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Research Productivity of Human DNA: A Scientometric Study

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Abstract

The data has been formatted in Microsoft office exceeds expectations arrangement to avoid the duplication of the downloaded information. The totally 17112 records have been retrieved from the Scopus database for the period of study. Finally, the research has been done for analyzing the data only 17102 taken for further discussion. Results: The most noteworthy efficiency is recorded in 1995 with 767papers (4.48% of the complete papers in a quarter-century). It is seen that the most minimal Relative Growth Rate (RGR) 0.04 found in 2008, 2010 2012 and 2014 RGR ascended to 0.75 in 1990 and a normal mean estimation of RGR was 0.15. The Dt was an expanding pattern showed up from 0.95 to 17.33 and a diminished tend showed up as 13.86 in the year 2011. The mean RGR between 0.08 to 0.15 and the mean for Dt from 2037 to 9.70. Clearly mean for RGR indicated an expanding and diminishing pattern saw during the period. The Relative Growth Rate is 0.64 in 1990 and 0.06 in 2013. The Dt development pattern showed up from 1.08 in 1990 it ascended to 11.55 in 2014. A normal mean of RGR and Dt was 0.13 and 7.24 separately. The RGR was seeing that fluctuating patterns go somewhere in the range of 0.04 and 0.28 in over the time of the study. The DT showed up the fluctuating pattern during the period. A normal mean of RGR and DT were 0.14 and 8.16 separately.

Keywords: Human DNA; Scientometrics; Year-wise publications; Relative Growth Rate (RGR); Doubling time (Dt); Medline.

Introduction

Our bodies are made of numerous cells; each molecular fuse an entire proliferation of an individual's genetic plan or plan. This hereditary arrangement is bundled inside the phones inside the design of genes. Chromosomes will be thought of as being produced using strings of genes (Genetics Home Reference 2012). The body is made from numerous option varieties of cells, the limit of which incorporate chromosomes. The chromosome comprises of firmly snaked DNA strands. DNA fuses fundamentally all the data to make an individual's being. The information is 'put away' inside the qualities. At the point when the qualities are activated, proteins are made and transported to where they're needed. The human DNA codes for 31,000 to 39,000 qualities. Every quality is a blessing in duplicates, one from the daddy and one from the mother. The mixed articulation of the entirety of the qualities determines everything that delivers every one individual interesting (Immune Deficiency Foundation 2008).[2]

DNA (deoxyribonucleic corrosive) is that the hereditary material of basically all living beings, including people. It's a dreadfully straightforward concoction arrangement, which joins four distinct nucleotides or bases called adenine, thymine, cytosine, and guanine which are regularly known by the letters A, T, C, and G. The DNA is found in pretty much every cell inside the body, from platelets to skin cells, to liver cells, and furthermore the request for the bases is that a similar by and large the cells from one individual (Butler. G) . Just limited quantities of muscle are required to get a

DNA profile. Distributed rules suggest that 1 gram of muscle be taken much of the time; 100 mg of tissue (at 3-4 mm shape) will give plentiful DNA to the investigation (ICPO 2009).

Review of Literature

Koenig (1983), analyzed the pharmaceutical exploration from a bibliometric point of view. The investigation found that there are bibliometric associates of fruitful pharmaceutical exploration, explicitly, the sum and extent of the star (exceptionally referred to) clinical medication articles. The examination uncovers that organization research detailed in fundamental biomedical exploration diaries is unbelievably profoundly referred to, on a standard with NIH bolstered graduate school research.

Schubert. A Zsindely and Braun (1985)[6], examined that, end up being more beneficial creators than "normal researchers" of the indistinguishable nation, yet no specific greatness of the educators might be uncovered. A relationship was found between the norm of clinical medication papers and hence the bleakness inside the nations being referred to. Gupta (1989)[3], led an investigation on the reference index of the biochemical writing of Nigeria for the sum, 1970–1984. Lotka's law and Egghe's hypothesis and equation were acclimated test 80/20-rule and it completely was discovered that the standard didn't have any significant bearing to any of the four informational collections.

Gomez Sanz and Mendez (1990)[7], have directed an investigation on A bibliometric examination of the Spanish distributions committed to the systema nervosum, as secured by the database BIOSIS Previews during the years 1983–1986, the examination endeavor has been made to get bibliometric markers that edify the particular highlights of this exploration subfield in Spain, which are fit to be utilized for science strategy choices. Baskaran (2013) analyzed that informatics focuses on understanding issues from a stakeholder perspective and applying information and other technologies as needed.

That is, it deals with system problems first, not individual technologies in the system. In this regard, informatics considers the technology to be the answer to technical decisions, as it believes that technology is "developed according to its own laws, has its own potential, and is limited only by available material resources." can do. Baskaran (2013) used a total of 6610 records from the Web of Science to contribute to the academic productivity and research of the encryption fields in four major countries: China, the United States, Taiwan, and Japan. It was analyzed that the distribution of diversity was evaluated and related research areas. Baskaran (2013) argued that doubling time (Dt) tends to increase and decrease in this study. The degree of cooperation and its average value is determined to be 0.963.

The three institutions of are productivity leaders. That is, Aragappa University, National Chenking University, Anna University, where CECRI is located. Baskaran and Binu (2019) analyzed that most of the 416 respondents (98.8%) were looking for educational and research information. Research results can determine various parameters of scientific access to electronic resources. Research facilitates the acquisition of electronic information and helps stimulate user research and academic thinking. Baskaran (2018) investigated the role of computers in the provision of education.

Baskaran (2016) discussed the best papers published in the Bioinformatics Journal, and Harvard scientists contributed most of the papers to this study. Both RGR and DT showed this trend throughout the study. Baskaran (2015) investigated the three most important paradigm shifts in 21 library environments. Baskaran (2015) analyzed that US scholars contributed a total of 15832 (30.815%) of articles, 87.947% of which were published as journals. article. Harvard scientists have received a lot of attention in various research papers and occupy a leading position in research collaboration in the field of enzyme research. Baskaran (2012) argued that doubling time (Dt) tended to fluctuate during the study period.

The results use the least squares method to exclude productive authors and the maximum likelihood method to examine the exponential growth of authors. In the process, it was decided that Lotka's law was applicable to graph theory research. Baskaran and Ramesh (2019) analyzed that the study analyzed that electronic information access patterns between faculty and staff play an important role in performing a variety of tasks for engineering respondents. According to this survey, the survey aims to analyze that 76% of respondents are male, of which 26% are female.

Baskaran and Ramesh Babu (2019) investigated the publishing productivity of forensic outcomes from 1989 to 2016. Growth of publications in research, RGR and Dt of research results, cooperation between authors. Baskaran (2018) analyzed that the highest SD is 21.71405 and 21.71405 Issues found Missing smartphone and lacking security of personal data.

The best resume was 864.5, which was found in the absence of personal data security. Baskaran and Karuilancheran (2015) has a significance level of 29 degrees of freedom at C.V. 0.05, which gives a chi-square (X2) calculation of 5309,368. After that, the performance of researchers began to decline. It was supported by SPI, which is only between 9 and 10. Baskaran (2014) discussed the quantitative analysis of the productivity and characteristics of citations from Library and Information Science (LIS) publications from 2003 to 2012. A total of 1,942 articles and 12,502 citations have been published in the SSCI-indexed LIS journal. 21.36% of the citations were received in 2012. Baskaran, C. (2013) analyzed that 70 (59.1%) of faculty members who participated in the survey learned through 28 (56%) guidance from teachers / managers.

There is evidence that the majority of faculty and staff, 21 (42%), use their department to access information, and 28 (40%) of researchers access their department's e-journals. Baskaran (2019) analyzed 4,444,210 (55.26) respondents who were very happy with OPAC/Web-OPAC. 205 (53.90) respondents are very happy with EDatabases and 192 (50.52) respondents are very happy with the automated lending service.

Baskaran (2018) uses the software HistCite to publish on the number of publications, growth rate and doubling time, distribution of publications across journals, publication output, author patterns, and bioremediation research in India. We investigated a map of the impact of this on global quotes. , VOS viewer. Indian Institute of Technology, Baba Atomic Research Center, and CSIR are leading producers of research in the field of bioremediation. Sivakami and Baskaran (2016) analyzed a total of 64,030 datasets from the Medline database in this study. Resources of all types showed the largest decline in 2010 and 2011, with an average of 2,784 publications per year. We conducted a time series analysis of the most productive countries (US) and India and compared the results over the next few years.

Baskaran (2014) describes the quality of the collection in terms of books, magazines and resources. Yahoo is the most popular search engine for internet surfing. Book rental is a favorite of the staff. Saravanan and Baskaran (2019) investigated bibliographic binding, linguistic distribution, keyword distribution, geographical distribution of documents, and a history of local and global citations by established institutions. Analyzed by Bascalan (2019). Most of the 90 (33%), 76 (27.8), and 51 (18.7%) respondents said they "fully agree," "agree," "no comment," "easily accessible," and "prefer." I answered. Analyze large amounts of data. " Baskaran (2018) surveyed most publications in 44.15% of the two authors in the analysis of BM. Guptha has published 18 articles on DJ LIT and is the lead author. .

Baskaran, (2013) explored Degree of collaboration and its' mean value is found to be 0.963. The top three institutions with Alagappa University are Central Electro Chemical Research Institute, National Cheng King University, and Anna University. Baskaran and Sivakami, (2014) discussed Quantitative analysis is carried out to identify the literature growth, authorship pattern, collaboration and journal distribution on Swine influenza disease research based on data obtained from Pubmed databases for a period from 2006-2010.

A total of 2360 articles were downloaded from Pubmed database using the search term "Swine*" subjected to bibliometric data analysis techniques. Baskaran (2013) analysed that Information science focuses on understanding problems from the perspective of stakeholders and then applying information and other technologies as needed. In other words, it tackles systemic problems first rather than individual pieces of technology within that system.

In this respect, information science can be seen as a response to technological determination, the belief that technology "develops by its own laws, that it realizes its own potential, limited only by the material resources available, Baskaran (2013) analysed that a total number of 6610 records which were retrieved from the Web of Science was used to assess the academic productivity and distribution of research diversity of cryptography field from four major countries China, USA, Taiwan and Japan which contributed more papers in cryptography and allied field of researches.

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 top three institutions with Alagappa University are Central Electro Chemical Research Institute, National Cheng King University and Anna University. Baskaran and Binu (2019) analysed that Majority of respondents 416 (98.8%) are searching for educational and research Information. The findings of the study could identify the various parameters while access Electronic resources by the academic community. The study would helpful to bring to access Electronic Information for momentum of

gain research and academic ideas among the users. Baskaran (2018) examined that computers became involved in the delivery of education, a proposed definition identifies the delivery of instructional materials, using both print and electronic media. Baskaran (2016) discussed the highest publication published in Bioinformatics journal and Harvard University scientists contributed highest number of publication in the study.

RGR and DT is exhibits that fluctuating trend happening whole period of study. 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 researchers 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. Harvard University scientists are much attention in produced large number of research papers and they hold top level among research collaboration in enzyme research.

Baskaran (2012) discussed that Doubling Time (Dt) has shown as fluctuating trend during the period of study. The result examined the author exponential growth using least squares excluding high productive authors and maximum likelihood method. Lotka's law is found to be applicable to graph theory research during the study period. Baskaran and Ramesh (2019) analyzed that The study analyses Electronic information access pattern among the faculty members is the significant role in the Engineering institutions towards various tasks to fulfil by the respondents. The study aim to analyze that 76 percent of the respondents are male and 26 percent of them are female observed from the study.

Baskaran and Ramesh Babu (2019) examined the publication productivity of Forensic Medicine output during 1989-2016. The growth of the publications, RGR and Dt of the research output, Collaboration of authors, Collaborative co-efficient etc. in the study. 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 (X2) obtained in this case is 5309.368. Afterwards, 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 1942 contributions published and 12102 citations received in the LIS journals indexed in SSCI. 21.36% of citations were received in 2012.

Baskaran, C. (2013) analyzed that faculty members who respondents to the study, 70 (59.1%) learned through guidance from their teachers/guide 28 (56%). It is proved that the highest proportion of faculty member, 21 (42%), use their department for accessing the information, while 28 (40%) of the research scholars were accessing their e-journals in their department itself. 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 centre and CSIR are the major producers of research output in the area of bioremediation. Sivakami and Baskaran (2016) analysed that total of 64030 records were obtained from Medline databases have been taken for this study.

All kinds of resources are fallen in highest in the year 2010 & 2011 with average publications of 2,784 per year. The Time series analysis ware carried out for the top most productive country (USA) and India to compare the research output in forth coming years. Baskaran (2014) discussed quality of collection with respect to books, Journals and e-resources. Yahoo is most popular search engine among the user for browsing the net. Book lending service is the most prefer by the staff.

Saravanan, and Baskaran (2019) examined the identifies bibliographic coupling of the institution, language distribution, keyword distribution, geographical distribution of the literature and Historiography on Local and Global Citation is also analyzed. Baskaran (2019) analyzed the majority 90 (33%), 76 (27.8) and 51 (18.7%) of the respondents of them recorded that "Strongly Agree", "Agree", and "No Comment" respectively to prefer "Easy to access massive amount of data to analyse". Baskaran (2018) examined the majority

of publications 44.15% representing by the two authors in the analysis BM. Guptha was published 18 papers in DJLIT, who is a ranked 1 author. It followed by Chenupathi K. Ramiah shored second his publications.[11] University of Delhi, which is the top ranked institution. Binu and Baskaran (2017) analyzed the assess the user satisfaction with respect to the eresources and services. It reveals that majority of respondents are using e-resources at large extent or very large extent for different purposes. Users' satisfaction level is very high with respect to various electronic resources and services available in the library.

Ramesh Babu and Baskaran (2017) analyzed the analyses that research growth trend of Forensic Medicine during 1989-2015. It is observed highest out of Forensic Medicine research Forensic Medicine research in 2013 was 447 (11.05%) of the publications, followed by 420 (10.38%) of the publication brought out in 2015. the doubling time of the publications also a fluctuate trend appears whole study period. Baskaran (2020) analyzed the lowest relative growth rate (RGR; 0.04) was found in 2008. 2010, 2012, and 2014 RGR rose up to 0.75 in 1990, and the average mean value of relative growth rate (RGR) is 0.15. The highest number of publications (293; 63.55%) accumulated from information science library science.

This area has been ranked first among 21 research fields listed in the study. Baskaran (2020) describes Altmetrics use in public APIs across platforms to gather data with open scripts and algorithms. Altmetrics did not originally cover citation counts. It calculated scholar impact based on diverse online research output, such as social media, online news media, and online reference managers. Baskaran, C. (2020) analyzed the 11,941 total records on social networks and media retrieved from Web of Science database during the period of study. Palanivel and Baskaran (2018) studied the 2313 scholarly communications published in the Economic Affairs Journal.

The analysis cover mainly the number of articles, form of document, the study is obtained from the Scopus database in 2313 results for thirty seven years in this results retrieved are analyzed using excel worksheets. Pramanathan and Baskaran (2015) discussed the 199 (49.13%) and 131 (43.52%) of the respondents were female respondents from Bharathidasan University and Periyar University. Majority of the 310 (76.54%) and 198 (65.78%) of the respondents who have got research experience below 3 years from Bharathidasan and Periyar university. Murugaiah and Baskaran (2013) analyzed the high number of papers was collaborated with United States researchers in the field of Human DNA. The study measures the performance based on several parameters, country year-wise growth rate, authorship pattern, collaborative index, collaborative coefficient, leading collaborative countries and authors have contributed publications in Human DNA research. Baskaran (2020) discussed the maximum 290 (12.20%) of the publications contributed by the researchers from Central Electro chemical Research Institute was highly collaborated with Alagappa Universities, which has top Citations and h-Index 3852 and 32 respectively.

The propounded according to Google Scholar Metrics (GSM) SK Pandian was to be a top ranked researcher, despites his year wise citations shows 4491 and h-Index credited 36 during 2008-2018. Ramesh and Baskaran (2019) analyzed the respondents "Satisfied" with e-resources offering lecturing materials. This data presents that a large number of respondents 265 (51.0%) prefer gateway portal to a "Large Extent' and 139 (26.7%) of the respondents prefer to a "Very Large Extent". On the other hand, it has also been noticed that 105 (20.2%) of the respondents are "Less satisfied" whereas 11 (2.1%) of the respondents opted "No Comment". Baskaran (2018) discussed the majority of 63 (27.6%) specified "Aware" and Usage of Whatsapp, 53 (23.2%) You Tube, 47 (20.6%) Google+, 46 (20.2%) Face Book, 23 (10.1%) Tumbler/Messenger, 21 (9.2%) Twitter, 18 (7.9%) Others and 17 (7.5%) Instagram. Functions appropriate to their parent institutions.

Baskaran (2021) analyzed the majority 134 (1.96%) of the publications contributed by the researchers from the University of California systems. Zhang Y was the top author has contributed 16(0.23%) of the publications in the field of Web 2.0, subsequently, Kolt GS, Li Q, Vandelantte C, Zhang J, the publications equally appears 13(0.19%) of the publications. Baskaran and Pitchaipandi (2021) analyzed the respondents highly prefer group sites (Yahoo, Google, and Whatsapp).

The research analyses that social media tools for research the majority of the respondents highly preferred Facebook wall for shared the research information by the respondents in the eight Universities in Tamil Nadu. Pitchaipandi and Baskaran (2021) examined the 51.3% of the respondents visit 1/hr day in using WhatsApp. 78.9% of the respondents added the Whatsapp Groups from Friends of the respondents respectively. Among the WhatsApp as instructive

help devices and administrations in a Thiruvalluvar University. Baskaran (2020) analyzed that there are twenty five institutions are listed, among them University of Washington has contributed highest 48 (0.98%) of the publications witnessed be a first position out of twenty five. Radhakrishnan and Baskaran, C. (2020) discussed there is a moderate correlation between Citation and Altmetric Score. Only one paper obtains citation and Altmetric score equally. Another paper gets citation and Altmetric score in near equal. Out of the 10 papers, four papers received more citations. Of the 4 highly cited articles, three papers receive very low Altmetric score and only one paper receives high Altmetric score.

Baskaran and Binu (2020) discussed that majority of respondents 109 (21.9%) are post graduates and 75 (17.8%) are having PG with NET qualification. Mean value for 'To borrow books' was 3.86 and assigned the rank one. Majority of respondents 416 (98.8%) are searching for educational and research Information. The findings of the study could identify the various parameters while access Electronic resources by the academic community. Baskaran and Ramesh (2020) analyzed that Two hundred fifty-one (48.3%) respondents rated that information sought from e-books are "excellent" while 205 (39.4%) of the respondents rated them as "very good."

Two hundred eighty (53.8%) respondents "agree" that electronic journals save the time of the user while 219 (42.1%) of the respondents "strongly agree." A miniscule number, 21 (4.0%), respondents "disagree." Baskaran, C. (2020) discussed that Currently, ROAR lists 1,793 and Open DOAR lists about 1,966 IRs all over the world. It is found that more institutions (47) installed the D-Space (62%). It is followed by e-prints adopted (26), and two institutions implemented OAR through GSDL. Ramesh, P and Baskaran, C. (2019) analysed that at a large number of respondents 265 (51.0%) prefer gateway portal to a "Large Extent'and 139 (26.7%) of the respondents prefer to a "Very Large Extent". On the other hand, it has also been noticed that 105 (20.2%) of the respondents are "Less satisfied" whereas 11 (2.1%) of the respondents opted "No Comment".

Radhakrishnan and Baskaran (2019) analyzed that square root of total authors, who have contributed 7.94% of the total contribution, is found to be 215.52 in Price square Root Law. The Pareto's 80/20 rules state that 20% of the authors contributed only 46.60% of the total contribution. Baskaran and Babu, P. R. (2019) discussed the activity index and exponential growth of authors analysed during 1989-2016. The result of the study found that publications growth between 11 (0.26%) in 1989 and 447 (10.76%) in 201. RGR shows a fluctuates trend between 0.02 and 1.02 in 2005, 2006 and 1991 respectively. Complete twenty three years the research could be observed that RGR less than 1. Baskaran, C. (2018) discussed that highest of 2093 (13.94%) citations received by Prof. Sanjeeviraja out of 180 (11.41%) of the Publications during the period. Material Science has 5632 Citations for 488 Publications with the highest h-index was 37. Baskaran and Rameshbabu (2018) conducted the study largest output in was found 447 publications in 2013. It is found the DC between 0.64 and 0.94 and overall DC measured to be 23.08 throughout study period.

The study could be found DC was an increased and a decreased trend appeared in the whole study period. Value n in the field of Forensic Medicine is being analysed, it has calculated the exponential growth is n= 4.4320914 for author. Radhakrishnan and Baskaran (2018) discussed that maximum number of articles 114 (4.83%) were published in the year of 2015. In the Authorship Pattern, the major contribution of articles was from two authors 776 (32.87%). The Time series analysis technique reveals the estimated future growth of articles in the Journal will be increased from 63.81 (2016) to 88.13 in 2020 and 93.66 in the year 2021. Murugiah and Baskaran (2014) analyzed the document types, journal articles were the highest numbers with 7210 papers or 99.26%.

From this study, it is observed that the Journal of Biological Chemistry has published with 529 research papers and find top position which is accounted for 7.28% of the total articles. Sivakami and Baskaran (2014) analyzed that kinds of resources are fallen in highest in the year 2010 & 2011. Collaborative authors' productivity is more than a single contribution.

The degree of collaboration C= 0.884 represents 88 percent of collaborative authors article that were published during the study periods. Bradford's law fits well on sample. Baskaran, C. (2013) examined the 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 top three institutions with Alagappa University are Central Electro Chemical Research Institute, National Cheng King University and Anna University. Veeramuthu and Baskaran (2018) analyzed the maximum articles 568 were published in the year 1999 and the minimum 46 in the year

1995. In the authorship pattern, the maximum articles 5131 were published by single author. The RGR in the starting year 1990 is 0.78 and 0.03 in the last year 2017. The Doubling time in the starting year 1990 was 0.88 and in the last year 2017 for 27.47. Baskaran, C. (2011) analyzed the Author's collaboration analyzed through Subramanian's formula and it expressed C= Nm/Nm+ Ns. Lotka's law and bradford's law of scattering were applied to count the author productivity and core journals in this specific subject. Lotka's law is n= 2 and Bradford's law scattering 1: n: n2.

These have been analysed in this study. Pitchaipandi and Baskaran (2020) investigated the The social Networks and Media exchange information, ideas and pictures/videos in virtual communities and networks. The assessment of this study was the role and consumption of Social Networks/Media Research Communication by the Students and Research Scholars' Social Science at Alagappa University, Karaikudi, Tamilnadu. Senthil Kumar and Baskaran (2018) discussed the Journal named "Advanced Materials Research" ranked in the top position in contributing articles 59 (2.28%) in this field. The highly prolific author is Monteiro S.N who has contributed 41 articles 0.47 %. Krishnan and Baskaran (2018) studied the maximum articles 1084 were published by four authors.

The RGR in the starting year 2000 is 0.71 and 0.12 in the last year 2017. The Doubling time in the starting year 2000 was 0.98 and in the last year 2017 was 5.96. In the Country wise distribution of articles, the major contribution was from China 1381 (19.21%). Baskaran, and Anbu, S. G. (2011) attempt to the internet based resources by the students of Hindustan college of Engineering, Chennai (India). The aim is to determine the use of Internet based resources by the students skills in handing the different types of documents can access to academic and various purposes. This survey reflects the availability of e-resources and typically examines the quantum of their use in Hindustan college of Engineering.

Results

The research development of publications distributions in the field of human DNA for 25 years from 1989 to 2013. Table 1 is discovered that the absolute best efficiency is recorded in 1995 with 767papers (4.48% of the whole papers at a quarter century), trailed by 756 (4.42%) of the distributions in 1996. It's seen that the profitability of exploration ranges between about 3.49 % and 4.48% out of 17102 distributions during the time of study. There has been a fluctuating pattern appeared inside the exploration profitability from 1989 to 2013. (Figure-1).

Table 1: Year-wise publications trend of human DNA during 1989-2013.

Year	No. of Publi cations	%	Cum. Publications	Cum. % of Publications
1989	597	3.49	000	000
1990	675	3.95	1272	7.44
1991	712	4.16	1984	11.60
1992	673	3.94	2657	15.54
1993	733	4.29	3390	19.82
1994	736	4.30	4126	24.13
1995	767	4.48	4893	28.61
1996	756	4.42	5649	33.03
1997	734	4.29	6383	37.32
1998	727	4.25	7110	41.57
1999	736	4.30	7846	45.88
2000	681	3.98	8527	49.86
2001	686	4.01	9213	53.87
2002	674	3.94	9887	57.81
2003	673	3.94	10560	61.75
2004	660	3.86	11220	65.61
2005	662	3.87	11882	69.48
2006	619	3.62	12501	73.10
2007	615	3.60	13116	76.69
2008	630	3.68	13746	80.38
2009	688	4.02	14434	84.40
2010	616	3.60	15050	88.00
2011	639	3.74	15689	91.74
2012	720	4.21	16409	95.95
2013	693	4.05	17102	100.00
Total	17102	100.00		

The investigation made on exploration profitability of different nations and landmasses in the region of human DNA. The exploration distributions from different sources has been taken as a measuring stick to gauge the RGR, and Dt for the complete examination yield in Human DNA is introduced in table 2. The RGR and Dt of distribution in the exploration yield of Human DNA at worldwide writing during the examination time frame are appeared in Table 2. It is seen that the least RGR was 0.04 found in 2008, 2010 2012, and 2014 RGR rose to 0.75 in 1990 and the normal mean estimation of RGR was 0.15. It could be deducted from the conversation over that Dt demonstrated an expanding pattern showed up from 0.95 to 17.33 and a diminished tend showed up as 13.86

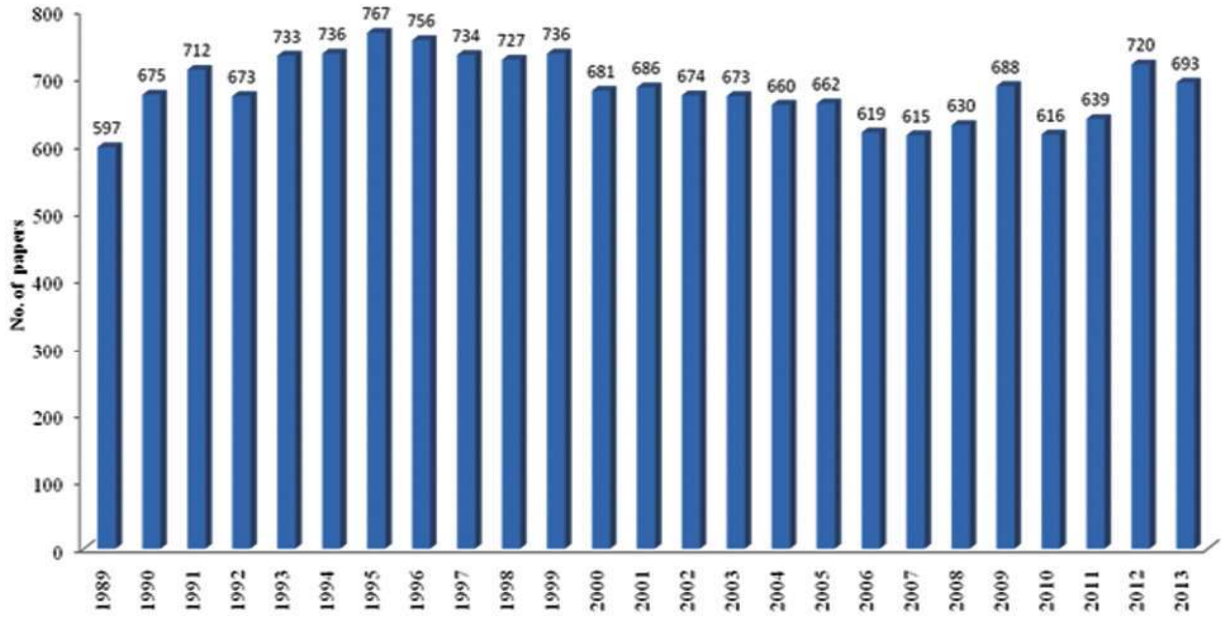

Fig. 1: Year-wise research output of human DNA during 1989-2013.

Table 2: RGR and Dt of the research on human DNA during 1989-2013.

Year	No. of Publications	Cum.	W1	W2	W1-W2 R (a)	Mean (a) 1-2	Dt	Mean Dt (a) 1-2
1989	597	597		6.39				
1990	675	1272	6.39	7.14	0.75		0.92	
1991	712	1984	7.14	7.59	0.45		1.54	
1992	673	2657	7.59	7.88	0.29		2.39	
1993	733	3390	7.88	8.12	0.24	0.43	2.89	1.94
1994	736	4126	8.12	8.32	0.2		3.46	
1995	767	4893	8.32	8.49	0.17		4.08	
1996	756	5649	8.49	8.63	0.14		4.95	
1997	734	6383	8.63	8.76	0.13		5.33	
1998	727	7110	8.76	8.86	0.1	0.15	6.93	4.95
1999	736	7846	8.86	8.96	0.1		6.93	
2000	681	8527	8.96	9.05	0.09		7.70	
2001	686	9213	9.05	9.12	0.07		9.90	
2002	674	9887	9.12	9.19	0.07		9.90	
2003	673	10560	9.19	9.26	0.07	0.08	9.90	8.87
2004	660	11220	9.26	9.32	0.06		11.55	
2005	662	11882	9.32	9.38	0.06		11.55	
2006	619	12501	9.38	9.43	0.05		13.86	
2007	615	13116	9.43	9.48	0.05		13.86	
2008	630	13746	9.48	9.52	0.04	0.05	17.33	13.63
2009	688	14434	9.52	9.57	0.05		13.86	
2010	616	15050	9.57	9.61	0.04		17.33	
2011	639	15689	9.61	9.66	0.05		13.86	
2012	720	16409	9.66	9.70	0.04		17.33	
2013	693	17102	9.70	9.74	0.04	0.04	17.32	15.94
Total	17102				3.35	0.15	224.67	9.06

in the year 2011. The mean estimation of Dt was seen as an expanding pattern from 1.57 to 15.25 likewise the normal mean estimation of dt was 8.89. Table 3 shows RGR and Dt for distributions of African researchers were added to Human DNA research yield. The mean Relative Growth Rate (RGR) between 0.08 to 0.15 and the mean for Dt somewhere in the range of 2037 and 9.70. Clearly, the mean for RGR demonstrated an expanding and diminishing pattern saw during the period.

It is likewise noticed that Dt esteem saw as a diminishing and expanding pattern all through the examination time frame, it is a normal mean worth is 6.10. It could be examined that RGR and Dt for distributions of African Scientists mirror an expanding and diminishing pattern during the investigation time frame. Table 4 demonstrates the RGR and Dt for distributions researchers from the Asian nations on human DNA research. Unmistakably the Relative Growth Rate was seeing that fluctuating pattern in over the time of study. The Relative Growth Rate is 0.64 in 1990 and 0.06 in 2013. The Doubling time (Dt) development pattern showed up from 1.08 in 1990 it ascended to 11.55 in 2014. A normal mean of RGR and Dt were 0.13 and 7.24 separately. It could be seen that RGR and Dt are seen as an expanding and diminishing pattern all through the investigation time frame.

It is seen from table 5, the RGR and Dt for distributions of human DNA contributed among the European Scientists. Plainly the Relative Growth Rate was seeing that fluctuating pattern run somewhere in the range of 0.04 and 0.28 in over the time of study. The Doubling time (Dt)

Table 3: RGR and Dt of the research productivity in African Countries.

Year	No. of Publications	Cum.	W1	W2	W1-W2 R (a)	Mean (a) 1-2	Dt	Mean dt (a) 1-2
1989	7	7		1.94	0		0.00	
1990	0	7	1.94	1.94	0.00		0.00	
1991	3	10	1.94	2.30	0.36		1.93	
1992	1	11	2.30	2.39	0.09		7.70	
1993	4	15	2.39	2.70	0.31	0.15	2.24	2.37
1994	1	16	2.70	2.77	0.07		9.90	
1995	3	19	2.77	2.94	0.17		4.08	
1996	6	25	2.94	3.21	0.27		2.57	
1997	2	27	3.21	3.29	0.08		8.66	
1998	0	27	3.29	3.29	0.00	0.12	0.00	5.04
1999	4	31	3.29	3.43	0.14		4.95	
2000	6	37	3.43	3.61	0.18		3.85	
2001	6	43	3.61	3.76	0.15		4.62	
2002	6	49	3.76	3.89	0.13		5.33	
2003	3	52	3.89	3.95	0.06	0.13	11.55	6.06
2004	5	57	3.95	4.04	0.09		7.70	
2005	5	62	4.04	4.12	0.08		8.66	
2006	6	68	4.12	4.21	0.09		7.70	
2007	6	74	4.21	4.30	0.09		7.70	
2008	11	85	4.30	4.44	0.14	0.14	4.95	7.34
2009	8	93	4.44	4.53	0.09		7.70	
2010	6	99	4.53	4.59	0.06		11.55	
2011	9	108	4.59	4.68	0.09		7.70	
2012	6	114	4.68	4.73	0.05		13.86	
2013	10	124	4.73	4.82	0.09	0.08	7.70	9.70
Total	124				2.88	0.12	152.6	6.10

Table 4: RGR and Dt of the publications in Asian countries.

Year	No. of Publications	Cum.	W1	W2	W1-W2 R (a)	Mean (a) 1-2	Dt	Mean Dt (a) 1-2
1989	117	117		4.76	0.00		0.00	
1990	106	223	4.76	5.40	0.64		1.08	
1991	115	338	5.40	5.82	0.42		1.65	
1992	96	434	5.82	6.07	0.25		2.77	
1993	132	566	6.07	6.33	0.26	0.31	2.67	1.63
1994	136	702	6.33	6.55	0.22		3.15	
1995	123	825	6.55	6.71	0.16		4.33	
1996	138	963	6.71	6.87	0.16		4.33	
1997	159	1122	6.87	7.02	0.15		4.62	
1998	145	1267	7.02	7.14	0.12	0.16	5.77	4.44
1999	163	1430	7.14	7.26	0.12		5.77	
2000	146	1576	7.26	7.36	0.10		6.93	
2001	146	1722	7.36	7.45	0.09		7.70	
2002	143	1865	7.45	7.53	0.08		8.66	
2003	107	1972	7.53	7.58	0.05	0.09	13.86	8.59
2004	136	2108	7.58	7.65	0.07		9.90	
2005	173	2281	7.65	7.73	0.08		8.66	
2006	166	2447	7.73	7.80	0.07		9.90	
2007	154	2601	7.80	7.86	0.06		11.55	
2008	192	2793	7.86	7.93	0.07	0.07	9.90	9.98
2009	174	2967	7.93	7.99	0.06		11.55	
2010	183	3150	7.99	8.05	0.06		11.55	
2011	187	3337	8.05	8.11	0.06		11.55	
2012	216	3553	8.11	8.17	0.06		11.55	
2013	214	3767	8.17	8.23	0.06	0.06	11.55	11.55
Total	3767				3.47	0.13	180.95	7.24

showed up the fluctuating pattern during the period. Further, A normal methods for RGR and Dt were 0.14 and 8.16 separately. It could be deducted from conversation over that Relative Growth Rate is demonstrated a fluctuating pattern in over the time of study. Multiplying Time has appeared during the investigation time frame an expanding and diminishing pattern all through examination period.

Conclusion

The research has been discussed about the exploration pattern on the Publications of Human DNA research from 1989 to 2013. The hunt string was utilized 'Human DNA' in the article title search, information go from 1989 to 2013, the applicable information has gathered from just two Subject Areas are in the Sci-Verse Scopus database; these are "Life Sciences", and "Wellbeing Sciences". Further, the "Existence Sciences" are Covered Source Titles in Agricultural and Biological Sciences, Biochemistry, Genetics, and Molecular Biology, Immunology and Microbiology, Neuroscience, Pharmacology, Toxicology and Pharmaceutics, and Multidisciplinary. The "Wellbeing Sciences" are Covered Source Titles in Medicine, Nursing, Veterinary, Dentistry, Health Professions, and Multidisciplinary. This investigation covers the examination of exploration papers distributed in a quarter-century from 1989-2013. It is discovered that the most noteworthy efficiency is recorded in 1995 with 767papers (4.48% of the all-out papers in a quarter-century). The mean Relative Growth Rate (RGR) between 0.08 to 0.15 and the mean for Dt from 2037 to 9.70. The mean for RGR appeared as an expanding and diminishing pattern saw during the period. The Relative Growth Rate was seeing that

Table 5: RGR and Dt of the distributions in European Countries.

Year	No. of Publications	Cum.	W1	W2	W1-W2 R (a)	Mean (a) 1-2	Dt.	Mean Dt (a) 1-2
1989	182	182		5.20	0.00		0.00	
1990	204	386	5.20	5.95	0.75		0.92	
1991	205	591	5.95	6.38	0.43		1.61	
1992	209	800	6.38	6.68	0.30		2.31	
1993	263	1063	6.68	6.96	0.28	0.35	2.48	1.46
1994	265	1328	6.96	7.19	0.23		3.01	
1995	292	1620	7.19	7.39	0.20		3.47	
1996	317	1937	7.39	7.56	0.17		4.08	
1997	301	2238	7.56	7.71	0.15		4.62	
1998	315	2553	7.71	7.84	0.13	0.18	5.33	4.10
1999	350	2903	7.84	7.97	0.13		5.33	
2000	252	3155	7.97	8.05	0.08		8.66	
2001	316	3471	8.05	8.15	0.10		6.93	
2002	310	3781	8.15	8.23	0.08		8.66	
2003	264	4045	8.23	8.30	0.07	0.09	9.90	7.90
2004	322	4367	8.30	8.38	0.08		8.66	
2005	300	4667	8.38	8.44	0.06		11.55	
2006	283	4950	8.44	8.50	0.06		11.55	
2007	284	5234	8.50	8.56	0.06		11.55	
2008	273	5507	8.56	8.61	0.05	0.06	13.86	11.43
2009	281	5788	8.61	8.66	0.05		13.86	
2010	248	6036	8.66	8.70	0.04		17.33	
2011	265	6301	8.70	8.74	0.04		17.32	
2012	263	6564	8.74	8.79	0.05		14.14	
2013	291	6855	8.79	8.83	0.04	0.04	16.90	15.91
Total	6855				3.63	0.14	204.03	8.16

fluctuating patterns run somewhere in the range of 0.04 and 0.28 in all through the investigation.

References

1. Genetics Home Reference, http://ghr.nlm.nih.gov/ (accessed 23 January 2012).
2. Immune Deficiency Foundation, Asia Pacific Alliance Headquarters, New Zealand, 2008.
3. Butler. G, DNA Fingerprinting: The Code to Identification", The RIA Life Sciences Committee, Issue. 3.
4. International Criminal Police Organization (ICPO), Disaster Victim Identification Guide, 2009. Available at: http://www.interpol.int/Public/DisasterVictim/Guide.asp [Accessed 10 may 2013].
5. Koenig M.E.D. A bibliometric analysis of pharmaceutical research. Research Policy 1983; 12: 15–36.
6. Schubert A, Zsindely S, Braun T. Scientometric indicators for evaluating the medical research output of mid-size countries. Scientometrics 1985; 7 ; 155-163.
7. Gupta D. K. Scientometric study of biochemical literature of Nigeria, 1970–1984: Application of Lotka's law and the 80/20-Rule. Scientometrics 1989; 15: 171-179.
8. 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.
9. Baskaran,C. (2013) Scientometric Analysis of Cryptography Research Output, SRELS Journal of Information Management, Vol.50 Issue 4, p 413-421. http://www.srels.in/index.php/sjim/article/view/37422.
10. Baskaran C. (2013) Research Growth Trend and

Author Collaboration of Alagappa University in India during 1999-2011, International Journal of LibraryandInformationStudies,Vol.3,Issue1,p57-64, https://www.ijlis.org/articles/research-growth-trend-and-author-collaboration-of-alagappa-university-in-india-during-19992011.pdf.

11. 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.
12. Baskaran, C. (2015). Research productivity of enzymes literature: A Scientometric study. International Journal of Library Science and Information Management (IJLSIM), 1(2), 17-21.
13. 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.srels.in/index.php/sjim/article/view/43933.
14. 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. https://digitalcommons.unl.edu/libphilprac/2145/.
15. 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), 217-261. http://jalis.in/pdf/7-3/Baskaran.pdf.
16. 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://52.172.152.24/index.php/sjim/article/view/83972.
17. 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. http://www.srels.in/index.php/sjim/article/view/50743.
18. 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.
19. 37.https://www.indianjournals.com/ijor.aspx?target=ijor:pjolis&volume=7&issue=1&article=006.
20. Baskaran, C. (2018). Mapping of Bioremediation Research Output in India: A Scientometric Study. Library Philosophy and Practice, 2038. https://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=5402&context=libphilprac.
21. 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://www.researchgate.net/publication/324537439.
22. Saravanan, S and Baskaran, C. (2019). Thirty Years of Global Literature on Bioleaching: A Scientometric Analysis. Library Philosophy and Practice, 1-17. https://digitalcommons.unl.edu/libphilprac/2230/.
23. 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://digitalcommons.unl.edu/libphilprac/2031/.
24. 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://www.researchgate.net/publication/324537543_
25. 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://www.igi-global.com/chapter/altmetrics-research-on-the-global-output/247745.
26. 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://www.igi-global.com/chapter/altmetircs-research/247735.
27. 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://www.igi-global.com/chapter/research-patterns-on-the-social-networks-and-media/241564.
28. 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://www.researchgate.net/profile/Chinnasamy-Baskaran-2/publication/328215016_
29. Murugiah, 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://www.researchgate.net/publication/324536941_
30. Baskaran, C. (2020). Scientometric analysis of Publication trend on Information Management (IM). Library Philosophy and Practice, 1-15. https://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=7794.
31. Radhakrishnan, S and Baskaran, C. (2020). Phytochemistry Literature: An Altmetrics Analysis. Library Philosophy and Practice (e-journal), p-112. https://digitalcommons.unl.edu/libphilprac/4048/.

32. 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://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=7038.
33. 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://www.igi-global.com/chapter/initiatives-of-an-institutional-repository-ir-of-the-academic-institutions-in-the-indian-scenario/241565.
34. Radhakrishnan, S., & Baskaran, C. (2019). Authorship Productivity and Applicability of Lotka's Law in Phytochemistry Literature, Library Philosophy and Practice (e-journal). 3618, https://digitalcommons.unl.edu/libphilprac/3618/.
35. Baskaran, C., & Babu, P. R. (2019). Activity Index and Author Exponential Growth on Forensic Medicine. Journal of Social Sciences, p19-28. https://thescipub.com/abstract/10.3844/jssp.2019.17.28.
36. 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. https://www.indianjournals.com/ijor.aspx?target=ijor:pjolis&volume=12&issue=3&article=013.
37. Baskaran, C and Rameshbabu, P. (2018). Publication Pattern and Research Colloboration of Forensic Medicine During 1989-2016.8(1), IJLIS,105-115. https://www.ijlis.org/articles/publication-pattern-and-research-colloboration-of-forensic-medincine-during-19892016.pdf.
38. 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.
39. 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. http://jalis.in/pdf/pdf3-4/Murugiah.pdf.
40. Sivakami, N and Baskaran, C. (2014). A Scientometric Analysis Of Research Productivity In Wine Flu Disease. International Journal of Library and Information Studies,4(4). https://www.ijlis.org/articles/a-scientometric-analysis-of-research-productivity-in-wine-flu-disease.pdf.
41. 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://www.researchgate.net/publication/324537117_
42. 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, 217-228 https://www.researchgate.net/publication/328215023_
43. 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.
44. Krishnan, P and Baskaran, C. (2018) Scientometric Analysis of the Journal "Green Chemistry". International Journal of Research in Library Science, 4(1), 16-24.
45. 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://www.ijlis.org/articles/research-growth-trend-and-author-collaboration-of-alagappa-university-in-india-during-19992011.
46. 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://www.ijlis.org/articles/research-growth-trend-and-author-collaboration-of-alagappa-university-in-india-during-19992011.pdf.
47. 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.
48. Baskaran C. (2015). Research productivity of enzymes literature: A Scientometric study, International Journal of Library Science and Information Management(IJLSIM),1(2),17-21.
49. Baskaran C. (2012). Research productivity of Graph theory during 2004-2011: A Bibliometric study, SRELS journal of Information Management,49(6),683-691. http://www.srels.in/index.php/sjim/article/view/43933.
50. 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). http://www.informaticsjournals.com/index.php/srels/article/view/3298.