
NATIONAL INSTITUTE FOR RESEARCH IN TUBERCULOSIS (NIRT) INSTITUTIONAL REPOSITORY

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ABSTRACT

A phenomenal amount of research output on Tuberculosis (TB) exists in print and/or digital form at the National Institute for Research in Tuberculosis (NIRT). Archiving such materials serve twin purposes – conservation and visibility. The emergence of Internet and digital technology has ushered in the IR (Institutional Repository) model, promising to be extremely advantageous. As the NIRT Library has already introduced digital Library services in 2001, it marches in another direction to set up an IR to preserve its intellectual assets and make it available to its community working to explore research for tuberculosis control and its eradication

Key words: *institutional repository, tuberculosis, Eprints, archive, IR*

Introduction

Institutional Repository (IR) is an information web technology mechanism that emerged during the late 90s. The first online repository centering on theoretical Physics, was established in 1999 by Physicist Paul Ginsparg at the Los Alamos National Laboratory in New Mexico. *An institutional repository (IR) is an online archive for collecting, preserving, and disseminating digital copies of the intellectual output of an institution, particularly a research institution* (http://en.wikipedia.org/wiki/Institutional_repository).

The **Scholarly Publishing and Academic Resources Coalition (SPARC)** Position Paper explored “*an IR is a database with a set of services to capture, store, index, preserve and redistributes an organization’s scholarly research in digital formats*”. It also quotes “*an IR 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*”. SPARC Position paper lists the four essential features of an IR as (1) Institutionally defined; (2) Scholarly content; (3) Cumulative and perpetual; and (4) Interoperability and open access. Repositories are important for any Institution to capture and manage its research findings, which is otherwise scattered, distributed, and unnoticed, in one central place. Further, it allows researchers to access not so easily available papers and age old precious papers; it helps to ensure the long term preservation of scholarly articles; it leads to space saving for better Library management; it will serve as a single access point

for the research output of an institution and helps in dissemination; it will enhance scholarly communication; it will have proper control and monitoring the Institute's publications; it will enhance the reputations of both the library and the Institute; and it will increase the Institute's visibility, status and public value; finally, it provides scope for introspection as to whether the Institute is going in the right direction in its research activities. The visibility of IR resources gets increased through harvesting done by search engines, which is not available in print media. Hence naturally the Institute's research impact gets scaled up. It will encourage collaborative research among the institutions within the country and beyond the border.

Institutional Repositories in India

In India, several institutions have established their own repositories. Some of the important institutions like Indian Institute of Science, Bangalore (<http://eprints.iisc.ernet.in/>); Indian Statistical Institute, Bangalore (<http://library.isibang.ac.in:8080/dspace/>); National Aerospace Laboratories, Bangalore (<http://nal-ir.nal.res.in/>); Raman Research Institute, Bangalore (<http://dspace.rii.res.in/>); Indian Institute of Technology, Delhi (<http://eprints.iitd.ac.in/dspace/>); National Institute of Technology, Rourkela (<http://dspace.nitrkl.ac.in/dspace/>); National Chemical Laboratory, Pune (<http://dspace.ncl.res.in/>); Information and Library Network, Ahmedabad (<http://ir.inflibnet.ac.in/>); National Institute of Oceanography, Goa (<http://drs.nio.org/drs/index.jsp>); Indian Institute of Management, Kozhikode (<http://dspace.iimk.ac.in/>); National Centre for Radio Astrophysics (<http://ncralib1.ncra.tifr.res.in/library/?q=content/dspace-repository>) have established Institutional Repositories in India.

These repositories disseminate intellectual outputs of respective Institutions. Another kind of digital repository viz., subject repository also exists in India, "Librarian's Digital Library of Documentation Research and Training Centre", Bangalore is an example for subject-specific repository on the Library and Information Science (<http://drtc.isibang.ac.in>) *OpenMED@NIC* of National Informatics Centre, New Delhi is another subject-specific repository for biomedical literature (<http://openmed.nic.in/>). One another kind of digital repository in India meant for documents type specific collection i.e., T & D (Theses and Dissertations) is 'Vidyanidhi' of University of Mysore (<http://eprints.uni-mysore.ac.in/4778/>).

IR @ National Institute for Research in Tuberculosis

The National Institute for Research in Tuberculosis (NIRT) was established at Chennai (then Madras) in 1956, focusing on tuberculosis research for more than 55 years. It is one of the permanent institutes of Indian Council of Medical Research (ICMR) which is one of the oldest medical research bodies in the world established in 1911. This is an apex body in India for promoting and co-coordinating biomedical research. The ICMR is funded by the Government of India through the Department of Health Research, Ministry of Health and Family Welfare. The Institute is recognized as an International Referral Laboratory and is also a designated WHO collaborating centre for tuberculosis research and control. NIRT has been identified as a nodal centre for training in Revised National Tuberculosis Control Programme (RNTCP) by Central TB Division, Government of India. Recently, an International Centre for Excellence in Research (ICER) in collaboration with National Institutes of Health (USA) was established at the Centre.

A phenomenal amount of qualitative research output on Tuberculosis (TB) exists in print as well as in digital form at NIRT. It is found very difficult to preserve the increasing amount of valuable research materials on tuberculosis at NIRT. Most of our own age old papers are not easily accessible; further many of the treasured Indian papers on tuberculosis are also not accessible. Collecting and preserving those materials serve multiple purposes. Hence an attempt in this direction to design and develop an Institutional Repository of the National Institute for Research in Tuberculosis (NIRTIR) was made in March 2014. This IR envelop two-in-one concept i.e., 1. IR and 2. Subject Centric Repository - Tuberculosis.

NIRTIR

Amongst the three software used for developing IR, *Eprints* (<http://www.eprints.org>) was found suitable for non-profit organizations building open digital repositories. It runs on UNIX-like OS. It needs backend relational database management system (RDBMS) to store metadata. The required dependent software like Apache Web Server and PERL interpreter and package are available free and can be installed along with Linux. The EPrints needs the basic computer configuration of Pentium 4, 40GB HDD, 510 MB RAM for installation to start with. *Eprints*, a free and customizable software enables to accept articles, preprints, reports, working papers, conference papers, presentation slides, e-books, e-theses, multimedia publications, datasets etc. and all forms of text, video and audio files, images like jpg, PDF, gif etc.,

Content development has been initiated since 1958, when the first paper of the Institute was published. The development part includes collection submission, browsing, search operation, and search harvest. Figure.1 shows the screen shot of NIRTIR homepage.



Fig.1 NIRTIR

The document types have been customized as per the local needs. As per the repository policy the file formats are allowed to upload. The end user's computer should have the required software to handle the file formats, while browse or download or view the articles.

NIRTIR Utilization

Retrieval can be done with NIRTIR through browsing and searching methods. The Eprints browsing methods facilitate browsing the records in three ways viz., Author-wise browsing, Document type wise, and Subject-wise browsing. The following Fig.2, Fig.3 and Fig.4 represent the screen shots of the above respectively.

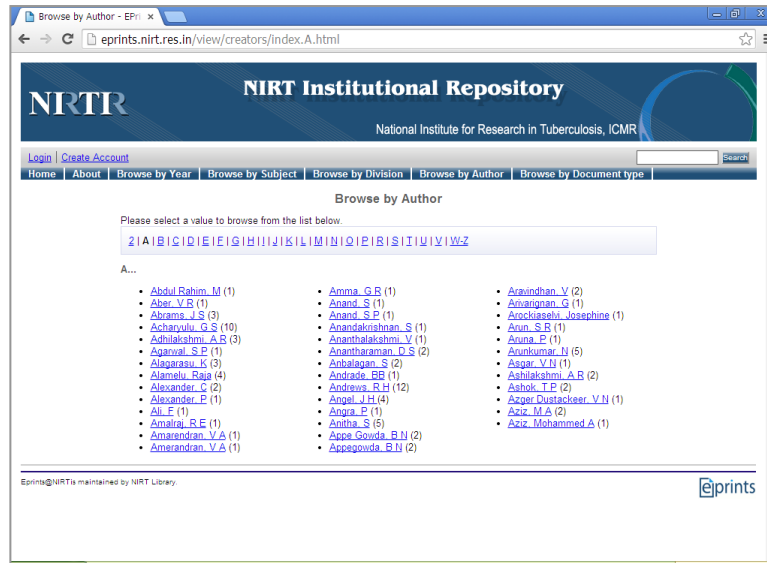


Fig.2 Browse by Author

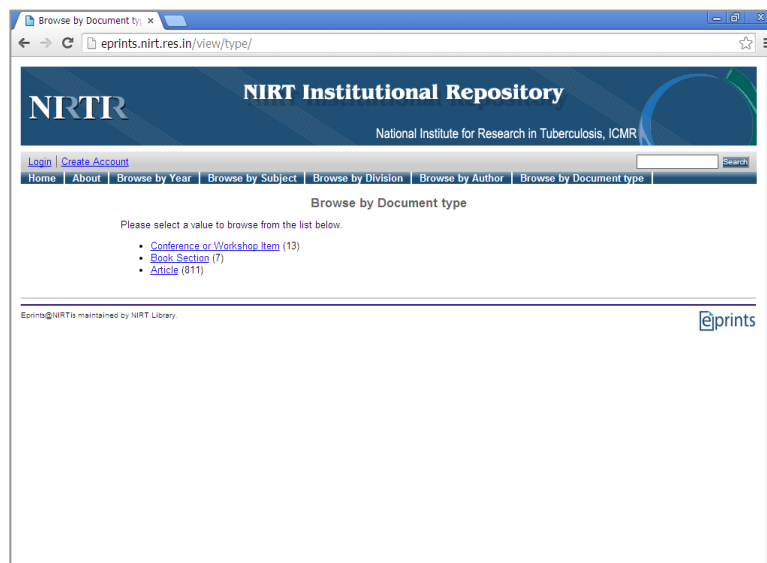


Fig.3 Browse by Document Type

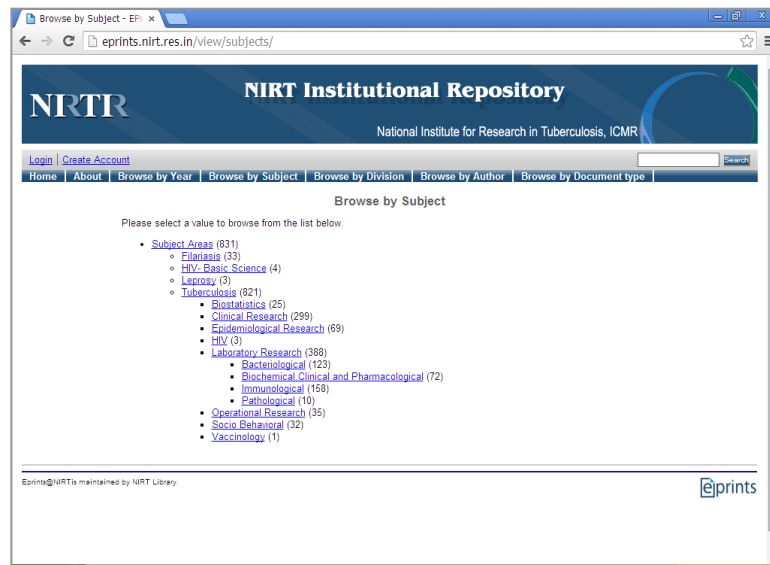


Fig.4 Browse by Subject

SEARCH OPERATIONS

Search is an essential element of discovery in Eprints. Searching can be done through simple and advance search methods which are supported by the software by default. The advance search provides a facility to limit a search to a specific field like Full text, Title, Creator/Author, Abstract, Date etc. Figure.5 shows the screen shot of the advance search methods

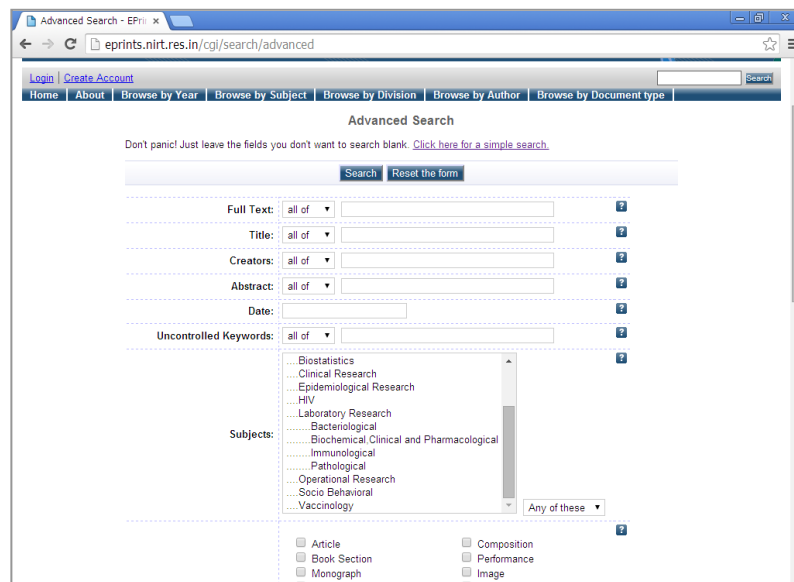


Fig.5 Advance Search

The browse search results shows the details like author(s), title, source, item availability etc as per Eprints standard display policy. Fig.6 shows the screen shot of search result in Eprints.

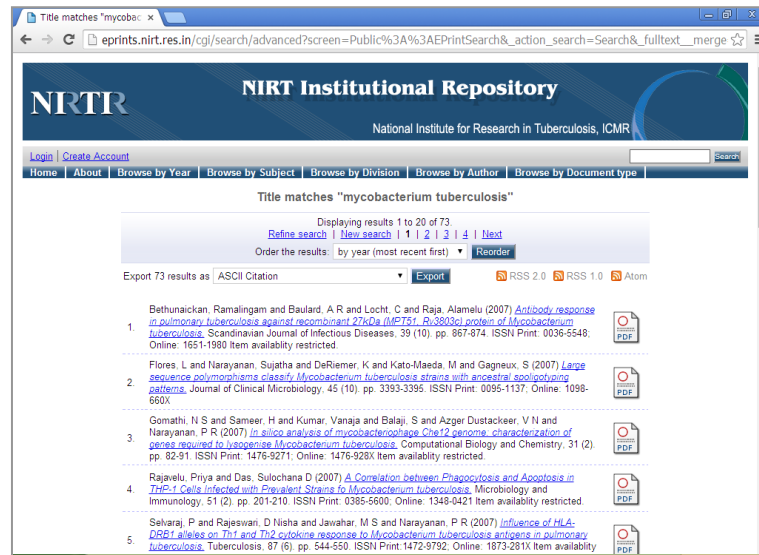


Fig.6 Eprints' standard policy display of the resulted articles

A click on the title, leads to display the bibliographic details of the article with abstract (Fig.7).



Fig.7 Bibliographic details of an article with abstract

A click on ‘download’ leads to display the PDF version of the article (Fig.8). The users other than repository staff can click a ‘Request a copy’ here to request the administrator for reprint.



Fig.8 PDF version of the article

The following Table.1 shows the number of records available in the repository against each item. As of now there are 831 articles have been populated in NIRTIR. Of which except 40 articles remaining are populated under the subject ‘tuberculosis’.

Table.1 Document type in NIRTIR

Document type	No. of records
Conference or Workshop item	13
Book section	07
Article	811

COPYRIGHT COMPLAINT

The NIRTIR follows the SHERPA/RoMEO, which maintains the publishers copyright policies for depositing the research papers in open access archives platform; it provides a searchable database of publishers’ copyright and self-archiving policies for pre-prints and post-prints (<http://www.sherpa.ac.uk/romeo/index.php?la=en&fidnum=|&mode=simple>). In NIRTIR most of the papers are in the publishers’ version. However the access has been restricted to the full-text based on the publisher’s policy. The customization part done with the access facility restricted to “Anyone”, “NIRT Users” and “Repository staff”. The following Fig.9 shows the customization done for access feasibility. While uploading the content, the access right will be authorized by the Administrator / Repository Staff based on the SHERPA/RoMEO.

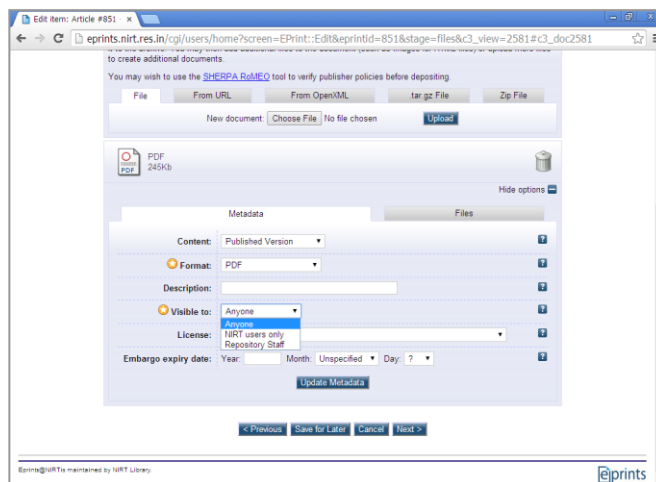


Fig.9: Access right

The users of the affiliated institution are permitted to access the full-text of the articles available in this IR. On the other hand the users outside the affiliated institution, who are in need of the full-text article(s) for their academic / research purpose, which are having access restriction, can request a reprint of the article through “Request a copy” button to get a reprint.

CONCLUSION

This repository is India’s outcome of Specific Centric Subject repository on Tuberculosis. An IR can either institutional or subject-based repository. But this repository covers both institutional cum subject based concept. Hence this repository could be termed as two-in-one repository i.e., institutional cum subject repository. Its portal is more users friendly and will be of great use and benefit to the scientists and research scholars, those working on tuberculosis research on its control and its eradication. The NIRTIR has been registered with DOAR and ROAR. As per Ranking Web of Repositories, the NIRTIR is ranked 1744th position as per the world ranking, out of 1983 ranks; whereas, as per continental ranking (Asia) it holds 366th position out of 448 ranks; and as per country (India) rank it holds 31st rank out of 35 (<http://repositories.webometrics.info/en>). Even it is less than one year old baby it holds this position. It shows the information needs of this particular disease. Hence this will certainly have a major impact both nationally as well as globally.

Reference

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