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Mapping of Research Productivity in Nano Medicine: A Scientometric Study

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ABSTRACT

The study analyses the research publications trend of Nan Medicine on the Scientometic study during 2005-2019. The research find out that Out of the total publications, from 1995 to 2006 (12 years) 27.93% publications has been found to be produced; whereas from 2007 to 2019 (13 years) 72.07% publications has been found to be produced . The average citation per year has been found to be 38421.12. It has been observed that out of the total 40669 publications, 4454 papers has been found to be not cited and 36215 papers has been found to be cited. The RGR is decreasing trend and at the same time doubling time is increasing trend. In the year 2006, the doubling time gets the maximum value of 12.53 and at the same time RGR gets the maximum value of 0.72 in the year 1996.

Keywords: Nano Medicine, Scopus, Scientometric study, RGR, DT, EGR, Citations,

Introduction

Scientiometics is a well-developed branch of library and information science. Scientometic tools helps to measure and compare the scientific activities of different institutions, subject areas, regions and nations. It helps us to assess the scientific productivity of individual scientists as well between the above mentioned aspects. The progress of knowledge in a particular field of science vis-a-vis society is reflected in scientometic analysis. Gaps can be easily identified and the resources, expertise and time can be well managed with scientometirc data. The performance of a subject, expert or a system can be evaluated against the tax payer's money. In short effective use of this tool determines a nation's scientific progress.

Nanomedicine

The application of nanotechnology for medical purposes has been termed nanomedicine and is defined as the use of nanomaterial's for diagnosis, monitoring, control, prevention and treatment of diseases (Tinkle et al., 2014). However, the definition of nanomaterial has been controversial among the various scientific and international regulatory corporations. Some efforts have been made in order to find a consensual definition due to the fact that nanomaterials possess novel physicochemical properties, different from those of their conventional bulk chemical equivalents, due to their small size. These properties greatly increase a set of opportunities in the drug development; however, some concerns about safety issues have emerged. The physicochemical properties of the nanoformulation which can lead to the alteration of the pharmacokinetics, namely the absorption, distribution, elimination, and metabolism, the potential for more easily cross biological barriers, toxic properties and their persistence in the environment and human body are some examples of the concerns over the application of the nanomaterials (Bleeker et al., 2013; Tinkle et al., 2014).

Baskaran (2013) discussed that Doubling time (Dt) was found to be increased and decreased trend in this study. Degree of collaboration and its means value is found to be 0.963. The three institutions are more leading productivity, which are Alagappa University with CECRI, National Cheng King University and Anna University. Baskaran and Binu (2019) analysed that Most of the 416 respondents (98.8%) are looking for education and research information. The research results can determine the various parameters of academic access to electronic resources. The research will help promote the acquisition of electronic information to stimulate users' research and academic thinking. Baskaran (2018) studied the role of computers in providing education. Baskaran (2016) discussed The highest publication published in the Bioinformatics Journal, and Harvard University scientists contributed the most publications in this research. Both RGR and DT showed this fluctuating trend throughout the study period. Baskaran (2015) studied the three Major Paradigm Shifts 21st Century Library Setting, Revolutionary Changes, Library Roles, Millennial Generation, Cyber Infrastructure Characteristics, Major Challenges of 21st Century Librarian, Tasks, Library Should be the Customers' Expectations and so on. Baskaran (2015) analyzed the USA scientists have contributed totally 15832 (30.815%) items and include 87.947% percent are appeared as journal articles. Scientists at Harvard University have attracted much attention in writing a large number of research papers and occupy a leading position in research cooperation in the field of enzyme research. Baskaran (2012) discussed that the doubling time (Dt) exhibited a fluctuating trend during the study period. The results use the least squares method to exclude highly productive authors and the maximum likelihood method to examine the exponential growth of authors. In the course, it was found that Lotka's law is applicable to graph theory research. Baskaran and Ramesh (2019) analyzed that the study analyzed that the electronic information access pattern between faculty and staff plays an important role in the completion of various tasks of the interviewee in the engineering school. According to the study, the study aimed to analyze that 76% of the respondents were men, of which 26% were women. Baskaran and Ramesh Babu (2019) examined the

publishing productivity of forensic medicine output from 1989 to 2016. Growth of publications in research, RGR and Dt of research output, cooperation between authors. Baskaran (2018) analyzed the highest SD was 21. 71405 and 21.71405 the problems were found Do not have smart Phone and Lack of security on personal information. The highest CV was 864.5 found on Lack of security on personal information. Baskaran and Karuilancheran (2015) analyzed the C.V. at 0.05 significant level for 29 degrees of freedom is 42.56 and the calculated value of Chi-Square (X^2) obtained in this case is 5309.368. Afterwords, the performance of researchers started diminishing. It was supported by SPI that ranges between 9 and 10 only. Baskaran (2014) discussed the quantitative analysis of the productivity and characteristics of citations of Library and Information Science (LIS) publications during 2003-2012. A total of 1,942 articles and 12,502 citations were published in LIS journals indexed by SSCI. 21.36% of citations were received in 2012. Baskaran, C. (2013) analyzed that 70 (59.1%) of the faculty and staff participating in the study learned through 28 (56%) guidance from teachers/managers. There is evidence that the largest proportion of faculty and staff 21 (42%) use their department to access information, while 28 (40%) of researchers access the e-journals of their department themselves**.** Baskaran (2019) analyzed the 210 (55.26) respondents are extremely satisfied on OPAC/Web OPAC. 205(53.90) respondents are extremely satisfied on E-Databases, 192(50.52) respondents are extremely satisfied on Automated circulation services. Baskaran (2018) explored the map the number of publications, growth rate and doubling time, scattering of publication over journals, and its impact on publication output, authorship patterns and Global citation score of bioremediation research publication in India using the HistCite, VOSviewer software. Indian Institute of Technology, Baba Atomic Research Center and CSIR are the main producers of research results in the field of bioremediation. Sivakami and Baskaran (2016) analyzed a total of 64,030 data sets of in this study from the MEDLINE database. All types of resources experienced the largest decline in 2010 and 2011, with an average of 2,784 releases per year. A time series analysis was performed on the most productive countries (the United States) and India to compare the results of the next few years. Baskaran (2014) discusses the quality of the collection from the perspective of books, magazines and resources. Yahoo is the most popular web surfing search engine. The book rental service is the staff's favorite. Saravanan and Baskaran (2019) studied the bibliographic coupling, language distribution, keyword distribution, geographic distribution of documents, and the history of local and global citations of established institutions. Baskaran (2019) analyzed . Most of the respondents of 90 (33%), 76 (27.8) and 51 (18.7%) said they "strongly agree", "agree" or "have no comments" and prefer "easy access" Analyze large amounts of data". Baskaran (2018) examined most of the publications of 44.15% of the two authors in the analysis of BM. Guptha has published 18 articles on DJLIT, and he is the number one author. It is closely followed by Chenupathi K. Ramiah, the 11th University of Delhi, ranked second in his publications, which is the highest ranked institution. Binu and Baskaran (2017) analyzed the user's satisfaction assessment of resources and services. It turns out that most people surveyed use resources for different purposes to a large or very large extent. Users are very satisfied with the various electronic resources and services provided by the library.

Ramesh Babu and Baskaran (2017) analyzed an analysis that explored the growth trend of forensic medicine from 1989 to 2015. It is the highest value observed in forensic research in 2013. In 2013, forensic research accounted for 447 (11.05%) publications, followed by 420 (10.38.). %) Publications published in 2015. The doubling of publications also shows the fluctuating trend throughout the study period. Baskaran (2020) analyzed the lowest relative growth rate (RGR; 0.04) of in 2008. In 2010, 2012 and 2014 RGR increased to 0.75 in 1990, with an average relative growth rate (RGR) of 0.15. The most publications (293; 63.55%) come from information science in library science. This field ranks first among the 25 research fields listed in the study. Baskaran (2020) describes the use of altmetrics in a cross-platform public API to collect data using open scripts and algorithms. Altmetrics did not initially cover the number of citations. It calculates the impact of scientists based on various online studies, such as: B. Social media, online news media, and online reference managers. Baskaran, C. (2020) analyzed 11,941 data sets in social networks and media retrieved from the Web of Science database during the research period. Most of the 2,576 (21.57%) publications published in 2018 were recorded, followed by the 2,281 (19.10%) data set published in 2017. Palanivel and Baskaran (2018) studied 2313 scientific articles published in the Journal of Economic Affairs. The analysis mainly includes the number of articles and the form of documents. The research is to obtain 2313 results from 37 years from the SCOPUS database, and the search results are analyzed using Excel worksheets. Pramanathan and Baskaran (2015) discussed that 199 (49.13%) and 131 (43.52%) of the respondents were female respondents from Bharathidasan University and Periyar University. Most of the 310 (76.54%) and 198 (65.78%) respondents had less than 3 years of research experience at Hindu University and Periyar University. Murugaiah and Baskaran (2013) collaborated with American researchers to analyze a large number of publications in the field of human DNA. The research measures performance based on multiple parameters, the country's annual growth rate, author model, cooperation index, cooperation coefficient, major cooperating countries, and authors who contribute.

Baskaran (2020) discussed the most 290 (12.20%) publications contributed by researchers from the Central Institute of Electrochemistry. SK Pandian, proposed by Google Scholar Metrics (GSM), is a top researcher, despite its annual citations of 4491 and hIndex of 36 from 2008 to 2018. Ramesh and Baskaran (2019) stated that respondents are "satisfied" with the availability of teaching materials. These data show that a large number of respondents265 (51.0%) prefer gateway portals rather than "wide scale", 139 (26.7%) Respondents who liked the "very large area" found that 105 (20, 2%) of the respondents said they were "not satisfied" and 11 (2.1%) chose "no opinion". Prasad and Baskaran (2019) reviewed the research analysis. Male respondents were 263 (69.21%), followed by female respondents 117 (30.79%). 285 (75%) is followed by M. Phil. NET qualified respondents 51 (13.42%) and PG and NET qualified respondents 44 (11.57%). Most of the 259 (98.50%) respondents had received training in accessing electronic resources from university libraries, and only 4 (1.50%) male respondents had not received training in university libraries. Prasad and Baskaran (2019) analyzed 380 (100%) respondents who understand the electronic resources available in university libraries. Most of the 259 respondents (98.50%) received training in accessing electronic resources from university libraries, and only 4 (1.50%) male respondents had not received training in university libraries. It also shows that among 117 (30.80%) female respondents. Baskaran (2018) discussed the majority of 63 (27.6%) designations to "know" and use Whatsapp, 53 (23.2%) You Tube, 47 (20.6%) Google+, 46 (20.2%) Facebook, 23 (10.1%) Tumbler / Messenger, 21 (9.2%) Twitter, 18 (7.9%) other and 17 (7.5%) Instagram. Suitable for the function of its parent organization. Pramanathan and Baskaran (2014) analyzed 230 (58.4%) research scientists covered by the study. They believed that the Internet provided the information necessary to complete their research satisfactorily or on a large scale. The majority of respondents access electronic resources via e-mail 252 (63.95%).

Methodology

The study analyses at the distribution of research output on the basis of research publications contributed by Scientists in the field of Nano Medicine. The required data was collected from SCOPUS database for the period 2005-2019. A total of 30625 records were retrieved from the database using the search strings "Nano Medicine", analysed by using MS-Excel software package as per the objectives of the study and data has been presented in tabular as well as in graphical form. This study explores the growth rates of publications and citation patterns, author productivity and collaboration, most productive journals, distribution of publication by geographical and structure.

Analysis and Interpretation

It has been observed from Table 4.1 that the maximum number of publications has been produced in the year 2016 with 2965 records (7.29%) followed by the year 2012 with 2907 records (7.15%). Similarly the less productive year has been found to be 2006 with 611 records (1.50%). Out of the total publications, from 1995 to 2006 (12 years) 27.93% publications has been found to be produced; whereas from 2007 to 2019 (13 years) 72.07% publications has been found to be produced . It has been also observed that the Average paper per year has been found to be 1626.76. The study shows that there are some declines in the publishing trend during the middle years. But the overall growth has been found to be increasing trend in Nano Medicine literature.

Table 1: Year wise Distribution of Publications in Nano Medicine Literature

S. No	Year	Publications	Percentage
1	2005	705	1.73
2	2006	611	1.50
3	2007	872	2.14
4	2008	1046	2.57
5	2009	1352	3.32
6	2010	1913	4.70
7	2011	2676	6.58
8	2012	2907	7.15
9	2013	2720	6.69
10	2014	2573	6.33
11	2015	2692	6.62
12	2016	2965	7.29
13	2017	2545	6.26
14	2018	2699	6.64
15	2019	2349	5.78
Total		**30625**	100

Year wise Distribution of Citations in Nano Medicine literature

The average citation per year has been found to be 38421.12. It has been observed that out of the total 40669 publications, 4454 papers has been found to be not cited and 36215 papers has been found to be cited. It has been found that the maximum numbers of citations 72377 has been received in the year 2000 and the minimum numbers of citations 7371 has been received in the year 2019. The highest value of citation per paper 58.68 has been found in the year 2003 and lowest value of citation per paper 3.14 has been found in the year 2019.

Table 2: Year wise Distribution of Citation in Nano Medicine Literature

S. No	Year	Publications	No. of Publications Cited	No. of Publications not Cited	No. of Citations	CPP
1	2005	705	656	49	32806	46.53
2	2006	611	575	36	23716	38.82
3	2007	872	822	50	38168	43.77
4	2008	1046	968	78	32471	31.04
5	2009	1352	1244	108	38736	28.65
6	2010	1913	1800	113	53135	27.78
7	2011	2676	2478	198	58719	21.94
8	2012	2907	2658	249	53716	18.48
9	2013	2720	2481	239	45461	16.71
10	2014	2573	2233	340	36226	14.08

11	2015	2692	2308	384	32096	11.92
12	2016	2965	2519	446	28929	9.76
13	2017	2545	2210	335	22339	8.78
14	2018	2699	2169	530	16675	6.18
15	2019	2349	1608	741	7371	3.14
Total		**30625**	**26724**	**3896**	**56564**	**327.58**

4.1.3 Relative Growth Rate and Doubling Time in Nano Medicine Literature

Table 3 shows the relative growth rate and doubling time, as per the calculation, the RGR is decreasing trend and at the same time Doubling time is increasing trend. In the year 2006, the doubling time gets the maximum value of 12.53 and at the same time RGR gets the maximum value of 0.72 in the year 1996. The lowest value of RGR is 0.06 in the year 2019 and the lowest value of Doubling Time is 0.97 in the year 1996.

Table 3: Relative Growth Rate and Doubling Time in Nano Medicine Literature

S. No	Year	Publications	Cumulative	W_1	W_2	RGR (W_2-W_1)	DT (0.693/R)
1	2005	705	10749	9.21	9.28	0.07	10.22
2	2006	611	11360	9.28	9.34	0.06	12.53
3	2007	872	12232	9.34	9.41	0.07	9.37
4	2008	1046	13278	9.41	9.49	0.08	8.45
5	2009	1352	14630	9.49	9.59	0.10	7.15
6	2010	1913	16543	9.59	9.71	0.12	5.64
7	2011	2676	19219	9.71	9.86	0.15	4.62
8	2012	2907	22126	9.86	10.00	0.14	4.92
9	2013	2720	24846	10.00	10.12	0.12	5.98
10	2014	2573	27419	10.12	10.22	0.10	7.03
11	2015	2692	30111	10.22	10.31	0.09	7.40
12	2016	2965	33076	10.31	10.41	0.09	7.38
13	2017	2545	35621	10.41	10.48	0.07	9.35
14	2018	2699	38320	10.48	10.55	0.07	9.49
15	2019	2349	40669	10.55	10.61	0.06	11.65
Total		**30625**					

Exponential Growth Rate in Nano Medicine Literature

Table 4 shows that the Average exponential growth rate is 1.06. In the year 2007, the EGR has got the highest value of 1.43 and at the same time the lowest EGR value 0.72 has got by the year 2001. There are some fluctuations in the EGR and the overall trend is slightly decreasing one.

Table 4 Exponential Growth Rate in Nano Medicine Literature

S. No	Year	Publications	Exponential Growth Rate
1	2005	705	0.87
2	2006	611	0.87
3	2007	872	1.43
4	2008	1046	1.20
5	2009	1352	1.29
6	2010	1913	1.41
7	2011	2676	1.40
8	2012	2907	1.09
9	2013	2720	0.94
10	2014	2573	0.95
11	2015	2692	1.05
12	2016	2965	1.10
13	2017	2545	0.86
14	2018	2699	1.06
15	2019	2349	0.87
Total		**30625**	1.06

Time Series Analysis in Nano Medicine Literature

The study reveals that the Future Growth of Nano Medicine literature output is increased from 2019 (2349) to the future years viz: 2025 with 3331.25 publications; 2030 with 3804.72 publications; 2035 with 4278.19 publications and 2040 with 4751.66 Publications. Therefore the future growth of Nano Medicine literature output may take an increasing trend during the forthcoming years. So it can be assumed that the rate of growth is positive in relation by the year-wise publications.

Table 5 Time Series Analysis in Nano Medicine Literature

S. No	Year	Publications Y	X	X2	XY
1	2005	705	-2	4	-1410
2	2006	611	-1	1	-611
3	2007	872	0	0	0
4	2008	1046	1	1	1046
5	2009	1352	2	4	2704
6	2010	1913	3	9	5739
7	2011	2676	4	16	10704
8	2012	2907	5	25	14535
9	2013	2720	6	36	16320
10	2014	2573	7	49	18011
11	2015	2692	8	64	21536
12	2016	2965	9	81	26685
13	2017	2545	10	100	25450
14	2018	2699	11	121	29689
15	2019	2349	12	144	28188
Total		**30625**	**75**	**655**	**198586**

Conclusion

The study could be witnessed research productivity Nano Medicine which applies Scientometric indicators based on the Scopus database. The Results has been witnessed the Average paper per year has been found to be 1626.76. The study shows that there are some declines in the publishing trend during the middle years. But the overall growth has been found to be increasing trend in Nano Medicine literature. The highest value of citation per paper 58.68 has been found in the year 2003 and lowest value of citation per paper 3.14 has been found in the year 2019. The lowest value of RGR is 0.06 in the year 2019 and the lowest value of Doubling Time is 0.97 in the year 1996. , the EGR has got the highest value of 1.43 and at the same time the lowest EGR value 0.72 has got by the year 2001. the future growth of Nano Medicine literature output may take an increasing trend during the forthcoming years. So it can be assumed that the rate of growth is positive in relation by the year-wise publications.

References

- Tinkle, S., McNeil, S. E., Mühlebach, S., Bawa, R., Borchard, G., Barenholz, Y. C., et al. (2014). Nanomedicines: addressing the scientific and regulatory gap. *Ann. N. Y. Acad. Sci.* 1313, 35–56. doi: 10.1111/nyas.12403

- Bleeker, E. A., de Jong, W. H., Geertsma, R. E., Groenewold, M., Heugens, E. H., Koers-Jacquemijns, M., et al. (2013). Considerations on the EU definition of a nanomaterial: science to support policy making. *Regul. Toxicol. Pharmacol*. 65, 119–125. doi: 10.1016/j.yrtph.2012.11.007

- Baskaran, C and Sivakami, N (2014) Swine Influenza Research Output: A Bibliometric Analysis, SRELS Journal of Information Management, Vol.51 Issue 1, p 13-20, http://www.srels.org/index.php/sjim/article/view/47191

- Baskaran, C. (2011) User Perception of Library Services in Academic Institutions in the Southern Districts of Tamil Nadu, India: A Case Study, Library Philosophy and Practice (e-journal), p 1-6, https://core.ac.uk/download/pdf/188061487.pdf

- Baskaran,C. (2013) Scientometric Analysis of Cryptography Research Output, SRELS journal of information management, Vol.50 Issue 4, p 413-421. http://informaticsjournals.in/index.php/srels/article/view/3388

- Baskaran C. (2013) Research Growth Trend and Author Collaboration of Alagappa University in India during 1999-2011, International Journal of Library and Information Studies,Vol.3,Issue1,p57-64, http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.711.8356&rep=rep1&type=pdf

- Baskaran C and Binu PC. (2019) Information acceleration into access on acquiring skill under consortium based resources in the selected Universities of Kerala, India. Library Philosophy and Practice p 1-17. https://core.ac.uk/download/pdf/215160202.pdf

- Baskaran C. (2016) A Scientometric study on Bioinformatics Literature during 1999-2013, International Journal of Library Science and

Information Management (IJLSIM), Vol.2, Issue 4,p 62-71, file:///C:/Users/student/Downloads/55.pdf

- Baskaran, C. (2015). Research productivity of enzymes literature: A Scientometric study. *International Journal of Library Science and Information Management (IJLSIM)*, *1*(2), 17-25. https://cutt.ly/iW46gq4

- Baskaran, C.(2012) Research Productivity of Graph Theory during 2004-2011: a Bibliometric Study, SRELS journal of Information Management, Vol.49, Issue 6,p 683-691. http://www.informaticsjournals.in/index.php/srels/article/view/5106

- Baskaran C. and Ramesh Babu P. (2019). The substantial research on Quantitative analysis and Publications measure in Forensic Medicine. *Library Philosophy and Practice*, 1-17.

- Baskaran, C. (2018). Use of Social Networks (SNs) and Medias on Dissemination of Scholarly information among the Research Scholars in Alagappa University, Karaikudi, Tamil Nadu. *Journal of Advances in Library and Information Science*, *7*(3), 257-261.

- file:///C:/Users/student/Downloads/56ICSSR.pdf

- Baskaran, C., & Karuilancheran, C. (2015). Activity Index and Lotka's Law Application with Diabetes and Allied Diseases in India during 1995–2013. *SRELS Journal of Information Management*, *52*(6), 423-431. http://informaticsjournals.in/index.php/srels/article/view/3298

- Baskaran, C. (2014). Citations analysis on library and information science research: The quantitative approach from Web of Science. *SRELS Journal of Information Management*, *51*(3), 165-169. https://cutt.ly/SW7f1jG

- Baskaran, C. (2013). Accessing pattern of Electronic Journals through UGC-INFONET by the faculty members and research scholars in Alagappa University: A Study. *Pearl: A Journal of Library and Information Science*, *7*(1), 31-37.https://www.indianjournals.com/ijor.aspx?target=ijor:pjolis&volume=7&issue=1&article=006

- Prasad, M and Baskaran, C. (2019). Research Quantify with faculty member's perception and expectations in e-context at the academic sphere"(2019). *Library Philosophy and Practice (e-journal)*, *2332*. https://cutt.ly/TEqXHvx

- Baskaran, C. (2018). Mapping of Bioremediation Research Output in India: A Scientometric Study. *Library Philosophy and Practice*, *2038*.https://core.ac.uk/download/pdf/188141077.pdf

- Sivakami, N and Baskaran, C. (2016). Time series analysis of swine flu literature during 1991-2013. *International Journal of Library Science and Information Management*, *2*(1), 38-46. https://cutt.ly/QEqC0zD

- Baskaran, C. (2014). Information Resources Access Pattern at Alagappa University Library, Karaikudi, and Tamilnadu, India. *International Journal of Library and Information Studies*, *4*(1), 19-23. https://cutt.ly/OEqBzRg

- Saravanan, S and Baskaran, C. (2019). Thirty Years of Global Literature on Bioleaching: A Scientometric Analysis. *Library Philosophy and Practice*, 1-17. https://core.ac.uk/download/pdf/215160151.pdf

- Baskaran, C. (2019). Scholarly Information Share through Social Networks (SNs) and Medias among Social Science Scholars in selected State Universities in Tamilnadu. *International Journal of Library and Information Studies*, *9*(3), 83-92.

- Baskaran, C. (2018). Publication meant for highly quality research through LIS in India: The Special Reference to DESIDOC Journal of Library and Information Technology (DJLIT). *Library Philosophy and Practice*, 1-20. https://cutt.ly/GEq1bVT

- Ramesh Babu, P and Baskaran, C. (2017). Research Pattern on Forensic Medicine in Global Output: A Scientometric Analysis. *International Journal of Library Science and Information Management*, *3*(1), 53-64. https://cutt.ly/ZEq0Qgl

- Baskaran, C. (2020). Altmetrics research on the global output: A scientometric analysis. In *Measuring and Implementing Altmetrics in Library and Information Science Research* (pp. 62-73). IGI Global. https://cutt.ly/uEq2Ayr

- Baskaran, C. (2020). Altmetircs Research: An Impact and Tools. In *Measuring and Implementing Altmetrics in Library and Information Science Research* (pp. 1-10). IGI Global.

- Baskaran, C. (2020). Research Patterns on the Social Networks and Media: A Scientometric Portrait. In *Handbook of research on emerging trends and technologies in library and information science* (pp. 189-207). IGI Global. https://cutt.ly/wEq9xd4

- Palanivel, K and Baskaran, C. (2018). Bibliometric Analysis of the Journal–Economic Affairs. *International Journal of Research in Library Science*, *4*(1), 7-15.

- https://cutt.ly/SEq9Zcs

- Murugaiah, P and Baskaran, C. (2013). Assessment of Research Collaboration on Human DNA In Japan During 1990-2011. International Journal of Library and Information Studies, *3*, 2.p 9-16, https://cutt.ly/OEq3zNp

- Baskaran, C and Pitchaipandi, P. (2021). Research Scholars transferring Scholarly Information through Social Medias and Networks in the Selected State Universities of Tamil Nadu. In *Computer Networks, Big Data and IoT* (pp. 177-191). Springer, Singapore. https://cutt.ly/UEwI3MK

- Baskaran, C. (2020). Scientometric analysis of Publication trend on Information Management (IM). *Library Philosophy and Practice*, 1-

15. https://cutt.ly/nEwPKs2

- Radhakrishnan, S and Baskaran, C. (2020). Phytochemistry Literature: An Altmetrics Analysis. Library Philosophy and Practice (e-journal), p-112. https://cutt.ly/nEwDaD1

- Baskaran, C and Binu, P. C. (2020). The Faculty Members and Research Scholars Attain Academic and Research Thoughts by Accessing Electronic Information in the Universities of Kerala, India. *Library Philosophy and Practice*, 1-26. https://cutt.ly/fEwFIv0

- Baskaran, C. (2020). Initiatives of an Institutional Repository (IR) of the Academic Institutions in the Indian Scenario: Prospects and Challenges. In *Handbook of Research on Emerging Trends and Technologies in Library and Information Science* (pp. 208-214). IGI Global. https://cutt.ly/lEw26Ro

- Radhakrishnan, S., & Baskaran, C. (2019). Authorship Productivity and Applicability of Lotka's Law in Phytochemistry Literature, Library Philosophy and Practice (e-journal). 3618,

- Baskaran, C., & Babu, P. R. (2019). Activity Index and Author Exponential Growth on Forensic Medicine. Journal of Social Sciences, p19-28. https://cutt.ly/OEeqNnx

- Baskaran, C. (2018). Citations impact of the faculties in Alagappa University, Karaikudi, Tamil Nadu. *Pearl: A Journal of Library and Information Science*, *12*(3), 300-309.

- Baskaran, C and Rameshbabu, P. (2018). Publication Pattern and Research Colloboration of Forensic Medicine During 1989-2016. *Zacchia*, *8*, 1. https://cutt.ly/YErFUNg

- Radhakrishnan.S and Baskaran C. (2018) Journal of Solar Energy Engineering, Transactions of the ASME : A Scientometric Analysis, Journal of Advances in Library and Information Vol. 7. No.1. Pp.103-108, file:///C:/Users/student/Downloads/64.pdf

- Murugiah, P and Baskaran, C. (2014) Status of Human DNA Research in the United States of America: A Scientometric Analysis, Journal of Advances in Library and Information Science, Vol. 3. No.4. Pp328-334. file:///C:/Users/student/Downloads/30%20(1).pdf

- Sivakami, N and Baskaran, C. (2014). A Scientometric Analysis Of Research Productivity In Wine Flu Disease. International Journal of Library and Information Studies, *young*, *4*, 4.

- Baskaran, C. (2013). Research growth trend and author collaboration of Alagappa University in India during 1999-2011. *International Journal of Library and Information Studies*, *3*(1), 57-64. https://cutt.ly/UEt2kWk

- Veeramuthu, P and Baskaran, C. (2018). Scientometric Analysis Of The Journal "Nature Biotechnology". "Knowledge Librarian" An International Peer Reviewed Bilingual E-Journal of Library and Information Science Volume: 05, Issue: 02, Pg. No. 217-228 *growth*, *100*, 3. https://cutt.ly/8Et24A8

- Baskaran, C. (2011). Scholarly open access resources through online. http://14.139.186.108/jspui/bitstream/123456789/1891/1/243.doc.pdf

- Baskaran, C. (2011). Bibliometric Law Validation on Hemophilia Disease. *Indian Journal of Information Science and Services*, *5*(1), 46.

- Senthil Kumar P.A and Baskaran, C. (2018) Scientometric Analysis of Synthetic Fiber Literature. Library Philosophy and Practice (e-journal).pp1-11, https://core.ac.uk/download/pdf/220153043.pdf

- Krishnan, P and Baskaran, C. (2018) Scientometric Analysis of the Journal "Green Chemistry". International Journal of Research in Library Science, Volume 4,Issue 1,pp 16-24. https://cutt.ly/fEygYBD

- Baskaran C. (2013) Research Growth Trend and Author Collaboration of Alagappa University in India during 1999-2011, International Journal of Library and Information Studies,Vol.3,Issue1,p57-64, http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.711.8356&rep=rep1&type=pdf

- Baskaran C. (2013). Research growth trend and author collaboration of Alagappa University in India during 1999-2011. International Journal of Library and Information Studies, 3(1),57-64.

- Baskaran C. (2016). A Scientometric study on Bioinformatics literature during 1999-2013. International Journal of Library Science and Information Management(IJLSIM), 2(4),62-71.

- Baskaran C. (2015). Research productivity of enzymes literature: A Scientometric study, International Journal of Library Science and Information Management(IJLSIM),1(2),17-25.

- Baskaran C. (2012). Research productivity of Graph theory during 2004-2011: A Bibliometric study, SRELS journal of Information Management,49(6),683-691.

- Baskaran C and Karuilancheran C. (2015). Activity Index and Lotka's Law Application with Diabetes and Allied Diseases in India during 1995–2013, SRELS Journal of Information Management, 52(6).

- Baskaran, C. (2011) User Perception of Library Services in Academic Institutions in the

- Southern Districts of Tamil Nadu, India: A Case Study, Library Philosophy and Practice (e-

- journal), p 1-6, https://core.ac.uk/download/pdf/188061487.pdf
- Baskaran C (2018) Emerging E-Learning Technology (ELT) in Open Distance Learning
- (ODL): The Contemporary Issues in Higher Education Context, Chapter 12, p191-203
- https://cutt.ly/NW4KhUJ
- Baskaran, C. (2018). MOOCS Applications in Open Distance Leaning (ODL): Issues and
- Challenges. Library and Information Science in the Age of MOOCs, p163-177.
- https://cutt.ly/tW7uYDW
- Baskaran, C. (2018). Use of Social Networks (SNs) and Medias on Dissemination of
- Scholarly information among the Research Scholars in Alagappa University, Karaikudi,
- Tamil Nadu. Journal of Advances in Library and Information Science, 7(3), 257-261.
- file:///C:/Users/student/Downloads/56ICSSR.pdf
- Baskaran, C. (2013). Accessing pattern of Electronic Journals through UGC-INFONET by
- the faculty members and research scholars in Alagappa University: A Study. Pearl: A
- Journal of Library and Information Science, 7(1), 31-37.
- Prasad, M., & Baskaran, C. (2019). Research Quantify with faculty member's perception and expectations in e-context at the academic sphere"(2019). Library Philosophy and Practice (e- journal), 2332. https://cutt.ly/TEqXHvx
- Baskaran, C. (2014). Information Resources Access Pattern at Alagappa University Library,
- Karaikudi, and Tamilnadu, India. International Journal of Library and Information
- Studies, 4(1), 19-23. https://cutt.ly/OEqBzRg
- Baskaran, C. (2019). Scholarly Information Share through Social Networks (SNs) and
- Medias among Social Science Scholars in selected State Universities in
- Tamilnadu. International Journal of Library and Information Studies, 9(3), 83-92.
- https://cutt.ly/rEqM3IM
- Binu, P. C., & Baskaran, C. (2017). Electronic resources and services in Kerala state
- University Libraries: a study of users' satisfaction. International Journal of Library Science and Information Management (IJLSIM), 3(3), 1-7.https://cutt.ly/jEq1JA5
- Baskaran, C. (2020). Altmetrics research on the global output: A scientometric analysis.
- In Measuring and Implementing Altmetrics in Library and Information Science Research (pp.
- 62-73). IGI Global. https://cutt.ly/uEq2Ayr
- Baskaran, C. (2020). Altmetircs Research: An Impact and Tools. In Measuring and
- Implementing Altmetrics in Library and Information Science Research (pp. 1-10). IGI Global. https://cutt.ly/eEq23rN
- Baskaran, C. (2020). Research Patterns on the Social Networks and Media: A Scientometric
- Portrait. In Handbook of research on emerging trends and technologies in library and
- information science (pp. 189-207). IGI Global. https://cutt.ly/wEq9xd4
- Pramanathan, U., & Baskaran, C. (2015). Electronic Resources access among the Research Scholars in Bharathidasan University and Periyar University: A Comparative study. Journal of Advances in Library and Information Science, 4(1), 77-85. http://jalis.in/pdf/4- 1/Baskaran.pdf
- Ramesh, P., & Baskaran, C. (2019). Quantitative Analyses For Access Of Electronic
- Information By The Faculty Members In The Engineering And Technology Institutions In
- Coimbatore District. Library Philosophy and Practice, p 1-5. https://cutt.ly/UEq5IGS
- Prasad, M. and Baskaran, C., (2019)"Analyses the Use of Electronic Resources for
- Scholarly Information among the Faculty members in the State Universities in Southern

- Tamilnadu.". Library Philosophy and Practice (e-journal). 2675.

- https://core.ac.uk/download/pdf/228203413.pdf

- Prasad, M., & Baskaran, C. (2019). Access attitude on the Scholarly Information through Electronic Resources among Faculty members in the Universities of Southern

- Tamilnadu. Library Philosophy and Practice, 2676. https://cutt.ly/MEwm2gb

- Baskaran, C. (2018). Disseminating scholarly information access through Social Networks (SNs) and media by the social science research scholars in selected State Universities of Tamilnadu. Journal of Advances in Library and Information Science, 8(3), 124-131. https://cutt.ly/VEwQ0pK

- Pramanathan, U., & Baskaran, C. (2014). E-Resources of Ugc-Infonet Access by the Research Scholars of Bharathidasan University, Tiruchirappalli, India. International Journal of Library and Information Studies, 4(3). https://cutt.ly/ZEwW5yQ

- Pitchaipandi, P., & Baskaran, C. (2020) Use of Web 2.0 Social Networking Sites for Collaborative Sharing Research Information by the Social Science Research Scholars at Alagappa University, Karaikudi. Age, 20(25),p70-74. https://cutt.ly/xEwTStt

- Baskaran, C. (2021). An Exponential trend and Mapping of Research in Web 2.0. Library Philosophy and Practice, 1-20. https://cutt.ly/MEwUSmJ

- Baskaran, C., & Pitchaipandi, P. (2021). Research Scholars transferring Scholarly

- Information through Social Medias and Networks in the Selected State Universities of Tamil Nadu. In Computer Networks, Big Data and IoT (pp. 177-191). Springer, Singapore.

- Pitchaipandi, P., & Baskaran, C. (2021). Significance of Whatsapp for Knowledge sharing the influence of Collaboration on Networks in Online Communities. Journal of Advances in Library and Information Science, 10(1), 38-43. https://cutt.ly/EEwPyLt

- Baskaran, C., & Binu, P. C. (2020). The Faculty Members and Research Scholars Attain Academic and Research Thoughts by Accessing Electronic Information in the Universities of Kerala, India. Library Philosophy and Practice, 1-26. https://cutt.ly/fEwFIv0

- Baskaran, C., & Ramesh, P. (2020). Determining the Electronic Information Access Visibility Among the Faculty Members in the Engineering and Technology Institutions. In Handbook of Research on Emerging Trends and Technologies in Library and Information Science (pp. 296-311). IGI Global. https://cutt.ly/tEwJZdn

- Baskaran, C. (2020). Initiatives of an Institutional Repository (IR) of the Academic Institutions in the Indian Scenario: Prospects and Challenges. In Handbook of Research on Emerging Trends and Technologies in Library and Information Science (pp. 208-214). IGI Global. https://cutt.ly/lEw26Ro

- Ramesh, P., & Baskaran, C. (2019). Quantitative Analyses For Access Of ElectronicInformation By The Faculty Members In The Engineering And Technology Institutions In Coimbatore District. Library Philosophy and Practice, p 1-12. https://cutt.ly/LEw3elS

- Baskaran, C., & Gopalakrishnan, P. (2013). Information Access pattern among Chemistry teachers in Arts & Science Colleges in Tiruchirappalli region, Tamilnadu. Indian Journal of Library and Information Science, 7(2). https://cutt.ly/8Et0AsL

- Baskaran, C. (2011). Scholarly open access resources through online.http://14.139.186.108/jspui/bitstream/123456789/1891/1/243.doc.pdf

- Pitchaipandi, P., & Baskaran, C.(2020) The Role and Consumption of Social Networks/Media Research Communication by the Social Science Students and Research Scholars at Alagappa University, Karaikudi, Tamil Nadu. International Journal of Recent Technology and Engineering (IJRTE), Volume-9 Issue-2,pp 1106- 1110. file:///C:/Users/student/Downloads/B40840792201.pdf

- Baskaran, C.(2015) Scholarly Open Access Towards Effective Learning in Library and Information Science. International Journal of Library Science and Information Management (IJLSIM), Vol.1 (1), https://cutt.ly/MEt7LjQ

- Baskaran, C., & Anbu, S. G. (2011) E-resources access by the Students in Hindustan College of Engineering, Chennai, India: A study. BARNOLIPI - An Interdisciplinary Journal Volume - I. Issue – III, p27-40. https://cutt.ly/4EyhwAF