

# STATISTICS ON THE PAPERS PUBLISHED IN THE CANADIAN JOURNAL OF PURE AND APPLIED SCIENCES FROM 2007 TO 2021

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## ABSTRACT

This paper reviews the articles published in the Canadian Journal of Pure and Applied Sciences (CJPAS) for the last fifteen years (15 volumes) from 2007 to 2021. The CJPAS authors relate to all the geographic places such as the North and South America, Europe and Asia, Oceania and Africa. Large contributions to this Journal are made by many authors of such countries as the Australia, Canada, USA, China, Russia, Japan, Great Britain, Switzerland, France, Italy, Ireland, Germany, Greece, Turkey, Brazil, Colombia, Korea, South Africa, NE Africa, Cameroun, Algeria, Morocco, Venezuela, Uruguay, United Arab Emirates, Saudi Arabia, Sultanate of Oman, Qatar, Kuwait, Malaysia, Indonesia, Taiwan, Fiji Islands, Egypt, Jordan, Israel, Iraq, Iran, Azerbaijan, India, Bangladesh, Pakistan, Sri Lanka, Macau, Ghana, and Nigeria. Since 2007 as many as 641 high-quality papers were published in the CJPAS, an international peer-reviewed Journal. On average it is ~ 43 papers annually and ~ 15 papers per issue (three issues per year in February, June and October) Most of the papers published in this multidisciplinary journal can be related to biology, chemistry, engineering, material sciences, informatics, mathematics, medicine, and physics. Using the last five years (volumes 11 to 15) the number of published papers per issue on average is ~ 9 and the average duration time between submission and acceptance of a paper is ~ 67 days, i.e. larger than two months.

Keywords: CJPAS, statistics, geographic occupation, research areas.

## INTRODUCTION

The Canadian Journal of Pure and Applied Sciences (CJPAS; Print ISSN: 1715-9997; Online ISSN: 1920-3853) is published by the SENRA Academic Publishers, Burnaby now Surrey, British Columbia, Canada. This Journal has published its first issue of the first volume in 2007 (see some selected title covers of CJPAS Figs. 1-16). This international peer-reviewed Journal is a multidisciplinary one and therefore, it publishes highquality papers related to biology, chemistry, zoology, ecology, life sciences, mathematics, informatics and computers, economics, physics, engineering, technical sciences, material sciences, astronomy, and researches coupling the aforementioned disciplines. However, the CJPAS Journal was also registered as an open-access journal in the biological and physical sciences.

In 2021, already the fifteenth volume in the three issues (February, June, and October) was successfully published. The first issue of the first volume was released in 2007. As a result, 641 papers were totally published in the Canadian Journal of Pure and Applied Sciences (CJPAS) for the last fifteen years (15 volumes) from 2007 to 2021. On average it is  $\sim$  43 published papers annually and  $\sim$  15 published papers per issue. The Editor-in-Chief is a

Canadian Citizen Professor Zaheer Khan (Ph.D.) completed Postdoctorate from Department of Biological Sciences, Simon Fraser University, Burnaby, British Columbia during all these fifteen years of publication. The published papers touch all the aforementioned research arenas. The CJPAS authors relate to all the geographic places such as the North America, South America, Europe, Asia, Oceania, and Africa. The papers' distribution from as many as 51 countries around the Globe are listed in Table 2 of the following section. This manifests that these 51 countries have already contributed to the Journal. The published papers were submitted online via the online submission page (http://www.cjpas.net/article-submission) or directly to the Editor-in-Chief of the CJPAS Journal.

Let's introduce below the statistics on the papers published in the CJPAS Journal. The following section provides the distribution of published papers per issue for volumes 1 to 15. Also, the distribution of countries, whose researchers have contributed to this Journal, and the distribution of published papers among several research fields. For the last five years (volumes 11 to 15) there are calculations of average duration time between the submission and acceptance of the papers published in these five volumes.

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#### The Statistics

First of all, it is necessary to provide the statistics on the published papers in each issue of three (February, June, and October) for the first fifteen volumes released from 2007 to 2021 in the Canadian Journal of Pure and Applied Sciences (CJPAS). These data are listed in Table 1. The first column of the table provides information on the volume, year, and number of published papers in the volume. The second and third columns provide the distribution of published papers among the three issues. Using the obtained data listed in Table 1, the reader can calculate that the total number of published papers in all 15 volumes is 641. This is  $\sim$  43 published papers annually and  $\sim$  15 published papers per issue on average.

Table 1. The number of papers published in the CJPAS in the 15 volumes for the first fifteen years from 2007 to 2021.

Volume, (year)	Issue 1	Number of published
Total number of	Issue 2	papers in issue
published papers	Issue 3	
Volume 1	-	-
(2007)	-	-
17	October	17
Volume 2	February	27
(2008)	June	21
68	October	20
Volume 3	February	18
(2009)	June	17
52	October	17
Volume 4	February	16
(2010)	June	13
42	October	13
Volume 5	February	16
(2011)	June	20
55	October	19
Volume 6	February	20
(2012)	June	19
58	October	19
Volume 7	February	14
(2013)	June	18
57	October	25
Volume 8	February	19
(2014)	June	19
60	October	22
Volume 9	February	17
(2015)	June	25
58	October	16
Volume 10	February	18
(2016)	June	12
41	October	11
Volume 11	February	11
(2017)	June	13
34	October	10
Volume 12	February	11
(2018)	June	11
32	October	10
Volume 13	February	7
(2019)	June	8
22	October	7

Volume 14	February	5
(2020)	June	8
20	October	7
Volume 15	February	7
(2021)	June	9
25	October	9

Table 2 lists all the countries, authors of which have contributed to the CJPAS Journal for the last 15 years from 2007 to 2021. The first column of the second table lists the geographic places in the alphabetic order. As a results, the first series of countries belong to the African continent. There are as many as 12 African countries listed in the second column of the table, many authors of which have already represented their researches with the CJPAS Journal. It can be found in the third column that there are as many as 138 papers by authors of various States of Nigeria. Indeed, Nigeria represents one of the most populated countries of Africa. The population of Nigeria is growing that results in a possibility to involve more educated people in different research arenas. It is natural that researchers from Nigeria prefer to publish their investigations in English in North American Journals. The official language of Nigeria to communicate among the Nigerian States is English because there are over 525 native languages spoken in Nigeria. Due to the globalization, the communication in the English language is much more popular in the country's urban communities of Nigeria in comparison with the rural areas.

As a result of development of cutting-edge technologies, Nigeria now represents one of the countries with rapid development of space technologies. The National Space Research and Development Agency (NASRDA) located in the Nigerian capital city of Abuja in the Lugbe district is the national space agency of Nigeria. The NASRDA has had cooperation in space technology with China, Russia, Ukraine, and the United Kingdom. With possible collaboration with Ukraine, up to 2030 Nigeria can realize the advantage of its geographic location to launch into near-equatorial orbit by an indigenous developed space launcher from a national spaceport. The NASRDA is one of the most advanced space agencies in Africa, boasting of four satellites and very grand ambitions. It is necessary to mention here that Nigeria's satellites have been praised for their high-resolution images. However, today all of Nigeria's four satellites have used foreign assistance. In addition, The NASRDA has planes by 2030 to launch both the first Nigerian astronaut(s) into orbit and a probe to the Moon. For this purpose, since 2000s the NASRDA has negotiation with both China and Russia. On the Nigerian space programs, one can read the paper by Isoun (2008). Some aspects of development of research directions in Nigeria are touched in the papers by James et al. (2014) and by Ohunene and Ebele (2014). The recent news on the space in Africa can be found here at www.spaceinafrica.com.

Let's return to the second table and the reader can find in the third column that authors from Egypt (41 papers), Ghana (19 papers), and South Africa (13 papers) have also significant contributions to the CJPAS Journal. Indeed, the contribution of these African countries is significantly smaller in comparison with 138 published papers by authors of Nigeria.

Table 2. The distribution of the published papers by the geographic places in the alphabetic order. It is worth noting here that one published paper, for instance, by several authors from the USA, Pakistan, Egypt, Australia, and Ireland simultaneously increases the third-column number of published papers for each of the countries.

Geographic	Countries	Number of
place		published papers
Africa	Algeria	2
	Benin	1
	Cameroon	5
	Chad	1
	Egypt	41
	Eritrea	1
	Ghana	19
	Malawi	1
	Morocco	4
	Nigeria	138
	Rwanda	5
	South Africa	13
Asia	Bangladesh	12
1 1010	China (Macao)	8
	India	97
	Indonesia	1
	Iraq	12
	Iran	10
	Israal	1
	Japan	5
	Jordan	10
	Kuwoit	17
	Nuwan	$\frac{1}{20}$
	Omen	29 5
	Ollian	5 01
	Pakistali	91 1
	Qalar Soudi Arobio	1
	Saudi Arabia	29
	South Korea	1
	Sri Lanka	2
	That have 1	1
	I nailand	1
Г	United Arab Emirates (UAE)	25
Europe	Azerbaijan	2
	Belarus	3
	Bulgaria	1
	France	1
	Germany	6
	Great Britain (UK)	21
	Greece	3
	Ireland	5
	Italy	2
	Russia	27
	Switzerland	1
	Turkey	5

North	Canada	24
America	The United States of America (USA)	21
Oceania	Australia Fiji Islands	6 2
South America	Brazil Colombia Uruguay Venezuela	8 1 2 6

It is also possible to compare with the Asian countries listed in Table 2. India (97 papers) and Pakistan (91 papers) are here the leaders of the Asian counties. The contributions from the many other Asian countries are comparable with those from the aforementioned African countries such as Egypt, Ghana, and South Africa, namely United Arab Emirates (25 papers), Saudi Arabia (29 papers), Malaysia (29 papers), Jordan (19 papers), Iran (19 papers), Bangladesh (12 papers), and Iraq (12 papers). The contributions from the aforementioned African and Asian countries are comparable with those from the European countries such as Russia (27 papers) and Great Britain (21 papers) as well as the North American countries such as Canada (24 papers) and the United States of America (21 papers). According to the data represented to the end of the second table, there are papers by several authors from Oceania (Australia and Fiji Islands) and South America (Brazil, Colombia, Uruguay, and Venezuela).

The development of sciences in Russia, Great Britain, Canada, and the United States of America is well-known and there is no any necessity to focus on it in this paper. However, it is possible to mention the development of sciences in the developing countries such as India and Pakistan because their contributions to the CJPAS Journal are more significant. The book by Khan (2004) discusses education, science, and technology in developing countries. The paper by Naim (2001) is concerned with the development of science and technology in Pakistan. The role of science in development of India was touched in the paper by Radhakrishna (2009). More recent study on the development of science, technology, and innovation in India can be found in the book by Ustyuzhantseva (2015) that is published in the Russian language. In 2020, one paper by Shavlay (2020) also published in the Russian language analyzes innovation development model used in India. This paper studies India's positions in world innovation ratings and notes the unique features of the Indian model of innovative development associated with the government strategy adjusted to the socio-economic, cultural, and civilizational features of India.

Let's return to the main subject of this paper, i.e. to the statistical data for the Canadian Journal of Pure and Applied Sciences (CJPAS). This scientific Journal was registered in biological sciences and is now indexed in the oldest database of scientific Journals such as the Chemical Abstracts Service (CAS) representing a division of the American Chemical Society. Table 3 lists the main, wellknown, and reputable databases of scientific journals. These four databases such as the CAS, PubMed, Scopus, and Web of Science (WoS) were originated at different times, according to Table 3. The oldest of them is the CAS founded more than one hundred years ago in 1907. It is a. The CAS located in Columbus, Ohio, United States represents a source of chemical information. The other database founded in the last century in the United States is the PubMed, a free search engine accessing primarily the MEDLINE database of references and abstracts on life sciences and biomedical topics. The United States National Library of Medicine (NLM) at the National Institutes of Health maintains this database as a part of the Entrez system of information retrieval. However, both the CAS and the PubMed have not their own impact factors because these databases include only chemical, biological, life sciences, and biomedical topics, and relevant. More young databases of scientific Journals such as the Scopus and the WoS include both the aforementioned disciplines and Economics, Politics, Mathematics, Engineering, Material Sciences, Social Sciences, Informatics, Astronomy, and Physics. As a result, they have their own impact factors (IFs) which slightly differ from each other, namely it is said that the Scopus IF is slightly higher than the other. The reader can find some other databases of scientific journals that also have their own IFs calculated in a different way to those used by both the Scopus and the WoS. However, these databases are nor well-accepted by the scientific community and therefore, they are not listed in Table 3.

Table 4 lists the distribution of all the published 641 papers in volumes 1 to 15 among the disciplines such as Chemistry, Astronomy, Biology, Economics. Engineering, Informatics, Material Sciences, Mathematics, Medicine, and Physics. The reader can find in the last row of this table that the total number of papers is significantly larger than the number (641) of all the published papers in volumes 1 to 15. This is natural because the same paper related to, for instance, bioengineering must increase the number of two disciplines such as Biology and Engineering (and possible Material Sciences as well). One paper related to biophysics must also increase the number of two disciplines such as Biology and Physics (Mathematics and Material Sciences), and so on. According to the last line of table 4, almost each second paper of published 641 papers can be related to the biological sciences. So, the leading discipline is Biology (at least 306 published papers can be related to it), the second place is for Chemistry (150 papers), then Physics (138), Engineering (111), Material Sciences (104), Mathematics (103), Medicine (78), and Informatics (58). There are also a few

published papers that can be also related to Astronomy (14) and or Economics (8).

Table 3. The main, well-known, and reputable databases of scientific journals.

Database	Foundation	Impact
(Website)	year	factor
	(country)	
Chemical Abstracts Service	1907	no
(https://www.cas.org)	(USA)	
PubMed	1996	no
(https://pubmed.ncbi.nlm.nih.gov)	(USA)	
Scopus	2004	yes
(https://www.scopus.com)	(Holland)	
Web of Science	2016	yes
(https://clarivate.com/	(Great	
webofsciencegroup/	Britain)	
solutions/web-of-science);		
former ISI Web of Knowledge	1956	

Table 4. The distribution of all the published papers in the first fifteen volumes among the subjects. The first column lists the first fifteen volumes of the CJPAS and the rest columns contain numbers of published papers that can be related to the listed subjects. If one paper relates to several subjects, for instance, Mathematics, Economics, and Informatics, the number will be increased for each subject.

Volume	Astronomy	Biology	Chemistry	Economics	Engineering	Informatics	Material sciences	Mathematics	Medicine	Physics
1	1	11	3		2	1	1	2	7	2
2		39	14	1	8	6	11	4	7	13
3		22	12	2	6	3	7	10	6	15
4	1	21	11		8	2	9	5	4	14
5		23	9	1	9	7	5	9	4	16
6		28	15		12	5	9	5	3	16
7		28	14	1	12	8	11	9	6	6
8		21	16		16	6	16	10	15	4
9		26	14	1	13	6	11	10	9	4
10		20	11		7	1	4	9	4	7
11		21	12		4	2	3	4	5	4
12	4	21	6		4	1	3	6	3	9
13	2	11	3		4	2	5	6	1	7
14	3	6	5	1	4	4	1	7	3	7
15	3	8	5	1	2	4	8	7	1	14
Sum	14	306	150	8	111	58	104	103	78	138

It is also possible to calculate the acceptance duration between the submission day and the acceptance day on average for papers published in the last five volumes (2017-2021). Table 5 lists these data in days for each issue of the treated volumes. The third column lists the number of published papers in each issued of the CJPAS Journal and the last column provides the calculated number of days of consideration duration on average. The last line of the table summarizes that the average number of published papers for the treated five volumes is ~ 9 papers and the average time between the submission and the acceptance is ~ 67 days that is quite larger than two months. Such long-time consideration process can be explained by the fact that the CJPAS Journal releases only three issues per year and there is time as long as almost four months between the issues for peer-reviewing manuscripts.

Table 5. The average duration in days between the submission day and the acceptance day for papers published in the last five volumes (namely volumes 11 to 15) of the CJPAS Journal.

Volume	Issue	Number of	Average duration
		published	of consideration
		papers	(days)
	February	11	90
11	June	13	57
	October	10	74
	February	11	53
12	June	11	39
	October	10	64
	February	7	53
13	June	8	54
	October	7	70
	February	5	31
14	June	8	85
	October	7	34
	February	7	192
15	June	9	48
	October	9	55
Average		133/15 ~ 9	999/15 ~ 67

According to the obtained data listed in Table 6, it is natural for a Journal to have majority of published papers by authors of the same country. However, it does not mean that all the authors can relate only to the same research organization. Many papers by the authors of the same country relate to two different research centers or even more. According to the third column in Table 6, in each volume of 15 there are papers by authors related to two countries. For instance, Piyadasa (2012) has published the work when Piyadasa worked for the research organizations in both Sri Lanka (University of Colombo) and Canada (University of Manitoba). However, there are not many papers by authors relating to three countries (the fourth column in the table). In the last column of Table 6 there is even one paper published in 2016 (issue 2 of volume 10, CJPAS) by an international collaborative research team (Khan *et al.*, 2016) of six countries (Switzerland, Jordan, Sultanate of Oman, Pakistan, United Arab Emirates, and Qatar) relating to Europe and Asia.

Table 6. The number of papers with contribution of authors of the same country and different countries. The data are for the first fifteen volumes (2007-2021) of the CJPAS Journal.

Volume	Author(s) of the same country	Author(s) of the same country Author(s) of two countries		Authors of four countries and more	
1	15	2	0	0	
2	23+18+17=58	4+3+3=10	0	0	
3	14+16+16=46	4+0+1=5	0+1+0=1	0	
4	15+11+13=39	1+2+0=3	0	0	
5	14+18+15=47	2+1+4=7	0+1+0=1	0	
6	17+16+16=49	3+3+3=9	0	0	
7	13+14+21=48	1+4+3=8	0+0+1=1	0	
8	17+16+17=50	2+1+4=7	0+2+1=3	0	
9	11+22+16=49	5+3+0=8	1 + 0 + 0 = 1	0	
10	16+11+9=36	2+0+2=4	0	0+1+0=1	
11	7+11+8=26	2+1+2=5	2+1+0=3	0	
12	9+10+10=29	2+1+0=3	0	0	
13	6+4+6=16	1+4+1=6	0	0	
14	4+8+6=18	1+0+1=2	0	0	
15	7+9+7=23	0+0+2=2	0	0	

In Table 7, the reader can also see the distribution among the three issues because issue1 + issue2 + issue3 is equal to the total number of papers in the three issues (February, June, and October). Note that only the single issue was released in the first volume, 2007. According to the obtained data listed in Table 7, it is possible to say that by about each third of published papers in volumes 1 to 15 relates to papers by four authors and more. Indeed, the last row in Table 7 manifests that 210 of 641 papers have four authors and more. The author is not sure that this result can be common for majority of multidisciplinary scientific journals as well as for the other journals related only to biology, chemistry, mathematics, material sciences, engineering, or physics. Also, 164 papers have two authors and 154 papers have three authors. It is natural that only 113 papers have one author. The last demonstrates that individual researchers still conduct their investigations in addition to large collaborative research teams that can relate to even several countries (the last two columns of Table 6).

Table 7. The number of papers with the single author, two, three, four authors and more in volumes 1 (2007) to 15 (2021) of the CJPAS Journal.

Volume	One author	Two authors Three authors		Four authors and more	
1	1	7	1	8	
2	1+2+2=5	11+8+7=26	6+4+2=12	9+7+9=25	
3	4+0+3=7	4+6+6=16	6+6+6=18	4+5+2=11	
4	2+1+1=4	3+2+4=9	4+5+2=11	7+5+6=18	
5	2+6+5=13	6+4+7=17	7+5+3=15	1+5+4=10	
6	2+3+2=7	5+6+2=13	8+4+6=18	5+6+9=20	
7	2+3+5=10	2+3+7=12	7+2+4=13	3+10+9=22	
8	3+0+5=8	6+7+5=18	5+6+4=15	5+6+8=19	
9	2+7+2=11	1+4+2=7	6+5+5=16	8+9+7=24	
10	1+1+2=4	7+6+0=13	4+1+3=8	6+4+6=16	
11	2+0+2=4	2+4+1=7	1+6+3=10	6+3+4=13	
12	5+4+5=14	1+0+1=2	2+3+1=6	3+4+3=10	
13	2+0+1=3	1+5+3=9	1+0+1=2	3+3+2=8	
14	2+3+2=7	1+2+1=4	2+3+2=7	0+0+2=2	
15	4+6+5=15	1+0+3=4	1+1+0=2	1+2+1=4	
Sum	113	164	154	210	

## CONCLUSION

The statistical data represented in this paper are concerned with volumes 1 to 15 of the Canadian Journal of Pure and Applied Sciences (CJPAS) released in 2007 to 2021, respectively. The data listed in Tables 2, 6, and 7 touch authors of the published papers and countries. Many researchers of various research centers representing the North and South America, Europe and Asia, Oceania and Africa have already contributed to the CJPAS Journal. Many of the research contributors relate to the USA, Canada, Russia, Great Britain, United Arab Emirates, Saudi Arabia, Malaysia, Egypt, Pakistan, India, and Nigeria. For the first 15 volumes released from 2007 to 2021, as many as 641 high-quality papers were published in the CJPAS Journal that is ~ 43 papers annually and ~ 15 papers per issue on average. Also, the average duration time between submission and acceptance of a paper was evaluated for the last five volumes. It is larger than two months (~ 67 days).



CJPAS vol. 1, number 1, 2007.



CJPAS vol. 2, number 1, 2008.



CJPAS vol. 4, number 1, 2010.

CJPAS vol. 6, number 1, 2012.



CJPAS vol. 8, number 1, 2014.

CJPAS vol. 10, number 2, 2016.

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Online ISSN: 1820-3853





an International Journal Published Time limits a year (Feb, June and Gol.)

Canadian Journal



CJPAS vol. 12, number 1, 2018.

CJPAS vol. 14, number 3, 2020.

Vol. 13, No. 1, Feb. 2019 Print ISSN : 1715-0997

an International Journal

and three times a year (Feb, June and Gel.)

**SENRA** 

Vol. 14, No. 3, October 2020 Print ISSN : 1715-9997

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**Canadian** Journal of

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Received: Oct 24, 2021; Accepted Dec 31, 2021

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