

## 9. Research

### 9-1. Trends across Kyushu University as a Whole Based on Field Classification of Journals

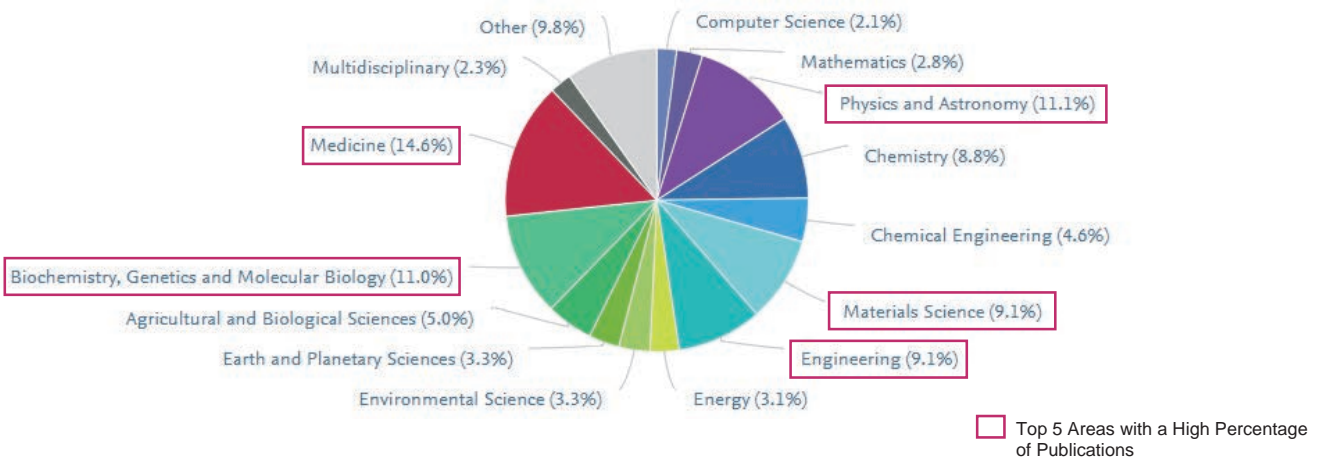
## Kyushu University | 2016 to 2020 Articles & Reviews

View Publication Set definition

\* The pie graph reflects the percentage of papers published by researchers affiliated with Kyushu University from 2016 to 2020, by subject area in Scopus.

2016 to 2020 All subject areas ASJC [Icons]

#### Overall research performance

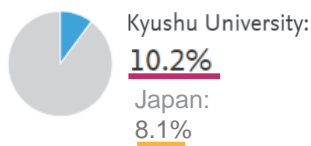


#### Performance indicators

##### Outputs in Top Citation Percentiles ⓘ

Publications in top 10% most cited worldwide

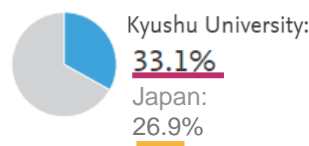
Show as field-weighted



##### Publications in Top Journal Percentiles ⓘ

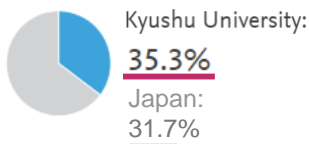
Publications in top 10% journals

by CiteScore Percentile [Dropdown]



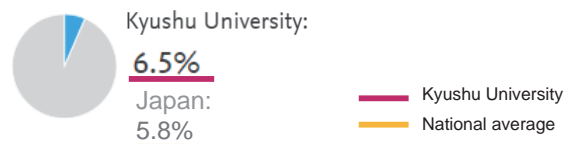
##### International Collaboration ⓘ

Publications co-authored with Institutions in other countries/regions



##### Academic-Corporate Collaboration ⓘ

Publications with both academic and corporate affiliations



(\*1) FWCI (Field-Weighted Citation Impact) is the number of citations received by the publication, divided by the world average for the same type of publications in the same field and same publication year. An FWCI of 1 or higher means that the average impact is higher than the world average.

#### Metrics Details

Publication Type: Articles and Reviews; Journal metric: CiteScore Percentile; Self-citations: included; Field-weighted (output in top 10% citation percentiles): yes; Field-weighted (international collaboration): no

\*Source: Elsevier's "SciVal" (as of September 2021)

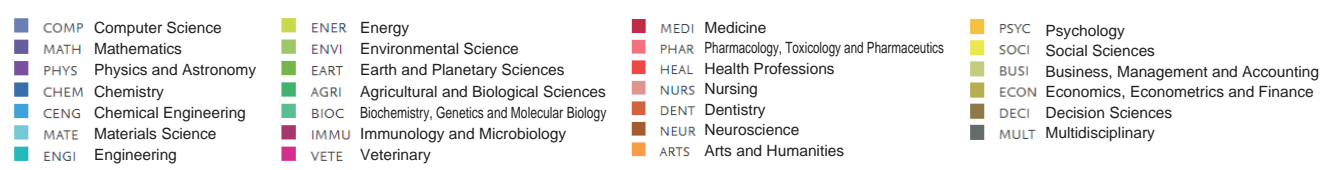
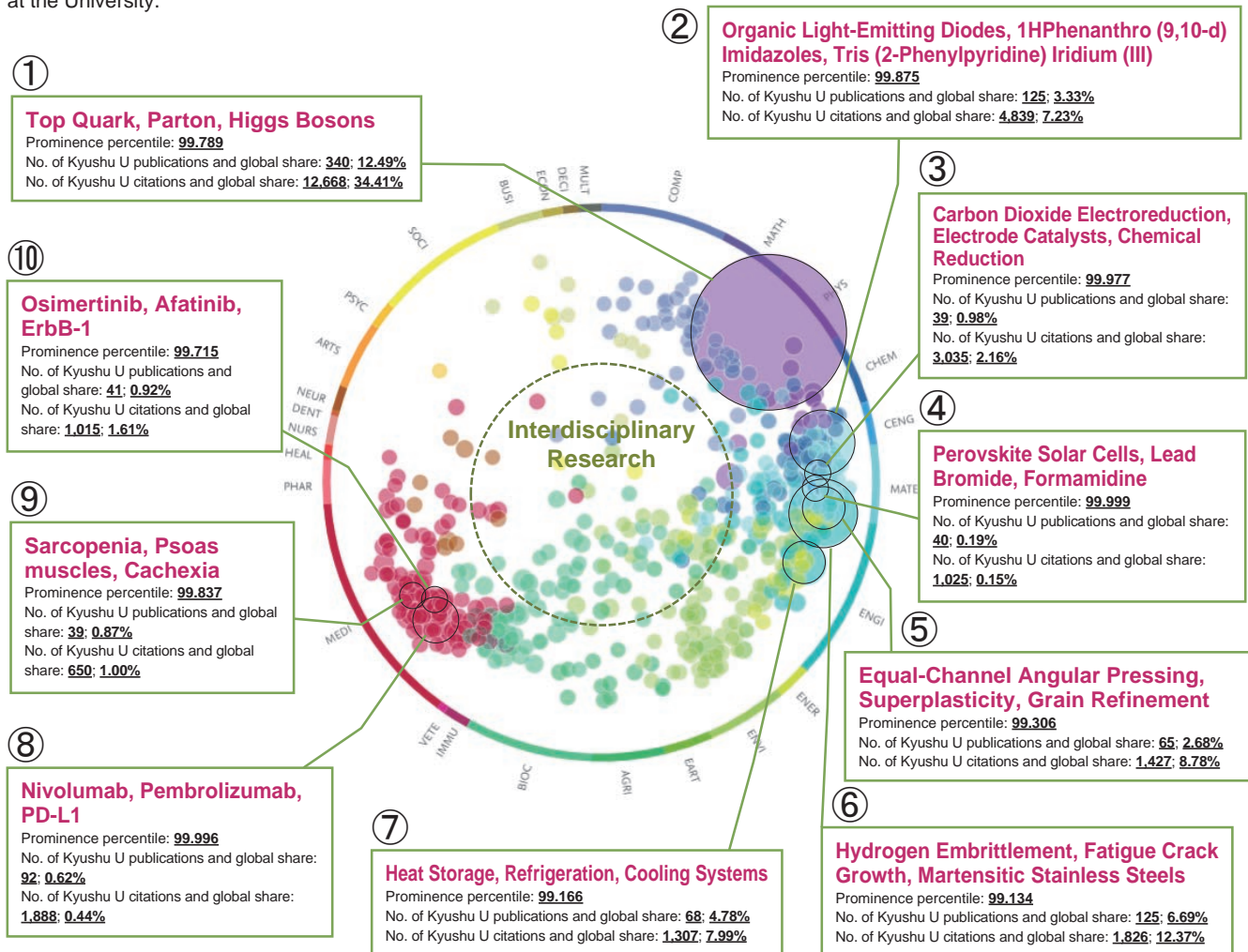
## 9-1. Trends across Kyushu University as a Whole Based on Field Classification of Journals (Continued)

### Topic Prominence: Analysis of University Strengths Based on Co-citation of Publications

#### The Most Prominent 1% of Topics (2016-2020)

Out of the top 1% prominent topics, 1-10 are those with the top 10 highest number of publications

Kyushu university has a high number of publications in these fields, so these can be considered some of the most active research fields at the University.



• An Overview of the Topic Prominence Function  
 Scopus Publications were clustered in to 97,000 topics based on citation links, and rankings were added using "Prominence". New indicator "Prominence" shows the number of references, the number of views and the level of interest. "Prominence" has a correlation with grants, and helps to support more grants for researchers and research managers. The more central the topic in the circle, the more interdisciplinary.  
 (Excerpted from Elsevier Quick Reference Guide, January 2018)  
 Between 2016 and 2020, of all Kyushu University publications, 8,002 research fields emerged as high-profile topics.

- ◆ Perspectives ◆
- Circumference indicates research fields used in Scopus (ASJC 27 major subject areas) by color.
  - Each circle represents a topic.
  - Color of circle: For the fields of the publications that make up the topics, the fields that make the highest proportion of the total are displayed in the color of the fields located around the circumference.
  - Size of circle indicates the output of the entity in the topic.
  - Position of the circle is based upon the ASJC categories of the journals in which the scholarly output is published. Topics closer to the center of the wheel are more likely to be multidisciplinary.

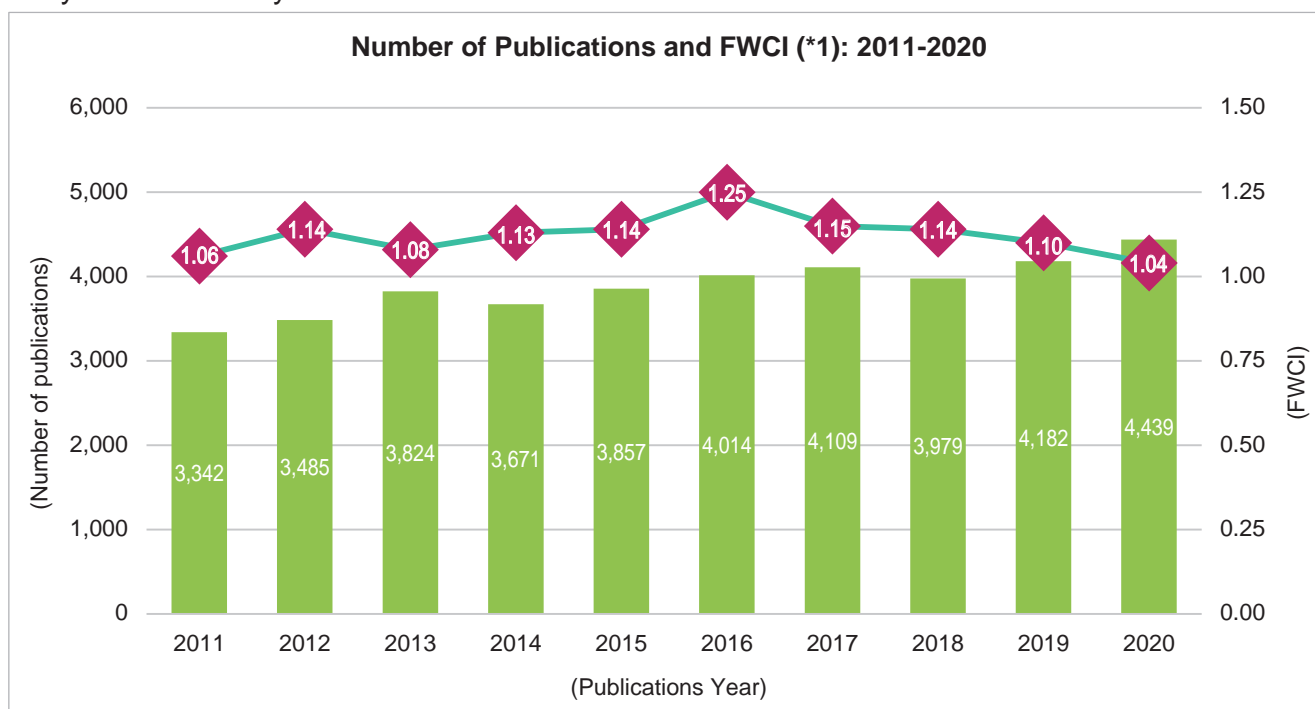
**Metrics Details**  
 Publication Type: Articles and Reviews; Self-citations: included

\*Source: Elsevier's "SciVal" (as of September 2021)

## 9-2. Comparisons of Publication Quantity and Quality

### ■ Number of Publications and FWCI

#### ◆ Kyushu University ◆



#### ◆ Comparison of RU11 (\*2) ◆

##### Scholarly Output

Rank	University	Number
1	The University of Tokyo	48,971
2	Kyoto University	34,911
3	Osaka University	26,556
4	Tohoku University	26,078
5	<b>Kyushu University</b>	<b>20,723</b>
6	Nagoya University	20,280
7	Hokkaido University	19,125
8	University of Tsukuba	14,132
9	Tokyo Institute of Technology	14,044
10	Keio University	12,624

(2016-2020)

##### Citation Count

Rank	University	Citation Count	Average Citations per Publication
1	The University of Tokyo	717,877	14.7
2	Kyoto University	511,390	14.6
3	Osaka University	317,949	12.0
4	Tohoku University	313,769	12.0
5	Nagoya University	253,679	12.5
6	<b>Kyushu University</b>	<b>245,073</b>	<b>11.8</b>
7	Hokkaido University	210,542	11.0
8	Tokyo Institute of Technology	175,182	12.5
9	University of Tsukuba	174,274	12.3
10	Keio University	157,346	12.5

(2016-2020)

##### FWCI

Rank	University	FWCI
1	The University of Tokyo	1.40
2	Kyoto University	1.38
3	University of Tsukuba	1.30
4	Keio University	1.21
5	Nagoya University	1.20
6	<b>Kyushu University</b>	<b>1.14</b>
7	Tokyo Institute of Technology	1.13
7	Osaka University	1.13
7	Waseda University	1.13
10	Tohoku University	1.11

(2016-2020)

(\*1) FWCI (Field-Weighted Citation Impact) is the number of citations received by the publication, divided by the world average for the same type of publications in the same field and same publication year. An FWCI of 1 or higher means that the average impact is higher than the world average.

(\*2) RU11 (Research University 11) is a consortium that aims to develop academia via eleven universities: Hokkaido University, Tohoku University, University of Tsukuba, The University of Tokyo, Waseda University, Keio University, Tokyo Institute of Technology, Nagoya University, Kyoto University, Osaka University, and Kyushu University. RU11 is composed of both national and private universities.

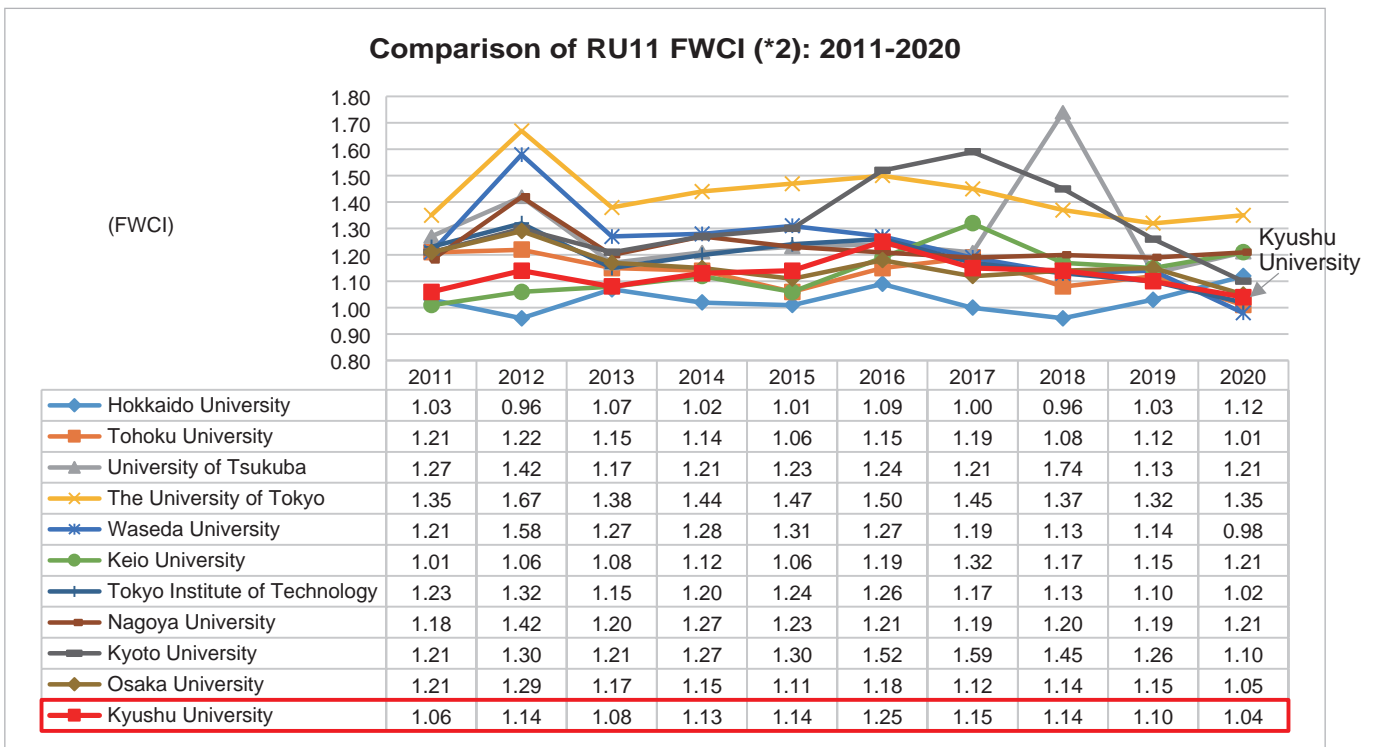
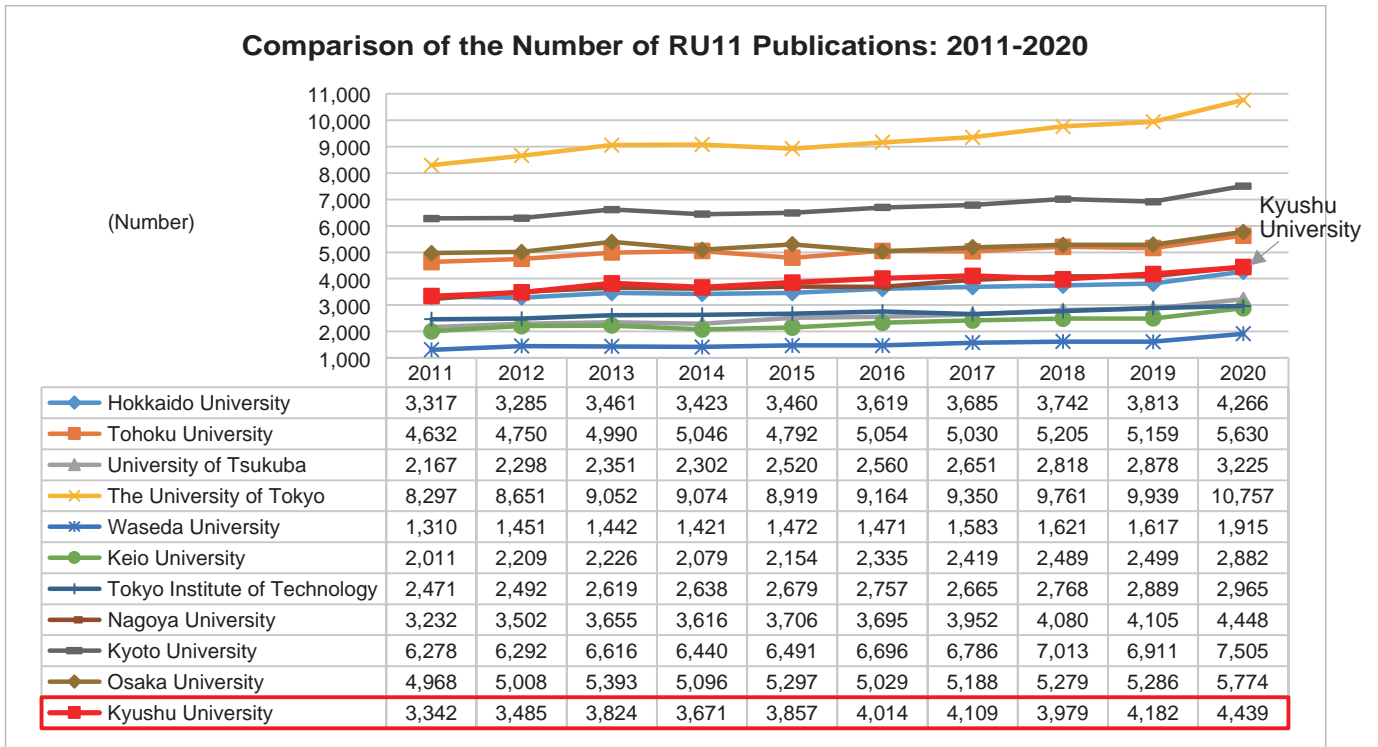
#### Metrics Details

Publication Type: Articles and Reviews; Self-citations: included

\*Source: Elsevier's "SciVal" (as of September 2021)

## 9-2. Comparisons of Publication Quantity and Quality (Continued)

### ◆ Comparison of RU11 (\*1) ◆



(\*1) RU11 (Research University 11) is a consortium that aims to develop academia via eleven universities: Hokkaido University, Tohoku University, University of Tsukuba, The University of Tokyo, Waseda University, Keio University, Tokyo Institute of Technology, Nagoya University, Kyoto University, Osaka University, and Kyushu University. RU11 is composed of both national and private universities.

(\*2) FWCI (Field-Weighted Citation Impact) is the number of citations received by the publication, divided by the world average for the same type of publications in the same field and same publication year. An FWCI of 1 or higher means that the average impact is higher than the world average.

#### Metrics Details

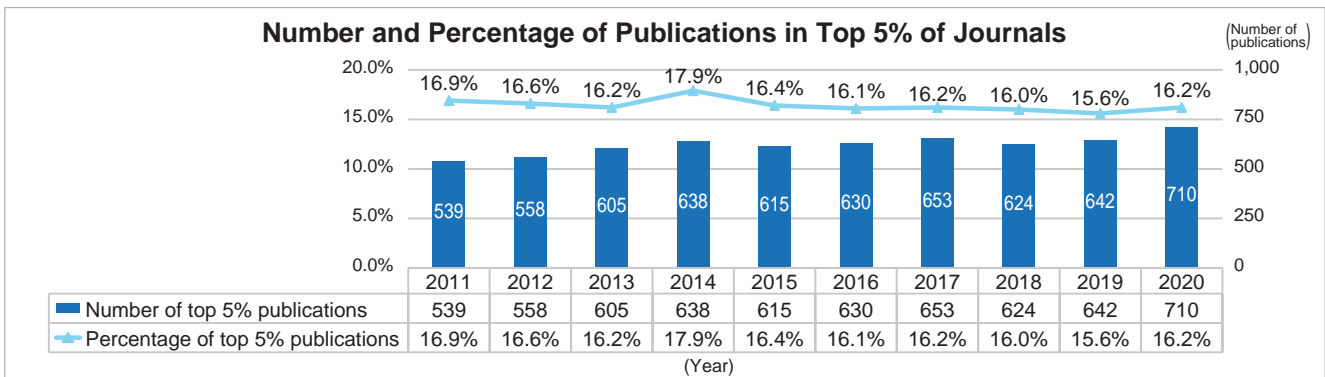
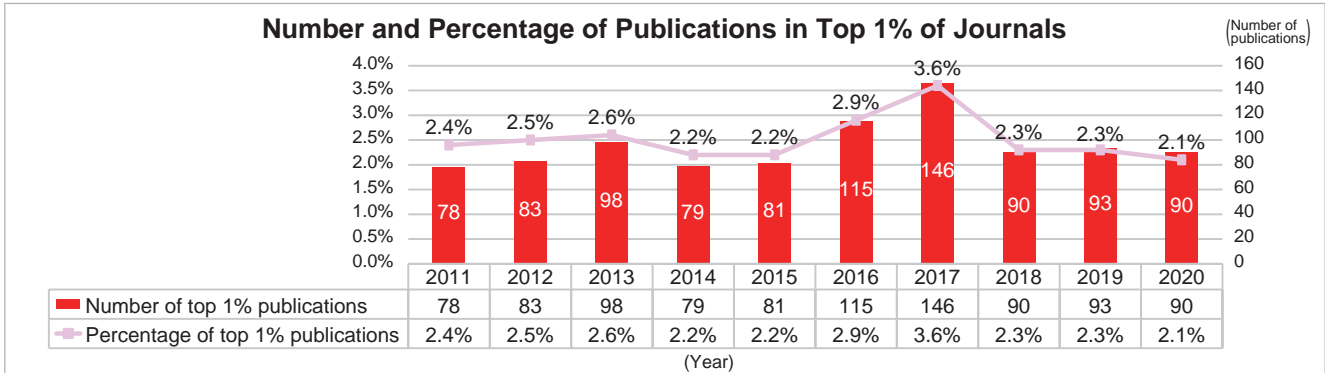
Publication Type: Articles and Reviews; Self-citations: included

\*Source: Elsevier's "SciVal" (as of September 2021)

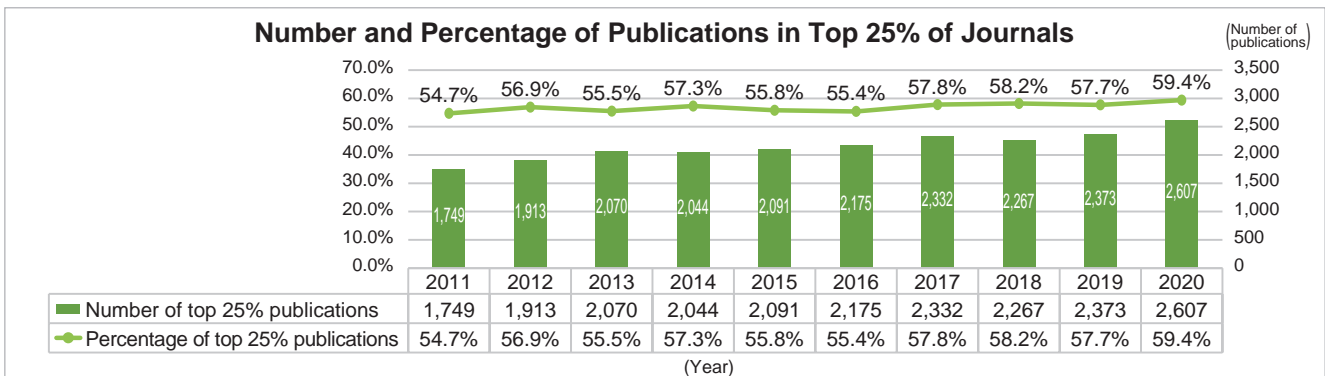
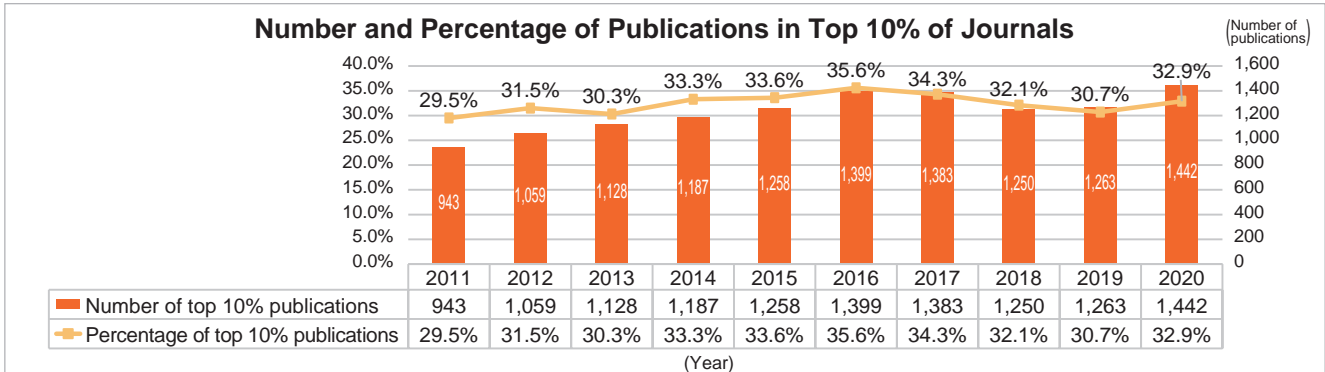
## 9-2. Comparisons of Publication Quantity and Quality (Continued)

### ■ Number and Percentage of Publications Carried in the World's Top Journals

#### ◆ Kyushu University ◆



#### ★ Key Performance Indicators (KPI) for the Designated National University Corporations



• What do we mean by the number and percentage of publications carried in journals in top percentiles?  
 The number and percentage of publications carried in journals in top percentiles, based on citation counts. It indicates the number of publications in the top 1%, 5%, 10%, and 25% of journals based on the number and percentage of citations in Scopus each year.

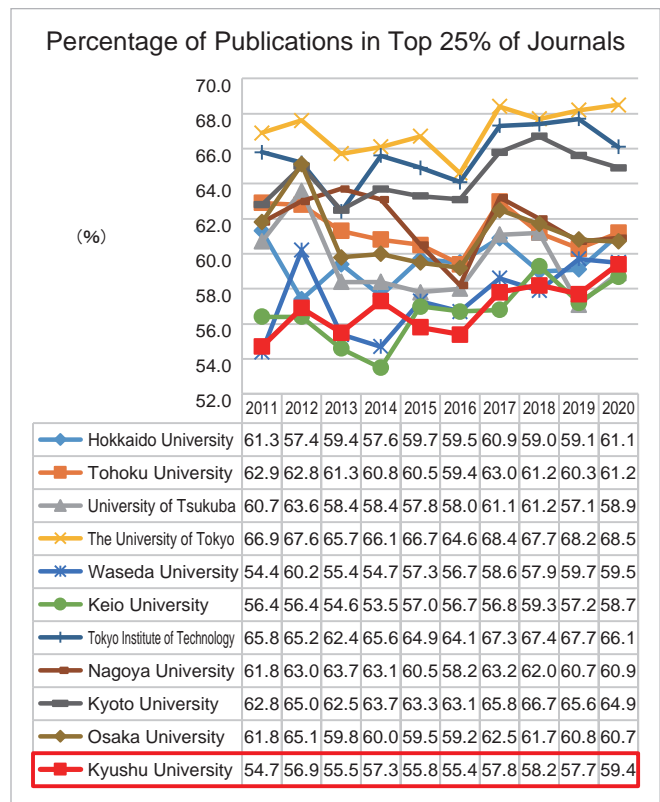
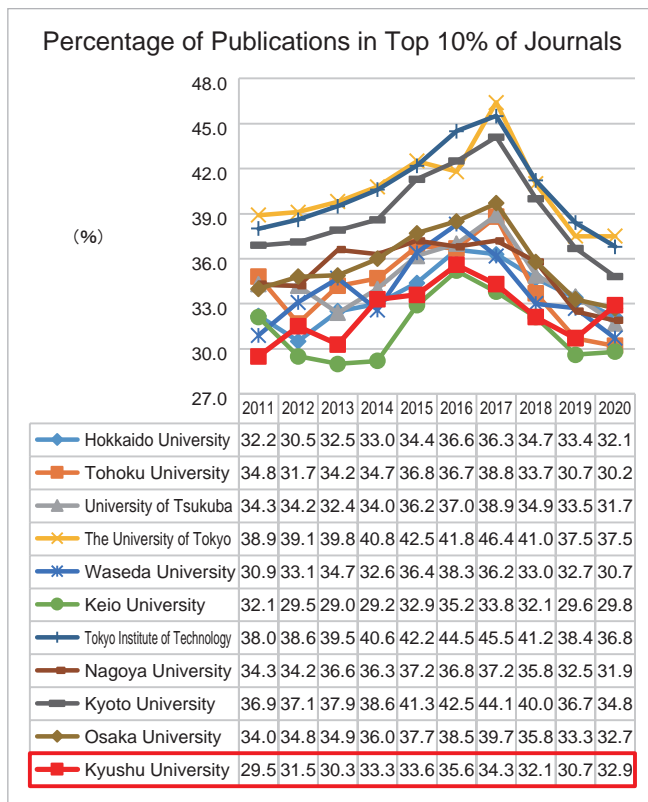
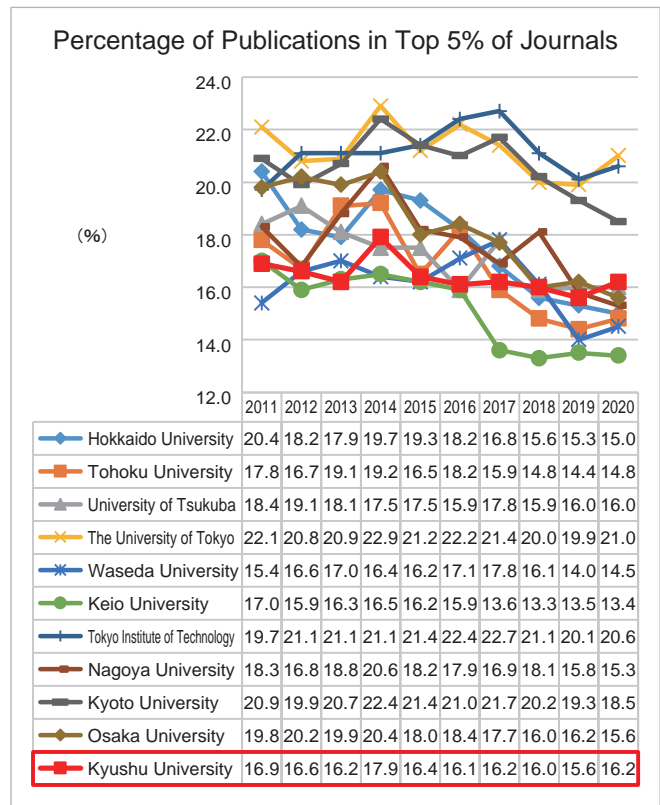
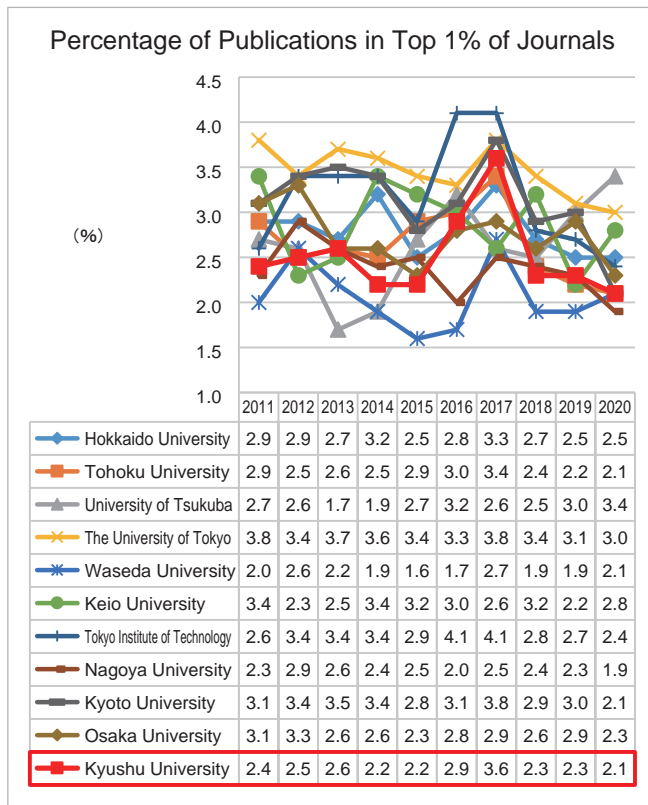
#### Metrics Details

Publication Type: Articles and Reviews; Journal Metric: CiteScore Percentile

\*Source: Elsevier's "SciVal" (as of September 2021)

## 9-2. Comparisons of Publication Quantity and Quality (Continued)

### ◆Comparison of RU11(\*1)◆



(\*1) RU11 (Research University 11) is a consortium that aims to develop academia via eleven universities: Hokkaido University, Tohoku University, University of Tsukuba, The University of Tokyo, Waseda University, Keio University, Tokyo Institute of Technology, Nagoya University, Kyoto University, Osaka University, and Kyushu University. RU11 is composed of both national and private universities.

#### Metrics Details

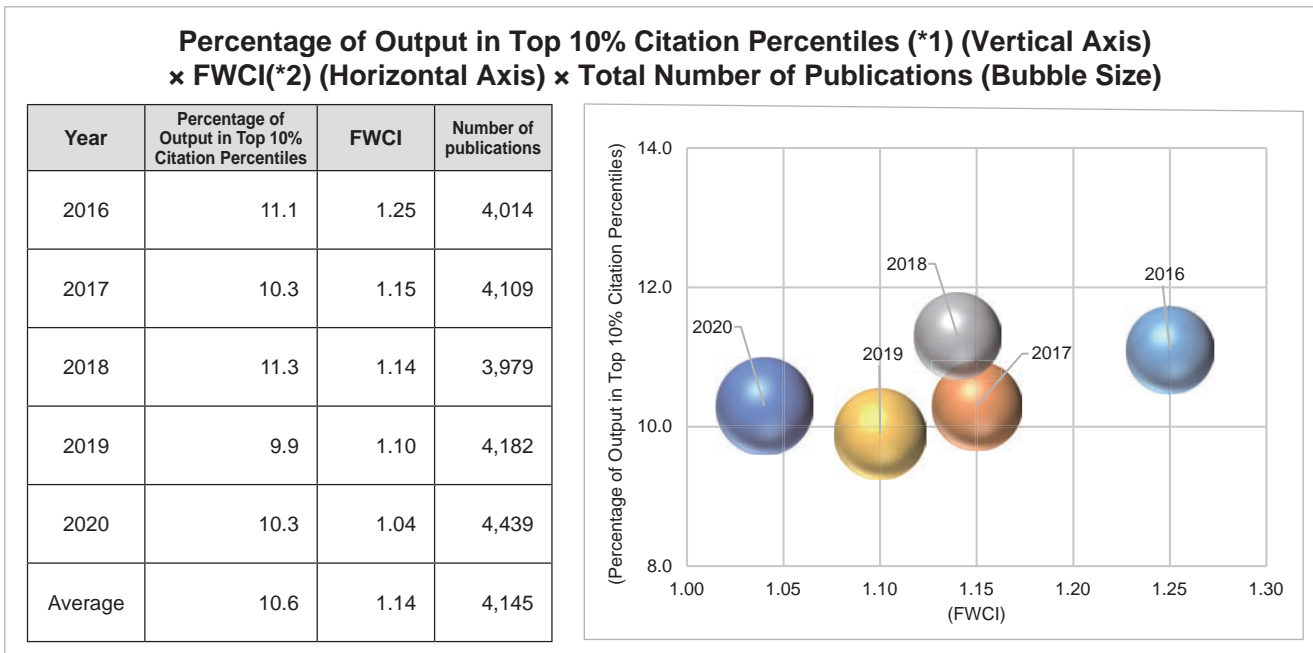
Publication Type: Articles and Reviews; Journal Metric: CiteScore Percentile

\*Source: Elsevier's "SciVal" (as of September 2021)

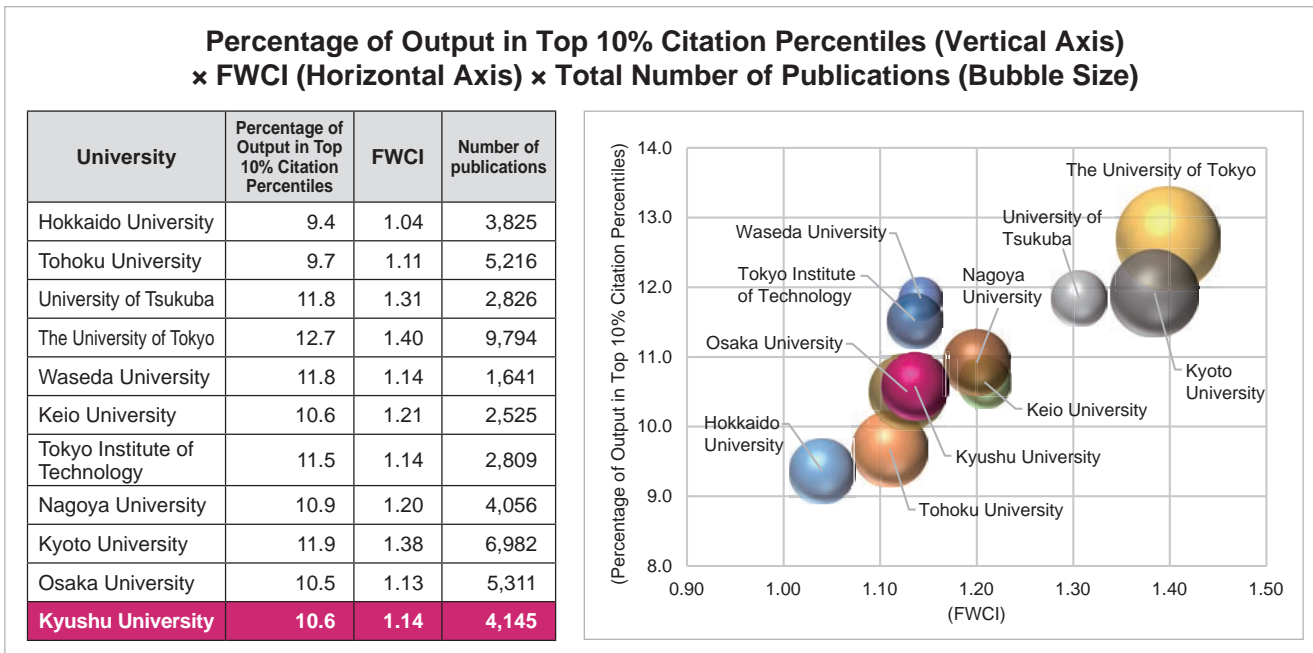
## 9-2. Comparisons of Publication Quantity and Quality (Continued)

### Overall Comparisons of Publication Quantity and Quality

#### ◆Kyushu University◆ (2016-2020)



#### ◆Comparison of RU11(\*3)◆ (2016-2020 Average)



(\*1) Percentage of Output in Top 10% Citation Percentiles

This refers to the number of (field-weighted) publications in top 10% most cited worldwide. This figure indicates the proportion of papers, including the top 10%, based on the annual number of Scopus citations.

(\*2) FWCI (Field-Weighted Citation Impact) is the number of citations received by the publication, divided by the world average for the same type of publications in the same field and same publication year. An FWCI of 1 or higher means that the average impact is higher than the world average.

(\*3) RU11 (Research University 11) is a consortium that aims to develop academia via eleven universities: Hokkaido University, Tohoku University, University of Tsukuba, The University of Tokyo, Waseda University, Keio University, Tokyo Institute of Technology, Nagoya University, Kyoto University, Osaka University, and Kyushu University. RU11 is composed of both national and private universities.

#### Metrics Details

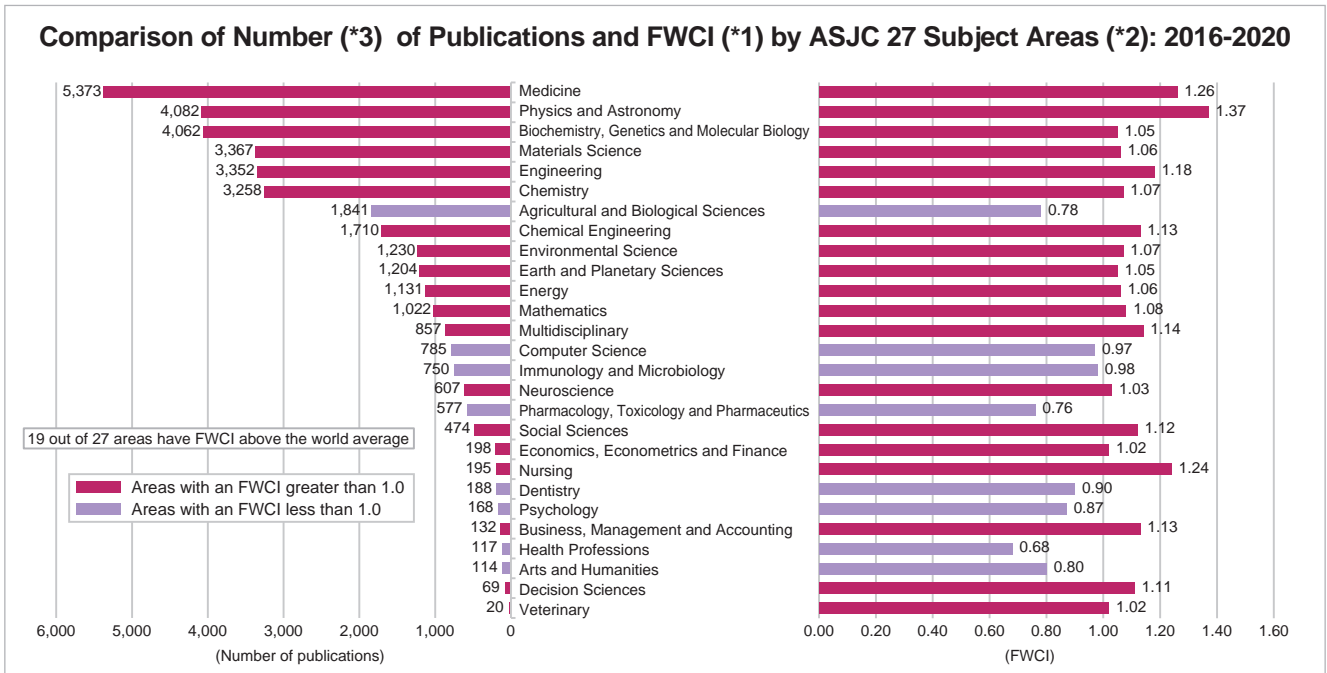
Publication Type: Articles and Reviews; Self-citations: included; Field-weighted: yes

\*Source: Elsevier's "SciVal" (as of September 2021)

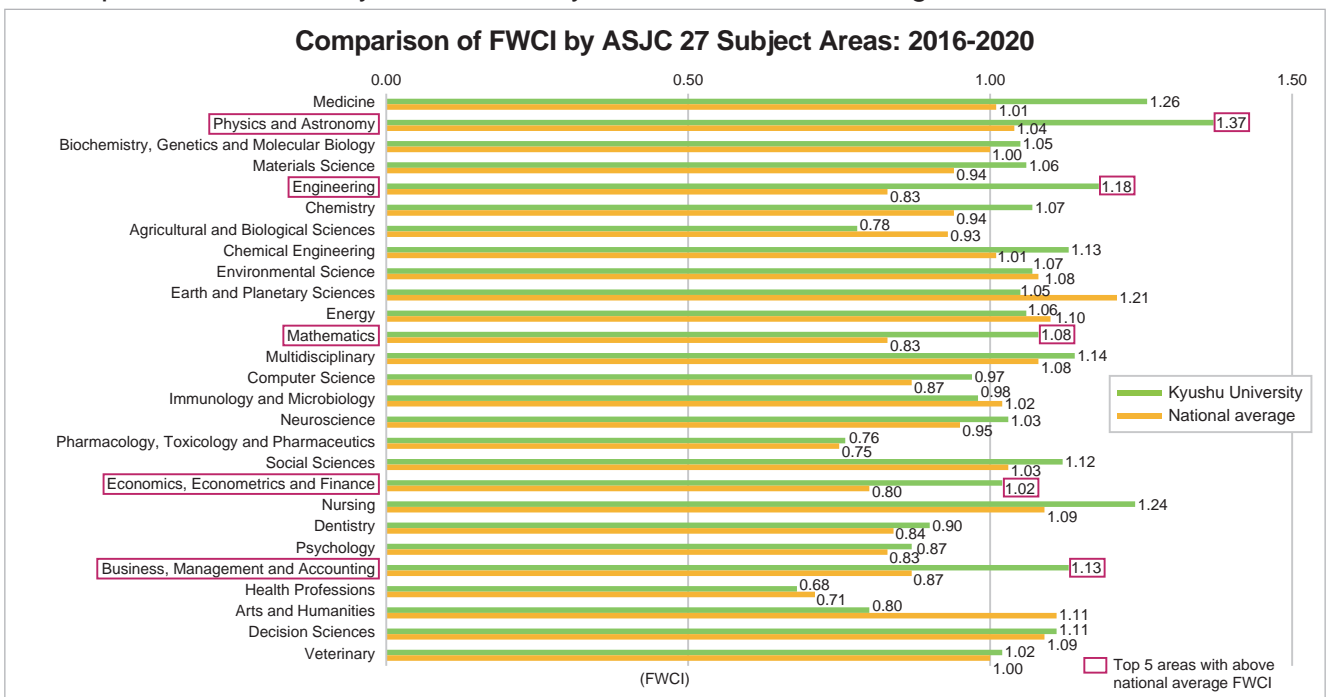
## 9-2. Comparisons of Publication Quantity and Quality (Continued)

### ■ Comparison between Kyushu University and the National Average by ASJC\* 27 Subject Areas: FWCI

#### ◆ Kyushu University ◆



#### ◆ Comparison between Kyushu University and the National Averages ◆



- (\*1) FWCI (Field-Weighted Citation Impact) is the number of citations received by the publication, divided by the world average for the same type of publications in the same field and same publication year. An FWCI of 1 or higher means that the average impact is higher than the world average.
- (\*2) The above journal categories are based on the ASJC 27 (ASJC: All Scopus Science Journal Classification) in Scopus.
- (\*3) A larger number of publications and higher FWCI indicates greater depth of research capability (i.e. that it is one of the university's strengths). A smaller number of publications and high FWCI often indicates that there is a specific faculty member with advanced research ability. In addition, when a specific faculty member belongs to a huge community of researchers, both the number of publications and FWCI are often higher.

#### Metrics Details

Publication Type: Articles and Reviews; Self-citations: included

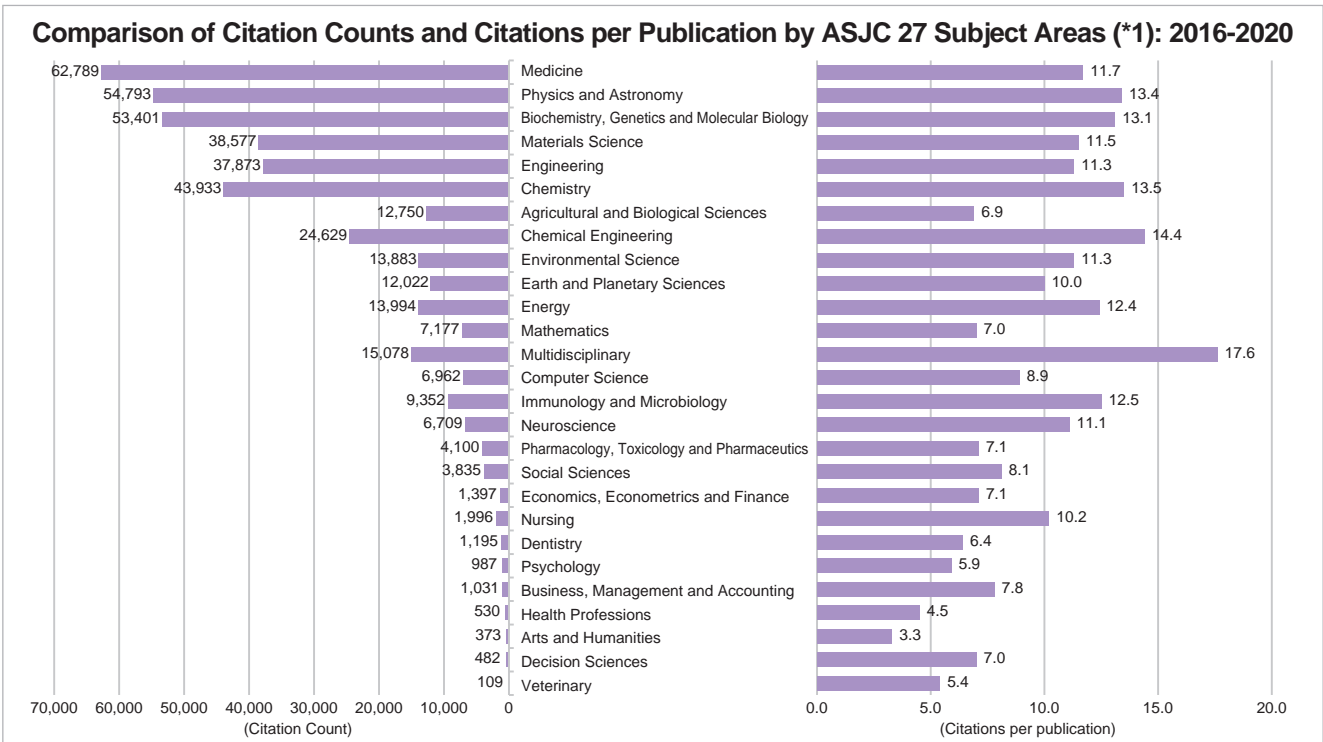
\*Source: Elsevier's "SciVal" (as of September 2021)



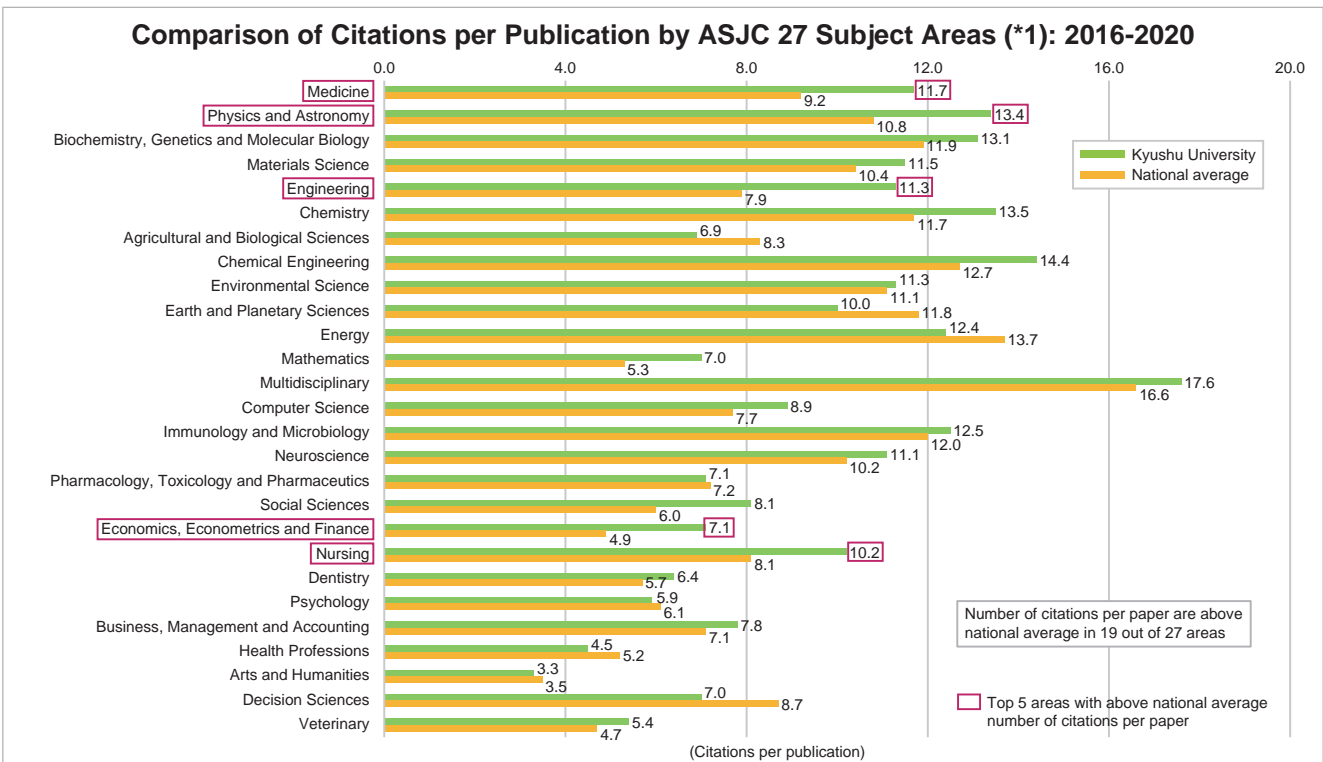
## 9-2. Comparisons of Publication Quantity and Quality (Continued)

### ■ Comparison between Kyushu University and the National Average by ASJC 27 Subject Areas: Citations per Publication

#### ◆Kyushu University◆



#### ◆Comparison between Kyushu University and the National Averages◆



(\*1) The above journal categories are based on the ASJC 27 (ASJC: All Science Journal Classification) in Scopus.

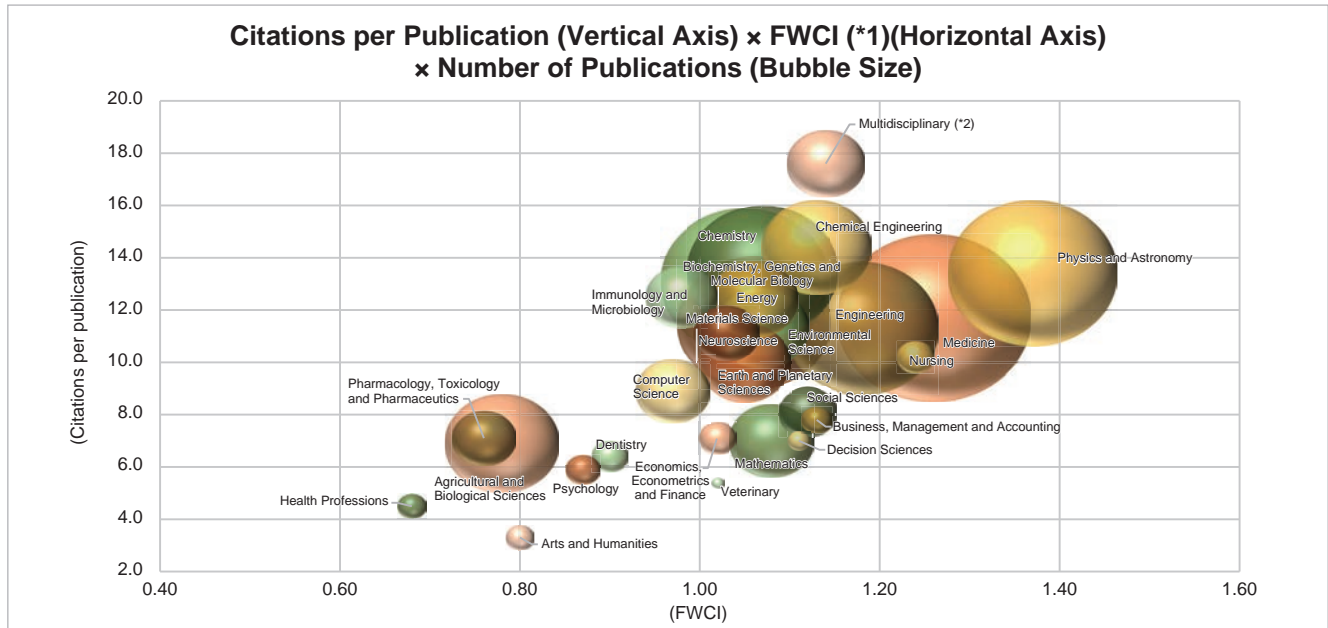
#### Metrics Details

Publication Type: Articles and Reviews; Self-citations: included

\*Source: Elsevier's "SciVal" (as of September 2021)

## 9-2. Comparisons of Publication Quantity and Quality (Continued)

### ■ Comparison of Research Fields of Kyushu University Publications by ASJC 27 Subject Areas: 2016-2020



### ■ Comparison of Research Fields of Kyushu University Publications by ASJC 334 Fields: 2016-2020

#### Top 10 fields with high FWCI (\*3)

Rank	ASJC 27 Subject Areas (*4)	ASJC 334 Fields (*4)	FWCI	Number of publications
1	Nursing	Psychiatric Mental Health	16.42	3
2	Medicine	General Medicine	6.19	195
3	Engineering	Engineering (miscellaneous) (*5)	3.52	201
4	Business, Management and Accounting	Business and International Management	3.26	21
5	Physics and Astronomy	Physics and Astronomy (miscellaneous) (*6)	3.14	389
6	Psychology	Applied Psychology	2.55	10
7	Veterinary	Equine	2.45	1
7	Veterinary	Small Animals	2.45	1
9	Nursing	Advanced and Specialized Nursing	2.25	22
10	Medicine	Hepatology	2.21	149

(\*1) FWCI (Field-Weighted Citation Impact) is the number of citations received by the publication, divided by the world average for the same type of publications in the same field and same publication year. An FWCI of 1 or higher means that the average impact is higher than the world average.

(\*2) Multidisciplinary field is one in which publications are carried in general scientific magazines such as Nature and Science.

(\*3) 140 fields out of a total of 334 fields have FWCI above world average. Fields with high FWCI and a low number of papers indicate a strong ability to perform research amongst staff. Fields with a high FWCI and a high number of papers demonstrate a strong research ability overall (as a University).

(\*4) The 27 subject areas and 334 fields is based on the Scopus ASJC categorization (ASJC: All Science Journal Classification). Translation assistance: NIAD-QE, the National Institution for Academic Degrees and Quality Enhancement of Higher Education (the major field categories are Elsevier translations)

(\*5) Engineering (miscellaneous) refers to topics besides the following: Aerospace Engineering; Automotive Engineering; Biomedical Engineering; Civil and Structural Engineering; Computational Mechanics; Control and Systems Engineering; Electrical and Electronic Engineering; Industrial and Manufacturing Engineering; Mechanical Engineering; Mechanics of Materials; Ocean Engineering; Safety, Risk, Reliability, and Quality; Media Technology; Building and Construction; Architecture.

(\*6) Physics and Astronomy (miscellaneous) refers to topics besides the following: Acoustics and Ultrasonics; Astronomy and Astrophysics; Condensed Matter Physics; Instrumentation; Nuclear and High Energy Physics; Atomic and Molecular Physics or Optics; Radiation; Statistical and Nonlinear Physics; Surfaces and Interfaces.

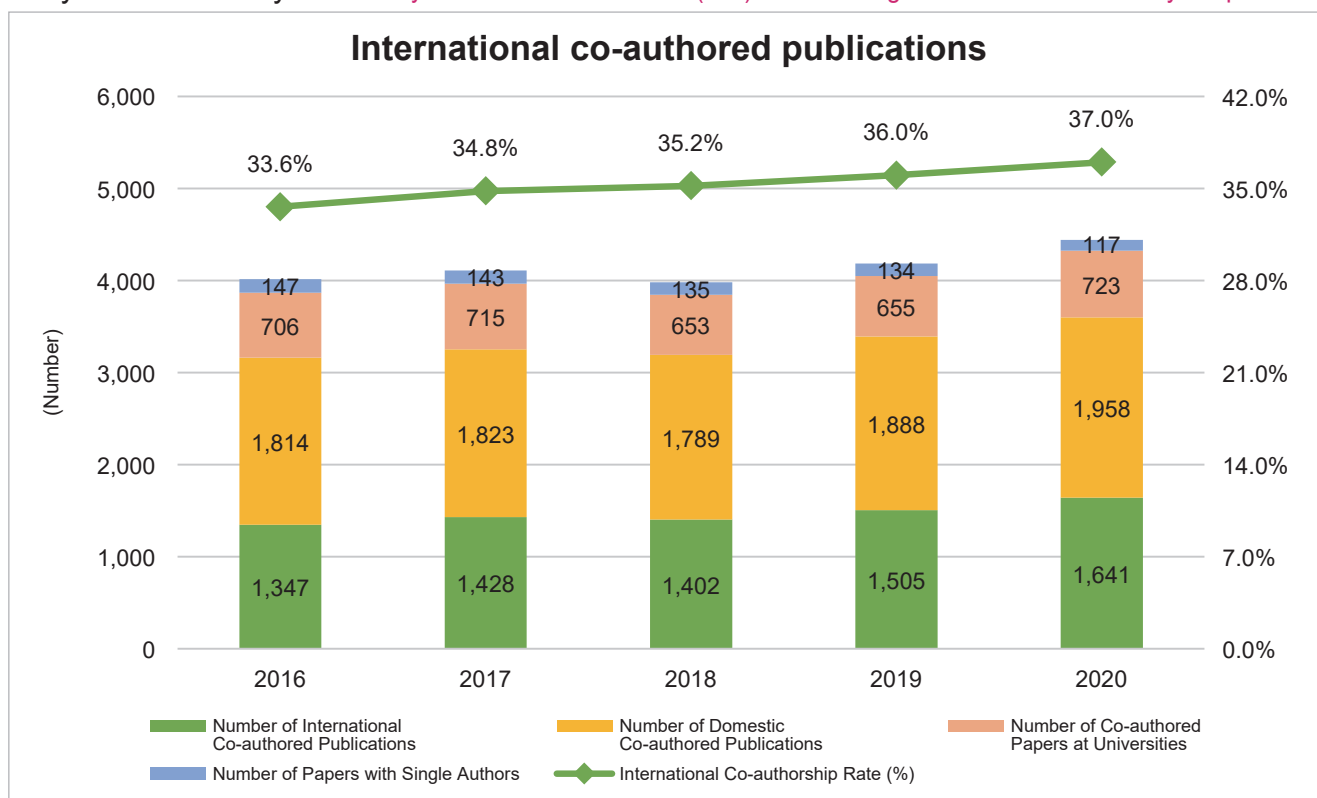
#### Metrics Details

Publication Type: Articles and Reviews; Self-citations: included

\*Source: Elsevier's "SciVal" (as of September 2021)

## 9-3. International Co-authored Publications

◆Kyushu University◆ ★Key Performance Indicators (KPI) for the Designated National University Corporations



◆By Faculty◆ (2016-2020)

Rank	Faculty	Number of International Co-authored Publications (Total)	International Co-authorship Average Rate (%)
1	Faculty of Engineering	1,201	34.1
2	Faculty of Science	1,051	58.0
3	Faculty of Agriculture	706	41.6
4	Faculty of Medical Sciences	637	15.8
5	Faculty of Engineering Sciences	403	42.8
6	Faculty of Information Science and Electrical Engineering	329	37.1
7	Faculty of Pharmaceutical Sciences	166	26.7
8	Faculty of Dental Science	157	23.6
9	Faculty of Social and Cultural Studies	70	49.0
10	Faculty of Design	57	21.9
11	Faculty of Human-Environment Studies	50	36.5
12	Faculty of Economics	42	34.2
13	Faculty of Mathematics	37	23.6
14	Faculty of Languages and Cultures	5	21.7
15	Faculty of Law	4	50.0
16	Faculty of Humanities	3	10.7

### Metrics Details

Publication Type: Articles and Reviews; Field-weighted: no

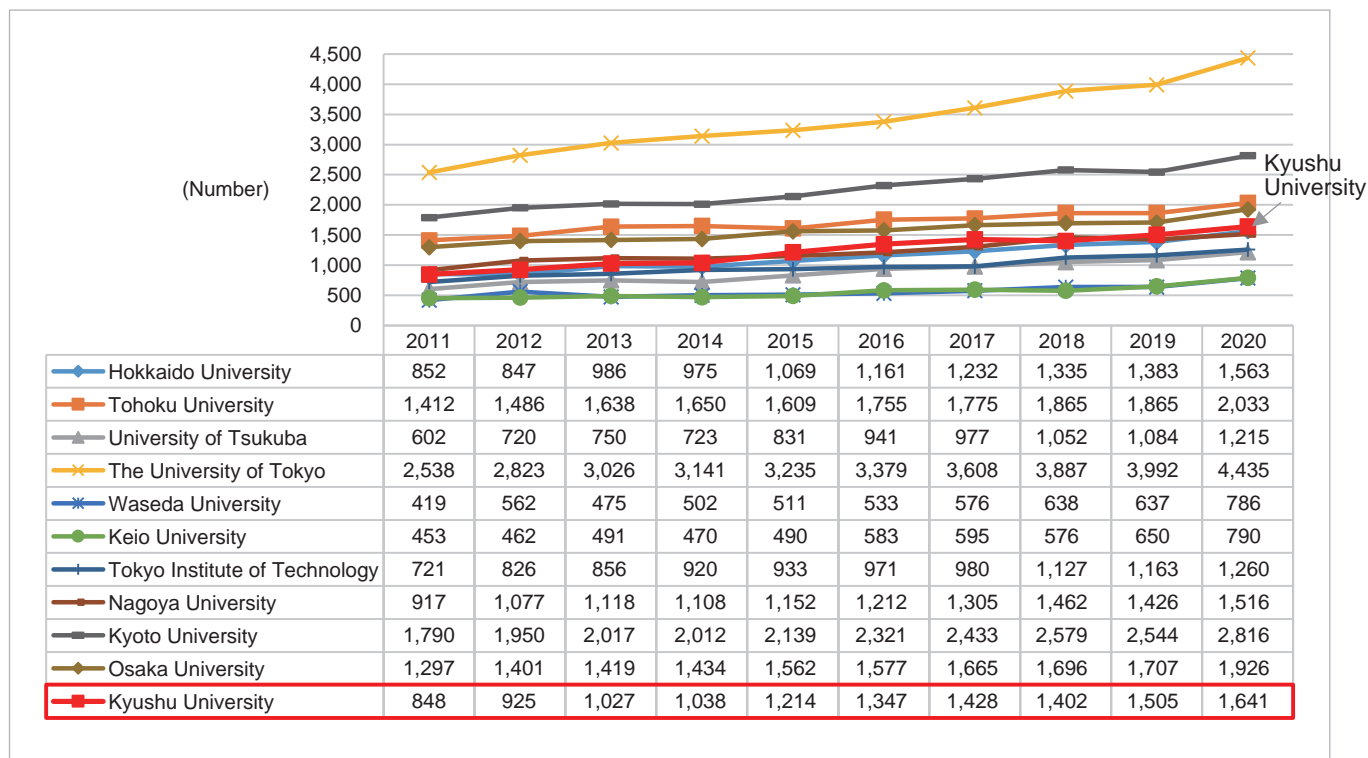
• Number of International Co-authored Publications (Total) includes articles and reviews which published in the period 2016-2020 by our research fellows as of April 1, 2021. (Includes publications from when employed at other organizations during the period 2016 to 2020.)

\*Source: Elsevier's "SciVal" (as of September 2021)

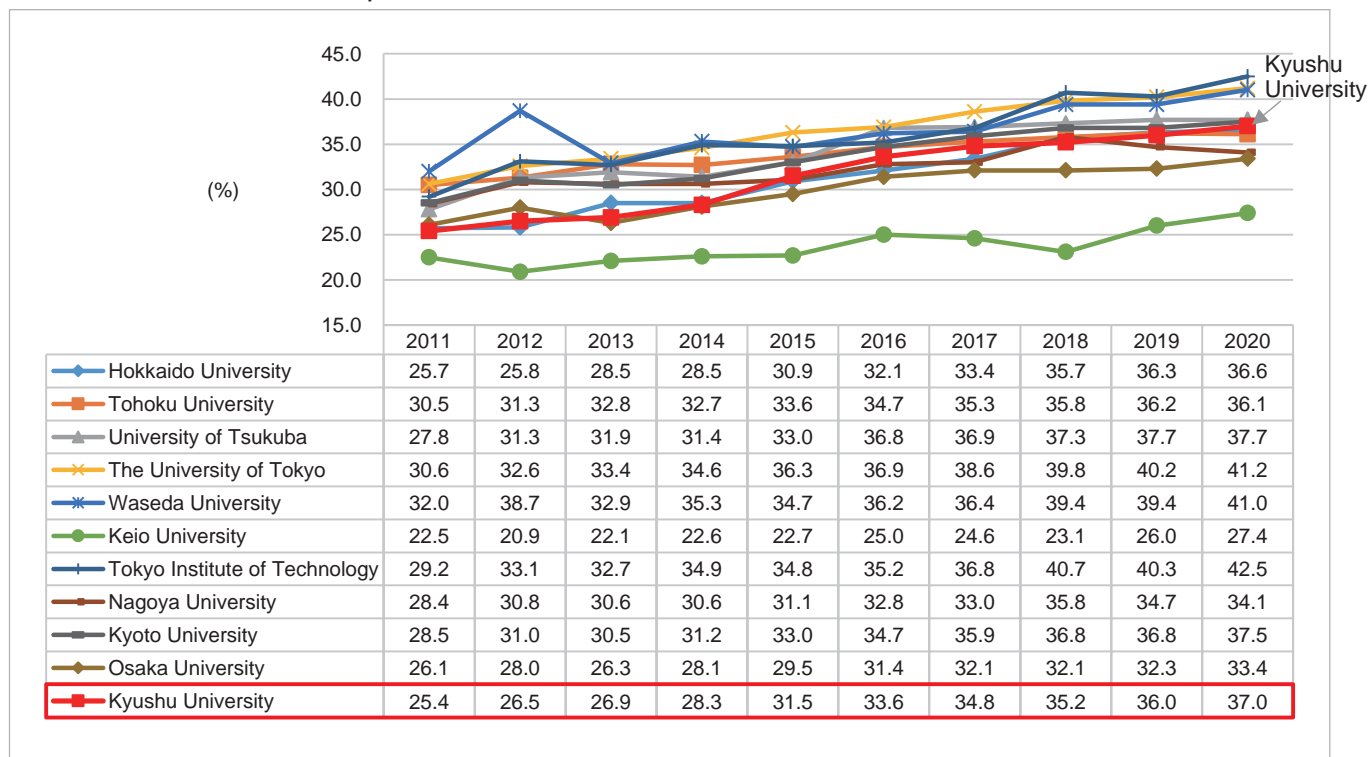
### 9-3. International Co-authored Publications (Continued)

#### ◆Comparison of RU11 (\*1)◆ (2011-2020)

#### Number of International Co-authored Publications



#### International Co-authorship Rate



(\*1) RU11 (Research University 11) is a consortium that aims to develop academia via eleven universities: Hokkaido University, Tohoku University, University of Tsukuba, The University of Tokyo, Waseda University, Keio University, Tokyo Institute of Technology, Nagoya University, Kyoto University, Osaka University, and Kyushu University. RU11 is composed of both national and private universities.

#### Metrics Details

Publication Type: Articles and Reviews; Field-weighted: no

\*Source: Elsevier's "SciVal" (as of September 2021)

### 9-3. International Co-authored Publications (Continued)

#### ■ International Co-authorship with Institutions Worldwide: 2016-2020

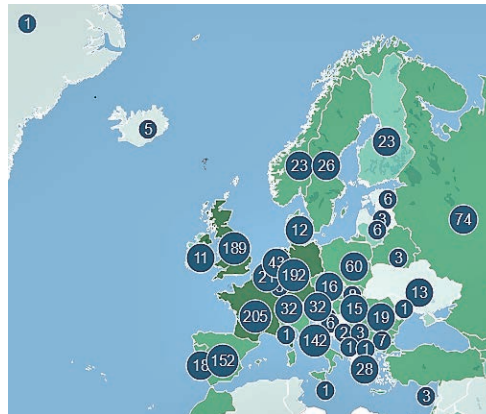
##### North America

2,888 papers co-authored with 677 institutions



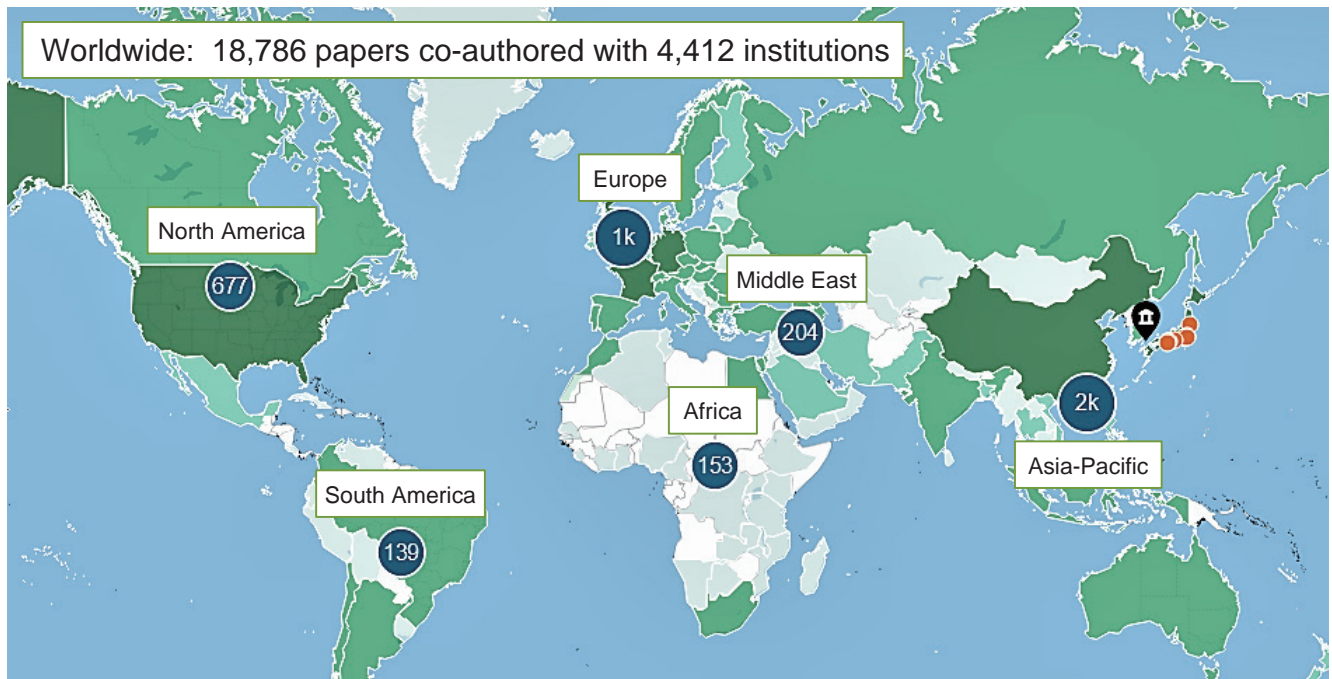
##### Europe

2,966 papers co-authored with 1,415 institutions



##### Asia-Pacific

16,764 papers co-authored with 1,824 institutions



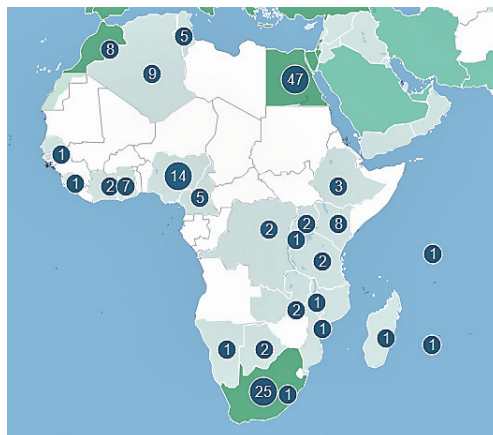
##### South America

663 papers co-authored with 139 institutions



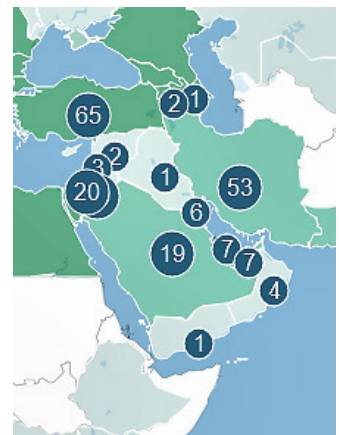
##### Africa

1,155 papers co-authored with 153 institutions



##### Middle East

873 papers co-authored with 204 institutions



• Figures on the maps represent the number of institutions.

##### Metrics Details

Publication Type: All

\*Source: Elsevier's "SciVal" (as of September 2021)