

# **Institutional Repository at CSIR's Central Food Technology Research Institute (CFTRI): A Study**

**Ankita Singh Chauhan**  
Research Scholar, BBAU, Lucknow

## **Abstract**

In this digital era, Institutional Repository is the digital archive of the institution's publication. It is one of the most promising developments that utilize new web based technologies to offer a viable & sustainable alternative to the current model of scholarly publishing. Institutional repository is the exhibition of an institution to the world where institution displays its valuable research program, projects and initiatives to the world. It serves as a platform for the researchers, scientists to disseminate their research work to the peers, quickly and efficiently. It is a formally organized and managed collection of digital content generated by the faculty, staff and students of an institution. This paper discusses in brief about basic concept of Institutional Repository like its definition, present trend etc with special reference to CSIR-CFTRI Institutional Repository. Thus, this study will highlight the different types of digital content their numbers and other aspects related to the Institutional Repository of CSIR-CFTRI.

*Keywords: Institutional Repository, CFTRI, CSIR*

## **1. Introduction**

The recent development in Information and Communication Technologies has opened new ways of dissemination of information from one to another in just a few seconds. Institutional Repository is the outcome of the development of ICT avenue through which academic and research communities make their research results and findings available to their peers. The institutional repository can boost the visibility of an institution (academic or research) and enable global access to the research output of the institution. Institutional Repository by capturing, preserving and disseminating, collective intellectual capital, serve as a meaningful indicator of an institution's scientific quality. It concentrates the institutional product credited by a research, making it easier to demonstrate its scientific, social and financial value.

Due to budgetary constraints there are many libraries over the world that cannot subscribe and provide access to expensive journals to their readers. The repositories have helped them in providing access to information resources by bridging the gap created by budgetary constraints of organization. Besides grey literature such as R & D report thesis/dissertation, presentation paper, lectures, graph, teaching materials etc can also be deposited and can be viewed in the institutional repository.

Council of Industrial and Scientific Research (C.S.I.R) established in 1942 is an autonomous body and Indian largest R& D organizations with 37 laboratory spread across the nation. The R & D activities of C.S.I.R include in various fields like aerospace engineering, structural engineering, life science, metallurgy, chemical, mining, food, petroleum etc.

Over more than two decades now, CSIR has been annually benchmarking its research output using scientometric techniques and comparing itself with other leading Research Institutions in the country. To provide seamless and wider access to its research output, it is developing Institutional Repository. As said by the R. R. Hirwani, head of CSIR Unit for Research and Development of Information Products, at the National Conference Reaching Out to Users through Technology (Route 2013), *“With publishers trying to exploit their monopoly position and quoting unreasonable prices for granting electronic access to research resources, the plan is to create an open access repository of CSIR’s own papers and help other laboratories with copies of papers from journals subscribed by them,”*

All the CSIR laboratories having Institutional Repository are being indexed by the CSIR-CENTRAL.CFTRI is one of the laboratories of the CSIR. CFTRI established during 1950 in Mysore. It is one of the premier institutes of CSIR, devoted toward the R & D in the areas of food sciences and technology. CSIR-CFTRI has also developed its own Institutional Repository. It has been developed using Open Source Software Eprints in the year 2004. The main aim of the repository is to collect, store and disseminate the intellectual output created by the CFTRI community. At present, it enables the CFTRI community to deposit their pre-prints, post-prints, conference proceedings, etc. Its IR is accessible within campus only.

### **Definitions of Institutional Repository:-**

#### **According to Clifford Lynch**

“A university-based institutional repository is a set of services that a university offers to the members of its community for the management and dissemination of digital materials created by the institution and its community members. It is most essentially an organizational commitment to the stewardship of these digital materials, including

long-term preservation where appropriate, as well as organization and access or distribution.”

### **According to the Raym Crow's**

“An institution repository is a digital archive of the intellectual product created by the faculty, research staff, and students of an institution and accessible to end users both within and outside of the institution, with few if any barriers to access.”

In other words, the content of an Institutional Repository is:

- Institutionally defined;
- Scholarly;
- Cumulative and perpetual; and
- Open and interoperable.

## **2. Institutional Repository Content**

The selection of digital content depends upon the policy of the Institutional Repository. The collection may differ from one laboratory to another and also on the publication of the institution. IR consists of formally organized and managed collections of digital content generated by the faculty, staff and students of an institution. Following are the different types of digital content:

- Published materials
- Journals papers (Post-prints)
- Book chapters
- Conference papers etc
- Unpublished Papers
- Pre-prints
- Working papers
- Minutes
- Thesis and dissertation
- Course materials
- Multimedia materials, etc

## **3. Key steps for developing Institutional Repository**

Some important steps involved in developing an institutional achieves are

- Registration
- Certification
- Awareness
- Digital preservation policy
- Archiving

- Self-achieving
- OAI
- 

#### **4. Institutional Repository Benefits**

Following are the benefits of the Institutional Repository:-

- It provides wider access to the institution's research output;
- It showcases the unpublished literature;
- For long term preservation;
- It helps in tying library with different parts of the campus community;
- Freely available articles are cited more as compared to the print as they are more visible;
- It shows that library moves forward to contribute to the evolution of scholarly communication;
- It increases institution's visibility, status and public value;
- It provides faster communication.

#### **5. Issues for Institutional Repository**

There are various issues related to the development of Institutional Repository:

- Lack of awareness about institutional repository
- Lack of fund
- Institutional Policies and metadata
- IPR or copy rights
- Existing digital collection
- Cultural issues affecting faculty take-up
- Organization and administration
- Funding & business model
- Lack of government reorganization /policy to promote research and development of digital preservation and IRs

#### **6. Current Scenario of Institutional Repository**

Institutional Repositories become popular and nowadays, many institutions have their own repositories using open source software. In India, numerous Institutional Repositories are being developed. Some of these are functional institutional repositories, developed by research and academic institutions of national and international importance, such as the Council of Scientific and Industrial Research CSIR), Indian Institute of Science (IISc) , Indian Institute of Management (IIM) etc. Apart from institutional repositories, subject specific repositories also exist in India.

E-print@IISc was the first Institutional Repository in India which was established by Indian Institute of Science under the supervision of late Dr T B Rajshekhar. At present according to Registry of Open Access repository (ROAR) total 107 Repositories have been registered under this created by research institutions, academic institutions and many others. List of some of the active institutional repository is as follows:-

- Digital Repository of IIT, Bombay
- DRS @ NIO – National Institute of Oceanography
- DSpace @ NITR – National Institute of Technology, Rourkela
- DSpace @ MDI – Management Development Institute, Gurgaon
- DSpace @ IIMK – Indian Institute of Management, Kozhikode
- DSpace at National Chemical Laboratory, Pune
- DSpace at INFLIBNET centre, Ahmedabad
- Shodhganga at INFLIBNET centre
- ePrints@CFTRI- Central Food Technology Research Institute
- ePrints @ SVNIT – Sardar Vallabhai National Institute of Technology
- eGyanKosh at IGNOU
- ePrints @ IIT, Delhi – Indian Institute of Technology
- ePrints @ IISc – Indian Institute of Science, Bangalore
- ePrints @ Catalysis – National Centre for Catalysis Research (NCCR)
- ePrints @ SBTMKU – School of Biotechnology, Madurai  
Kamraj University, Madurai
- Indian Institute of Astrophysics (IIAP) Repository, Bangalore
- Institutional Repository of National Aerospace Laboratories (NAL)
- Kautilya Digital Repository of IGIDR (Indira Gandhi Institute of Development Research, Mumbai)
- NISCAIR Online Periodicals Repository
- OpenMED @ NIC – Medical and Allied Sciences
- RRI Digital Repository (Raman Research Institute Digital Repository)

## **7. Objectives of the study**

The objectives of the study are:

1. To find out the total number of digital content;
2. To compare the total digital content of CFTRI with other CSIR's laboratories IR;
3. To find out the different types of digital content and their numbers;
4. To find out the number of division and their digital content;
5. To Study the growth of digital contents in last ten years.

## **8. Methodology used for the study**

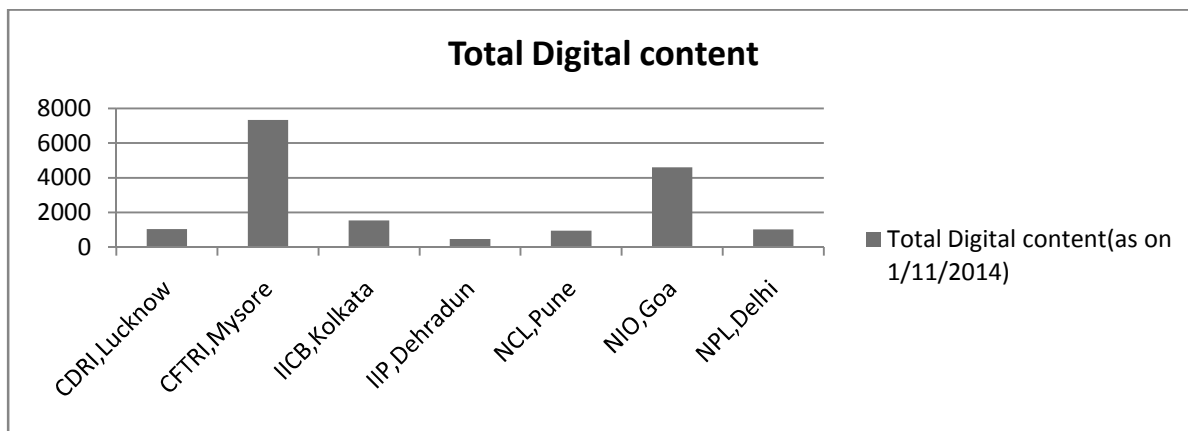
The data collections adopted for the present study are both primary and the secondary. The primary data is collected through the Questionnaire followed by the interview and also the observation method. The secondary data were collected from the survey reports, monographs, research articles, library websites and the web portals etc.

## 9. Analyses of Data and Interpretation

**Table 9.1 Total Digital Content of CFTRI and Comparison with other CSIR's IR digital Content**

| Si. No | Name of the CSIR's Laboratory | Total Digital content(as on 1/1/2015) |
|--------|-------------------------------|---------------------------------------|
| 1      | CDRI,Lucknow                  | 1028                                  |
| 2      | <b>CFTRI,Mysore</b>           | <b>7337</b>                           |
| 3      | IICB, Kolkata                 | 1539                                  |
| 4      | IIP, Dehradun                 | 454                                   |
| 5      | NCL,Pune                      | 935                                   |
| 6      | NIO,Goa                       | 4601                                  |
| 7      | NPL,Delhi                     | 1010                                  |

The above table shows the total number digital content of Institutional Repository. The success of any Institutional Repository depends upon the uploading the contents. In this case, the total numbers of records of CFTRI is 7337 and it has the highest number of digital content in Institutional Repository as compared to the other CSIR's laboratories IR that are registered in Registry of Open Access Repository(ROAR). It can be made clearer with the figure drawn below:

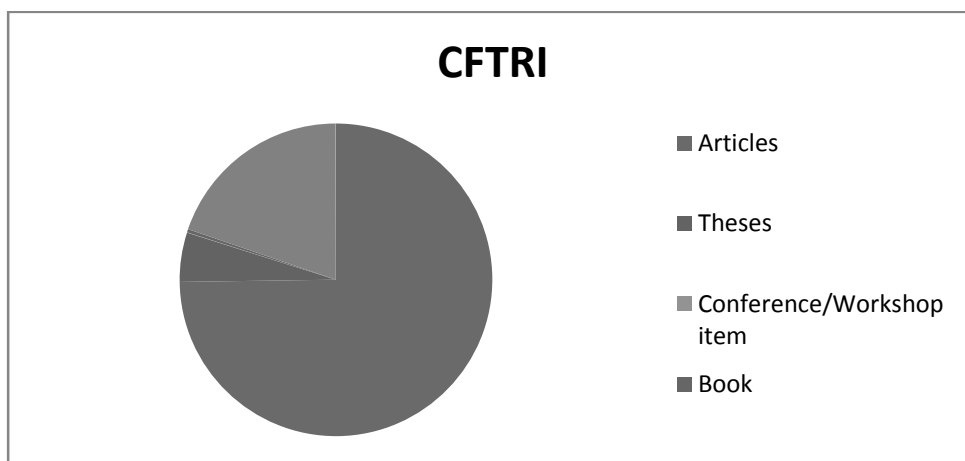


**Figure No. 9.1 Total Digital Content of CFTRI and Comparison with other CSIR's IR digital Content**

**Table 9.2 Types of Documents**

| Sl. No | Type of Documents        | CFTRI |
|--------|--------------------------|-------|
| 1      | Articles                 | 5600  |
| 2      | Theses                   | 381   |
| 3      | Conference/Workshop item | 3     |
| 4      | Book                     | 25    |
| 5      | Student Project Report   | 1475  |
| 6      | Book Section             | 2     |
| 7      | Other                    | 1     |

The above table number shows the different types of the digital content uploaded in Institutional repository of the CFTRI. There are many types of digital content which are uploaded in Institutional Repository like Pre-prints, post-prints, conference proceedings, working papers, theses and dissertation, annual reports etc. It shows that maximum numbers of the articles are uploaded in the CFTRI IR i.e. is 5600 followed by student project report i.e. 1475 and then theses 381 book 25 book section 2 and other 1 in numbers. It can be made clearer from the figure drawn below



**Figure No. 9.2 Types of Documents**

**Table 9.3 Numbers of Records in Division**

The collection of the Institutional repository of CFTRI has been divided into different divisions of the CFTRI institution. Each division has numbers of records. So this table shows the names and number of the documents available in different division.

| Sl. No. | Division  | Number of Records |
|---------|---|-------------------|
| 1       | Administration                                    | 1                 |
| 2       | Biochemistry and Nutrition                        | 1364              |
| 3       | Central Instrumentation Facility Services         | 18                |
| 4       | Construction and Civil maintenance                | 1                 |
| 5       | Electrical Department                             | 4                 |
| 6       | Fermentation Technology and bioengineering        | 465               |
| 7       | Flour Milling Bakery and Confectionary Technology | 374               |
| 8       | Food Engineering                                  | 588               |
| 9       | Food Microbiology                                 | 635               |
| 10      | Food Packaging Technology                         | 222               |
| 11      | Food Protectants and Infestation Control          | 354               |
| 12      | Food Safety Analytical Quality Control Lab        | 121               |
| 13      | Fruit and Vegetable Technology                    | 598               |
| 14      | Grain Science and Technology                      | 447               |
| 15      | Human Resource Development                        | 324               |
| 16      | Library (FOSTIS)                                  | 4                 |
| 17      | Lipid Science and Traditional Foods               | 379               |
| 18      | Lipid Science and Traditional Foods               | 379               |
| 19      | Meat Fish and Poultry Technology                  | 382               |
| 20      | Planning and Monitoring Cell                      | 11                |
| 21      | Plant Cell Biotechnology                          | 369               |
| 22      | Plantation Products Spices and Flavour Technology | 531               |
| 23      | Protein Chemistry and Technology                  | 404               |
| 24      | Sensory Science                                   | 165               |
| 25      | Technology Transfer and Business Development      | 19                |
| 26      | CFTRI Resource Centres                            | 183               |

**Table 9.4**

**Growth of Digital Content in Last Ten Years**

| Sl. No | Year    | No. of Records |
|--------|---------|----------------|
| 1      | 2013-12 | 130            |
| 2      | 2012-11 | 230            |



|    |         |     |
|----|---------|-----|
| 3  | 2011-10 | 448 |
| 4  | 2010-09 | 453 |
| 5  | 2009-08 | 500 |
| 6  | 2008-07 | 464 |
| 7  | 2007-06 | 377 |
| 8  | 2006-05 | 305 |
| 9  | 2005-04 | 241 |
| 10 | 2004-03 | 230 |

The above table shows the growth of digital content in last ten years. It is clear that the numbers of uploading the documents decreased from the year 2010-09. The maximum numbers of the documents was uploaded in year 2009-08 and the least in the year 2013-12. It can be made clearer from the figure shown below

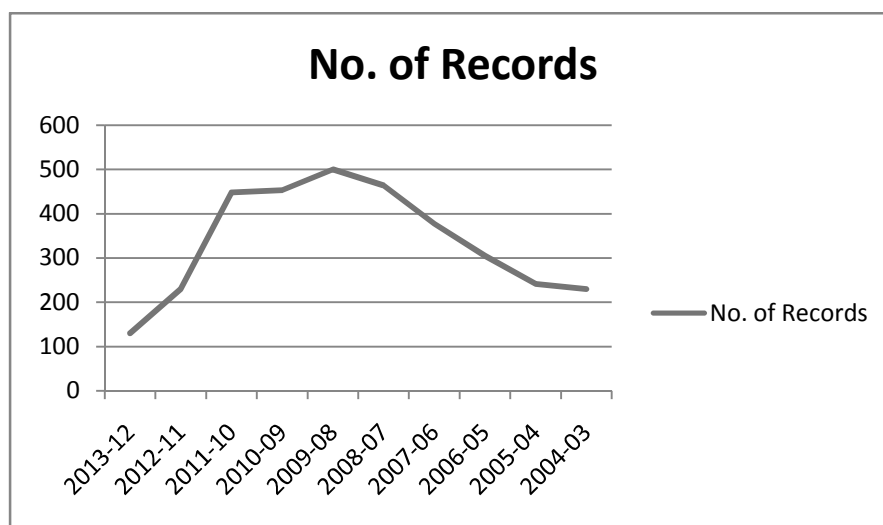


Figure No. 9.4 Growth of Digital Content in Last Ten Years

## 10. Conclusion

It is clear from the study that CFTRI is very well maintaining its Institutional Repository and uploading digital contents from time to time. It has the highest number of records as compared to the other laboratories of the CSIR. It is very active in uploading the digital content. So the development of institutional repositories is an endeavor by CFTRI to bring those research articles to the forefront which was secluded or not known

to the mass and so far it seems that it has achieved its goals to an extent. Other laboratories of the CSIR should also develop their own institutional repository. It is a good effort to overcome budgetary constraint problems in subscribing journals from publishers. Thus, the IR initiative at CSIR-CFTRI helped to provide worldwide visibility to the research output of the laboratory.

## References

1. CSIR to create open access repositories (2013). Retrieved from <http://www.newindianexpress.com/cities/chennai/article1503015.ece>
2. Lalremiani (2012). Institutional Repository with special reference to initiatives of Mizoram University. Retrieved from <http://ir.inflibnet.ac.in/bitstream/1944/1701/1/34.pdf>
3. Nahak, Brundaban & Nahak, Sanjukta (2012). Institutional Repositories: The Prospects and Challenges in Indian Digital Library Environment. Retrieved from <http://ir.inflibnet.ac.in/bitstream/1944/1699/1/32.pdf>
4. Passah, Pansngiat (2012). Institutional Repositories of India: a comparative study of North- Eastern hill university with other universities. Retrieved from <http://ir.inflibnet.ac.in/bitstream/1944/1700/1/33.pdf>
5. Sengar, K.P.S. (2010). Towards the building of Institutional repositories in CSIR laboratories: an overview. Proceedings of the 27<sup>th</sup> annual conference of the Society for Information Science, 24-26 Nov., IICB, Kolkata
6. Nazim, Mohammad and Devi, Maya (2008). Open access journal and institutional repository: practical need and present trend in India. *Annals of Library and Information Studies*, 55, 27-34.
7. Lynch, C. A. (2003). Institutional Repositories: Essential Infrastructure for Scholarship in the Digital Age. *ARL Bimonthly Report*, 226. Retrieved from <http://www.arl.org/newsltr/226/ir.html>
8. <http://dkr.cdri.res.in:8080/dspace/index.jsp>
9. <http://ir.cftri.com/>
10. <http://www.eprints.iicb.res.in/>
11. <http://library.iip.res.in:8080/dspace/>
12. <http://drs.nio.org/drs/index.jsp>
- 13.