

# e-Proceedings of the International Conference on **Reshaping Librarianship Innovations and Transformations** (ICRLIT - 2019) 16<sup>th</sup> & 17<sup>th</sup> August, 2019

Editors Dr. R. Sarangapani Dr. V. Rajendran Dr. M. Uma

Associate Editors Dr. M. Uma Dr. A. Sokkalingam Dr. K. Indumathi

Organized by ARIGNAR ANNA CENTRAL LIBRARY BHARATHIAR UNIVERSITY Coimbatore – 641 046, Tamil Nadu, India





# e-Proceedings of the International Conference on

# Reshaping Librarianship : Innovations and Transformations

# (ICRLIT - 2019)

16<sup>th</sup> & 17<sup>th</sup> August 2019

<u>Editors</u> Dr. R. Sarangapani Dr. V. Rajendran Dr. K. Karunai Ragavan

## Associate Editors Dr. M. Uma Dr. A. Sokkalingam Dr. K. Indumathi

**Organized by** 

ARIGNAR ANNA CENTRAL LIBRARY BHARATHIAR UNIVERSITY Coimbatore – 641 046, Tamil Nadu, India e-Proceedings of the International Conference Reshaping Librarianship: Innovations and Transformations

<u>Editors</u> Dr. R. Sarangapani Dr. V. Rajendran Dr. K. Karunai Ragavan

Associate Editors Dr. M. Uma Dr. A. Sokkalingam Dr. K. Indumathi

## **Copyright 2019 Bharathiar University**

Published by the Arignar Anna Central Library Bharathiar University Coimbatore – 641046

Price Rs. 1250.00

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying and recording otherwise, without prior permission of the publisher.

Note: Neither the Editorial Board nor the publisher is responsible for the originality of information and opinion expressed by the authors in this volume.

e-Proceedings from the camera-ready copy provided by the Editors.



Printers: Sree Kumaran Computers SDE Building, Bharathiar University Coimbatore – 641 046 +91-98941 49413 E-mail : sreekumarancomputers@gmail.com

# Bibliometric Analysis of Research output of Sher-e-Kashmir University of Agricultural Science and Technology, Kashmir (SKAUST-K), 2004-2018

Amir Amanullah, Seethai, R.M. (Dr.), Sadik Batcha, M (Dr.) and Muneer Ahmad

Research Scholar, Assistant Professor, Research Supervisor and Mentor, Professor & University Librarian and Research Scholar, Dept of Library and Information Science, Annamalai University

## Abstract

The present study is a bibliometric analysis of the research productivity of Sher-e-Kashmir University of Agricultural Science and Technology, Kashmir. A total number of 1423 research publications were harvested using the "Indian Citation Index" and analysis is made to know the publication productivity chronologically, of authors and the citation pattern, preferred publications, subject preference and document type produced. Agricultural sciences, biological science and botany are the most preferred research areas and increase in publications is found from 2009 onwards whereas the highest number of contributions is in the form of research papers.

Keywords: scientometric, bibliometric, agricultural science, SKUAST-K, Indian Citation Index.

# Introduction

Bibliometric studies are generally done to analyze the document productivity of an organization in the form of research papers, project reports, case studies, review articles, notes, editorials, proceedings paper and short communications etc published in Journals and other scholarly communications. The research activities are gaining momentum in the universities due to PhD programs, Projects and funding from Government agencies (Kumbar, M. et. al. 2008). Bibliometric studies not only help in mere quantitative analysis of the research activities but the ranking institutions and the funding agencies offer due weightage to the publications, citations and research impact of an institution, which in turn is beneficial for the overall prestige and repute of the institutions (Khanna, S. et. al, 2017). In view of the increased research activities in the higher education institutions of India the bibliometric studies also gained momentum. It is the scientific way of finding out the statistics of research based on certain parameters (Hadimani, N. 2015).

### About the university

As of today there are twelve universities in the state of Jammu and Kashmir which are recognized by the University Grants Commission (UGC). Out of the twelve, two are central universities and one is a Deemed University and the remaining nine are established as state universities. There are total of two Agricultural Universities in J&K, one each in Jammu and KashmirDivisions.(https://www.ugc.ac.in/oldpdf/Consolidated% 20list% 20of% 20All% 20Univers ities.pdf). The main Campus of Sher-e-Kashmir University of Agricultural Science and Technology, Kashmir (earlier Sher-e-Kashmir University of Agricultural Science and Technology) is situated in Srinagar's Shalimar with its jurisdiction in Kashmir is one of

the premier institutions in Jammu and Kashmir in the field of Agricultural Science with 24 research centers across the Kashmir Valley and Ladakh. The university was established by an act of J&K Assembly in 1982 with the name Sher-e-Kashmir University of Agricultural Science and Technology and later in 1998-1999 it was renamed as Sher-e-Kashmir University of Agricultural Science and Technology Kashmir with the territorial Jurisdiction of Kashmir and Ladakh regions of Jammu and Kashmir. It has a total of 24 research centers located in different districts of Kashmir Division out of which 19 are included in "Mountain Agro-Ecosystem-I (Temperate)" and the remaining 5 are included in "Mountain Agro-Ecosystem-II (Cold Arid)". These research centers are established for research on a diversity of sub-subjects including sericulture, apricot, saffron, Ambri-apple, medicinal and aromatic plants etc. the university has established 11 KRISHI VIGYAN KENDRAS at different locations in Kashmir and Ladakh out of which 8 are in "Mountain Agro-Ecosystem-II (Cold Arid)". The university has full-fledged faculty for Agriculture, Horticulture, Veterinary Sciences and Animal Husbandry, Forestry, Fisheries, Agricultural Engineering and Sericulture and most of the faculties have divisions based on specialization.

#### **About Indian Citation Index**

In view of the substantial production of scholarly publications in India, the Indian Citation Index was developed, so that the research productivity can be put to use through organization and dissemination. More than 1000 Indian journals are scanned by the ICI besides it has a number of byproducts in the form of Indian Science Citation Index (ISCI), Indian Social Science and Humanities Citation Index (ISSHCI), Indian Journals Citation Reports (IJCR), Indian Science and Technology Abstracts (ISTA), and Directory of Indian Journals (DOIJ). <sup>[19]</sup> ICI is one of the India's web based database dealing with abstract and citation of the research publications emerging in Indian journals (Gautam, V. K & Mishra, R. 2015).

#### **Review of Literature**

Meho, L. I. & Spurgin, K. M. (2005) made a study on ranking the LIS faculty research productivity in USA. Results indicate that "Library Literature and Information Science" (LLIS) indexes 31.2% of the publications of the LIS faculty and is ranked first and INSPEC ranks 2<sup>nd</sup> with 30.6% of publications of LIS faculty. . Sevukan, R., Nagarajan, M. and Sharma, J. (2007) carried out bibliometric study of research output of the faculty of plant science, Central universities of India. Data suggests that Banaras Hindu University tops the list of universities in terms of research productivity for the given area and period (1997-2006) with 176 publications followed by Jawaharlal Nehru University (84) and Aligarh Muslim University (59). Journal wise distribution of the publications show that highest number of publications (27 publications) appeared in Journal of plant physiology followed by Journal of Ethno pharmacology (24 publications) and Photosynthetica (22 publications). A study of the research publication output of IIM Ahmadabad is carried out by Kumar H. A. & Dora, M. (2012) for the period of 1999-2010. Data was harvested from Web of Science and Scopus included 318 scholarly communications out of which 74% were research articles and more than 20% articles were

published in the year 2009. Indian Journal of Agricultural Economics is the most preferred journal of the IIM Ahmadabad researchers in which 14 papers were published. Journal of Marketing is the most cited journal by the faculty of IIMA. Baskaran, C. (2013) studies the research productivity of Alagappa University for the period of 1999-2011. This Bibliometric study findings show that there is a progressive growth in the research output of the university and the year 2011 records the highest output (12.5%). A high degree of collaboration (96%) is shown in the authorship pattern, out of the total of 776 research items only 26 are single authored while as 750 publications had multiple authorship. Solanki, T., Ashraf Uddin and Singh, V. K. (2016) studies research competitiveness of "Indian Institutes of Scientific Education and Research" during the period of 2010-2014. The citation pattern shows that there is a gradual decrease in citation from 2010 towards 2014. Of all the IISERs the IISER Kolkata has got highest no of citations, followed by IISER Pune and IISER Mohali. M. Sadik Batcha and Muneer Ahmad (2017) in a study analyzed comparative productivity of "Indian Journal of Information Sources and Services (IJISS)" and "Pakistan Journal of Library and Information Science (PJLIS)" during 2011-2017 and found that Indian authors made contribution of 94.52% to IJISS and Pakistani authors contributed to 94% of publications to PJLIS. Papers by Indian and Pakistani Authors with Foreign Collaboration are minimal (1.37% of articles) and (4.10% of articles) respectively.

Amanullah, A. and Seethai. RM. (2018) carried out a study on "Mapping of Library and information Science E-Books in EBSCO E-Book Collection" for the period of 1953-2017. In the study the authors concluded that most number of publications is in English language and most of the books are on the subject Library Administration. Khiste, G. P. and Amanullah, A. (2018) carried out an analysis of "Knowledge Management output in Web of Science during 2007 to 2016" in which the authors found that the highest percentage (14.86%) of documents were published in 2016 and the most preferred journal is "Journal of Knowledge Management" in which as many as 6.31% of research documents were published. In a study of "Publication Productivity of E-learning by SCOPUS for the period of 2003-2017" by Amanullah, A. and Khiste, G. P. (2018) it was found that out of total 11948, the highest number, 1121 documents were published in 2010. United Kingdom has published highest number of documents on the subject while India ranks 7 in the country wise list. Batcha et al.(2018) in their study regarding the publication pattern of research work in DESIDOC Journal during the period of 2013-2017 and found that highest no of papers, 63 (27.7%). Majority of the papers published in DESIDOC Journal was on Scientometric while as ample numbers of papers are published on user survey and E-Resources. The authors also analyzed the paper length of the papers published and found that 65% of articles were written in between 6-10 pages. Muneer Ahmad, et al (2018) in a scientometric analysis of the Webology Journal found that the highest number of paper were published in 2014 of which 18 papers were single authored while as 44 papers were a collaborative work of multiple authors. Majority of the papers were published on Social Networking / Web 2.0 / Library 2.0 as far as the subject distribution is concerned and is followed by Scientometric / Bibliometric / Altmetrics /Webometric analysis. In the country wise contribution Iran has contributed the highest number of papers followed by USA, Russia and India.

#### **Objective of the study**

Sher-e-Kashmir University of Agricultural Science and Technology Kashmir being one of the leading Agricultural Universities in Jammu and Kashmir has a number of research centers throughout the Kashmir and Ladakh region. The study is carried with the objective to find out the research productivity of the university researchers. The objectives of the study are pointed as follows:

- > To know the overall research productivity of the university.
- > To know the publishing trends of the research publications
- > To know the citation trend of the publications.
- > To undermine the subjects on which research publications are done.
- > To know the author productivity and citation density.
- > To analyze the document types in which the scholarly publications are published.

#### Methodology

The study is based on the data harvested from the Indian Citation Index (ICI) in the month of December, 2018. Simple search query for "Sher-e-Kashmir University of Agricultural Science and Technology Kashmir" is put in the search box of Institutional Analyzer Menu of Indian Citation Index. The time span is set 2004-2018. And then data is harvested according to the objective of the study.

#### Analysis, results and Discussion

The data harvested shows that Sher-e-Kashmir University of Agricultural Science and Technology Kashmir has produced a total number of 1423 research publications within the given time span of 2004-2018. The research productivity is analyzed using a number of parameters. The results and discussion follows.

#### Publication productivity chronologically

S. No	Year	No of Publications	Percentage of Total
1.	2004	49	3%
2.	2005	47	3%
3.	2006	48	3%
4.	2007	63	4%
5.	2008	80	6%
6.	2009	83	6%
7.	2010	105	7%

Table-1 (Year wise publication productivity)

S. No	Year	No of Publications	Percentage of Total
8.	2011	143	10%
9.	2012	171	12%
10.	2013	134	9%
11.	2014	125	9%
12.	2015	115	8%
13.	2016	130	9%
14.	2017	111	8%
15.	2018	19	1%
16.	Total	1423	100%

Data pattern in Table-1 suggest that the highest number of papers were published in the year 2012 which contributes to 12% (171) of the total publications followed by 2011 and 2013, 2014 and 2016. A gradual increase in the growth is seen from 3% in 2004 to 12% in 2012 and afterwards the growth doesn't cross 10%.

#### Citation analysis of year wise output

Table-2 (	Year	wise	Citation	Analysis)

Year	Articles	Citation	Citation Density
2004	49	131	2.673
2005	47	58	1.234
2006	48	117	2.438
2007	63	90	1.429
2008	80	119	1.488
2009	83	86	1.036
2010	105	89	0.848
2011	143	96	0.671
2012	171	90	0.526
2013	134	54	0.403
2014	125	37	0.296
2015	115	19	0.165
2016	130	9	0.069
2017	111	2	0.018
2018	19	0	0
Total	1423	997	13.294

Table-2 shows that the publications of the year 2004 have got the highest number of citations followed by 2008 and 2006 and hence the citation density is show the similar trend. The older publications have got more citations but the citation is unevenly distributed.

#### **Author Contribution**

Author	Article	Citation	Citation Density
Dar Z A	38	13	0.342
Mir S A	37	19	0.514
Mir M A	34	9	0.265
Bhat M A	32	32	1
Wani S A	31	64	2
Khan S H	30	21	0.7
Singh S R	27	41	1.519
Malik M A	26	5	0.192
Singh K N	25	25	1
Ahmad Mushtaq	23	5	0.217
Khan M A	23	10	0.417
Mir M S	22	53	2.409
Khan A A	22	26	1.182
Banday M T	20	8	0.4
Sharma V K	19	6	0.316

Table-3 (Author Productivity)

Data in Table-3 enlists the top 15 productive authors. It suggests that Dar, Z. A. has contributed the highest number of publications (38) followed by Mir, S. A and Mir, M. A. the publications of Mir, M. S. has the highest citation density followed by Wani, S. A. and Singh, S. R.

#### Subject wise research output

S NO	Subject Category	Articles	Citation
1	AGRICULTURE	568	566
2	BIOLOGICAL SCIENCE	380	174
3	BOTANY	211	207
4	ENVIRONMENTAL SCIENCE	202	79
5	VETERINARY SCIENCE	187	118
6	ZOOLOGY	154	106
7	DAIRYING, DAIRY, ANIMALS AND ANIMALS PRODUCE	108	78
8	FORESTRY	40	20
9	BIOTECHNOLOGY	33	4
10	HEALTH SCIENCE	29	16
11	GENERAL SCIENCE AND TECHNOLOGY	29	16
12	ECONOMICS	28	33
13	PHARMACOLOGY AND PHARMACEUTICAL SCIENCE	25	6
14	FOOD AND BEVERAGE SCIENCE	21	15
15	POLLUTION	14	6

Table-4 (Subject productivity)

The table-4 shows the top 15 subjects of research publications. The higest number of publications appeared in Agriculture (568 publications with 566 citations) followed by biological science (380 publications with 174 citations) and botany (211 publications with 207 citations). 28 publications are also produced on economics. Pollution subject haven't attracted many researchers and is the lowest with only 14 publications.

#### **Preferred publication**

S No	Publications	Articles	Percentage
1	ENVIRONMENT AND ECOLOGY	78	5%
2	INDIAN JOURNAL OF ANIMAL SCIENCES (THE)	59	4%
3	APPLIED BIOLOGICAL RESEARCH	57	4%
4	INDIAN JOURNAL OF AGRICULTURAL SCIENCES (THE)	53	4%
5	INDIAN JOURNAL OF HORTICULTURE	36	3%
6	INDIAN JOURNAL OF ECOLOGY	35	2%
7	ECOLOGY ENVIRONMENT & CONSERVATION	35	2%
8	INDIAN VETERINARY JOURNAL (THE)	30	2%
9	JOURNAL OF MYCOLOGY AND PLANT PATHOLOGY	27	2%
10	ANNALS OF PLANT PROTECTION SCIENCES	25	2%
11	ASIAN JOURNAL OF HORTICULTURE (THE)	25	2%
12	PROGRESSIVE HORTICULTURE	24	2%
13	INDIAN JOURNAL OF PLANT PROTECTION	22	2%
14	TRENDS IN BIOSCIENCES	22	2%
15	INDIAN FORESTER (THE)	21	1%

Table-5 (Publication Preferences)

Table-5 indicates the top 15 publications in which the research publications appeared. Environment and Ecology (5%) is the most preferred one followed by Journal of Animal science (4%), Applied Biological Research (4%) and Indian Journal of Agricultural Sciences (4%). Out of the total top nine journals, 9 journals contribute to 2% publications each.

### **Document types**

S. No	Document Type	Articles
1	RESEARCH ARTICLE	1174
2	SHORT COMMUNICATION	158
3	REVIEW ARTICLE	40
4	RESEARCH NOTE	22
5	EDITORIAL	16
6	CASE STUDY	8
7	OBSERVATION (R&D)	1
8	PROCEEDINGS PAPER	1

Table-6 (Document Type in which research publications appear)

#### Fig-1

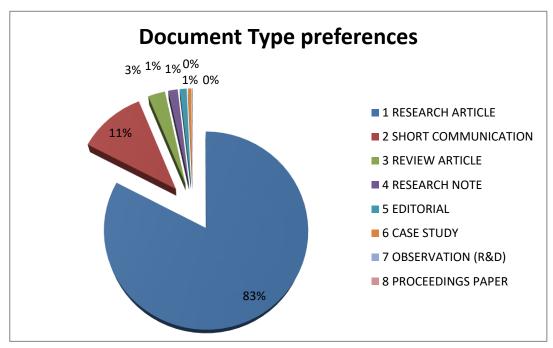


Table-6 shows that the publications are published in 8 different document types. Out of total 1423 publications 1174 (83%) appeared as research articles followed by 158 contributions in the form of short communications. 8 case studies appeared in the publications while as 40 and 22 review article and research notes appeared respectively. Fig-1 gives a graphical view of the preferred document type by the faculty of Sher-e-Kashmir University of Agricultural Science and Technology, Kashmir

#### Conclusion

Findings show that Sher-e-Kashmir University of Agricultural Science and Technology, Kashmir has produced a total of 1423 publications during the period of 2004-2018 and has a good contribution in the agricultural sciences. Sufficient number of publications is produced on biological science, botany, environmental science, veterinary science and biotechnology. The findings suggest that the research productivity increased after 2009 and the older publications got more citations than the newer publications. Most of the publications appeared in the form of research papers and short communications. The publications trend shows that most of the research work appeared in Ecology & Environment. It can be concluded that this study alone doesn't give a clear picture of the research performance of Sher-e-Kashmir University of Agricultural Science and Technology, Kashmir as this include the research output indexed by Indian Citation Index. More studies on the same subject using Web of Science, Scopus and EBSCO can be fruitful to get a clearer picture of the research performance of SKUAST-K.

#### References

- 1. Kumbar, M., Gupta, B. M., & Dhawa, S. M. Growth and impact of research output of University of Mysore, 1996-2006: A case study. *Annals of Library and Information Studies*, 2008, 55, 185–195.
- Khanna, S., Singh, N. K., Tewari, D., & Saini, H. S. Scientometric Analysis of the Research Output of Physics and Astronomy of Guru Nanak Dev University during 2006-15. DESIDOC Journal of Library & Information Technology, 2017, 37(5), 337–345.
- 3. Hadimani, N., Mulla, K. R., & Kumar, N. S. A Bibliometric Analysis of Research Publications of Indian Institute of Science Education and Research , Thiruvananthapuram. *Journal of Advancements in Library Sciences*, 2015, *2*(1), 28–35.
- Gautam, V. K., & Mishra, R. Scholarly Research Trend of Banaras Hindu University during 2004-2013 : A Scientometric Study Based on Indian Citation Index. *DESIDOC Journal of Library & Information Technology*, 2015, 35(2), 75–81. https://doi.org/10.14429/ djlit.35.2.8021
- Meho, L. I., & Spurgin, K. M. Ranking the Research Productivity of Library and Information Science Faculty and Schools : An Evaluation of Data Sources and Research Methods. *Journal of the American Society for Information Science and Technology*, 2005, 56(12), 1314–1331. https://doi.org/10.1002/asi.20227

- 6. Sevukan, R., Nagarajan, M., & Sharma, J. Research output of faculties of plant sciences in central universities of India : A bibliometric study. *Annals of Library and Information Studies*, 2007, *54*, 129–139.
- Kumar, H. A., & Dora, M. Research Productivity in a Management Institute : An Analysis of Research Performance of Indian Institute of Management Ahmedabad during 1999-2010. *DESIDOC Journal of Library & Information Technology*, 2012, 32(4), 365–372. https://doi.org/10.14429/djlit.32.4.2533
- 8. Baskaran, C. Research Productivity of Alagappa University during 1999-2011: A Bibliometric Study. *DESIDOC Journal of Library & Information Technology*, 2013, *33*(3), 236–242.
- Solanki, T., Asharf- Ud-din, & Singh, V. K. Research competitiveness of Indian institutes of science education and research. *CURRENT SCIENCE*, 2016, *110*(3), 307–310. https://doi.org/10.18520/cs/v110/i3/307-310
- 10. Batcha, M. S., & Ahmad, M. Publication Trend in an Indian Journal and a Pakistan Journal: A Comparative Analysis using Scientometric Approach. *Journal of Advances in Library and Information Science*, 2017, 6(4), 442–449.
- Amanullah, A., & Seethai, R. M. Mapping of Library and Information Science E-Books in "EBSCO eBooks Collection ." *International Journal of Research in Engineering, IT and Social Sciences*, 2018, 08(10), 85–89.
- 12. Khiste, G., & Amanullah, A. Analysis of Knowledge Management output in Web of Science during 2007 to 2016. *International Research: Journal of Library & Information Science*, 2018, 7(4), 758–773.
- Amanullah, A., & Khiste, G. P. Publication Productivity of 'E-Learning' by Scopus During 2003-2017. In 3rd International Conference of Asian Libraries, (ICAL) 2018: *Developing Smart Libraries: Changes Challenges Issues & Strategies, 06-08 August 2018*, Asian Library Association, New Delhi. 2018 (pp. 77–82)
- Batcha, M. S., Jahina, S. R., & Ahmad, M. Publication Trend in DESIDOC Journal of Library and Information Technology during 2013-2017: A Scientometric Approach. *International Journal of Research in Engineering, IT and Social Sciences*, 2018, 08(04), 76–82.
- Ahmad, M., Batcha, M. S., Wani, B. A., Khan, M. I., & Jahina, S. R. Research Output of Webology Journal (2013-2017): A Scientometric Analysis. *International Journal of Movement Education and Social Science*, 2018, 7(3), 46–58.
- 16. (https://www.ugc.ac.in/oldpdf/Consolidated%20list%20of%20All%20Universities.pdf)
- 17. (http://www.skuastkashmir.ac.in/frmDownloadFormatPDF.aspx?FN=univ\_profile.pdf)
- 18. (http://www.indiancitationindex.com/ici.aspx?target=products).

# **EDITORS**



Dr. R. Sarangapani, is working as University Librarian, Bharathiar University, Coimbatore, He finished his PG & Doctorate Degree in LIS at Annamalai University. He has presented 47 papers in various conference and published 15 articles in journals. He also published a book "Information Literacy Expertise". He got Best National Librarian Awards-2017 from MALA, Chennai. He is Resources Person, Invited Speaker, Key Note Speaker, Inaugural Address in various programme. He also Selection

Committee Member and External Examiner in various universities in Tamil Nadu. He is a life member of ILA, TLA, ISTE, MALA & SALIS.



**Dr. V. Rajendran**, is currently working as Assistant University Librarian, Bharathiar University. He has 25 years of rich professional experience in the field of LIS. He is a research supervisor for M.Phil and Ph.D. Programme in LIS. Under his guidance four M.Phil degrees was awarded. He has published more than 20 papers in National and International conferences, 5 papers in peer reviewed Journals and attended more than 30 national and international conference, seminars, advanced training programs and workshops and also organized national conferences, workshops and

seminars. He is a resource person for academic staff college, Bharathiar University. He is an active member of various academic committees in Bharathiar University.



Dr. K. Karunai Raghavan, is working as Librarian at National Engineering College, Kovilpatti. He finished his PG and Doctorate Degree in LIS at Bishop Heber College, Trichy. He is a life member of SALIS & ISTE. He has attended more than 75 SDPs, Conferences, Seminars and workshops. He has published more than 25 papers in National and International conferences, 5 papers in peer reviewed Journals. Presently he is General Secretary of SALIS.

