## Academic Research Activities in Japan

---- A Report on the 1998 Academic Research Activities Survey ----

March 2000

National Center for Science Information Systems

## Introduction

National Center for Science Information Systems (NACSIS) conducts an "Academic Research Activities Survey" in order to collect information for the "Directory of Researchers," a database on the research activities of scholars. This survey was conducted from 1961 onward by the Ministry of Education, Science, Sports, and Culture, and in 1992 this function was taken over by NACSIS.

The survey for fiscal 1998 covers 1,457 institutions engaged in academic research, and some 150,000 scholars affiliated with these institutions supplied most of the replies. Note that the scope of the survey respondents was widened in 1998 to include graduate students enrolled in university doctorate (post-MA) programs, special researchers affiliated with the Japan Society for the Promotion of Science, research associates affiliated with the Japan Society for the Promotion of Science, and part-time researchers at universities, etc., in addition to faculty and researchers employed at universities, etc., in positions equivalent to associate professor or above.

The results of the survey are already available as the "Directory of Researchers," which can be accessed online using the NACSIS Information Retrieval Service (NACSIS-IR). This service enables users to obtain detailed information on researchers and scholars from universities and other institutions throughout Japan.

The present report is a statistical compilation of the survey data for fiscal 1998 prepared in order to provide a quantitative understanding of academic research activities in Japan. This is the sixth quantitative analysis of the "Academic Research Activities Survey." The five previous reports covered the survey for fiscal 1977 (published by the Ministry of Education, Science, Sports, and Culture in 1980), the survey for fiscal 1993 (published in 1996: "Statistical Survey on the State of Research Activities in 1993 --," Journal of Information Processing and Management 39 (7) (1996)), the survey for fiscal 1995 (published in 1997: "Statistical Survey on the State of Research Activities in 1995 --," Journal of Information Processing and Management 40 (7) (1997)), the survey for fiscal 1996 (published by NACSIS in 1998: "Academic Research Activities in Japan - A Report on the 1996 Academic Research Activities Survey --"), and the survey for fiscal 1997 (published by NACSIS in 1999: "Academic Research Activities in Japan - A Report on the 1997 Academic Research Activities Survey --"). Like its predecessors, this report is organized so as to make it as easy as possible to compare the data it contains with the data presented in the past reports prepared by the Ministry of Education, Science, Sports, and Culture.

It is our hope that this report will enable readers to gain an understanding of overall trends in academic research activities in Japan.

## Contents

## Introduction

1. Ov	verview of Survey Results	1
2. Ba	ckground of Academic Researchers	2
2.1	Number of Researchers by Field of Specialization	
2.2	Number of Researchers by Institution Type	
2.3	Age ·····	
2.4	Gender	Ç
2.5	Non-Japanese Names	11
	ademic Background ·····	13
3.1	Last Degree Course Completed	13
3.2	Researchers with Doctorate Degrees	15
4. Cu	rrent Research Topics	18
5. Ov	verseas Research Activities ······	24
5.1	Traveling Abroad to Perform Research Activities	24
5.2	Participation in International Conferences and Scientific Societies	
	Overseas	27
	se of Languages Other Than Japanese by International Conferences	
a	and Scientific Societies	32
6.1	Principal Languages Other Than Japanese Used to Present Research Finding	S
	to Research Societies	32
6.2	Principal Languages Other Than Japanese Used to Write Papers	32
7. Ac	ademic Society Affiliations of Researchers	35
7.1	Japanese Academic Societies	35
7.2	Overseas Academic Societies	38
8. Ac	ademic Awards Received	41
8.1	Japanese Awards Received	41
0.0	Occurred Assemble Descined	40

•••		45
1	· · · · · · · · · · · · · · · · · · ·	
_		46
2	· · · · · · · · · · · · · · · · · · ·	00
•		88
3	· · · · · · · · · · · · · · · · · · ·	104
		124
4	ŭ 1 v	1.40
=		148
3		170
G		1/0
O	• • • • • • • • • • • • • • • • • • • •	202
7	•	۵02
′		226
Q	J , 1	220
U		250
9		
		292
12		
	• • •	298
13		
	by Institution Type (Municipal Institutions)	304
14	Number of Doctorate Degrees by Field of Specialization /	
	by Institution Type (Private Institutions)	310
15	Number of Research Topics by Field of Specialization /	
	by Institution Type (Japan)	316
16		
	by Institution Type (National Institutions)	322
17		
		328
18		
4.0		334
19		0.40
00		340
20	· · · · · ·	0.40
91		<b>54</b> 6
<i>۱</i> ۵		250
	by Status of Research Topic (Municipal Institutions)	JJL
	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20	1 Number of Researchers by Field of Specialization / by Institution Type / by Professional Title (Japan) 2 Number of Researchers by Field of Specialization / by Institution Type / by Professional Title (National Institutions) 3 Number of Researchers by Field of Specialization / by Institution Type / by Professional Title (Municipal Institutions) 4 Number of Researchers by Field of Specialization / by Institution Type / by Professional Title (Private Institutions) 5 Number of Researchers by Field of Specialization / by Age / by Gender (Japan) 6 Number of Researchers by Field of Specialization / by Age / by Gender (National Institutions) 7 Number of Researchers by Field of Specialization / by Age / by Gender (Municipal Institutions) 8 Number of Researchers by Field of Specialization / by Age / by Gender (Private Institutions) 9 Last Degree Course Completed by Field of Specialization 10 Doctorate Degrees by Field of Specialization 11 Number of Doctorate Degrees by Field of Specialization / by Institution Type (Japan) 12 Number of Doctorate Degrees by Field of Specialization / by Institution Type (National Institutions) 13 Number of Doctorate Degrees by Field of Specialization / by Institution Type (Municipal Institutions) 14 Number of Doctorate Degrees by Field of Specialization / by Institution Type (Private Institutions) 15 Number of Research Topics by Field of Specialization /

Table 22	Number of Research Topics by Field of Specialization /	
	by Status of Research Topic (Private Institutions)	358
Table 23	Number of Researchers Who Have Traveled Abroad by Field of	
	Specialization / by Institution Type (Japan)	364
Table 24	Number of Researchers Who Have Traveled Abroad by Field of	
	Specialization / by Institution Type (National Institutions)	370
Table 25	Number of Researchers Who Have Traveled Abroad by Field of	
	Specialization / by Institution Type (Municipal Institutions)	376
Table 26	Number of Researchers Who Have Traveled Abroad by Field of	
	Specialization / by Institution Type (Private Institutions)	382
Table 27	Number of Researchers Who Have Participated in International	
	Conferences, Etc., Overseas by Field of Specialization /	
	by Institution Type (Japan)	388
Table 28	Number of Researchers Who Have Participated in International	
	Conferences, Etc., Overseas by Field of Specialization /	
	by Institution Type (National Institutions)	394
Table 29	Number of Researchers Who Have Participated in International	
	Conferences, Etc., Overseas by Field of Specialization /	
	by Institution Type (Municipal Institutions)	400
Table 30	Number of Researchers Who Have Participated in International	
	Conferences, Etc., Overseas by Field of Specialization /	
	by Institution Type (Private Institutions)	406
Table 31	Number of Researchers Who Have Participated in International	
	Conferences, Etc., Overseas by Field of Specialization /	
	by Party Covering Expenses (Japan)	412
Table 32	Number of Researchers Who Have Participated in International	
	Conferences, Etc., Overseas by Field of Specialization /	
	by Party Covering Expenses (National Institutions)	417
Table 33	Number of Researchers Who Have Participated in International	
	Conferences, Etc., Overseas by Field of Specialization /	
	by Party Covering Expenses (Municipal Institutions)	422
Table 34	Number of Researchers Who Have Participated in International	
	Conferences, Etc., Overseas by Field of Specialization /	
	by Party Covering Expenses (Private Institutions)	427
Table 35	Total Number of Times Participating in International	
	Conferences, Etc., Overseas by Field of Specialization /	
	by Party Covering Expenses (Japan)	432
Table 36	Total Number of Times Participating in International	
	Conferences, Etc., Overseas by Field of Specialization /	
	by Party Covering Expenses (National Institutions)	437
Table 37	Total Number of Times Participating in International	
	Conferences, Etc., Overseas by Field of Specialization /	

TT 11 00	by Party Covering Expenses (Municipal Institutions) 44
Table 38	Total Number of Times Participating in International
	Conferences, Etc., Overseas by Field of Specialization /
	by Party Covering Expenses (Private Institutions) 44
Table 39	Languages Other Than Japanese Used to Present Research
	Findings, Etc., by Field of Specialization 45
Table 40	Languages Other Than Japanese Used to Write Papers by Field of
	Specialization
Table 41	Number of Academic Society Affiliations (Japanese) by Field
	of Specialization 46
Table 42	Number of Academic Society Affiliations (Overseas) by Field
	of Specialization
Table 43	Number of Persons Receiving Awards (Japanese) by Field of
	Specialization / by Institution Type 47
Table 44	Number of Persons Receiving Awards (Overseas) by Field of
	Specialization / by Institution Type 48
Table 45	Number of Researchers by Institution Type / by Professional
	Title / by Gender
Table 46	Last Degree Course Completed by Institution Type 48
Table 47	Number of Doctorate Degree Holders by Institution Type /
	by Professional Title
Table 48	Number of Researchers Who Have Traveled Abroad by Institution
	Type / by Professional Title
Table 49	Number of Researchers Who Have Participated in International
	Conferences, Etc., Overseas by Institution Type / by
	Professional Title
Table 50	Number of Researchers Who Have Participated in International
	Conferences, Etc., Overseas by Institution Type / by
	Party Covering Expenses 49
Table 51	Number of Academic Society Affiliations (Japanese) by
	Institution Type
Table 52	Number of Academic Society Affiliations (Overseas) by
	Institution Type
Table 53	Number of Research Themes Related to Specific Areas by
	Institution Type
	· ·
Table 54	Number of Research Themes Related to Specific Areas by Age of