

Research Productivity of Faculty Members of St. Joseph's College: A Bibliometric Study

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Abstract

An analysis of 381 publications published by St. Joseph's College, Trichy during 1898 to 2012 and indexed by Scopus online database indicates the publication output. Chemistry and Biological Sciences Faculty are the major producers of research. Most of the prolific authors are from the highly cited papers. This work is to provide a profile of St. Joseph's College, Trichy. This includes tracking the number of papers, scatter of papers over journals, and its effect on publication output, authors' institutional collaboration, affiliations and authorship patterns.

Keywords: Bibliometrics, Research Productivity

Introduction

Bibliometrics is a research method used in library and information science. It is a quantitative study of various aspects of literature on a topic and is used to identify the pattern of publication, authorship, and journal coverage to gain insight into the dynamics of growth of knowledge in the areas under consideration. This can lead to better organization of information resources, which is essential for effective and efficient use. Bibliometrics has attained sophistication and complexity with a national, international, and interdisciplinary character.

Objectives of the Study

The main objectives framed for the purpose of the study are to identify and analyze the research productivity of faculty in St. Joseph's College:

- To analyze the authorship pattern
- To identify the Journal distribution of research Productivity.
- To identify the subject wise and Year wise distribution of publication.
- To identify the research collaboration of faculty members with other Institutions.
- To know the H-index of St. Joseph's College.

- To identify the highly cited papers with citations.
- To identify the document wise distribution of Publications.

Methodology

The study entitled "Research Productivity of Faculty members of St. Joseph's College: A Bibliometric Study" is a case study encompassing records output from Scopus Database available online. The present study aims at analyzing the research output of Researchers in the field of Arts and Sciences. The authorship pattern and author productivity are examined to identify the pattern of research contribution of faculty members. The area-wise research performance is analysed to identify hot area of research. The study is mainly exploratory in nature in identifying research output of faculty.

Analysis and Interpretation

Table-1 could clearly see that during the period 1898-2012 the total of 381 publications were published at St. Joseph College in Trichy. The highest publication is 62 in 2011 followed by 49 papers in 2010 and 38 papers in 2009 and the lowest publication is one each in 1898, 1912, 1914, 1915 and 1977 to 1982 because of the initial stage. It shows that even minimum numbers of records were scored higher global citations.

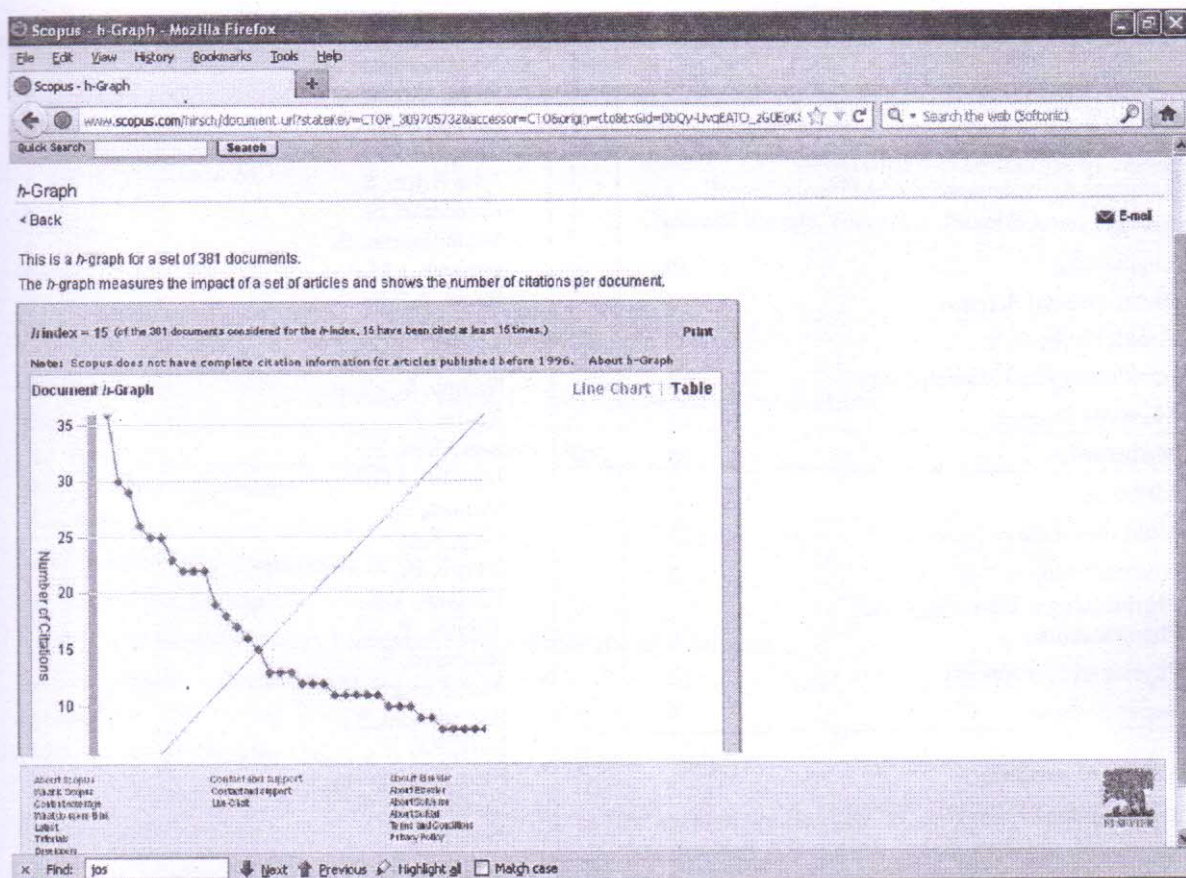
Table-1: Year-wise Distribution of Publications

Year	Publications	Percentage	Year	Publications	Percentage
2012	18	4.72	1992	1	0.26
2011	62	16.27	1989	2	0.53
2010	49	12.86	1988	1	0.26
2009	38	9.97	1987	1	0.26
2008	32	8.4	1985	3	0.79
2007	26	6.82	1984	2	0.52
2006	20	5.25	1983	3	0.79
2005	25	6.56	1982	1	0.26
2004	12	3.15	1981	1	0.26
2003	12	3.15	1980	1	0.26
2002	12	3.15	1979	1	0.26
2001	12	3.15	1978	1	0.26
2000	7	1.83	1977	1	0.26
1999	13	3.41	1975	1	0.26
1998	8	2.1	1974	1	0.26
1997	8	2.1	1972	1	0.26
1996	4	1.04	1898	1	0.26

H-index of St. Joseph's College

The h-index is based on a list of publications ranked in descending order by the Times Cited. The value of h is equal to the number of papers (N) in the list that have N or more citations.

H- index is 15 (of the 381 publications considered for the h-index). 15 have been cited at least 15 times and the diagram below shows the h-graph of St. Joseph's College.



Document wise Distribution

The study reveals that the major source of publications covered by Faculty research is of 329 journal articles (86.35%), while conference proceedings comprises 38 (9.97%) and book reviews with 4 articles (1.04%) of the remaining literature.

Table-2: Document wise Distribution of Publications

Document type	Records	Percentage
Article	329	86.35
Conference Papers	38	9.97
Reviews	4	1.04
Article in Press	3	0.79
Letters	2	0.53
Notes	1	0.26

Subject wise Distribution of Publications

The study found that the highest subject (99 Publications) Chemistry and 80 publications in Agricultural and Biological Sciences. While the lowest number of articles were published in Business management, Accounting and Economics, Econometrics and Finance.

Table-3: Subject-wise distribution of Publications

Subject Area	Records
Agricultural and Biological Sciences	80
Arts and Humanities	1
Biochemistry, Genetics and Molecular Biology	45
Business, Management and Accounting	1
Chemical Engineering	25
Chemistry	99

Subject Area	Records
Computer Science	33
Decision Sciences	2
Earth and Planetary Sciences	8
Economics, Econometrics and Finance	1
Energy	3
Engineering	30
Environmental Science	34
Health Professions	2
Immunology and Microbiology	14
Materials Science	45
Mathematics	30
Medicine	15
Multidisciplinary	13
Neuroscience	2
Pharmacology, Toxicology and Pharmaceutics	36
Physics and Astronomy	72
Social Sciences	5

Ranking of Authors

Table-4 indicates ranking of authors by number of publications. Authors Sabu, T. K. (22 Publications) followed by Rabara, S. A. (17) were published highest number of articles during the study period and the remaining author's contributions were shown in the table.

Table-4: Ranking of Authors based on Publications

Author	Records
Sabu, T.K.	22
Rabara, S.A.	17
Lawrence, N.	15
Arockiam, L.	15
Britto, S.J.	14
Mathiyalagan, N.	14
Arockiasamy, D.I.	13
Kalidoss, M.	13
Jeyachandran, R.	12
Vinod, K.V.	11
Bhattacharjee, A.	10
Srinivasamoorthy, R.	10
Natarajan, D.	10
Johnson, I.	9
Soosairaj, S.	9

Author	Records
Nagamurugan, N.	9
Priya, V.	8
Balaguru, B.	8
Ravi, S.	7
John Britto, S.	7
Rajendran, N.	6
Senthilkumar, S.	6
Fonseca, I.M.A.	6
Regis, A.P.P.	6
Alphonse, I.	6
Ferreira, A.G.M.	6
Nampy, S.	6
Xavier, N.	6
Rajendran, S.	6
Jayanthi, J.G.	6
Mahesh, A.	6
Lilly, K.O.	5
Joseph, B.	5
Vaidyan, V.K.	5
Abhitha, P.	5
Natarajan, E.	5
Alex Ramani, V.	5
Ramamurthi, K.	5
Lilly, P.L.	5
Balasubramanian, V.	5
Sasikaladevi, N.	5
Raja, S.	5
Jamaludeen, A.	4
Nambi, K.	4
Vasudevan, R.	4
Manoj, P.K.	4
Vasu, A.E.	4
Charles, A.	4
Jagannathan, R.	4
Ramani, V.A.	4
Neelamegam, P.	4
Sridharan, R.	4
Calduwel Newton, P.	4
Ayyaswamy, S.K.	4
Balasubramanian, M.	4
Cindrella, L.	4
Banumoorthy, N.	4
Adiga, V.	3
Rajendran, A.	3
Ramesh Babu, R.	3
Sahayaraj, K.	3
Selvaraj, S.J.	3
Shahzad, N.	3
Sibi, S.	3

Author	Records
Sirsi, S.	3
Sorai, M.	3
Amaladasan, M.	3
Ignacimuthu, S.	3
Sundaravadivelu, M.	3
Bose, M.K.	3
Iijima, S.	3
Amoros, J.	3
Anand, S.P.	3
Uma Devi, T.	3

Journal-wise Distribution of Publications

The study found that the journal wise distribution of publications for the study period (1898-2012) were in 178 journals. As the major portion of the research literature (24) covered by Asian Journal of chemistry and followed by Current Science, Journal of the Indian Chemical Society, Journal of Insect Science and so on.

Table-5: Journal-wise Distribution of Publications

Source Title	Records
Asian Journal of Chemistry	24
Current Science	11
Journal of the Indian Chemical Society	10
Journal of Insect Science	10
Asian Journal of Microbiology Biotechnology and Environmental Sciences	9
Communications in Computer and Information Science	9
Zootaxa	6
Indian Journal of Chemistry Section B Organic and Medicinal Chemistry	5
Journal of Chemical and Pharmaceutical Research	5
Oriental Journal of Chemistry	5
E Journal of Chemistry	5
Ecology Environment and Conservation	5
Journal of Biopesticides	4
Acoustics Letters	4
Spectrochimica Acta Part A Molecular and Biomolecular Spectroscopy	4
Journal of Molecular Structure	4
Journal of Crystal Growth	3
Journal of Mathematical Physics	3
Indian Journal of Chemistry Section A Inorganic Physical Theoretical and Analytical Chemistry	3
Bulletin of Materials Science	3
Communications in Algebra	3
International Journal of Chemtech Research	3
Molecular Crystals and Liquid Crystals Science and Technology Section A Molecular Crystals and Liquid Crystals	3
Physics and Chemistry of Liquids	3
Plant Tissue Culture and Biotechnology	3
African Journal of Biotechnology	3
Journal of Chemical Thermodynamics	3

Source Title	Records
Indian Journal of Physics	3
Pramana	3
Indian Journal of Pure and Applied Mathematics	3
Proceedings 2010 3rd IEEE International Conference on Computer Science and Information Technology Iccsit 2010	3
Indian Journal of Pure and Applied Physics	3
Biodiversity and Conservation	3
Journal of Chemical and Engineering Data	3

Collaboration Research with other Institutions

The table below indicates Institution-wise collaboration of research productivity. St. Joseph College faculty in collaboration with 47 Institutions and with a maximum number of records with Bishop Heber College

contributed 17 articles to the total literature and followed by other institutions like NIT, National College, Bharathidasan University, Anna University and so on.

Table-6: Institution-wise collaboration research

Institution	Records
Bishop Heber College	17
National Institute of Technology	12
National College India	12
Bharathidasan University	12
Anna University	9
University of Calicut	9
University of North Bengal	8
Holy Cross College	7
SASTRA	7
Cauvery College for Women,	7
Holy Cross College	6
Presidency College India	6
Loyola College India	6
GTN Arts College India	6
Thanthai Hans Roever College	5
Kurinji College of Arts and Science	5
Central Electrochemical Research Institute India	5
University of Kerala	5
St. Xavier's College Palayamkottai	5
Indira Gandhi Centre for Atomic Research	4
University of Madras	4
Pachaiyappa's College	4
Institute for Development and Research in Banking Technology India	4

Institution	Records
Osaka University	4
Indian Institute of Technology, Madras	4
Jamal Mohamed College Autonomous	4
Nehru Memorial College	4
Kandaswamy Kandar College, Namakkal	4
Gandhigram Rural University	4
Auxilium College	3
Kurinji College of Arts and Science	3
National Innovation Foundation	3
Oxford Engineering College	3
Faculdade de Ciências e Tecnologia da Universidade de Coimbra	3
King Abdulaziz University	3
Agricultural Research Organization of Israel	3
Hannam University	3
Regional Research Laboratory Thiruvananthapuram	3
Indian Institute of Science	3
Universidade de Coimbra	3
Mahatma Gandhi University	3
Cochin University of Science and Technology	3
Institute of Mathematical Sciences India	3
Mepco Schlenk Engineering College	3
National Institute of Bioscience and Human Technology, Tsukuba	3
Adhiyamaan College of Engineering	3
Kalasalingam University	3

Country-wise Distribution of Publications (Collaboration Research)

As per the data presented in Table 7, Japan ranks first in the world based on the publication count with St. Joseph's college and followed by Portugal, South Korea, Germany and so on.

Table-7: Country-wise Collaboration Research

Country	Records
Japan	10
Portugal	6
South Korea	5
Germany	4
Israel	3
Saudi Arabia	3
Spain	3
United Kingdom	3
United States	3

Country	Records
China	2
Switzerland	2
Bangladesh	1
Eritrea	1
France	1
Hungary	1
Oman	1
Pakistan	1
Poland	1

Highly Cited Papers

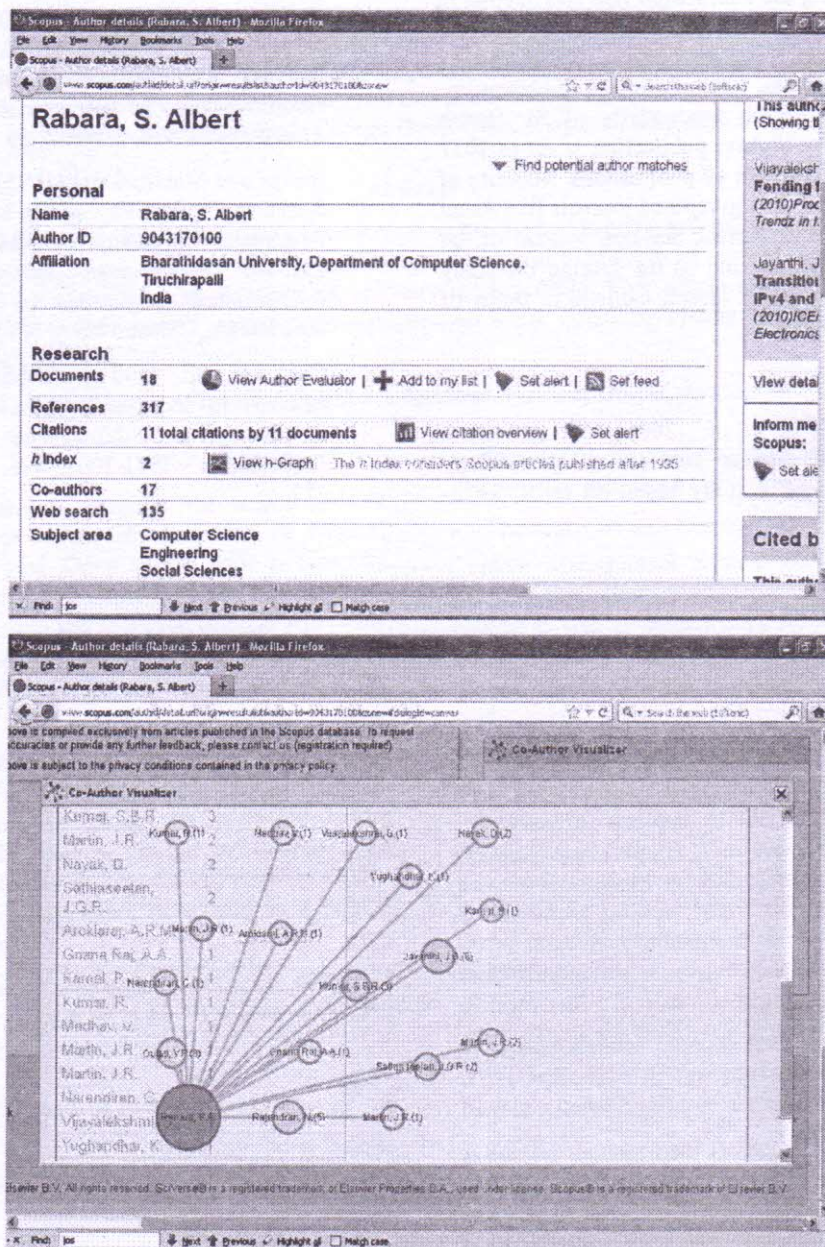
The table present the number of papers published by St. Joseph college faculty in the subjects of arts and science as seen from Scopus during the years of 1898–2012. The snap shot shows top highly cited papers with citation.

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Co-authored Network for Highly Cited Authors

Sabu, Thomas K has published 24 Publications with 52 Global citation scores and ranked first based on publications calculated by scopus database. The diagram shows that co-authored network of Sabu, Thomas.

Rabara, S. Albert has published 18 Publications and ranked second based on publications covered by scopus database. The diagram shows that co-authored network of Thomas Sabu.



Conclusion

The study aimed at analyse the trend of Faculty research collaboration taking place at global level by analyzing the data from the globally known indexing database Scopus that cover prestigious high impact research publications. As the Faculty is gaining momentum in taking the world wide web and internet in to next generation web, it is appropriate to analyze the research literature in Research productivity of Faculty by various subject areas, institutions and the countries. The findings of research productivity of St. Joseph college faculty have highest publication is 62 in 2011 and followed by 2010 with 49 publications. Majority of the papers have published in reputed journals like Asian Journal of Chemistry, Current Science, Journal of the Indian Chemical Society and so on. During the study period contribution of St. Joseph College in terms of publications is significant.

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