



SCHOLARLY PUBLISHING, PROPAGATION & EVALUATION

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Scholarly publishing

- Scholarly publishing & communication is a system through which research and scholarship is created, evaluated, distributed, and preserved. This system includes formal publications, such as scholarly journal articles, monographs, and conference proceedings etc. In the digital context, it also includes continually emerging publications, such as data sets, data visualizations, working papers, and blogs.
- In this Information age, it is said that research publications are getting doubled every two years.
- Internet, World Wide Web, electronic publishing and open source movement have added their share of complexity to the world of scholarly publishing and information retrieval.
- Abstracts & Indexes enable information retrieval through different entries like author, title, keyword etc

Abstract and Index – Tools of Propagation

- **Abstract:** is a summary of a text, scientific article, document, speech etc.
- **Index:** Something that serves to guide, point out, or otherwise facilitate reference, especially, an alphabetized list of names, and subjects treated in a printed work, giving the page or pages on which each item is mentioned in a book.
- In computer domain Index is a list of keywords associated with a record or document, used especially as an aid in searching for information. It is typically saved in a plain text format that can be quickly scanned by a search algorithm. This significantly speeds up searching and sorting operations on data referenced by the index. Indexes often include information about each item in the list, such as metadata or keywords, that allows the data to be searched via the index instead of reading through each file individually

Abstracting and Indexing Services

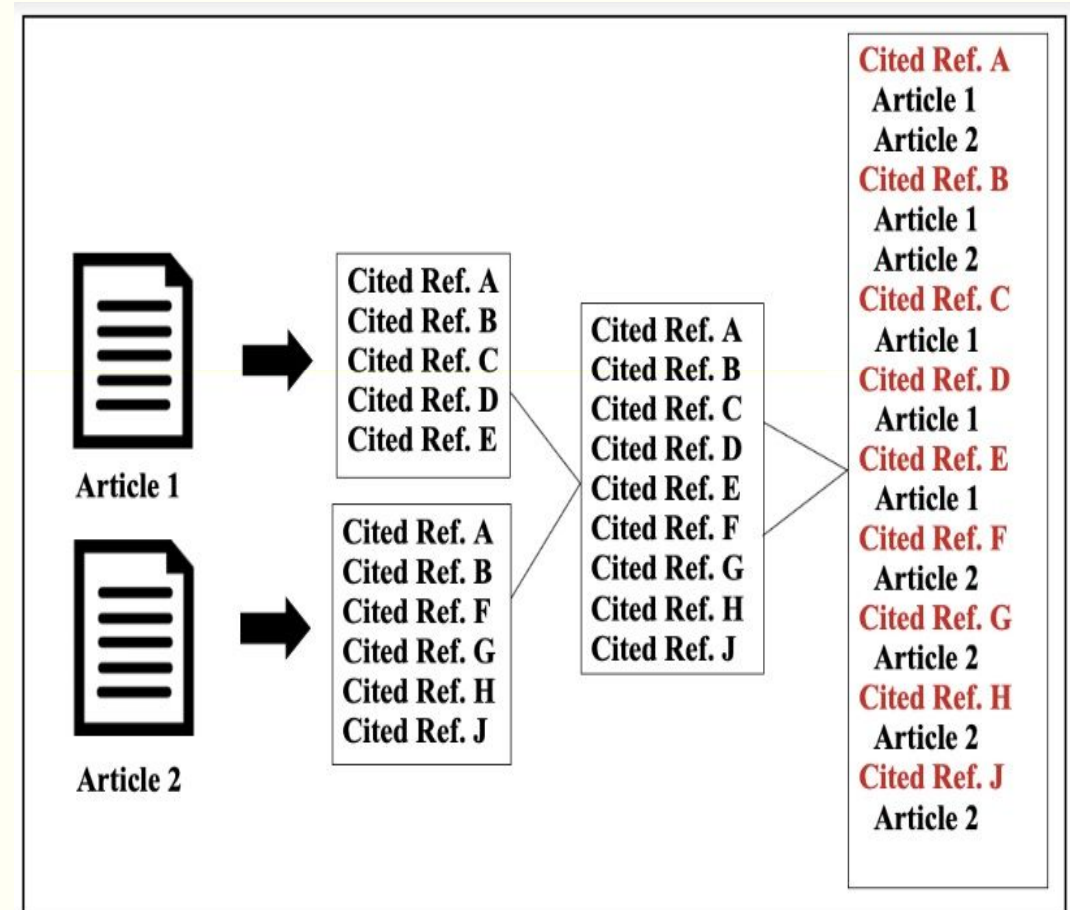
- Abstracting and indexing (A&I) services unlock the content of scholarly journal articles and eBooks using metadata and abstracts. In doing so, they contribute significantly to the use of published literature.
- The metadata presented in abstracting and indexing services includes the title, author(s), date of publication, journal title, volume and issue, page numbers, subject area, keywords, DOI, etc.
- Users browsing these services using particular search criteria are shown the relevant articles, chapters or books with the metadata, abstract and link to the full text.
- If the users themselves or an institution to which they are affiliated have access to the full text or it is an open access publication, then they can immediately use the full text. Otherwise, they are usually shown information from the publisher or other rights holder on how to access the text.

Citations – Evaluation Indicator

- Number of publications of a scientist is a measure of his/her productivity. This number does not say anything about the quality of the research carried out by the scientist.
- The number of citations his articles receive is a better indicator of quality.
- For researchers, citations are intrinsically related to the reward system of the science.
- Number of citations received by a scientist is a measure of his/her knowledge and indicate the use of information generated by them in the science communication.

Citation Indexing – Evaluation Tool

- A citation index is an ordered list of cited articles each of which is accompanied by a list of citing articles. The citing article is identified by a source citation, the cited article by a reference citation. The index is arranged by reference citations. Any source citation may subsequently become a reference citation
- There are many ways in which citation index can be arranged. These include arrangement by author, journal, year, document serial number, volume, page, or other parameter.



Science Citation Index

- The Science Citation Index (SCI) is a citation index originally produced by the Institute for Scientific Information (ISI) and created by Eugene Garfield was officially launched in 1964.
- Index for bibliographic control , an international inventory of science is precisely what the Science Citation Index is...
- SCI is arranged by author and the decision was based on a total system study which determined that the typical user approaches the literature first by author.
- SCI is now called **Web of Science** owned by Clarivate Analytics
- Other examples of SCI:
 - **SCOPUS (Elsevier)**
 - **ECONLIT (AEA)**
 - **Google Scholar**

Web of Science

- The Web of Science provides seamless access to current and retrospective multidisciplinary information from approximately 8,500 of the most prestigious, high impact research journals across 150 disciplines in the world including records and back files dating back to 1898.
- Important Feature of WOS:
 - Navigate backward in time using cited references to uncover the research that influenced an author's work
 - Navigate forward in time using Times Cited to discover the impact a paper or other published item has had on current research
 - Link to the full text of primary literature
 - Export records directly to leading bibliographic management programs: EndNote®, Reference Manager® and ProCite®



WOS Intends...

- Discover who is citing your research and the impact your work is having on the global research community
- Uncover the seminal research of an important theory or concept
- Measure the influence of colleagues' or competitors' work
- Follow the path and direction of today's hottest ideas and concepts
- Determine if a theory has been confirmed, changed or improved
- Find out how a basic concept is being applied
- Track a topic through years of research literature
- Verify the accuracy of references
- Locate relevant articles missed through a topic or subject search

Scopus (Elsevier)

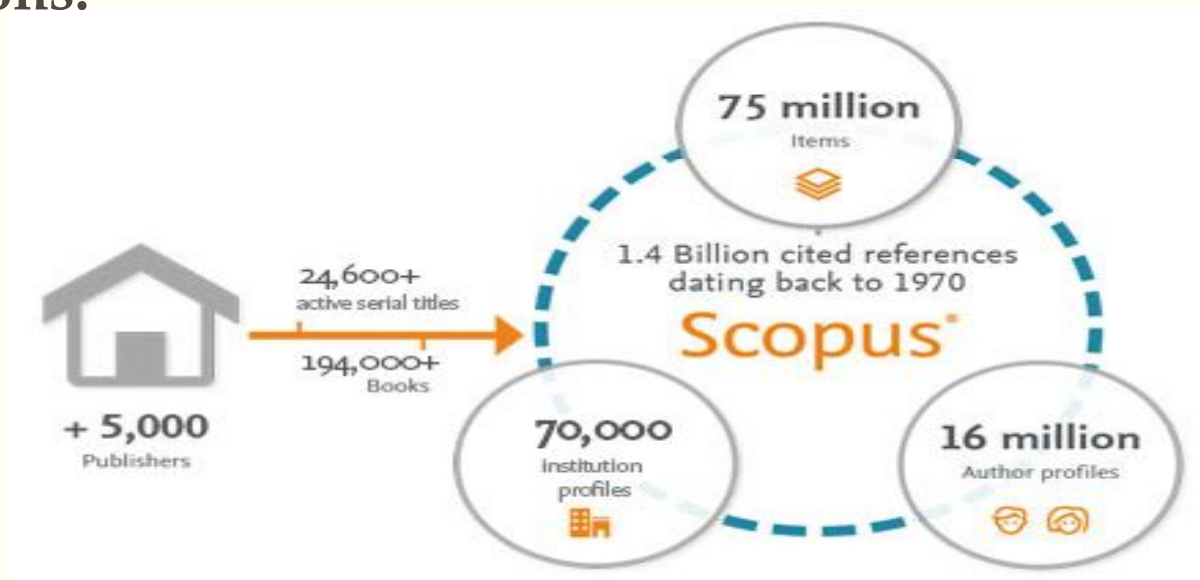
- Scopus is a source-neutral abstract and citation database curated by independent subject matter experts. It places powerful discovery and analytics tools in the hands of researchers, librarians, institutional research managers and funders.
- Scopus supports to discover funding information, advance your career, make strategic decisions, prove ROI or simply to save time, quickly access and make sense of emerging trends, find collaborators and discover competitive insights
- Scopus generates precise citation search results and automatically updates researcher and institution profiles, enables collaborations between people, published ideas, and organizations.
- Scopus helps strengthen institutional research performance, rank and reputation and empowers decision making



Scopus®

How Scopus works

- Scopus indexes content from 24,600 active titles and 5,000 publishers which is rigorously vetted and selected by an independent review board, and uses a rich underlying metadata architecture to connect people, published ideas and institutions.



- Using sophisticated tools and analytics, Scopus generates precise citation results, detailed researcher profiles, and insights that drive better decisions, actions and outcomes.

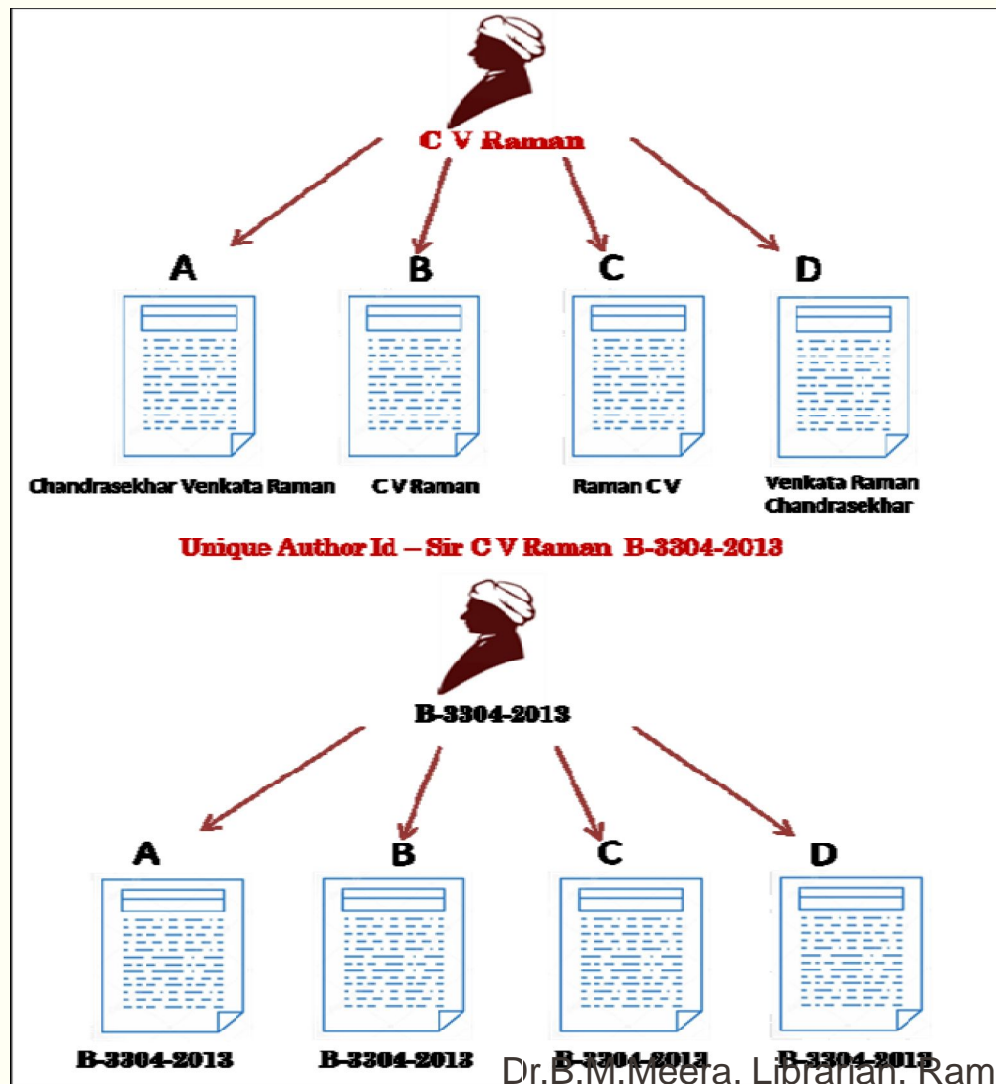
Complexity in Information retrieval process

- Around 200 companies are currently offering A&I services, with approximately 500 databases, ranging from scientific services covering all subject areas are supporting information users in retrieval. Web of Science and Scopus are two examples
- Search through “author” is the most complex process as authors do not stick to one particular way of representing their name.
- So, if an author has ‘N’ number of articles published and has ‘n’ ways of representing name, his/her scholarly contribution gets distributed under ‘n’ different names. Authors productivity evaluation results in distorted representation thus hindering the career growth.
- Additionally there are many other factors of ambiguity associated with name representation.

Unique Author Id – Need?

- In case of female authors and the name change due to marriage or divorce, results in name ambiguity.
- There could be many people with the same name and same initials publishing paper in the same knowledge domain, leading to confusion.
- South Indian names particularly do not have sir name or family name. So, individualization becomes a problem
- So, it is important to maintain a standard name format so that it will ensure collective scientific impact of a scholar
- These complexities associated with name ambiguity can be addressed with the help of Unique Author Identifier.

Ambiguity in Representing Authors Names - Correction through UAI

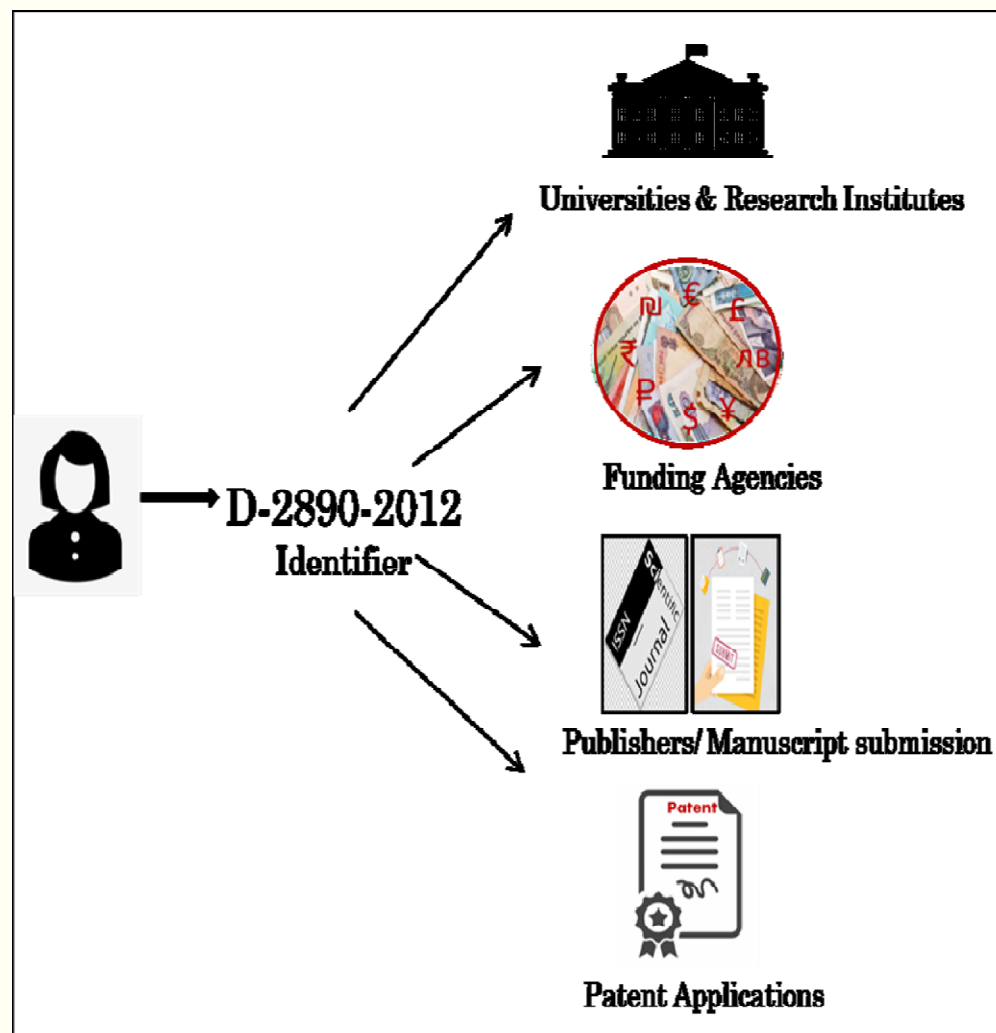


Benefits of Unique Author Identifier

- Authors can use their identifier for manuscript submission, so that the new submission gets associated with their earlier publications.
- Researcher can find a easy way to get complete credit for his/her collective scholarly activities irrespective of the different types of name representation
- Identifiers help publishers by simplifying the publishing workflow
- Funding agencies could use identifiers to track publications of those who are seeking their support.
- Two popular UAI's are –

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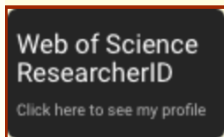
ResearcherID and ORCID




ResearcherID



1. ResearcherID registration is available to all Web of Science users and it is free
2. ResearcherID is a 9 digit number that expressly associates authors with their published works,
3. Helps in updating authors profile information.
4. Can build authors publication list using Web of Knowledge.
5. Generate citation metrics, such as the h-index or times cited articles etc.
6. A ResearcherID badge can be created enabling a window to pop up which will display a summary of your profile and recent publications



Web of Science ResearcherID 

V Radhakrishnan
RID: B-6080-2009
Raman Research Institute

Most recent publication date:
1. Source-noise in radio synthesis images
Times Cited: 4 (Web of Science Core Collection®)

2. Summary
Times Cited: 0 (Web of Science Core Collection®)

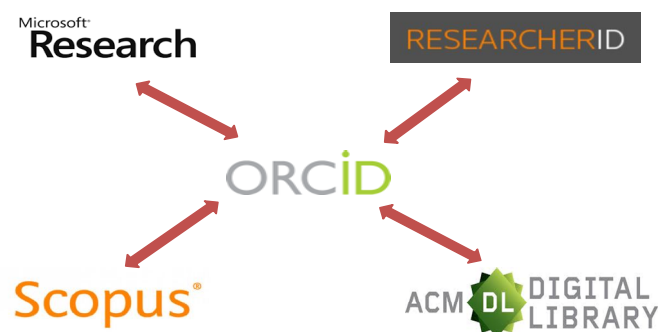
3. Further Evidence for Collimated Particle Beams from Pulsars and Precession
Times Cited: 7 (Web of Science Core Collection®)

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Open Researcher and Contributor ID (ORCID)



- An ORCID identifier is a unique, 16-digit machine-readable number segmented in to four digit group and including a checksum.
- ORCID is a unique identifier aiming at solving the name ambiguity problem in research and scholarly communications by creating a central registry of unique identifiers for individual researchers.
- It is not only open to all research community but also has transparent linking mechanism between ORCID and other current researcher ID schemes.
- Once the ORCID has been created it can be used as a linking identifier throughout the entire chain of the scholarly communication process to allow reliable attribution of researcher.
- ORCID is supported by the major indexing and abstracting services and large corporate and society publishers.



H-Index: Evaluation Tool of Scholarly output

- H-Index is a number proposed by Jorge E. Hirsch, a physicist at the University of California, Sandiago, USA in 2005 and is sometimes called the *Hirsch index* or *Hirsch number*
- It is based on the quantity (number of papers) and quality (impact, or citations to these papers) as well as the distribution of the citations received by the researcher's publications.

Hirsch explains - "The h-index of a scientist is [h] if [h] among his/her [N] articles have at least [h] citations each, and the other [N-h] articles have fewer than h citations each".

If h-index of a scientist is 10, then it means that, among all the articles (say 50) by him, 10 have received at least 10 citations each.

High predictive value of h for a scientist indicates eminence in terms of winning honors like National Academy membership or the Nobel Prize.

Impact Factor: Evaluation Tool of Scholarly output

- Researchers are evaluated based on the impact factor of the journals in which they are publishing.
- Quality of the research of an institution/individual is normally associated with their publication in the most read, highly rated, highly cited journals.
- In any given year, the impact factor of a journal is the number of citations, received in that year, of articles published in that journal during the two preceding years, divided by the total number of articles published in that journal during the two preceding years

- Formula for calculating IF

$$IF_Y = \frac{\text{Citations}_{Y-1} + \text{Citations}_{Y-2}}{\text{Publications}_{Y-1} + \text{Publications}_{Y-2}}$$

- On application of above formula to journal 'Nature'

$$IF_{2018} = \frac{\text{Citations}_{2017} + \text{Citations}_{2016}}{\text{Publications}_{2017} + \text{Publications}_{2016}} = \frac{29753 + 41924}{860 + 869} = 41.456$$

Thank you