region)	Number of researchers	Distribution ratio(%)	Country(Region)	Number of researchers	Distribution ratio(%)	Country(Region)	Number of researchers	Distribution ratio(%)
1	United States of America	38,223	22.1	United States of America	37,006	22.0	United States of America	1,217	27.9

2	People's Republic of China	15,930	9.2	People's Republic of China	15,740	9.4	United Kingdom	400	9.2
3	Republic of Korea	14,585	8.5	Republic of Korea	14,499	8.6	Federal Republic of Germany	369	8.4
4	Federal Republic of Germany	8,784	5.1	Federal Republic of Germany	8,415	5.0	French Republic	302	6.9
5	French Republic	8,197	4.7	French Republic	7,895	4.7	People's Republic of China	190	4.4
6	United Kingdom	7,807	4.5	United Kingdom	7,407	4.4	Swiss Confederation	183	4.2
7	Taiwan	6,687	3.9	Taiwan	6,651	4.0	Canada	122	2.8
8	Kingdom of Thailand	5,970	3.5	Kingdom of Thailand	5,905	3.5	Italian Republic	110	2.5
9	Italian Republic	5,128	3.0	Italian Republic	5,018	3.0	Republic of Korea	86	2.0
10	Canada	3,718	2.2	Spain	3,599	2.1	Australia	84	1.9
11	Spain	3,655	2.1	Canada	3,596	2.1	Kingdom of the Netherlands	66	1.5
12	Australia	3,583	2.1	Australia	3,499	2.1	Kingdom of Thailand	65	1.5
13	Republic of Indonesia	3,504	2.0	Republic of Indonesia	3,455	2.1	Kingdom of Sweden	65	1.5
14	Vietnam	3,414	2.0	Vietnam	3,377	2.0	Spain	56	1.3
15	Republic of Singapore	3,271	1.9	Republic of Singapore	3,241	1.9	Republic of Indonesia	49	1.1
16	Swiss Confederation	2,686	1.6	Swiss Confederation	2,503	1.5	India	41	0.9
17	Kingdom of the Netherlands	2,404	1.4	Kingdom of the Netherlands	2,338	1.4	Austria	40	0.9
18	Austria	2,128	1.2	M a l a y s i a	2,093	1.2	Kingdom of Belgium	39	0.9
19	M a l a y s i a	2,128	1.2	Austria	2,088	1.2	Vietnam	37	0.8
20	India	2,105	1.2	India	2,064	1.2	Republic of Kenya Republic of the	36	0.8

							Philippines		
							Taiwan		
Dispatched researchers	172,592	100	Short-term dispatched researchers	168,225	100	Mid-to long-term dispatched researchers	4,367	100	
Overall total			Total			Total			

## [Reference]

### 1. Purpose of survey

The survey which clarifies the situation on the annual research exchanges between foreign countries and Japan's educational organizations will be utilized to plan, promote, assess and inspect policies related to promoting international exchange.

### 2. Period of survey

April 1, 2013 – March 31, 2014

### 3. Questionnaire and breakdown of organizations subject to survey

Questionnaire and organizations subject to survey:

- Universities and others: Questionnaire sent out to a total of 839 organizations

[National universities:86, Inter-university research institutesInter-university research institute corporations:4, National, public and private colleges of technology:57, Public universities:83, Private universities:609]

- Incorporated administrative agencies and others: Questionnaire sent out to a total of 60 organizations.

[Incorporated administrative agencies:43 (of which 17 organizations are national experiment and research institutes national research institutes)]

- Total of 899 organizations. Valid response rate for the above organizations:
- Universities and others: Response received by 806 organizations, overall valid response rate of 96.1 %.
- Incorporated administrative agencies and others: Response received by 57 organizations, overall valid response rate of 95.0 %.
- Average response rate for the above 863 organizations was 96.0 %.

### 4. Additional conditions of subject organizations

- “National universities and others” include inter-university research institutesinter-university research institute corporations and national junior colleges from FY1997 (provided that national junior colleges have reorganized and integrated with national universities by FY2005).
- Public and private universities have been added to the survey scope from FY1997.
- For colleges of technology, national colleges of technology have been included in the survey scope from FY2000, and public and private colleges of technology have been added from FY2010.
- Incorporated administrative agencies and others include national research institutes, and have been added to the survey scope from FY2000 (provided that government-affiliated corporations have been reformed into incorporated administrative agencies).

## 5. Definition of survey subject

- Accepted researchers:  
“Accepted researchers” refers to foreign researchers [i] who belong to overseas organizations accepted at Japanese organizations, through such means as invitation, and [ii] who used to belong to overseas organizations and were then employed by Japanese organizations. In the survey for FY2013, foreign researchers who belong to overseas organizations are counted as researchers accepted at the first accepting organization, and are not counted when said researchers are accepted at an organization in Japan other than the first accepting organization, in order to avoid the double-counting of acceptance at multiple organizations (regardless of whether it is employment or non-employment).
- Dispatched researchers:  
“Dispatched researchers” refers to researchers who are Japanese and foreign nationals belonging to organizations in Japan. This term includes Japanese and foreign researchers who are employed by organizations in Japan (regardless of whether employed in full-time or part-time positions and whether the contract term is limited or not) and researchers who applied for the research fellow program or other related support programs and accepted.
- Researchers:  
Teachers employed by organizations, such as professors, assistant professors, lecturers, associate professors, postdoctoral fellows, research fellows, general researchers, chief researchers, and group leaders, and researchers who have concluded a certain employment contract with organizations.
- The term “researchers” does not refer to teachers, etc. who teach a few classes but do not conduct any particular research activities, such as graduate students, international students, administrative staff, technical staff, and language teachers.
- In relation to dispatched researchers previously excluded from the survey scope, post-doctoratesPostdoctoral fellows were added from FY2008, and both post-doctoratesPostdoctoral fellows and research fellows were added from FY2010. For accepted overseas researchers, both post-doctoratesPostdoctoral fellows, research fellows and others were added to the survey scope from FY2010.
- “Short-term” refers to a maximum period of stay of one month. “Mid-to long-term” refer to a period of stay exceeding one month.

## 6. Calculation method

- For a period of stay crossing over to the next fiscal year, the period of stay refers to the total scheduled period of stay, and will be included in both fiscal years.
- For researchers staying in multiple countries, all countries visited for the purpose of research are included in the response count.
- “Accepted researchers” also include those researchers already residing in Japan.
- For researchers receiving multiple sources of revenue, the individual is classified based on his/her highest source of income.

## **7. Survey consignee**

Institute for Future Engineering (IFENG)