

## Academic and Research Connect Tools and Platform for Managing Research at Mangalore University: An Analytical Study

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**Abstract** - *The Indian Research Information Network System (IRINS) is ready to use research information management system that can be used by institutions to showcase the research output of individual faculty and researchers. IRINS provides a wide range of functionalities and features using international standards with the interoperable protocol. The data were collected from Mangalore University. Faculty profiles website found that 109 faculty members published 2022 resources publications as of September 29, 2020. The study has considered only department wise publications, citations, top ten faculty publications, Citations, and various types of publications. MS-Excel has been used for analysis with the use of simple calculations.*

**Keywords:** IRINS, Mangalore University, Citation, Research Information, Scholars, Ranking.

### Introduction

IRINS as Research Information Management System it captures scholarly communication artifacts such as people who do research and their group (Personal information and affiliation), their research activities (grants/projects), achievements (Honours/awards) and their research output (publications and more), it could be integrated with an existing campus management system such as faculty profile, institutional repository, grant management system, etc., it support data visualization and reporting on organization research activity and output, it consumes and produces key information to institute's core research.

The investigator wishes to conduct a study about the information on research interest and research output of faculty and scientists in terms of publications, citations, and intellectual output is highly scattered. Since individual scientists enjoy complete freedom to publish their research work independently, institutions may not know the research activity and research output of their faculty and researchers. The ultimate aim of this study is to help, design, alter, evaluate, and improve the efficiency and effectiveness of the library and information system and their products and services in meeting their pre-determined goals. The study will also be beneficial to academics like researchers, students, and professionals interested in this area of study.

## Review of Literature

More than fifty articles collected for this study, few relevant articles reviewed, and the result shown below;

**Naik (2020)** conducted a study on Indian Research Information Network System: A Comparative Study of Institutions and Scholars in India. The study a web-based Research Information Management System (RIMS) for the support of another project of INFLIBNET is VIDWAN. The main objective of the article is to analyze the status of the IRINS, its collections, use, and awareness. The main aim of the project is a graphical representation of research and metrics reflecting research impact can at both department and individual level. The author finds the 157 institutions with 25343 scholars from a different discipline, and more focus on 208 library and Information Science scholars from 25 states of India. The article also focuses on the status of the scholar discipline, their state, designation, and institutions wise contributions of publications as well as the citations of both Scopus and H indexes. **Arumugam, Prakash, & Mani (2019)** conducted a study on awareness of academic and research connect platforms among the faculty members of selected engineering colleges in Tirunelveli district, Tamilnadu this study analyze the knowledge about the research connects platforms among the faculty members of selected engineering colleges in Tirunelveli district. The main objective of this article is to discuss knowledge of academic and research connects platforms among the faculty members and the familiarity, importance of research connects platforms.

## Objectives of the study

The main objectives of the study as follows,

- To identify the factors affecting how research scholars of science and technology discipline access and use for academic and research purpose;
- To find out the frequency of use of academic and research connect tools and platforms by the researchers.
- To find out the Department wise publications, citations, ranking, and average ranking of Mangalore University.
- To identify the top ten faculty members' publications, citations, ranking, and an average ranking of Mangalore University.
- To find out the various types of publications.
- To identify the problems faced by the research scholars while accessing the academic and research connect tools and platforms.
- To suggest improvement measures based on the inferences drawn from the study.

## Research Methodology

The Information and Library Network (INFLIBNET) undertaken a project called IRINS. The main aim is to find out the awareness of publications and citation status in different disciplines. The data were collected from Mangalore University, faculty profiles website (MU-IRINS, 2020). It is found that 109 faculty members have published 2022 resources are available in the Mangalore University, Mangalore faculty profiles (as of the second week of September 2020). The study has considered only Department wise publications, Citations, and various types of publications. MS-excel has been used for analysis with the use of simple calculations.

## Data Analysis and Interpretation

The data collected from the IRINS website of Mangalore University (MU-IRINS, 2020) has been analyzed with simple calculations. The top 10 faculty profiles and articles are also analyzed and highlighted. The portal can be viewed on the Mangalore University, Mangalore faculty profiles view.

**Table-1: Scholarly Resources in Mangalore University IRINS website**

Journal Articles	Conference / In Proceedings	Books / Chapters	Others
1761	295	17	29
83.8%	14.0 %	0.8 %	1.4 %
Total 2102			

From Table 1 it can be seen that the majority of the scholarly resources are 1761 (83.8%) Journal articles, while 295 (14.0%) conference / in proceedings, followed by 29 (1.4%) other scholarly resources and 17 (0.8%) books/chapters available in Mangalore University IRINS website.

**Table-2: Information Platform**

Closed Access	Gold Access	Green Access	Bronze Access
907	537	179	15
43.1%	25.5%	8.5%	0.7%

The data summarized in Table 2 shows the information platform. This data shows that the majority of the scholarly resources in Mangalore University IRINS website are 907 (43.10%) are closed access while, 537 (25.50%) scholarly resource are gold access, followed by 179 (8.50%) scholarly resources are green access and 15 (0.70%) scholarly resources are bronze access. It is surprising to note that, most of the scholarly resources on the Mangalore University IRINS website are 907 (43.10%) are closed access.

**Table-3: Resource Impacts of Databases**

Citations	Crossref Citations
16582	11355

Table 3 indicates the Resource Impacts of various databases. It is found that 11355 citations and 16582 crossref citations were received from databases.

**Table-4: Contribution of top departments**

Sl. No	Category	Publications	Percentage	H-Index
1	Department of Chemistry	1300	61.8%	41.00
2	Department of Physics	546	26.0%	36.00
3	Department of Industrial Chemistry	125	5.9%	14.00
4	Department of Computer Science	94	4.5%	9.00
5	Department of Library and Information science	82	3.9%	0.00
6	Department of Marine Geology	78	3.7%	15.00
7	Department of Materials Science	9	0.4%	2.00
8	University Library	8	0.4%	0.00
9	Department of Applied Zoology	4	0.2%	2.00
10	Department of Biosciences	2	0.1%	2.00

Table 5 shows the contributions of top departments. The Department of chemistry has published 1300 (61.8%) publications with 41 h-index tops the list. The Department of Physics has published 546 (26.0%) publications with a 36 h index that takes the second place. It is further found that the university library and information center has published 8 (0.4%) publications without any citations this placed last.

**Table-6: Top ten department publications, citations, and crossref citations**

Sl. No.	Category	Publications	Citations	CROSSREF Citations
1	Department of Chemistry	1300(61.8%)	10762	6623
2	Department of Physics	546(26.0%)	5353	4492
3	Department of Industrial Chemistry	125(5.9%)	555	466
4	Department of Computer Science	94(4.5%)	431	330
5	Department of Library and Information science	82(3.9%)	0	0
6	Department of Marine Geology	78(3.7%)	675	492
7	Department of Materials Science	9(0.4%)	11	10
8	University Library	8(0.4%)	0	1
9	Department of Applied Zoology	4(0.2%)	58	57
10	Department of Biosciences	2(0.1%)	8	9

Table 6 shows the publications & citations of the top ten departments of Mangalore University. Department of Chemistry has published 1300 (61.8%) articles has received 10762 citations and 6623 citations from Crossref ranks. Department of Physics has published 546 (26.0%) articles and received 5353 citations and 4492 citations from Crossref takes the second position. It is further found that the department of library and information science has published 82 (3.9%) articles that have received no citations from databases.

**Table -7: Top ten faculty i-10 index**

S No	Name of the Faculty	Department	i-10 Index	Rank
1	Prof Badiadka Narayana	Chemistry	162	1
2	Prof Dharmaprakash S M	Physics	86	3
3	Prof B K Sarojini	Industrial Chemistry	105	2
4	Prof Balakrishna Kalluraya	Chemistry	83	4
5	Prof Boja Poojary	Chemistry	50	5
6	Prof Narayana Y	Physics	35	6
7	Prof V Ravindrachary	Physics	11	10
8	Prof Vishalakshi B	Chemistry,	29	7
9	Prof G K Nagaraja	Chemistry	19	9
10	Prof Katihally Jayappa	Marine Geology	22	8

Table 7 shows the contributions of the top ten faculty publications and h-index. Prof Badiadka Narayana (Department of Chemistry) has published 742 (36.7%) articles with 162 i10-index h-index tops the list. Prof B K Sarojini (Department of Industrial Chemistry) has published 351 (17.4%) articles with 105 i10 index takes the second place. It is further found that Prof V Ravindrachary (Department of Physics) has published 37 (1.8%) articles with 11 i10-index takes tenth place.

**Table – 8: Top ten faculty publications and h-index**

Sl. No	Name of the Faculty	Department	Publications	Google Scholar h-index
1	Prof Badiadka Narayana	Chemistry	742 (36.7%)	31
2	Prof Dharmaprakash S M	Physics,	228(11.3%)	31
3	Prof B K Sarojini	Industrial Chemistry	351(17.4%)	29
4	Prof Balakrishna Kalluraya	Chemistry	289(14.3%)	31
5	Prof Boja Poojary	Chemistry	113(5.6%)	29
6	Prof Narayana Y	Physics	68(3.4%)	20
7	Prof V Ravindrachary	Physics	37(1.8%)	18
8	Prof Vishalakshi B	Chemistry,	58(2.9%)	17
9	Prof G K Nagaraja	Chemistry	69(3.4%)	13
10	Prof Katihally Jayappa	Marine Geology	30(1.5%)	16

Table 8 shows the contributions of top ten faculty publications and h-index. Prof Badiadka Narayana (Department of Chemistry) has published 742 (36.7%) articles with 31 h-index, Prof Dharmaprakash S M (Department of Physics) has published 228 (11.3%) articles with 31 h-index and Prof Balakrishna Kalluraya (Department of Chemistry) has published 289 (14.3%) articles with 31 h-index tops the list. Prof B K Sarojini (Department of Industrial Chemistry) has published 351 (17.4%) articles with the 29h index takes second place. It is further found that Prof Katihally Jayappa (Department of Marine Geology) has published 30 (1.5%) articles with 16h index that takes tenth place.

### Major Findings of the Study

- The highest publications from the department of chemistry Mangalore University Mangalore has published 1300 (61.8%) publications has received 10762 citations and 6623 citations from Crossref ranks with 41 h-index tops the Mangalore University Mangalore.
- Highly prolific author from the Mangalore University Mangalore is Prof Badiadka Narayana (Department of Chemistry) has published 742 (36.7%) articles with 4375 citations and 2622 CrossRef Citations, 162 i 10-index and 31 google scholar h-index tops the Mangalore University Mangalore.
- The department of chemistry Mangalore University Mangalore has 8 (7.3%) highest faculty members. followed by the department of physics has 7 (6.4%) faculty members. It is surprising to note that the department of journalism and mass communication, department of geography, and university computer center has only 1 (09%) faculty member.
- The study revealed that the majority of the scholarly resources are 1761 (83.8%) Journal articles, while 295 (14.0%) conference / in proceedings, followed by 29 (1.4%) other scholarly resources and 17 (0.8%) books/chapters available in Mangalore University IRINS website.
- The study shows that the majority of the scholarly resources in Mangalore University IRINS website are 907 (43.10%) are closed access while, 537 (25.50%) scholarly resource are gold access, followed by 179 (8.50%) scholarly resources are green access and 15 (0.70%) scholarly resources are bronze access. It is surprising to note that, most of the scholarly resources on the Mangalore University IRINS website are 907 (43.10%) are closed access.

## Suggestions

- The IRINS is available as free software-as-service to the academic and R&D organizations in India. In this regard, faculty Members of Mangalore University Mangalore are requested to provide their information by filling up the prescribed IRINS form and update their academic information in IRINS regularly.
- The study recommends that all higher learning institutions should implement IRINS for institution's research visibility by the outside world.

## Conclusion

IRINS plays a major role in higher educational institutions to know their research productivity, citations, h-Index, collaborations, and awards, etc. In the present scenario, many higher learning institutions are facing the problem of collecting research activities and faculty profiles for ranking and accreditation purposes. The IRINS helps to solve this problem and gives more information which is required by the ranking and accreditation organizations by national and international. IRINS helps to update the research and faculty details simply by themselves. Hence this will help the institutions to know about their faculty personal information, publications, awards, honors, educational background, identity, and up-to-date. The studies were proposed to assess the research interest and research output of faculty and scientists in terms of publications, citations, and other intellectual output and how it was scattered, the study is confined to the Mangalore University, Mangalore.

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