Mechanics of Scholarly Writing

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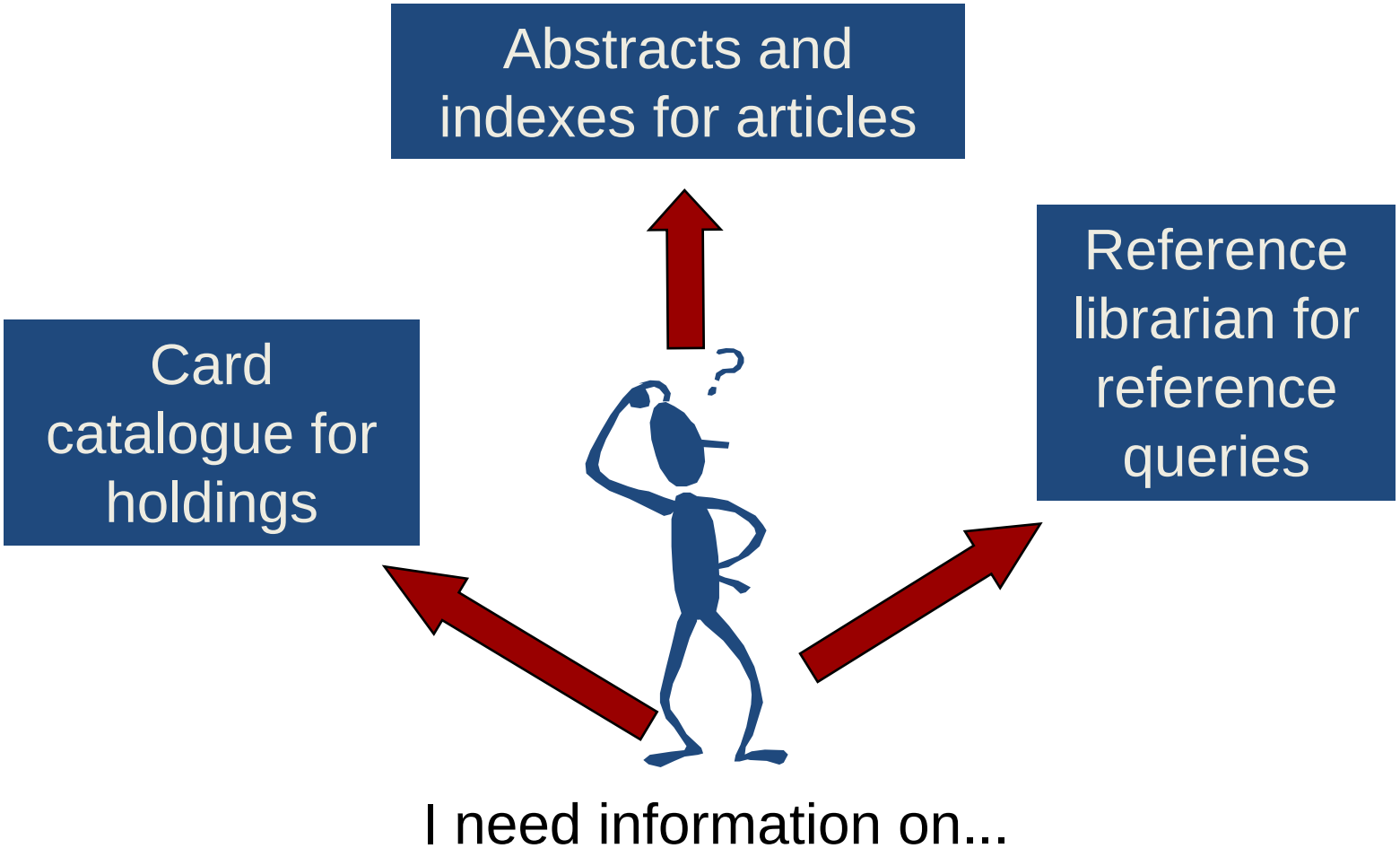
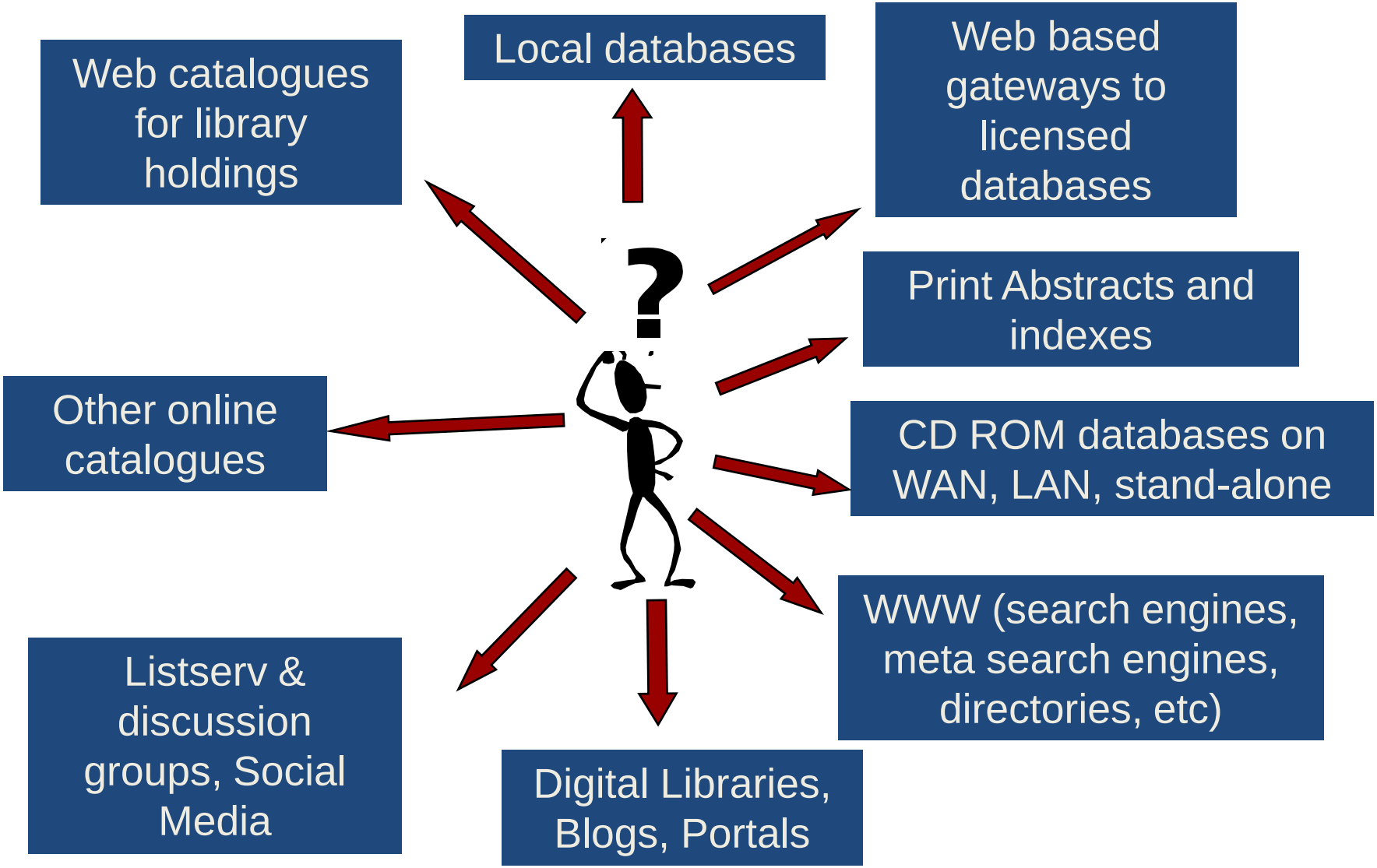
Presentation Outline

- Information Seeking Scenario
- Research as a Process
- What are Reviewers Looking For?
- Ethics in Research and Publication
- Common Errors in Writing papers
- Why Research Papers Rejected?
- Journal Selection Tools
- Self Archiving
- Publish or Perish

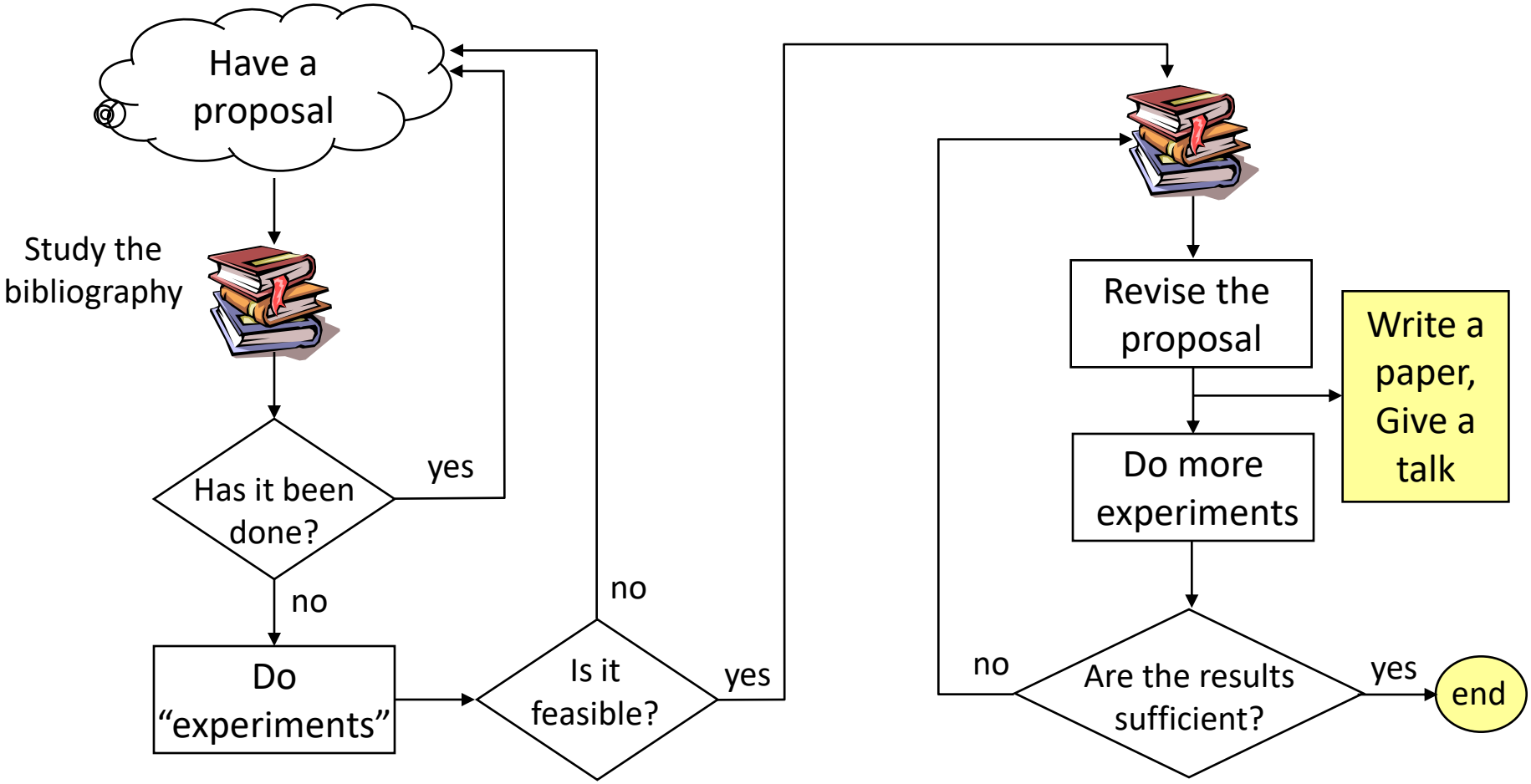
Information Seeking in 1990s



Information Seeking in 2017



Doing Research (A Process)



Sources of Literature

- Open Courseware
- E-Books
- Institutional Repositories
- Open Access Journals
- Electronic Theses and Dissertations
- Online Education/Tutorials

Structural Components

THESIS

- Title
- Abstract + Keywords
- Acknowledgements
- Table of Contents
- Introduction
- Background and Literature review
- Problem statement/ research question
- Methods
- Data Analysis
- Interpretation
- Discussion
- Conclusions
- ***Bibliography***
- Appendices

ARTICLE

- Title
- Abstract + Keywords
- Introduction
- Background and Literature review
- Problem statement/ research question
- Methods
- Data presentation
- Interpretation
- Discussion
- Conclusions
- Acknowledgements
- ***References***
- Further reading
- Appendix, if any

What are reviewers looking for?

Presentation of Results

- Have the hypotheses in fact been tested?
- Are the results shown to support the hypothesis?
- Is the data properly analysed?
- Are the results presented clearly?
- Are patterns identified and summarized?

Discussion and Conclusions

- Are the limits of the research identified?
- Are the main points to emerge identified?
- Are the links made to the literature?
- Is there theoretical development?
- Are the speculations well grounded?

Ethics in Research and Publication

Plagiarism

- Copying and pasting text from online sources
- Using photographs, video or audio without permission or acknowledgement
- Using another student's or your parents' work and claiming it as your own even with permission
- Using your own work without properly citing it
- Quoting a source without using quotation marks- even if you cite it
- Citing sources not used

From: Mirka, 2004, *The Plagiarism Trap.* Powerpoint Presentation

Research Fraud

- **Research fraud is publishing data or conclusions that were not generated by experiments or observations, but by invention or data manipulation**
  - **Fabrication** – Making up research data and results, and recording or reporting them
  - **Falsification** – Manipulating research materials, images, data, equipment, or processes. Falsification includes changing or omitting data or results in such a way that the research is not accurately represented. A person might falsify data to make it fit with the desired end result of a study

Salami Slicing

- The “slicing” of research that would form one meaningful paper into several different papers

Simultaneous Publication

- Intentionally submitting or re-submitting work for duplicate publication is considered a breach of publishing ethics.
  - **Simultaneous submission –** Submitting a paper to two or more journals at the same time
  - **Duplicate publication –** When an author submits a paper or portions of his or her own paper that has been previously published to another journal, without disclosing prior submission(s).
  - **Duplication by Paraphrasing or "Text-recycling" –** When an author writes about his or her own research in two or more articles from different angles or on different aspects of the research without acknowledgment of the original paper
  - **Translations of a paper published in another language –** Submitting a paper to journals in different languages without the acknowledgment of the original paper

Scholarly "Super Achievers"

Here are two researchers — one from Iran and currently working in Malaysia, and one based at Serbia's University of Niš — who are either amazingly productive researchers, or some other scenario. Neither researcher appears to be exploiting the easy-acceptance offered by predatory journals. Is the whole scholarly publishing system falling apart?

Source: https://scholarlyoa.com/

Dalibor Petković, Shahaboddin Shamshirband, Nor Badrul Anuar, Mohd Hairul Nizam Md Nasir, Nenad T. Pavlović & Shatirah Akib. (2014). Adaptive neuro-fuzzy prediction of modulation transfer function of optical lens system. *Infrared Physics & Technology* 65, p. 54–60. http://doi.org/10.1016/j.infrared.2014.03.011

1. Introduction

The characteristic quality of an optical system is usually considered by a function of its ability to discern the smallest object from the farthest distance. The modular transfer function (MTF) is a measure of system response in terms of spatial frequency and is probably the best measure of performance for such systems [1] and [2]. MTF data can be used to determine the feasibility of overall system expectations [3].

The MTF, a quantitative measure of image quality, is far superior to any classic resolution criteria [4]. MTF of an optical system is a measure of its ability to transfer contrast at a particular resolution level from the object to the image. In other words, MTF is a way to incorporate resolution and contrast into a single specification. From a visual standpoint, high values of MTF correspond to good visibility, and low values to poor visibility. But this quality of visibility depends on frequency. Perhaps an easy way to interpret MTF is by thinking of imaging a target with black and white lines, i.e. a target with 100% contrast. It is a known fact that no optical system at any resolution can fully transfer this contrast to the image due to the diffraction limit. In fact, as the line spacing on the target is decreased, i.e., the frequency increases, it becomes increasingly difficult for the optical system to efficiently transfer this contrast. Therefore, as the frequency increases, contrast of the image decreases and an MTF graph, which relates the fraction of transferred contrast as a function of the line frequency, is the best way to observe such performance degradation [5], [6] and [7].

The first introduction, in an Elsevier journal.

Dalibor Petković, Shahaboddin Shamshirband, Hadi Saboohi, Tan Fong Ang, Nor Badrul Anuar, Zulkanain Abdul Rahman, Nenad T. Pavlović. (2014). Evaluation of modulation transfer function of optical lens system by support vector regression methodologies: A comparative study.

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The second introduction, also in an Elsevier journal.

Source: https://scholarlyoa.com/

Dalibor Petković, Shahaboddin Shamshirband, Nenad T. Pavlović, Nor Badrul Anuar, Laiha Mat Kiah. (2014). Modulation transfer function estimation of optical lens system by adaptive neuro-fuzzy methodology. *Optics and Spectroscopy* 117(1), p. 121-131. http://doi.org/10.1134/S0030400X14070042

INTRODUCTION

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The third introduction, in a Springer journal

Common Errors in Writing Research Papers

Problem Statement

1. Write statements, not **repeating the topic**!

Examples of **what not to do** when starting a statement:

- The subject of this paper will be…
- I want to talk about …
- In this essay I want to express…
- My opinion of fast food restaurants is…
- This essay is about…
- I want to explain the…

2. Avoid statements that are too **BROAD**!

Example – Men and women are very different.

3. Avoid statements that are too **NARROW**!

Example – In India, a girl must be 18 yrs old in order to marry a man

4. Write statements that contain **only ONE IDEA!**

Example - Group work has many advantages, but at the same time it brings many difficulties.

Example

Topic :	**Going to the movies - a real problem**
Support:	**1. Inconvenience of going out** **2. Tempting and expensive snacks** **3. Behavior of other movie goers**

Problem Statement:

The hazards of going out, the expensive snacks, and the behaviour of other movie goers are some of the problems of going to the movies.

Literature Review: Problems

- Chronological arrangement
- Use of outdated sources
- Inadequate paraphrase
- Reproduction of earlier works
- Summarizing without inferences

Literature Review: Example #1

Other studies also support the conclusion that traditional teaching methods hinder learning calculus. Isolated, trivial problems, the norm in many classrooms, inhibit students from acquiring the ability to generalize calculus problem-solving skills (Selden, Selden, & Mason, 1994). Similar results are reported by Norman and Prichard (1994). They demonstrate that many learners can not interpret the structure of a problem beyond surface-level symbols. They show that novices have inaccurate intuitions about problems which lead them to attempt incorrect solution strategies (Norman & Prichard 1994). Because they cannot see beyond high-level features, they can not develop correct intuitions. On the other hand, successful problem solvers categorize math problems based upon underlying structural similarities and fundamental principles (Silver, 1979; Shoenfeld & Herrman, 1982). These categories are often grouped based upon solution modes, which the experts use to generate a forward working strategy (Owen & Sweller 1989).

Literature Review: Example #11

It is also true that museums are increasingly using ICT tools not only to support management operations through data collection and analysis (Sheldon, 1997), but also to be directly used by visitors to enhance their experience of the exhibition. (Elbert & Temme, 1992). There were many more such studies from different countries (Goulding, 2000; Hou, 2009; Hamid et al., 2010; Lee, 2012; Trinha & Ryan, 2013) to assess the visitors' expectations and satisfaction in the museums.

Punctuations save LIVES

- Let's eat, Grandma
- Let's eat Grandma

Improper Citations

Example – 1

Panwar and Vyas (1976) insist that researchers are the communicators of thought to their students; students also engage themselves in research, therefore, basic reference works on important subjects need special attention and consideration by the library authority, faculty members and they library staff.

Geetha and Biswas (1980) reported in their study that as students are our large single group of users. We must not keep them on our door steps only.

Deshmukh (G.K) (1983) suggests that the overall collection of all types of literature is not adequate and wide efforts are made to improve the collection, emphasis should be on reports, and reference books.

Garg and Ashok Kumar(1984) reports that most of information scientists. Collect procedural information for a design or development of the project. Periodicals are highly used to the sources of information gathering and the average number of primary periodicals are scanned by the scientists.

Dutt(1987) has found that specific information services can be identified only after a through analysis of user

Yekini N.A., Rufai M.M., Adetoba B.T., Akinwole A.E. and Ojo O. (2012). ICT "Tools" for Poverty Eradication and Economic Growth in Nigeria, Greener Journal of educational Research.

Hannafin, R.D. and S. Saverye (2013). "Technology in the Classroom. The Teacher's New Role and Resistance to IT in Educational Technology.

Example – 2

Aerni[19] (2005); Tenopir and King[20] (2002); Tenopir, King, & Bush[21] (2004), as well as others, such as Dillon and Hahn[22] (2002). From anecdotal observation, it is clear today that most academic researchers primarily use electronic access for searching and retrieving content to satisfy their research information need. This is a significant change from the time when users relied on personal journal subscriptions as discussed by Curtis, Weller, & Hurd[23] (1997) or from the time when they primarily went to the library to read and make copies as evidenced in a paper by Hurd[24] (1996), or even from when they searched electronically, but read or made a photocopy of the print copy because the electronic copy's text and figures were not of sufficient quality as found out by Sathe, Grady, and Giuse[25] (2002). Studies after the year 2000 gradually shifted from the internet use

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[19] King, D.W., Tenopir, C., Montgomery, C.H., and Aerni, S.E. (2003), Patterns of journal use by faculty at three diverse universities. D-Lib, 9(10).

[20] Tenopir, C., and King, D.W. (2002), Reading behaviour and electronic journals, *Learned Publishing*, 15, pp.259–265.

[21] Tenopir, C., King, D.W., and Bush, A. (2004), Medical faculty's use of print and electronic journals: Changes over time and in comparison with scientists, *JMedLibr Assoc*, 92(2), pp.233–241

Citations – Enumerated System

- Publication productivity, as measured by the number of papers, has also been regarded as one of the main indicators of reputation of institutions in general[8] and academic institutions in particular[9–10].

8. Garg, K. C. & Padhi, P. (1999). Scientometrics of Institutional Productivity of Laser Science and Technology. *Scientometrics*, 46, 19–38.

9. Abt, H. A. (1993). Institutional Productivities. *Publications of the Astronomical Society of the Pacific*, 105, 794–798.

10. Basu, A. & Nagpaul, P. S. (1998). National Mapping of Science. *NISTADS Report*: No. Rep-248/98, New Delhi, 157–169.

Citation – Author Date System

- **Publication productivity, as measured by the number of papers, has also been regarded as one of the main indicators of reputation of institutions in general (Garg, 1999) and academic institutions in particular (Abt, 1993; Basu & Nagpaul, 1998).**

Abt, H. A. (1993). Institutional Productivities. *Publications of the Astronomical Society of the Pacific*, 105, 794–798.

Basu, A. & Nagpaul, P. S. (1998). National Mapping of Science. *NISTADS Report*: No. Rep-248/98, New Delhi, 157–169.

Garg, K. C. & Padhi, P. (1999). Scientometrics of Institutional Productivity of Laser Science and Technology. *Scientometrics*, 46,19–38.

Three strategies in in-text citations

- Quoting
- Paraphrasing
- Summarizing

Quotation Examples…

1. **less than** 40 words:

He confirms our suspicions. **“**Because N-Gen children are born with technology, they assimilate it. Adults must accommodate – a different and much more difficult learning process**”**_ **(Tapscott, 1998, p. 40).** (Punctuation is only after in-text citation.)

Quotation Examples…

2. **more than** forty words (Block Quotation):

The *Publication Manual of the American Psychological Association* (2010) explains how to avoid *plagiarism:*

> Quotation marks should be used to indicate the exact words of another. *Each time* you paraphrase another author (i.e., summarize a passage or rearrange the order of a sentence and change some of the words), you need to credit the source of the text. (p.15) (Punctuation at end of quote, before the citation.)

Citation Example 1

He states, “anything takes on a new meaning when we think of it as a monument”_(Boorstin, 1987, p. 215) and adds that monuments can be both man-made and natural.

Note punctuation

What makes this sentence elegant or unique?

The sentence has both a direct quotation and a paraphrase!

You may have been told that if you put something into your own words, you need not cite. This is incorrect. The material is still someone else's idea and requires acknowledgements.

Paraphrasing requires a citation

Citing Secondary Sources

- The study by Seidenberg and McClelland was mentioned in an article by Coltheart, Curtis, Atkins, & Haller.

In-text

- Seidenberg and McClelland's study (as cited in Coltheart, Curtis, Atkins, & Haller, 1993) provided a glimpse into the world. In the reference section, cite the secondary source but not the original study.

Reference

Coltheart, M., Curtis, B., Atkins, P., & Haller, M. (1993). Models of reading aloud: Dual-route and parallel-distributed-processing approaches. Psychological Review, 100, 589-608.

Why research papers are rejected?

Reasons why research papers are rejected?

- Extremely poor language
- Lack of proper data collection methods
- Incomplete data
- Poor or wrong analysis, interpretation of data
- No correlation with earlier studies
- Very weak literature survey
- Similar or exact study already carried out earlier

Levels of rejection

- Instant rejection by editorial team (Very rare): Extremely poor quality paper
- Revision request by editorial team: If not revised as suggested, paper is rejected
- Peer review: Papers are subject to double-blind peer review for objective feedback and comments of experts (Majority of rejections happen at this stage)

How to increase acceptance rate?

- Firstly, strictly adhere to journal guidelines, policies, reference pattern etc.
- Most authors do not follow this and it reflects badly, shows lack of seriousness, etc.
- Everyone is not a language specialist. Therefore, get the paper language edited/vetted by a language expert.
- A paper that is written in good English immediately increases its chances of consideration.

How to increase acceptance rate?

- Thorough literature review is of utmost importance.
  - A lack of proper literature review indicates that the author has not carried out the study seriously.
- Check, re-check for correctness of data. Check totals etc.
- References should be complete in all respects.

How to increase acceptance rate?

- Conclusion should not repeat findings. This is a common mistake.
- Authors tend to summarise the findings in the conclusion.
- Specific conclusion drawn from the study should be highlighted.

Some Referee Comments

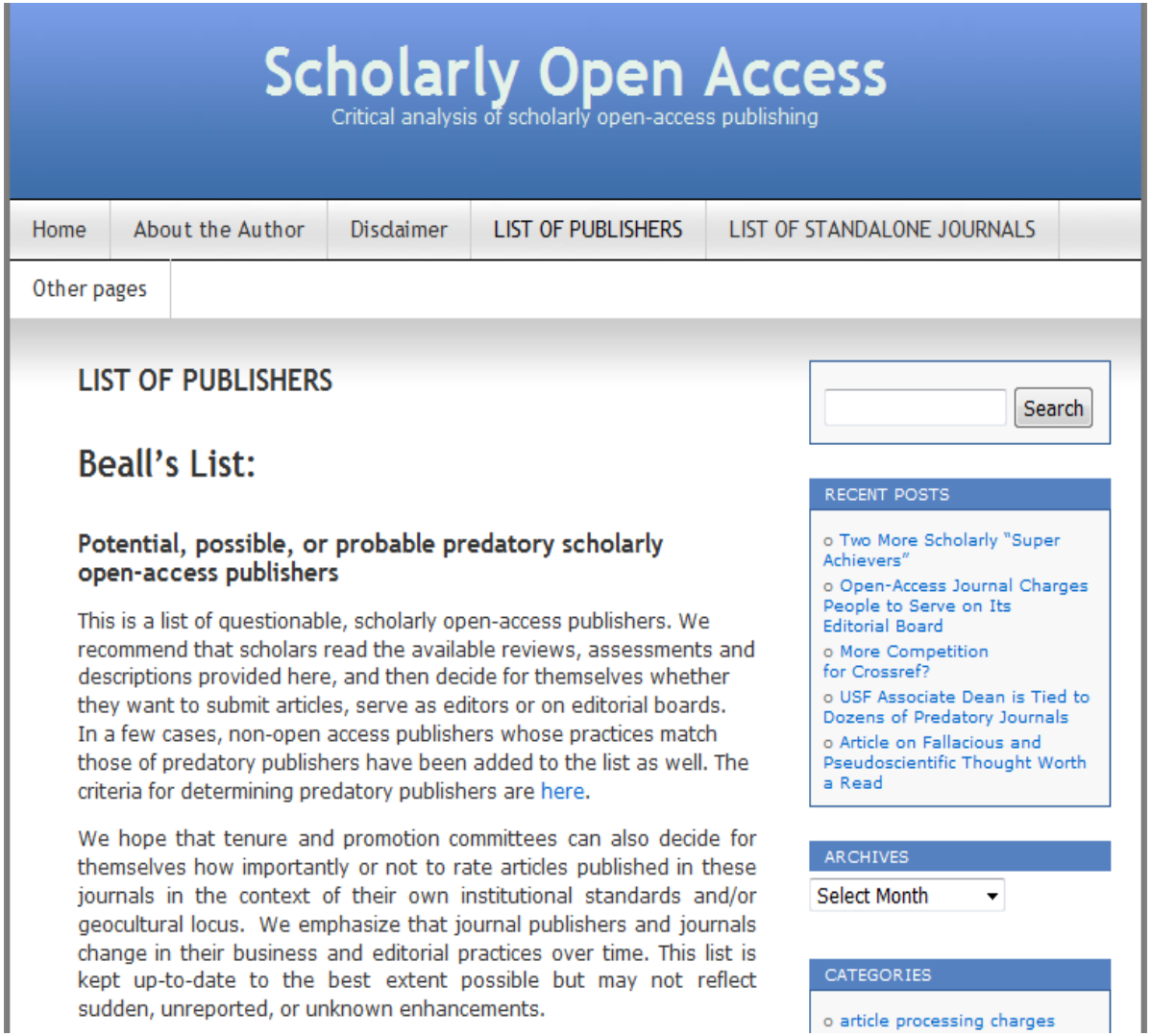
- The paper entitled "Citation analysis ……." is not focused and is a mix of various facets of bibliometrics. In my opinion it is not going to serve any useful purpose to the professionals. The paper is not suitable for publication in Annals.
- We regret to inform you that we are unable to consider the manuscript for Annals as we notice that you have submitted the same manuscript to "Indian Journal of Library & Information Science" and some other journal too.

Some Referee Comments

1. *The objectives need to be redrafted or recast as they are not expressive.*
2. *Table 7 is not clear and not properly explained or interpreted.*
3. *The impact of the Research output ……has not been discussed even though the title states this aspect.This needs to be included.*
4. *Other comments: 1. References are too sketchy. More relevant references may be included. 2. References cited in and at the end of the text should be in Annals format.*

Predatory publishers and journals continue to be a serious threat to the scholarly communication ecosystem.

(http://scholarlyoa.com/)



Publishers	
Year	Number of publishers
2011	18
2012	23
2013	225
2014	477
2015	693
2016	923

Standalone journals	
Year	Number of journals
2013	126
2014	303
2015	507
2016	882

Journal Selection Tools

Authors

Journal authors

» How to publish? – Step by step

Before you start

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Submission

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Publication

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Preparation

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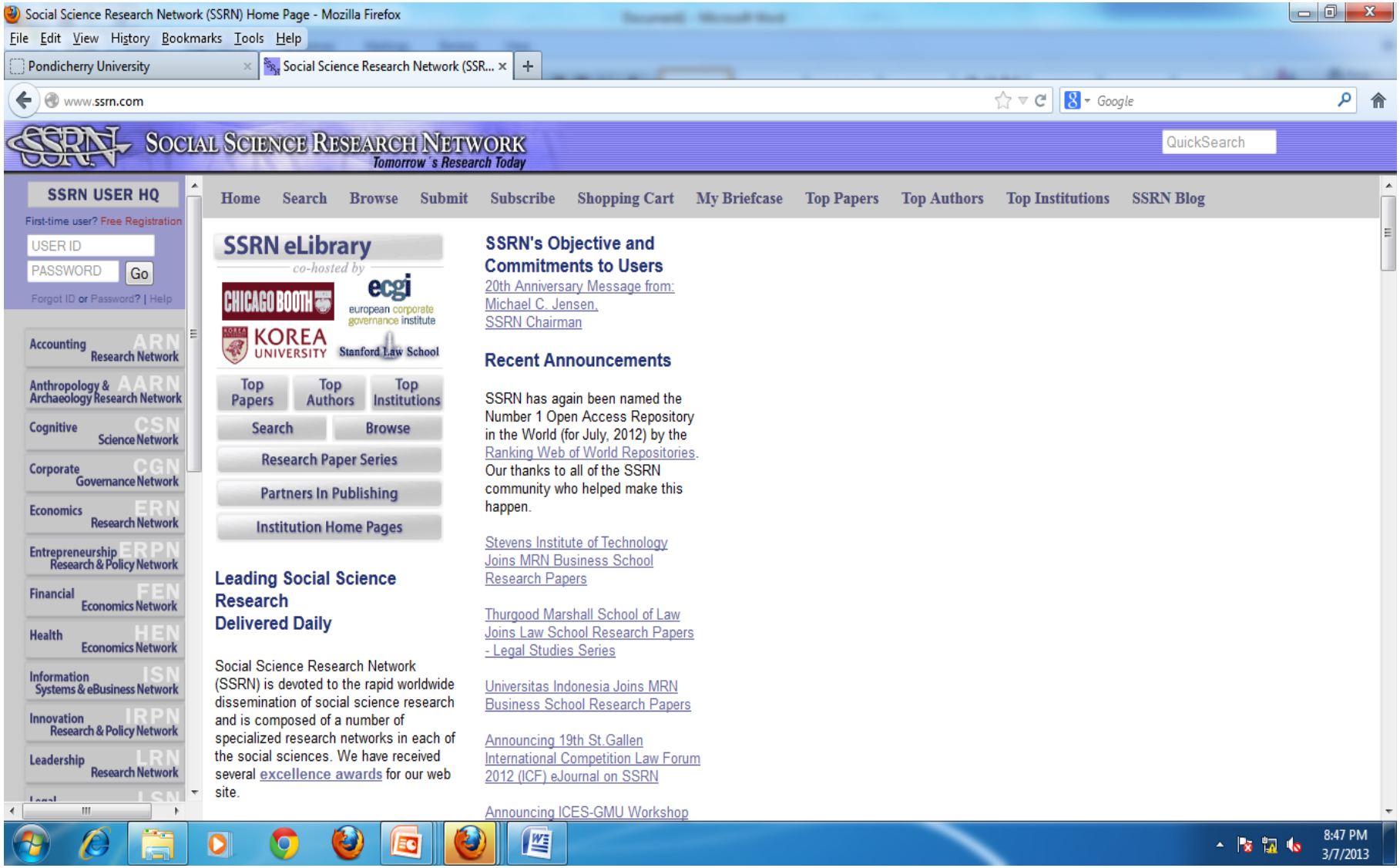

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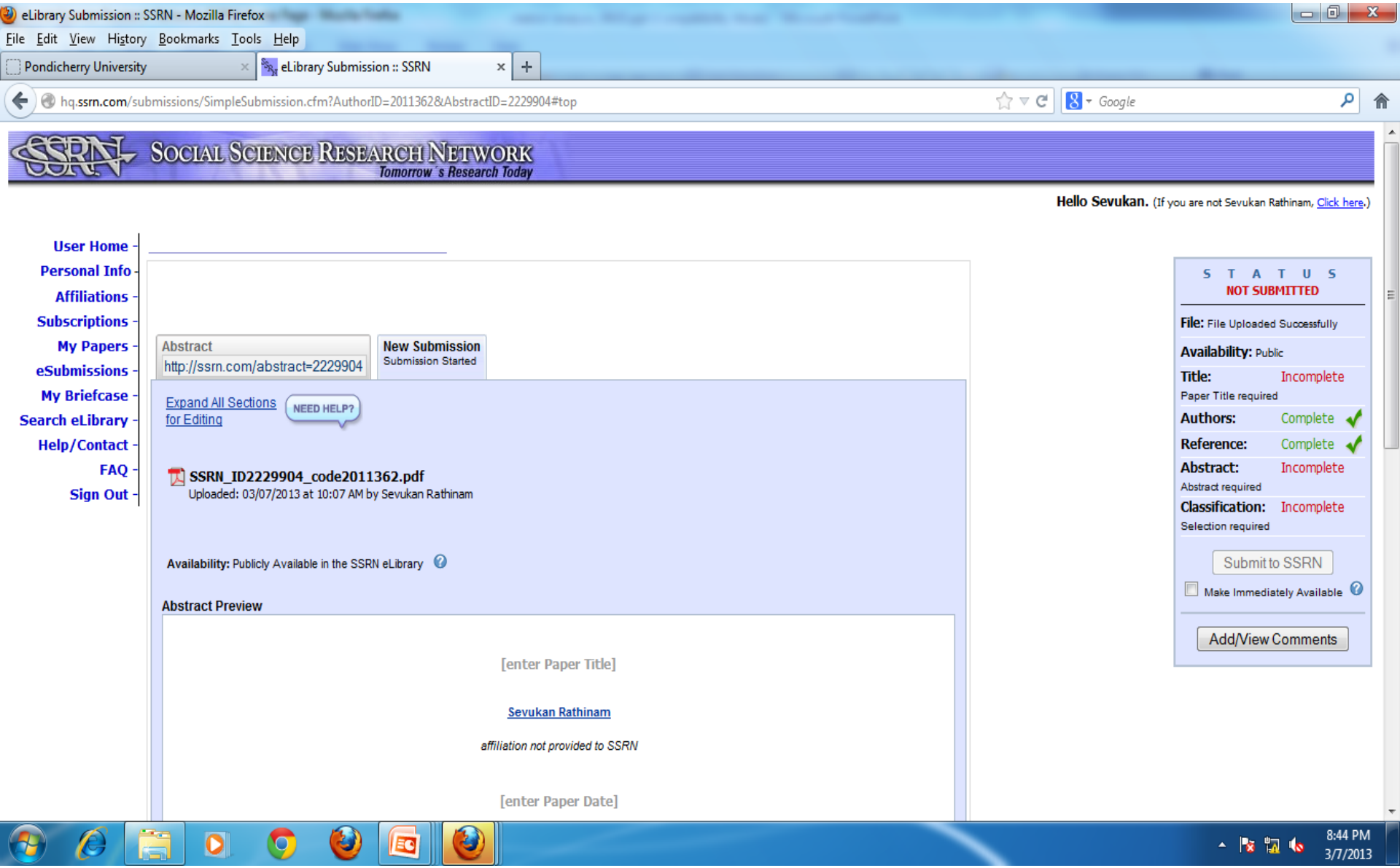
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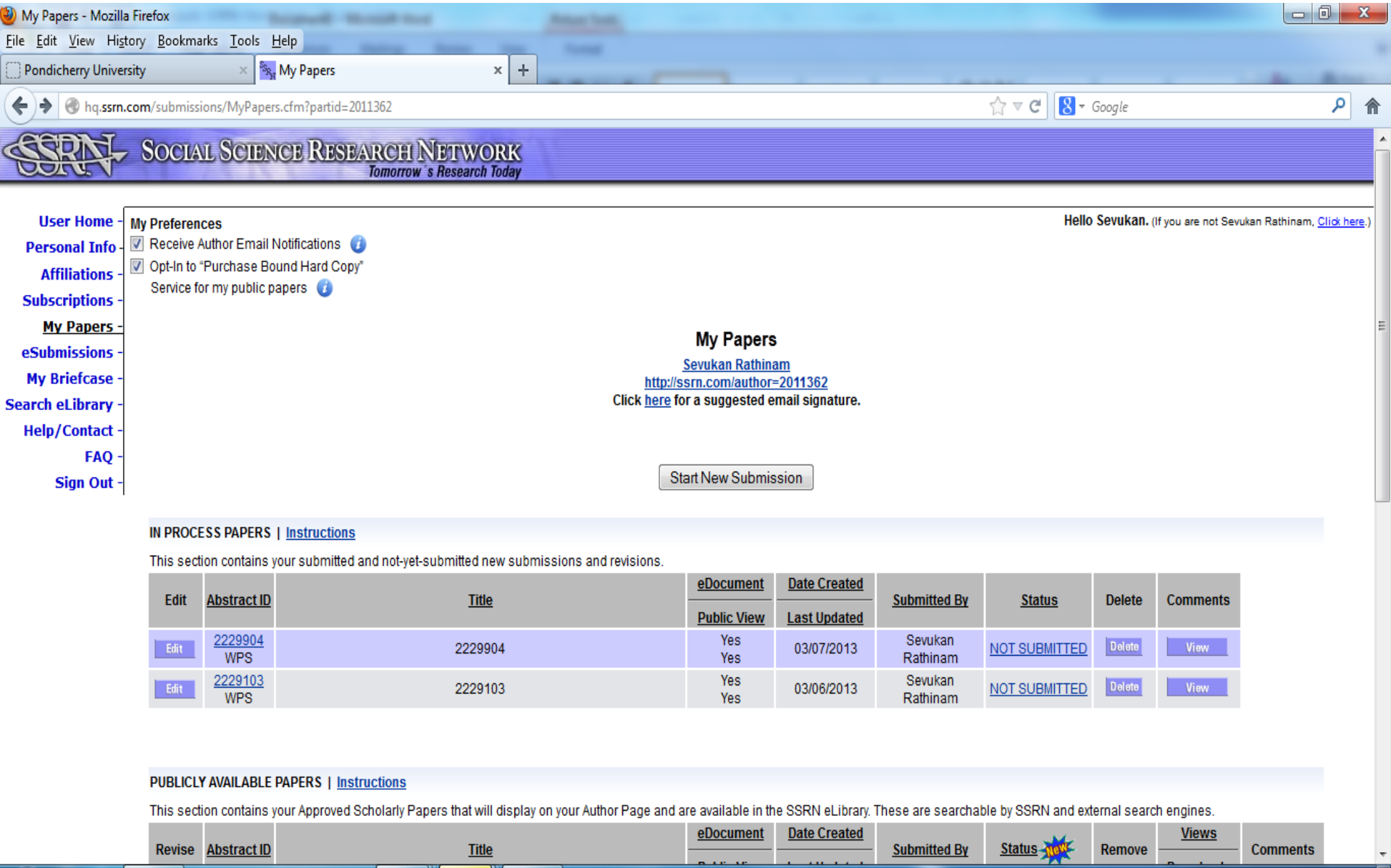

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- Developed by Harzing, Professor in International Management at the University of Melbourne, Australia
- It uses Google Scholar to obtain the raw citations
- http://www.harzing.com/pop.htm

Harzing's Publish or Perish

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Thank You

Citation Analysis

Dr. B. Jeyapragash,

Assistant Professor,

Dept. of Library and Information Science,

Bharathidasan University, Tiruchirappalli.

Citation Analysis

- Citation analysis is the study of the impact and assumed quality of an article, an author, or an institution based on the number of times work and/or authors have been cited by others.

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Why we need citation analysis

- To find out how much impact a particular article has
- To find out more about a field or topic
- To determine how much impact a particular author has

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Citation measures

- h – Index
- Impact Factor (IF)

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H-INDEX

- The h-index was suggested by Jorge E.Hirsch.

- h-index attempts to measure both the productivity and impact of the published work of a scientist or scholar.

- The h-index can also be applied to the productivity and impact of a group of scientists, such as a department or university or country.

Articles	Citation numbers	
1	33	
2	30	
3	20	
4	15	
5	7	
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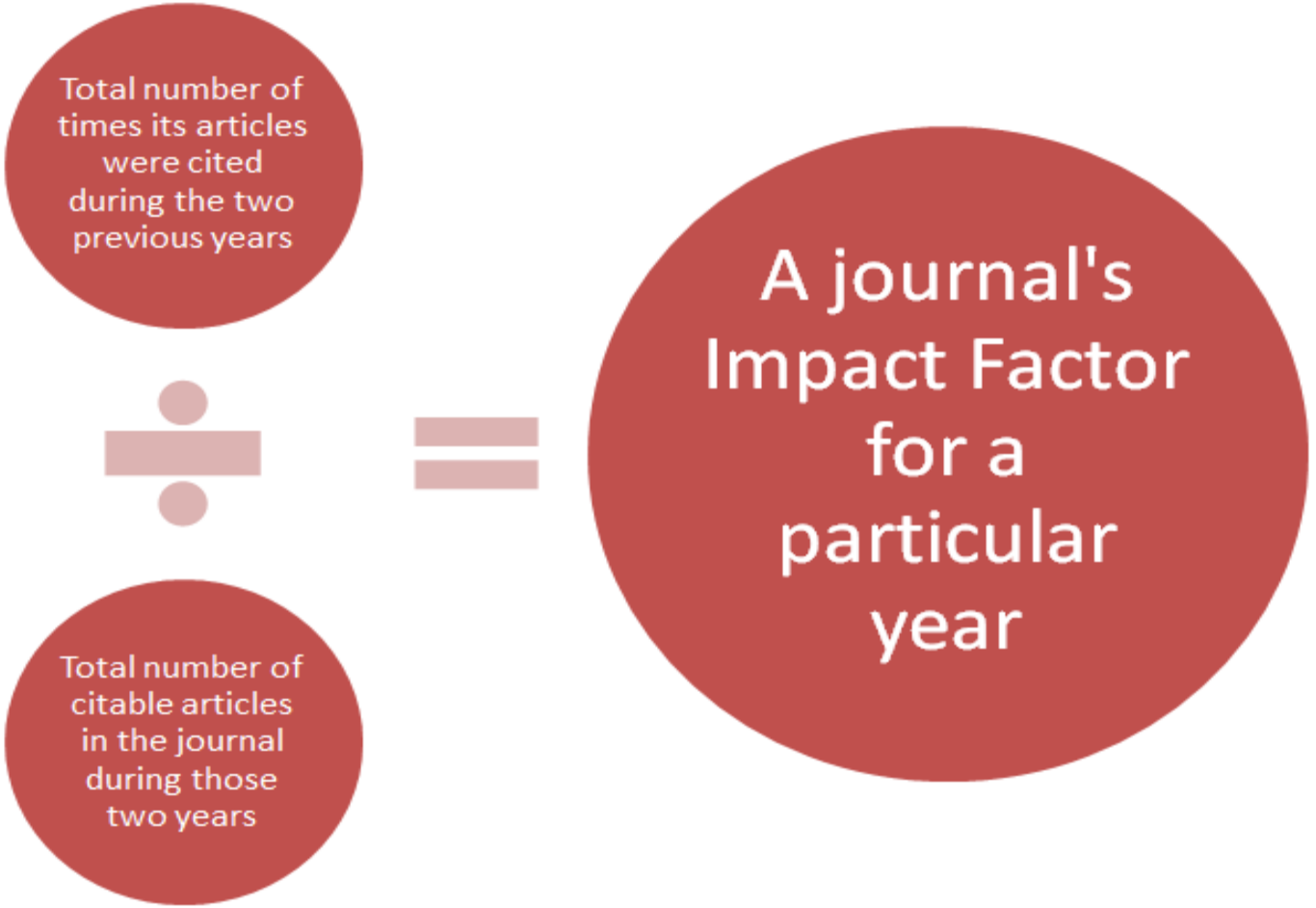

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Citation Database

- Citation database is the database that have been developed for evaluating publications.
- The citation database enables to count citations and to check which articles or journals are the most cited ones.

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Citation Databases

- **Web of Science**
- **Scopus**
- **Google Scholar**
- **Indian Citation Index**

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Web of Science

- Web of Science is by Thomson Reuters.
- It helps to quickly find, analyze, and share information in the sciences, social sciences, arts, and humanities.
- It gives integrated access to high quality literature.
- WOS is Authoritative, multidisciplinary content covers over 12,000 of the highest impact journals worldwide including open access journals.
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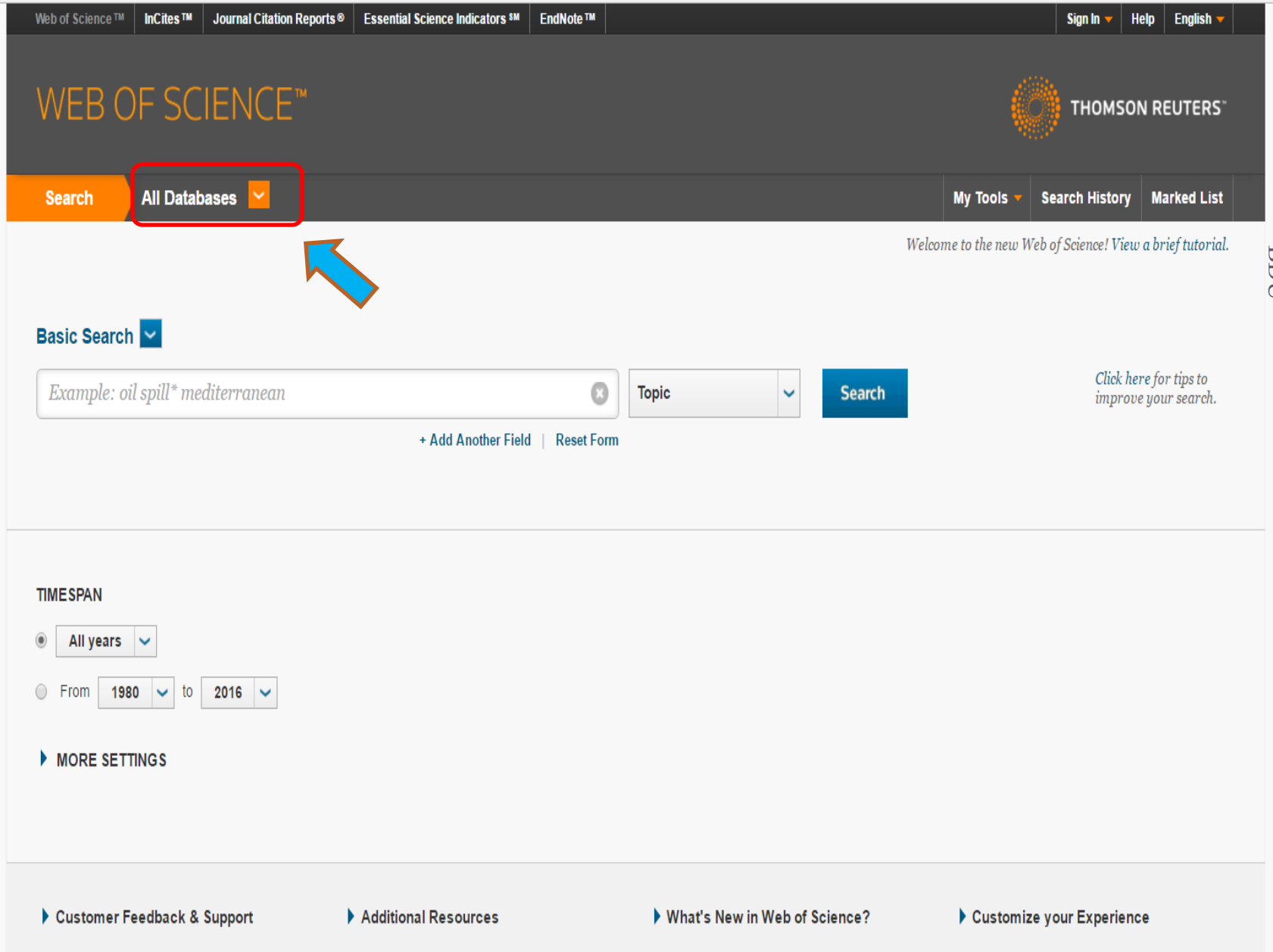

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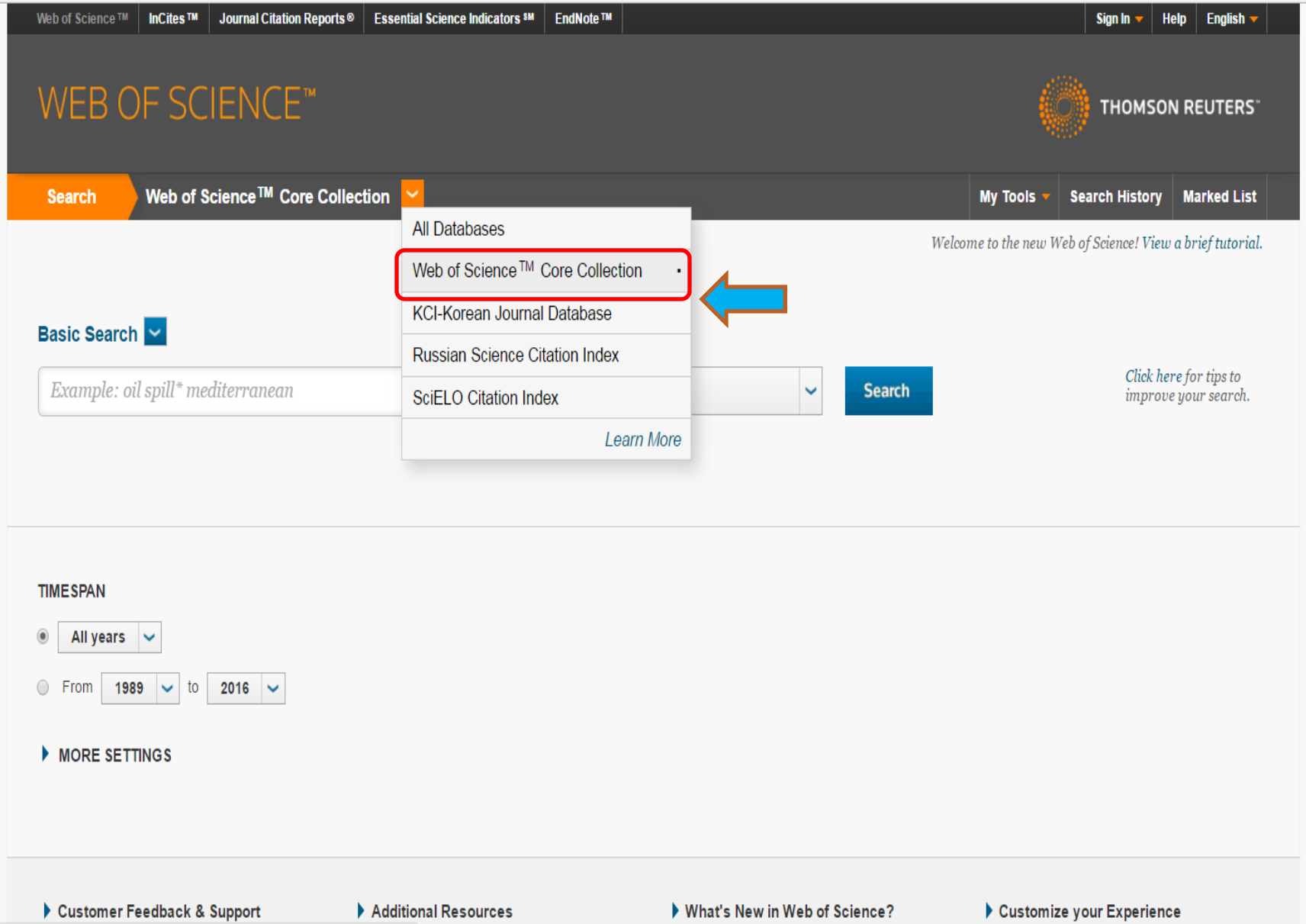

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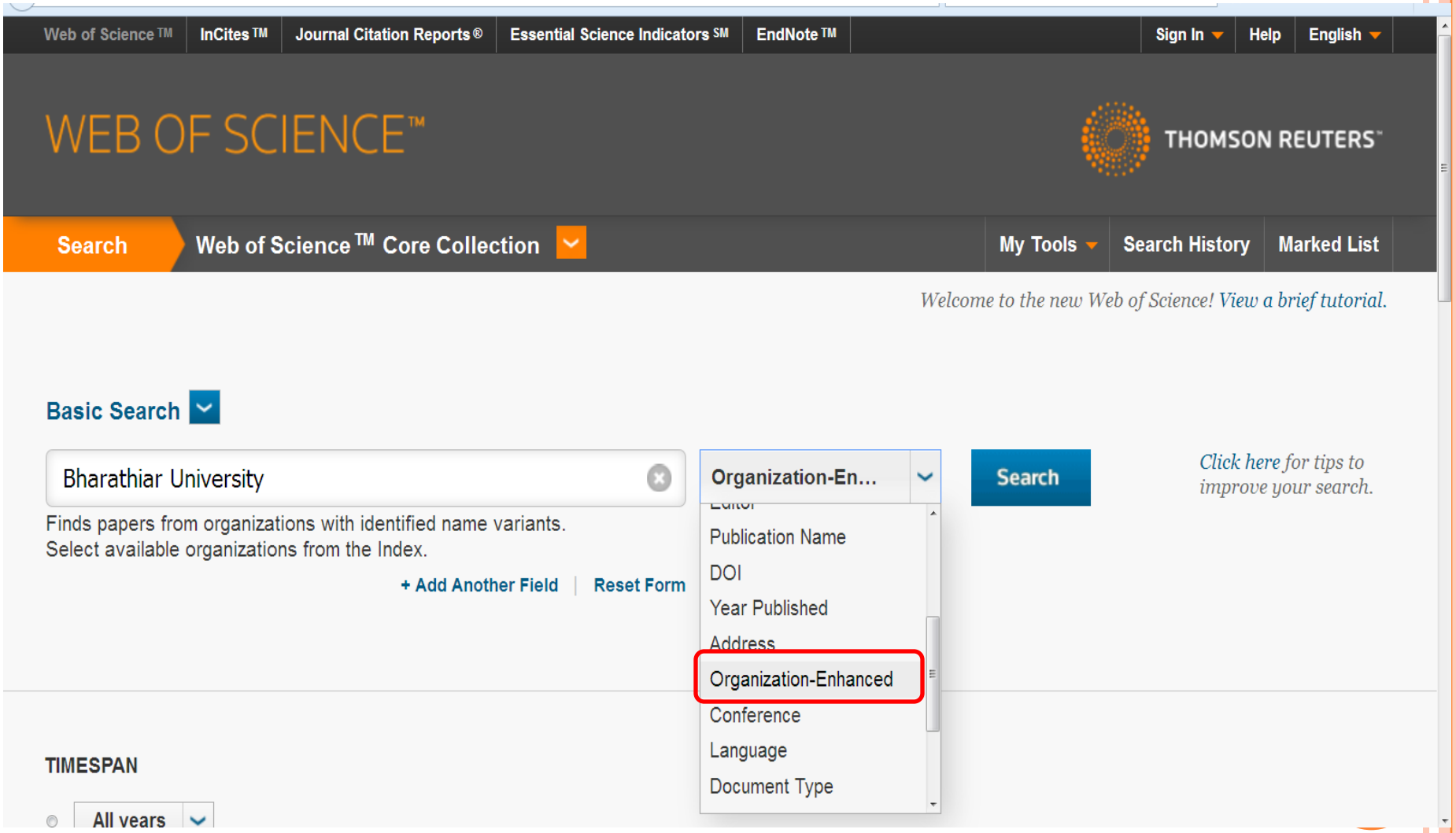

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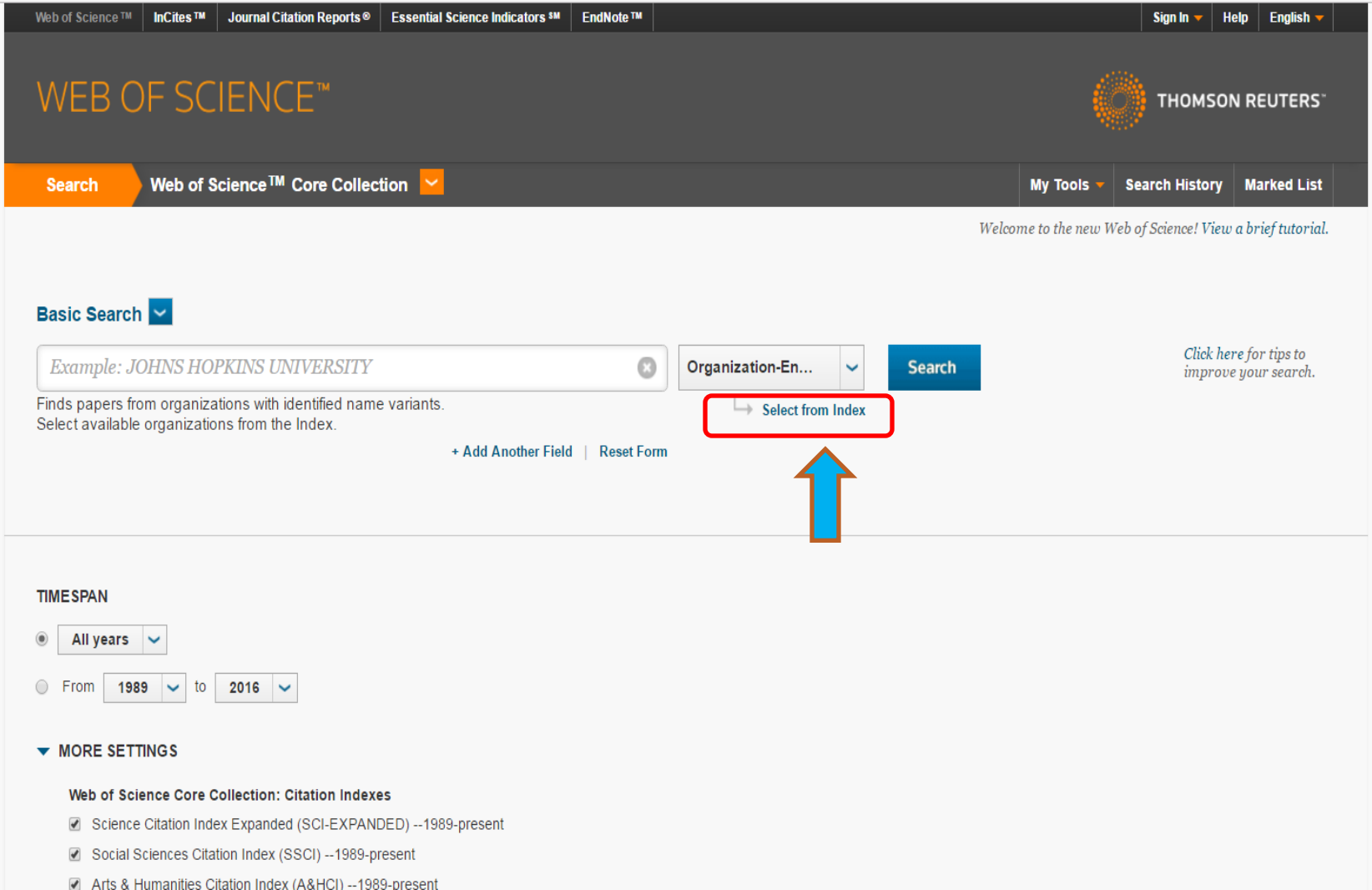

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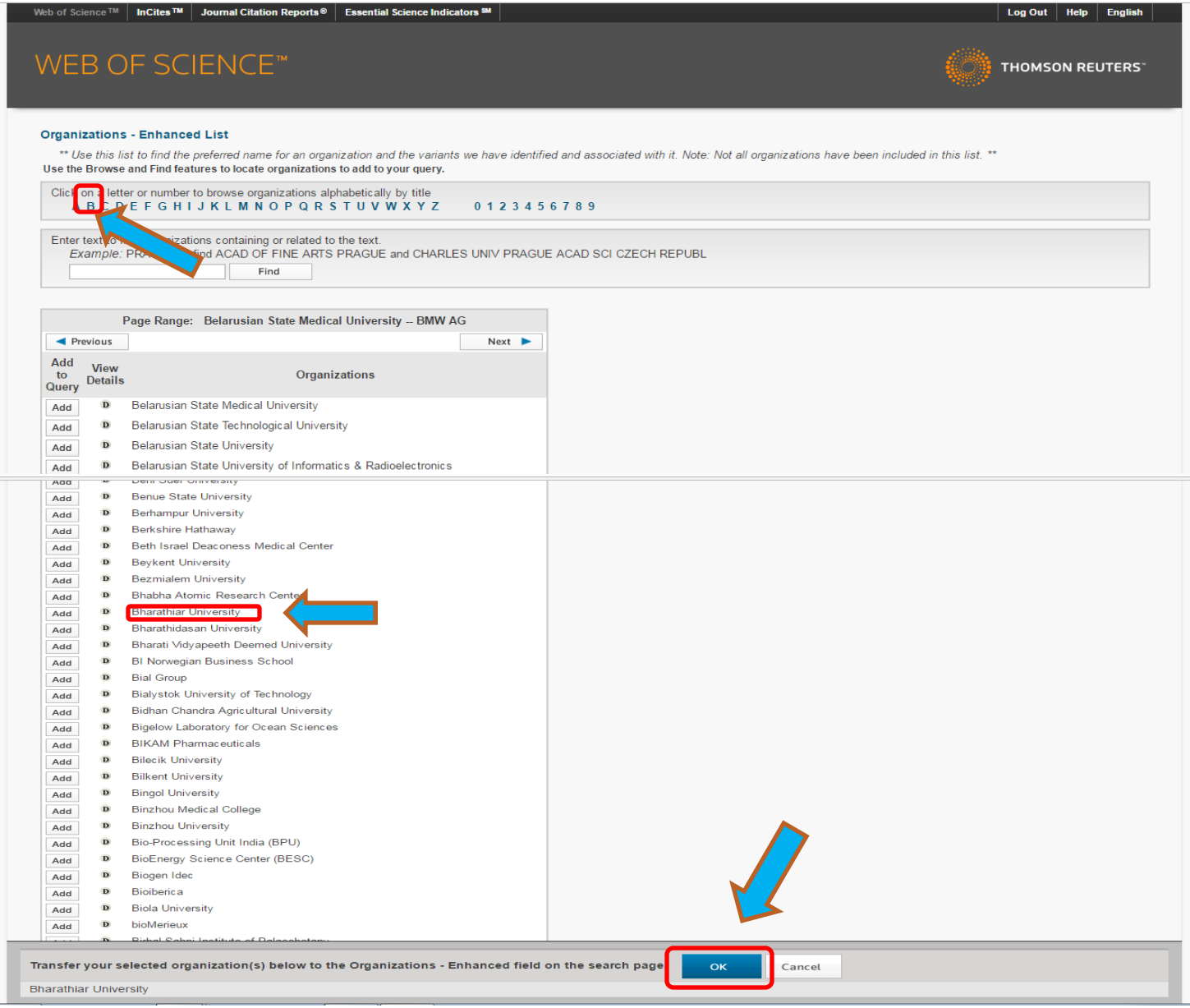

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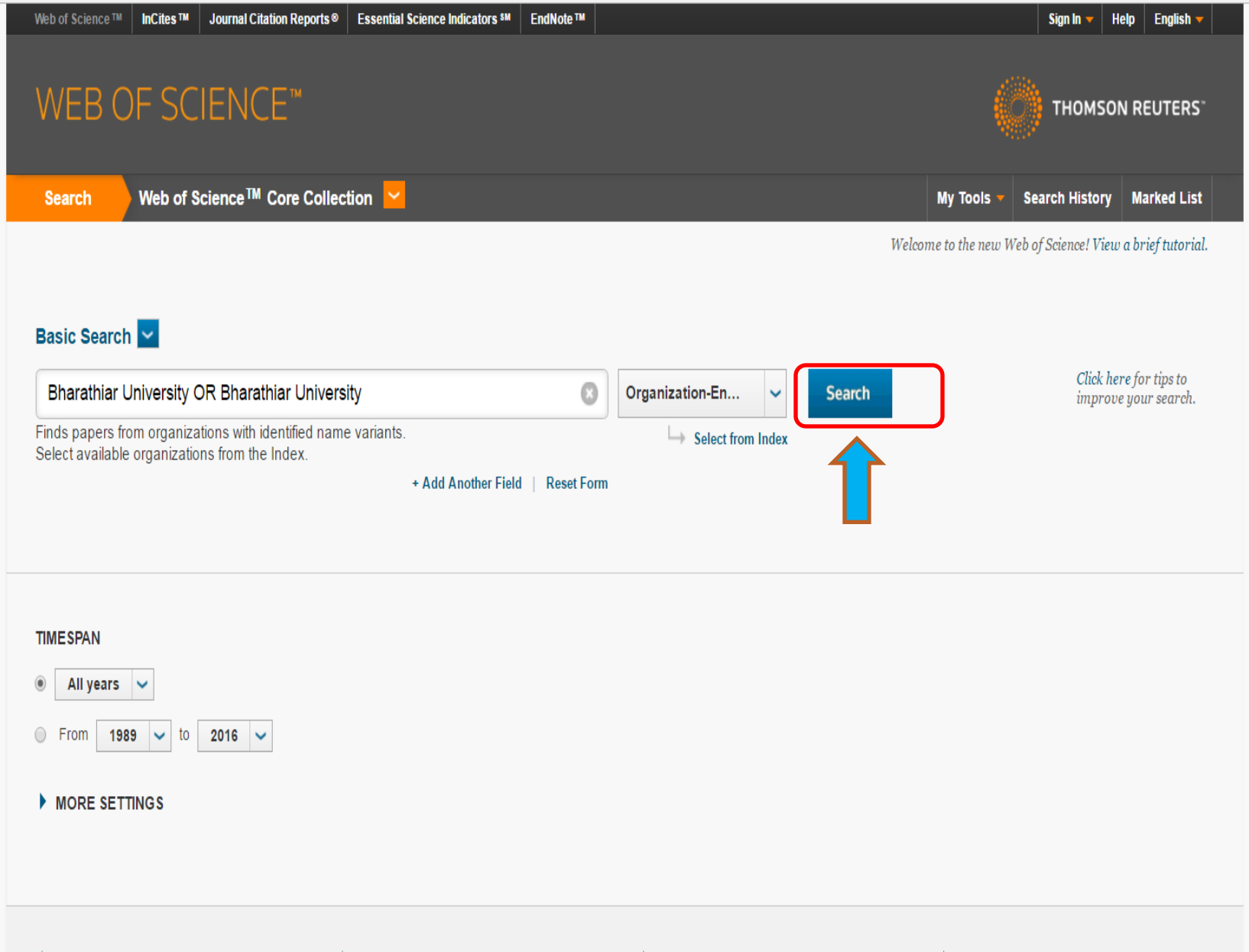

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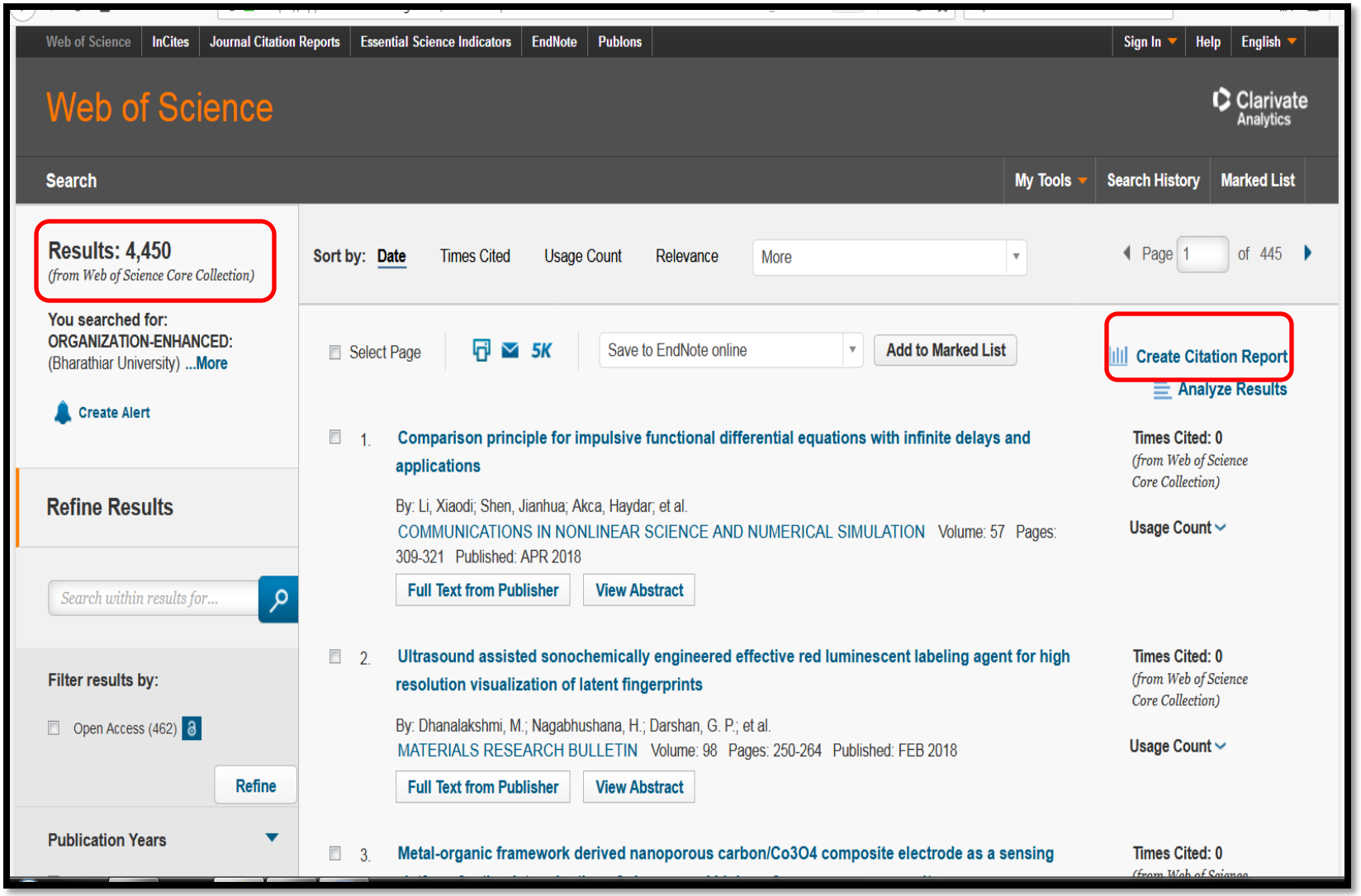

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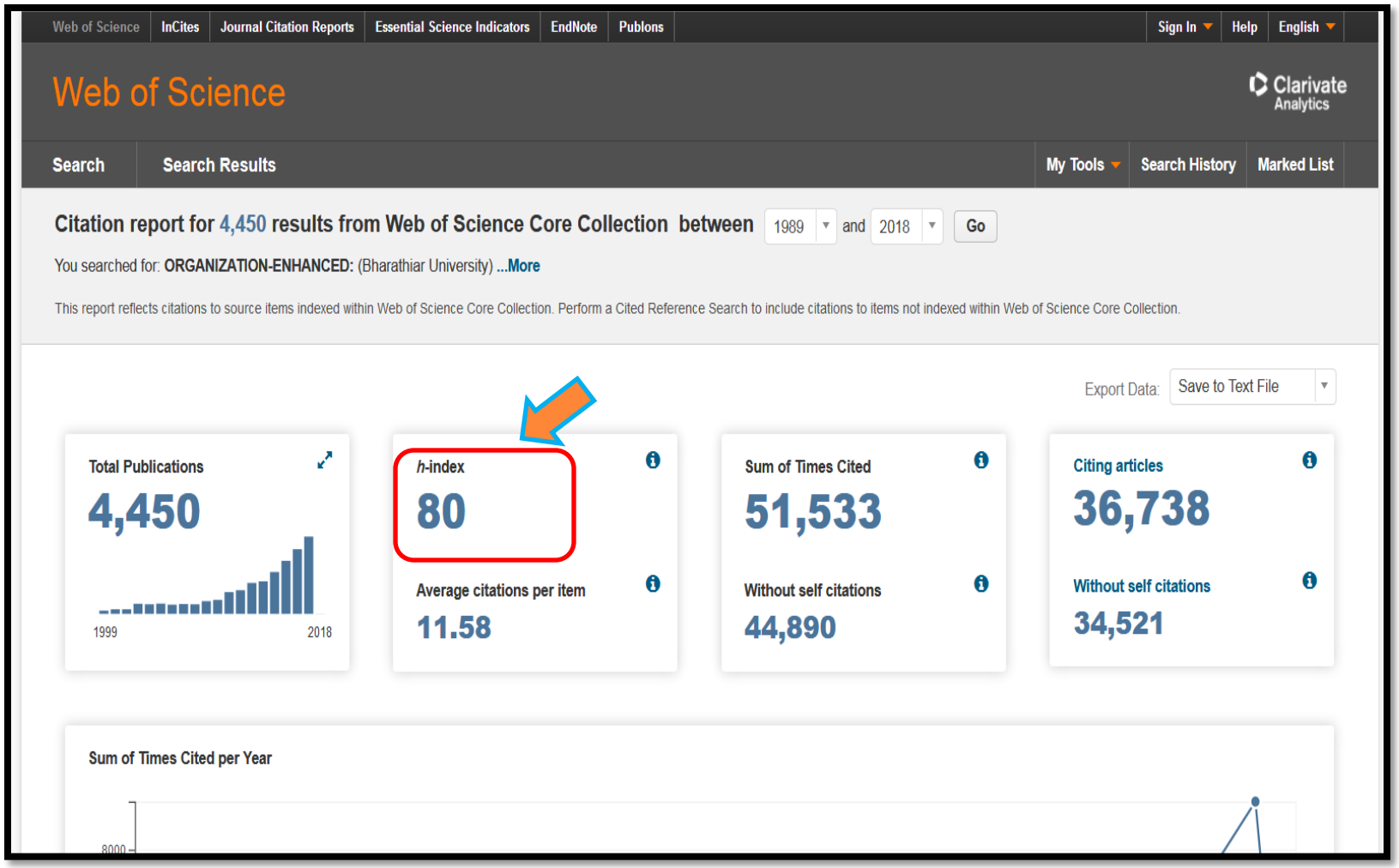

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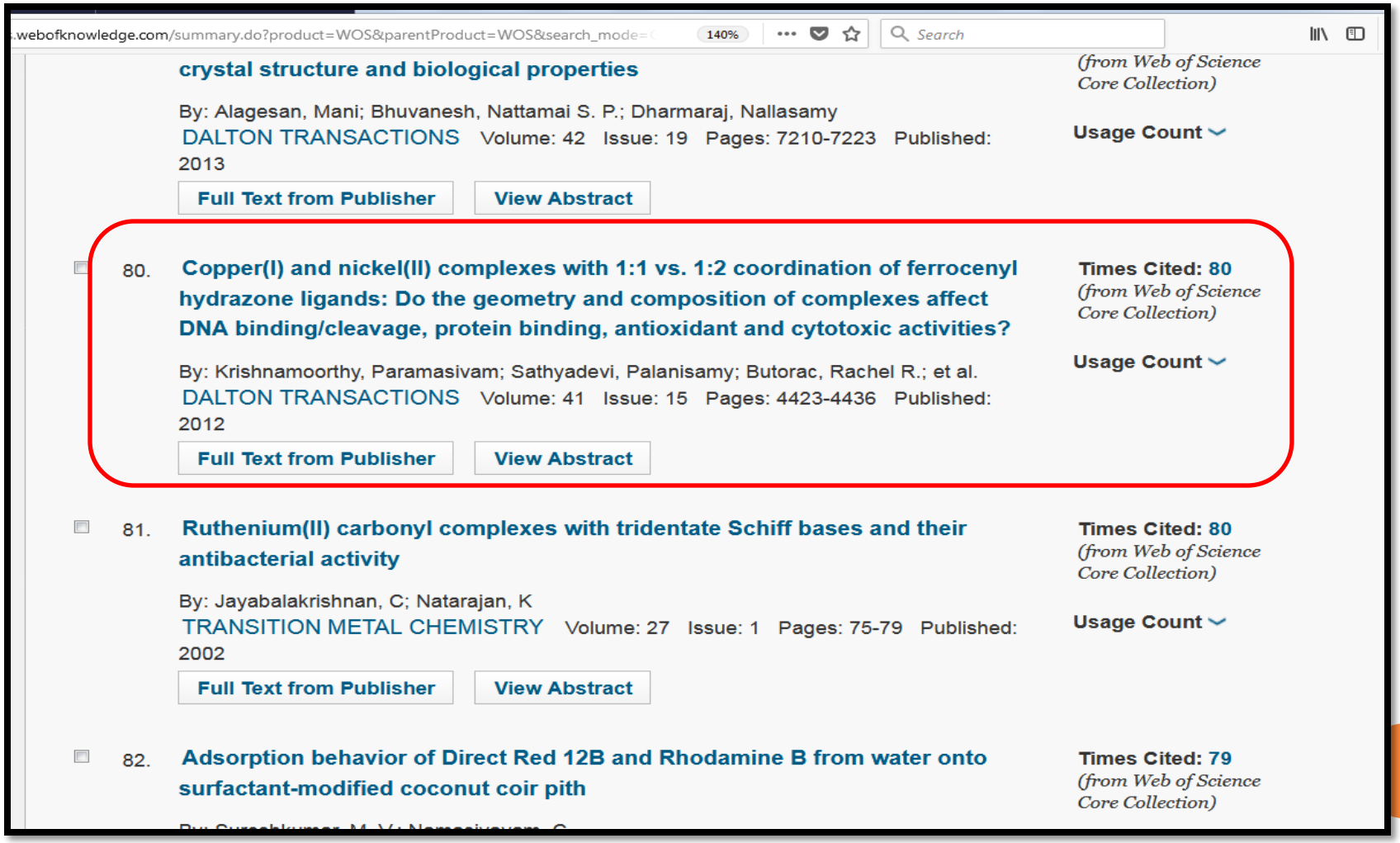

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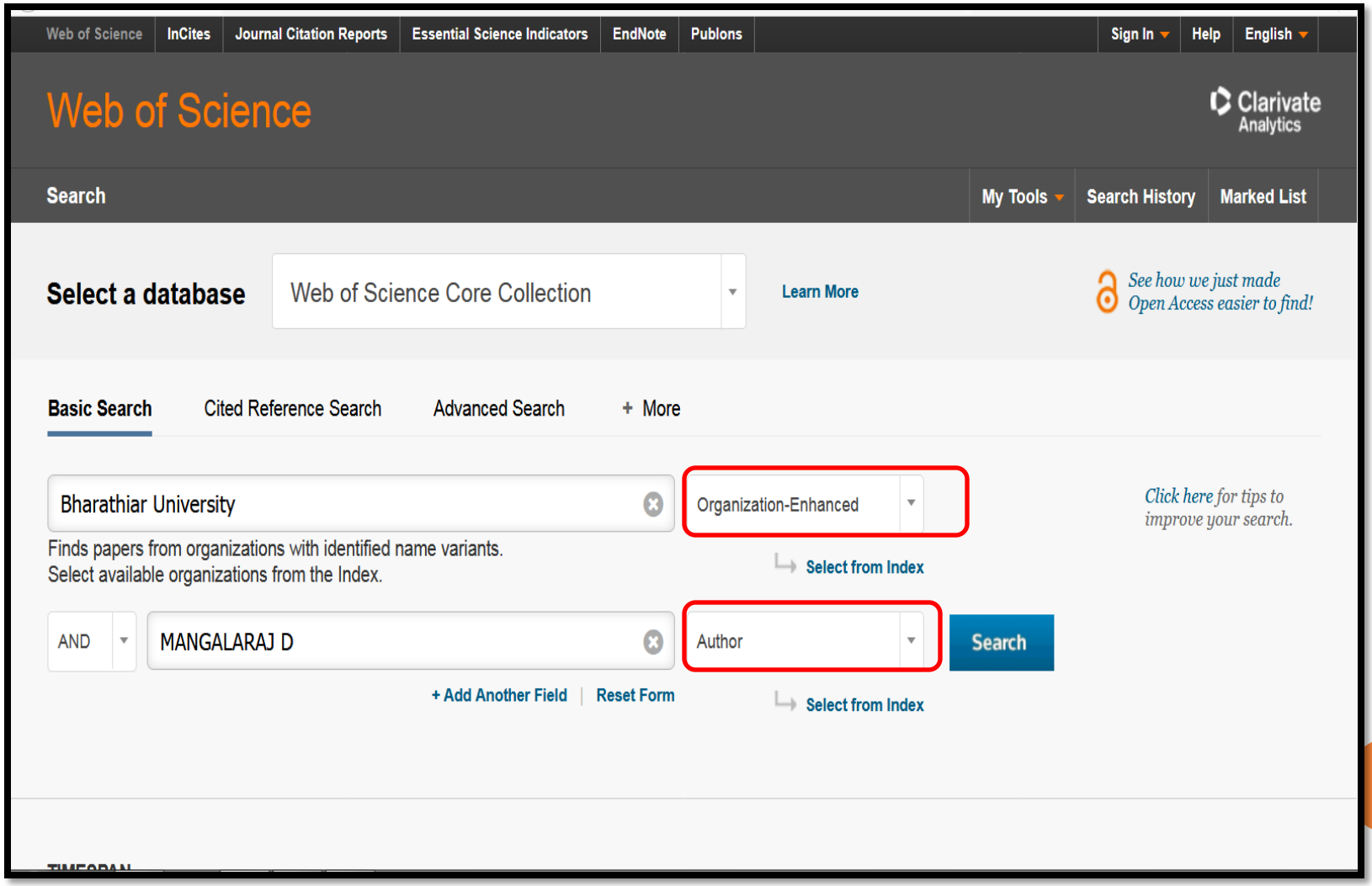

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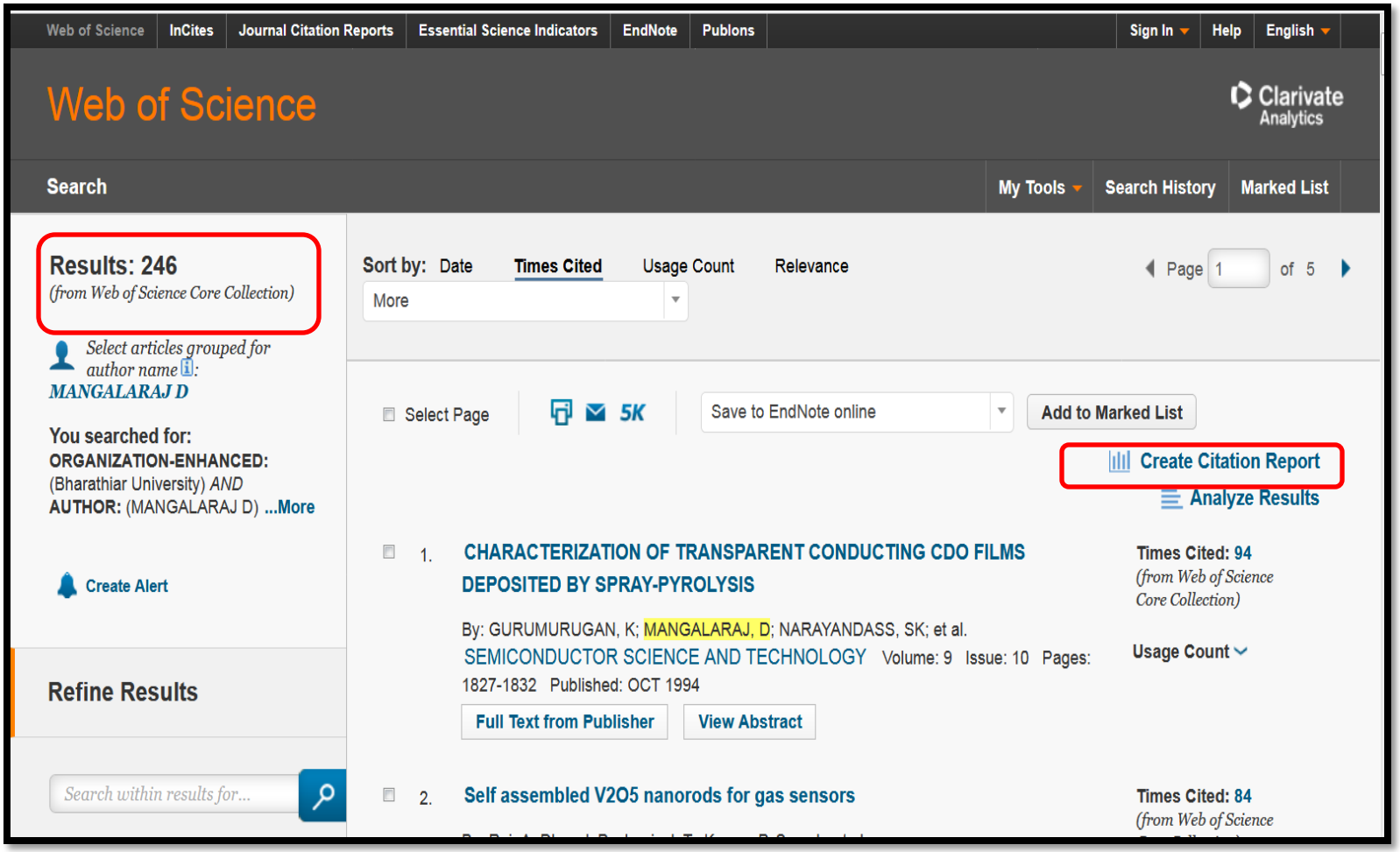

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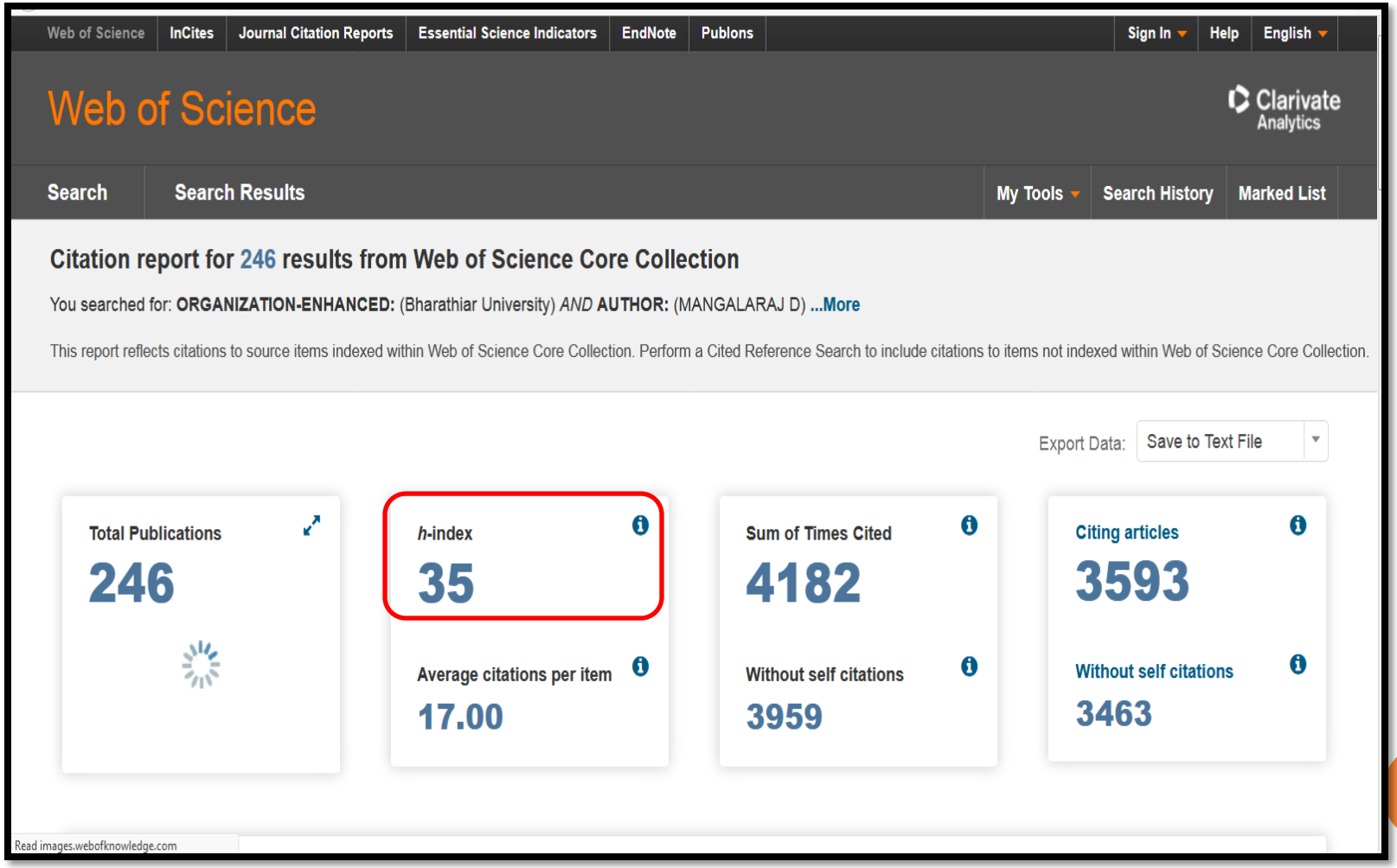

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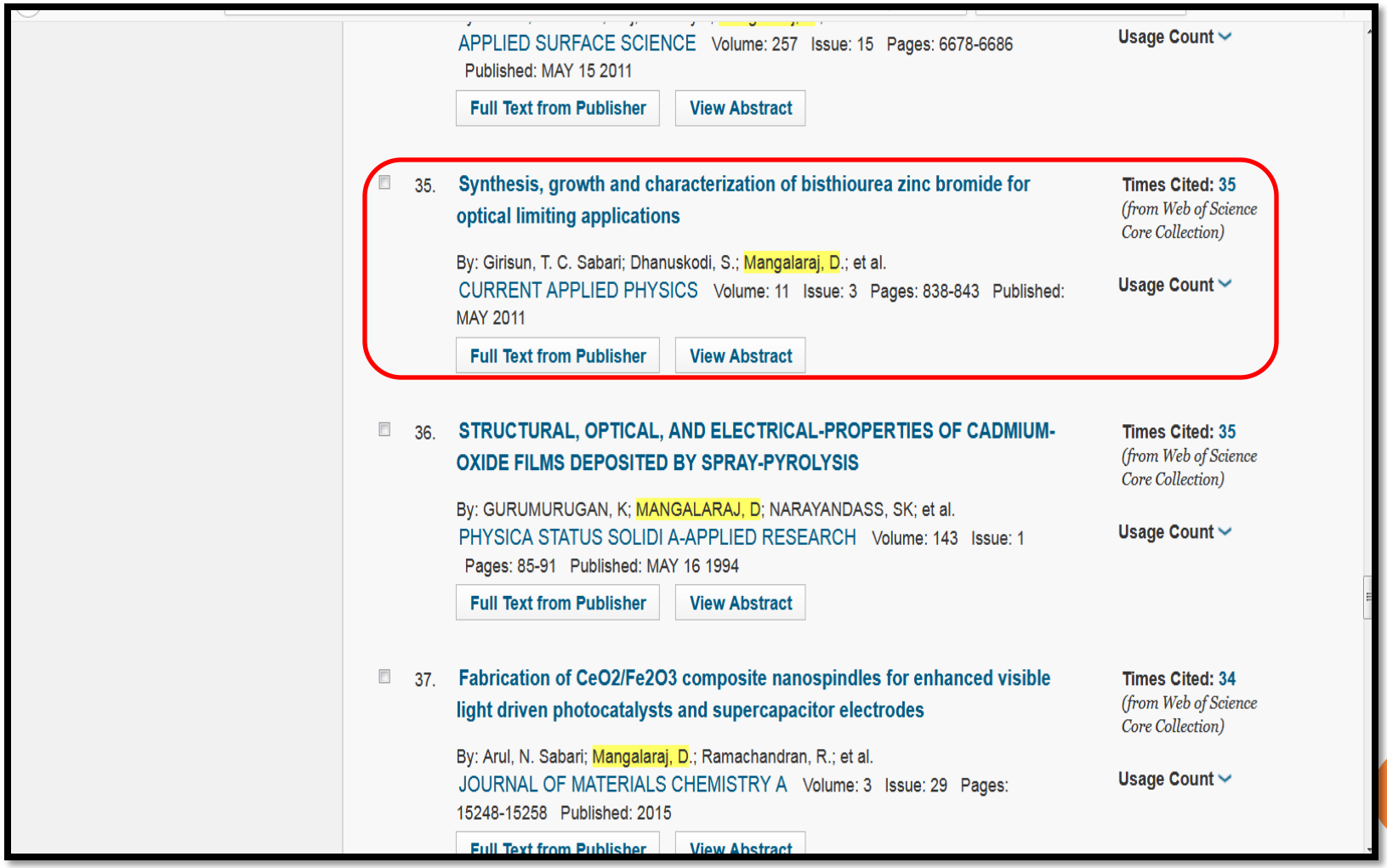

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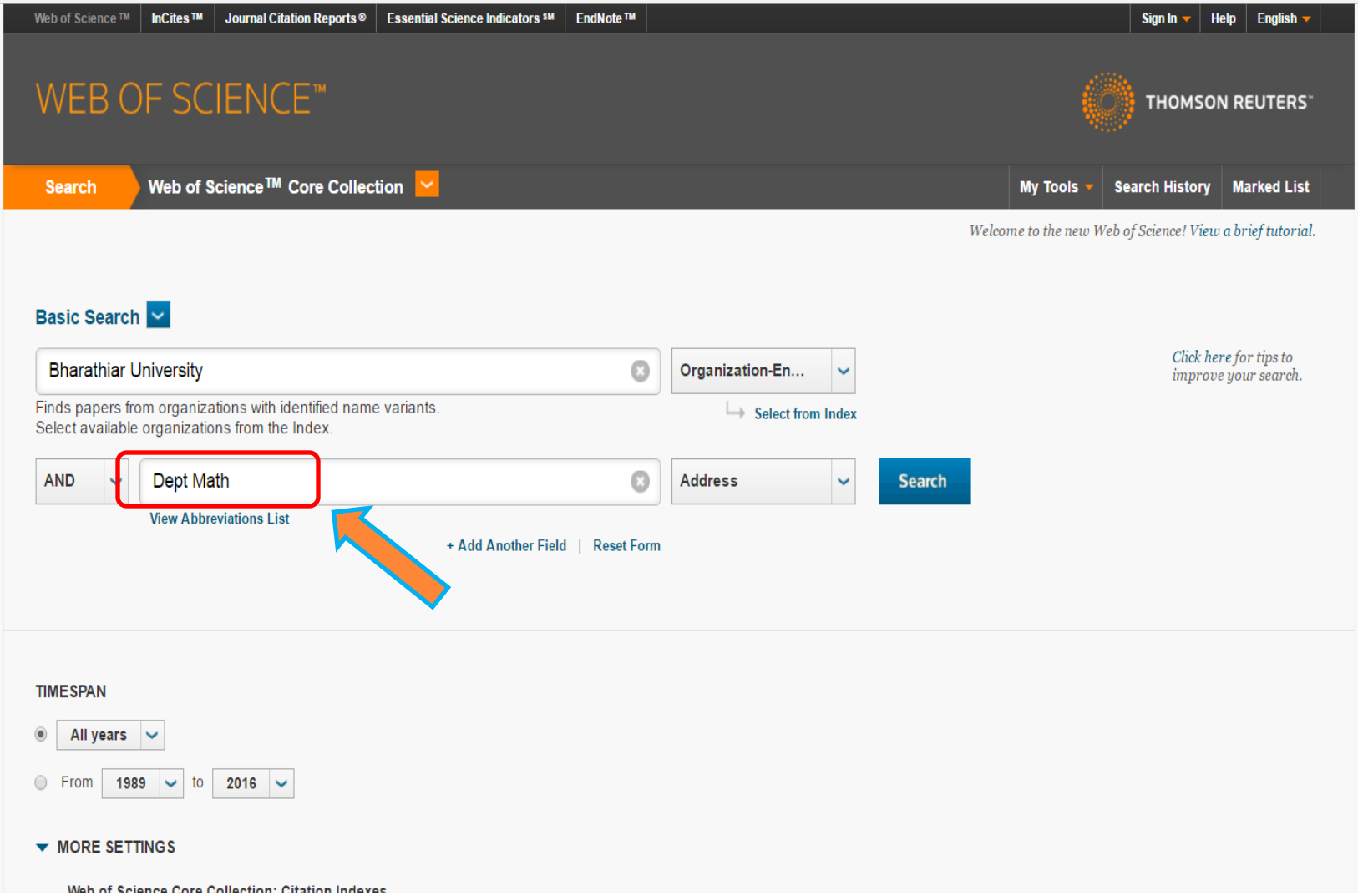

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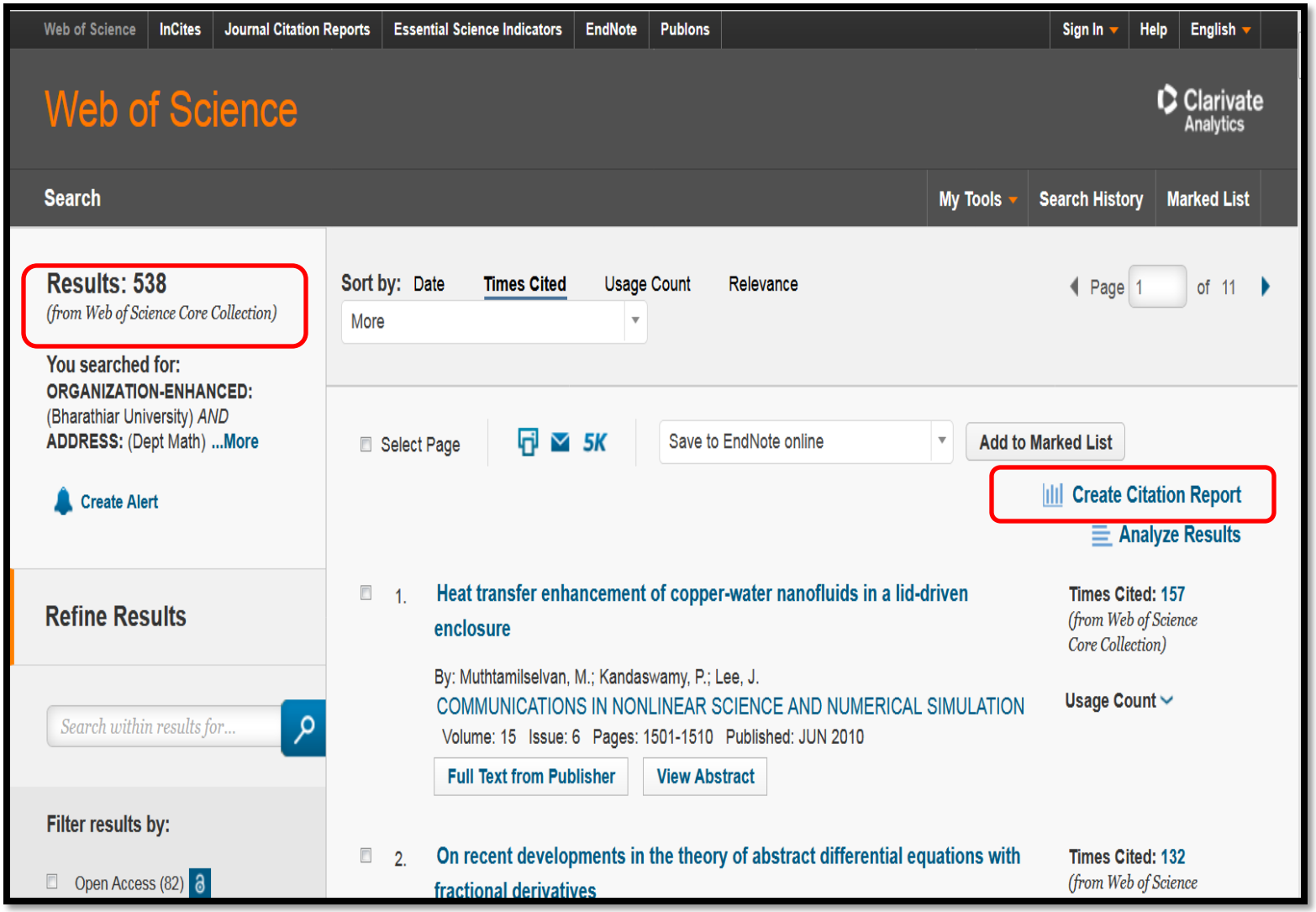
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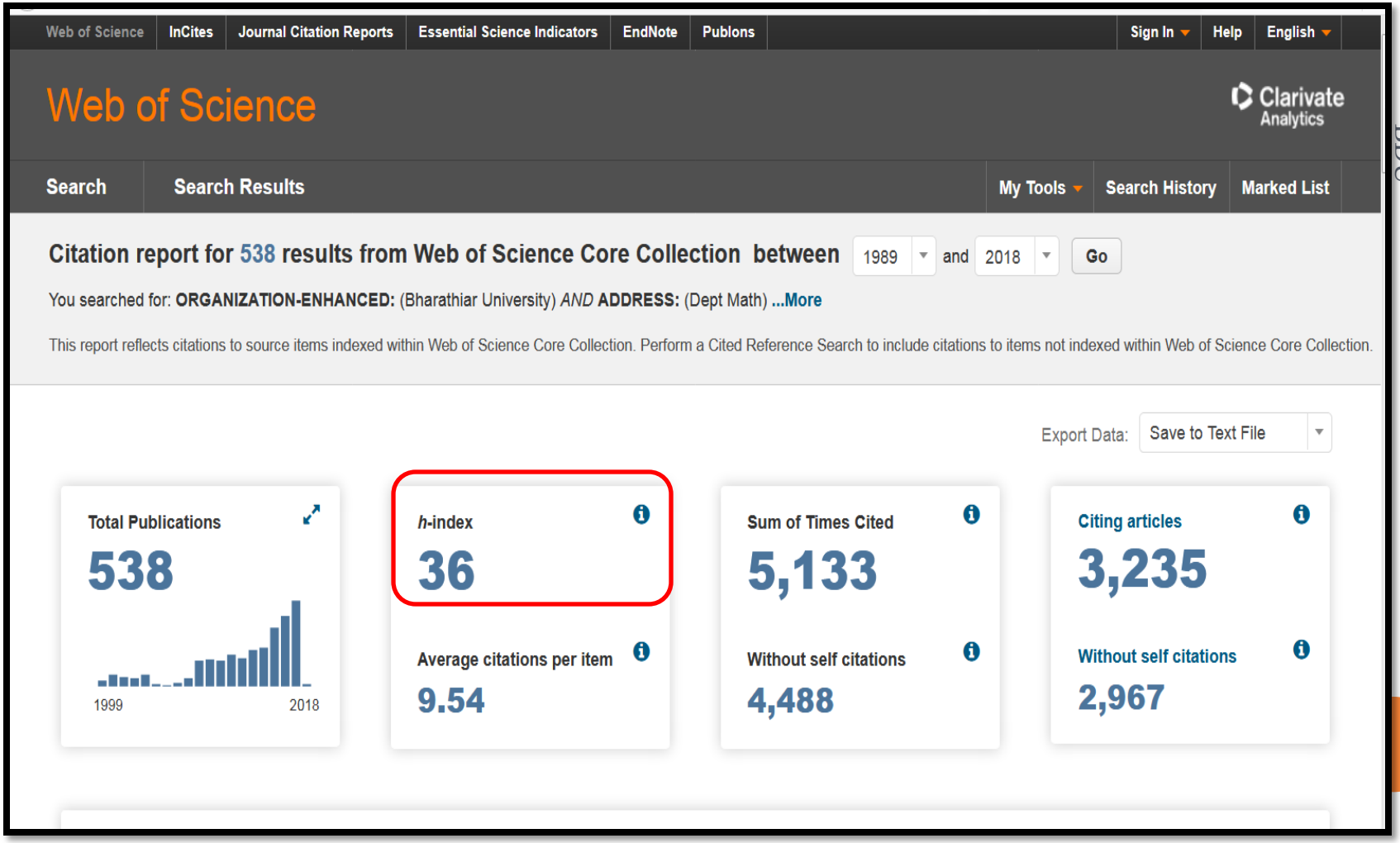

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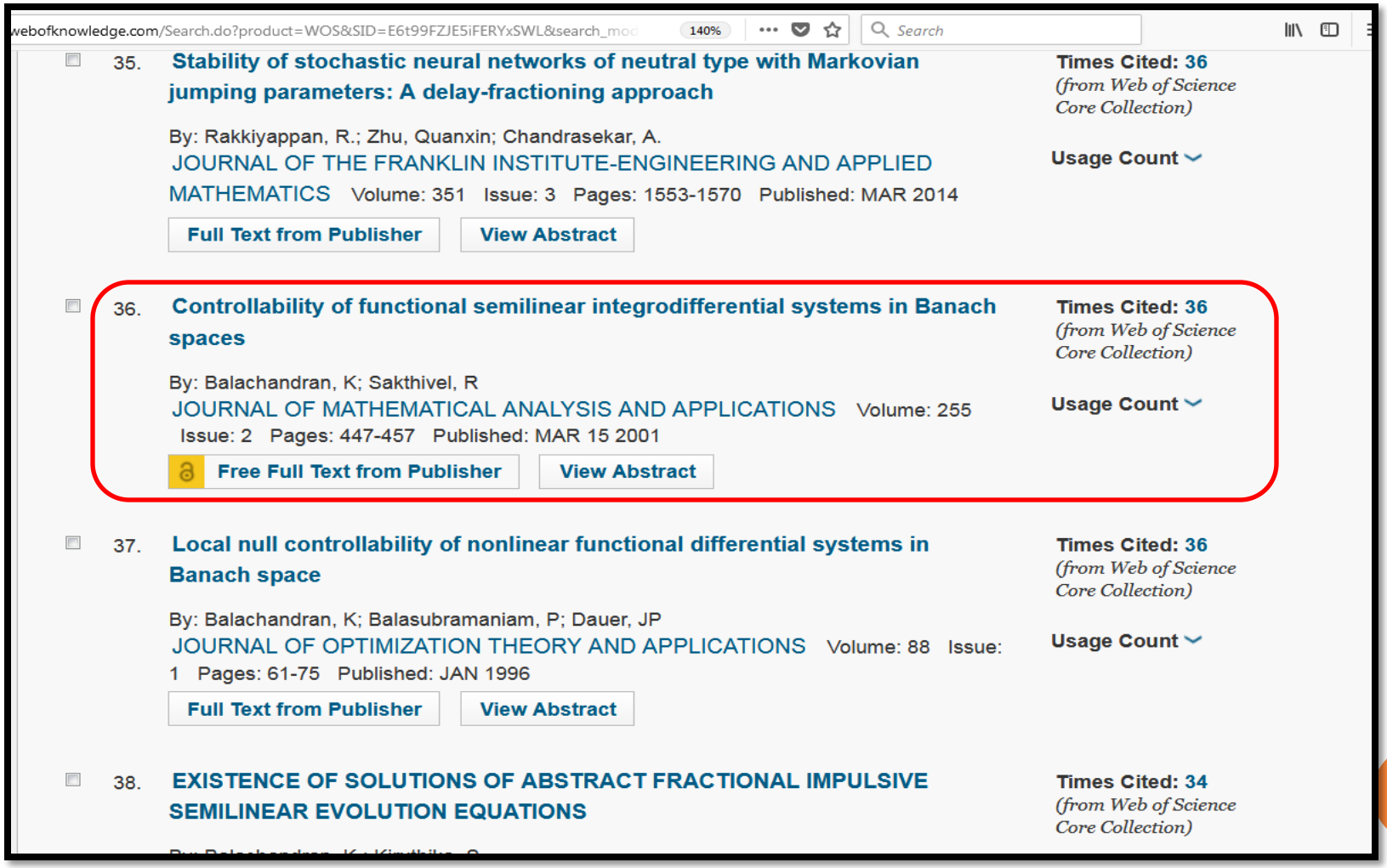

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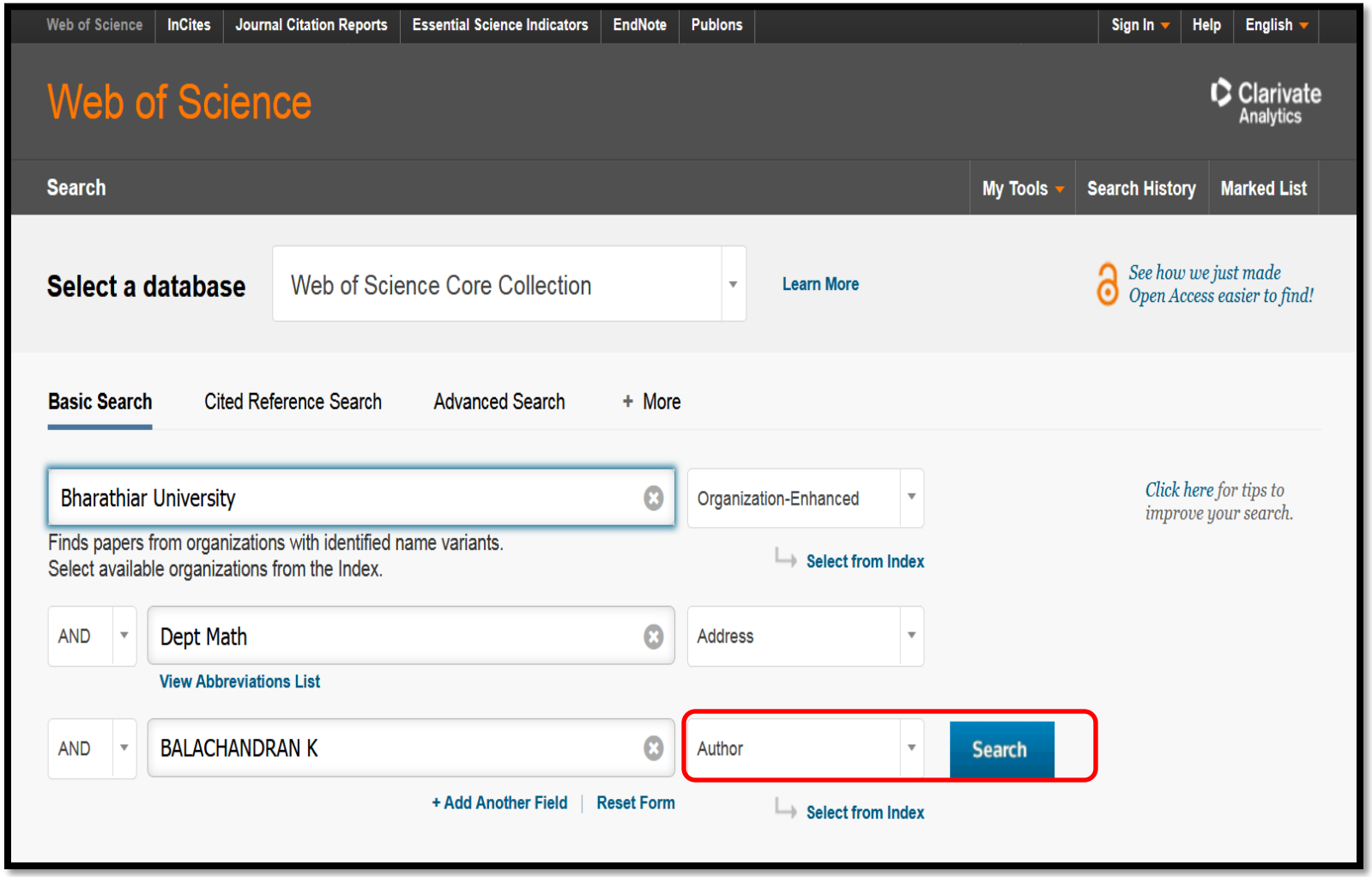

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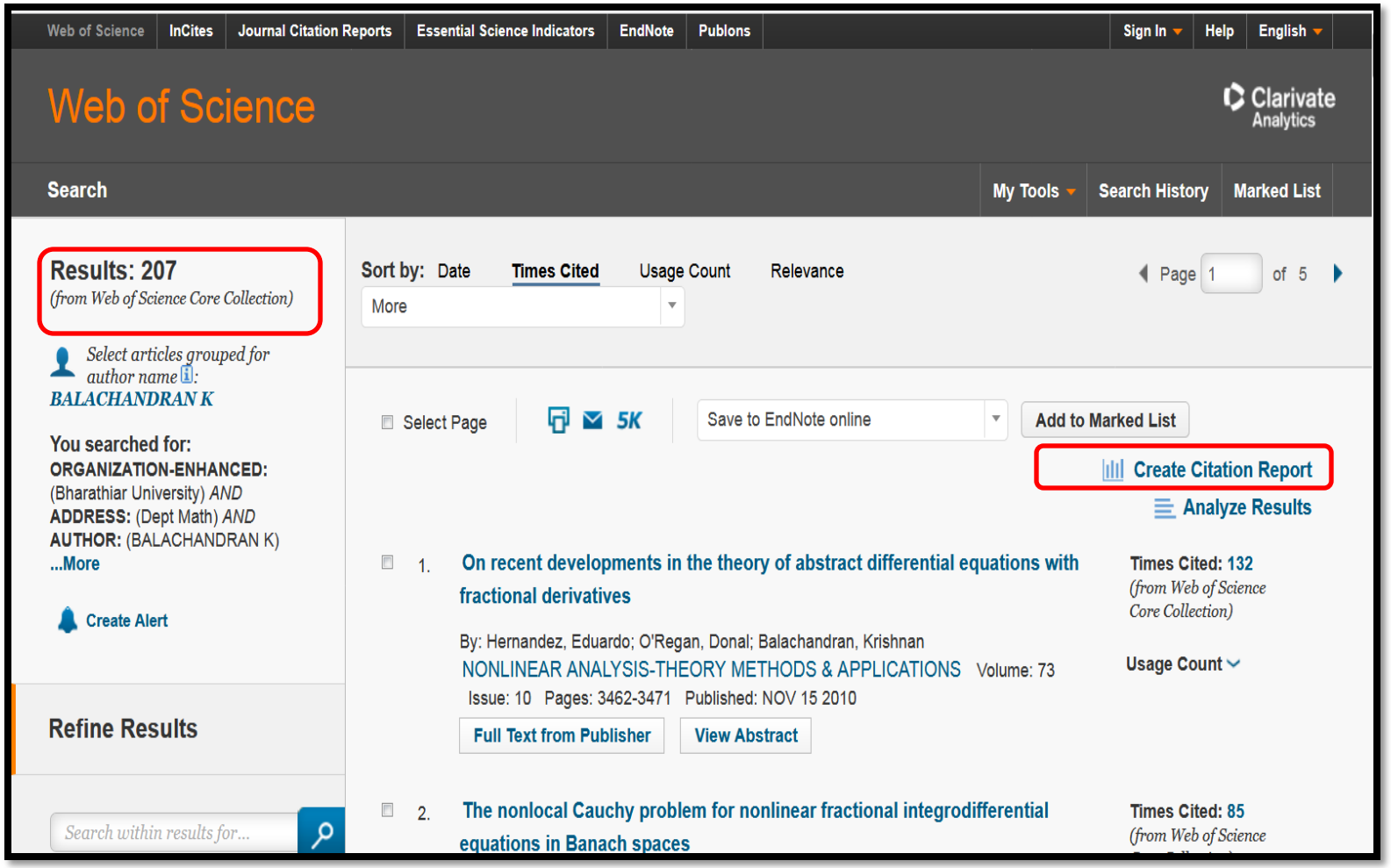

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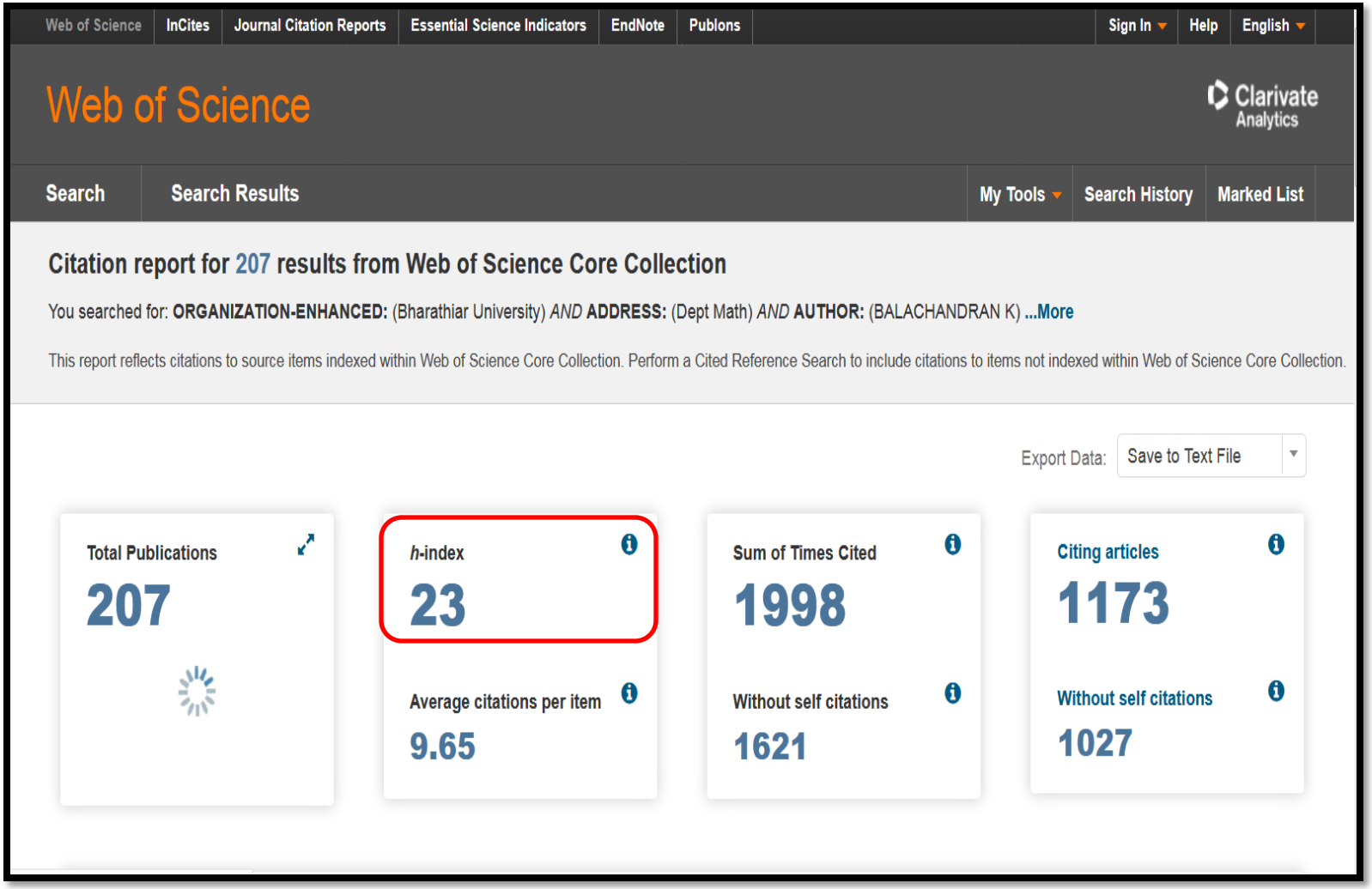

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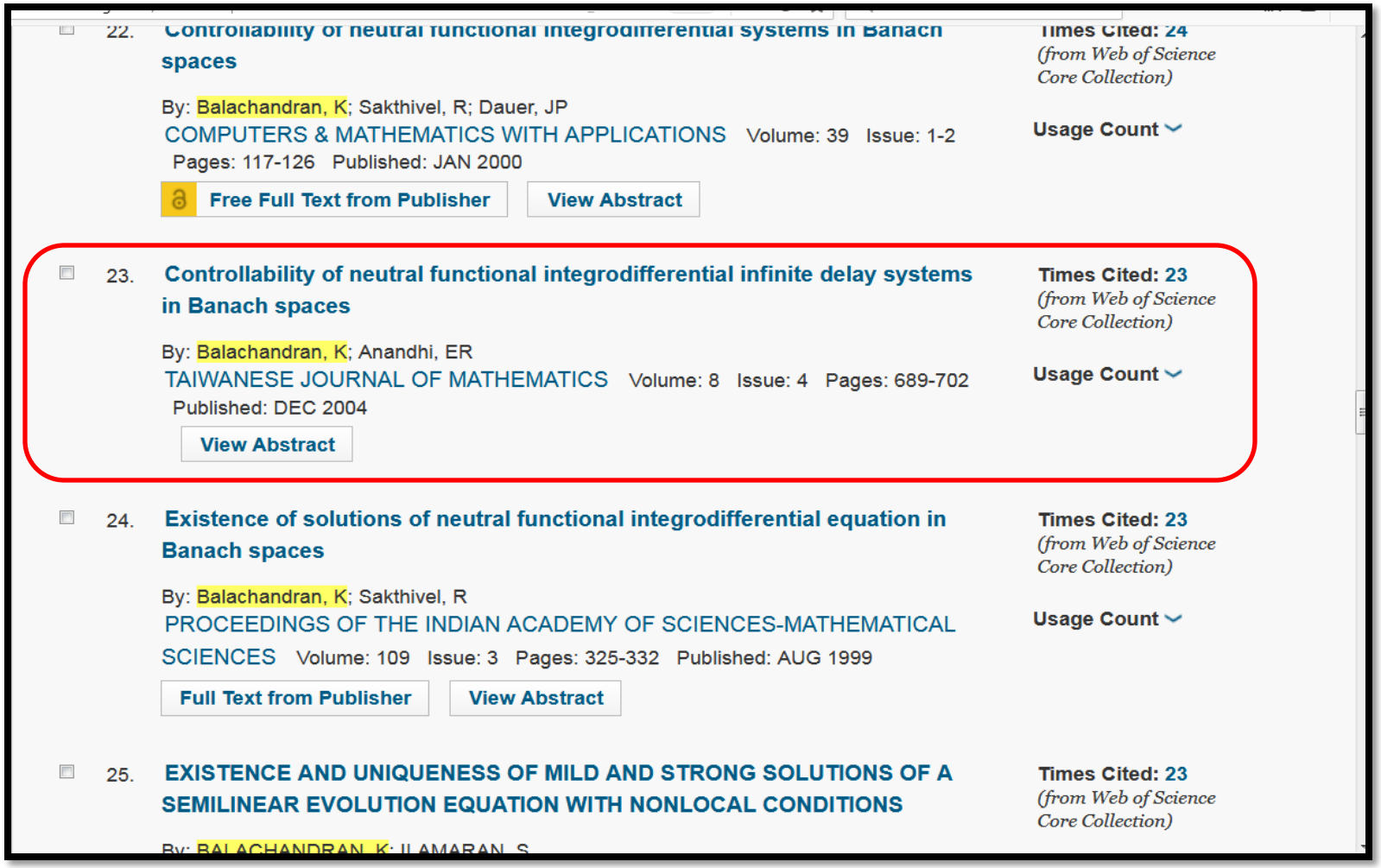

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By: Balachandran, K; Sakthivel, R; Dauer, JP
COMPUTERS & MATHEMATICS WITH APPLICATIONS Volume: 39 Issue: 1-2
Pages: 117-126 Published: JAN 2000
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23. **Controllability of neutral functional integrodifferential infinite delay systems in Banach spaces**

By: Balachandran, K; Anandhi, ER
TAIWANESE JOURNAL OF MATHEMATICS Volume: 8 Issue: 4 Pages: 689-702
Published: DEC 2004
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Times Cited: 23 (from Web of Science Core Collection)
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24. **Existence of solutions of neutral functional integrodifferential equation in Banach spaces**

By: Balachandran, K; Sakthivel, R
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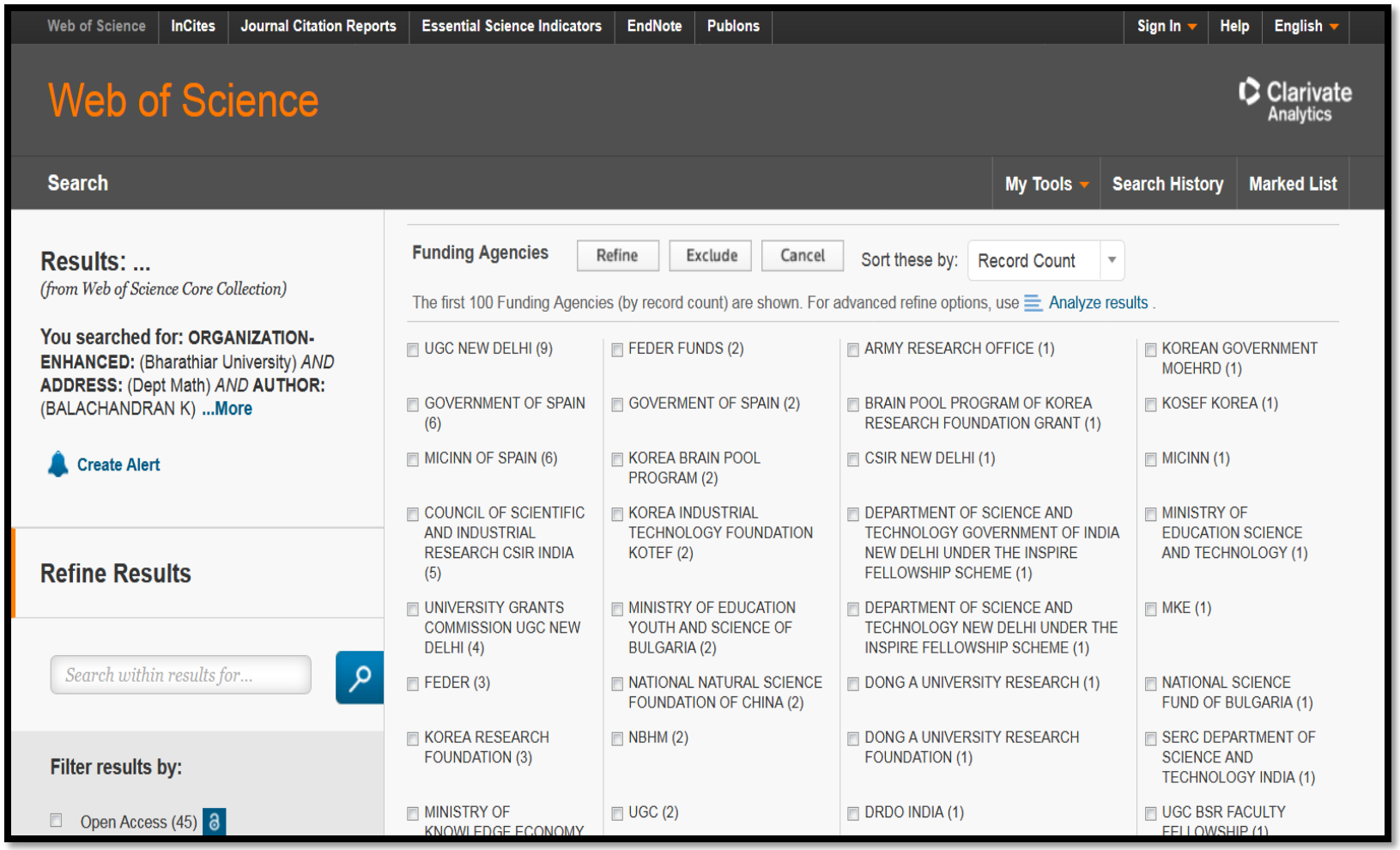

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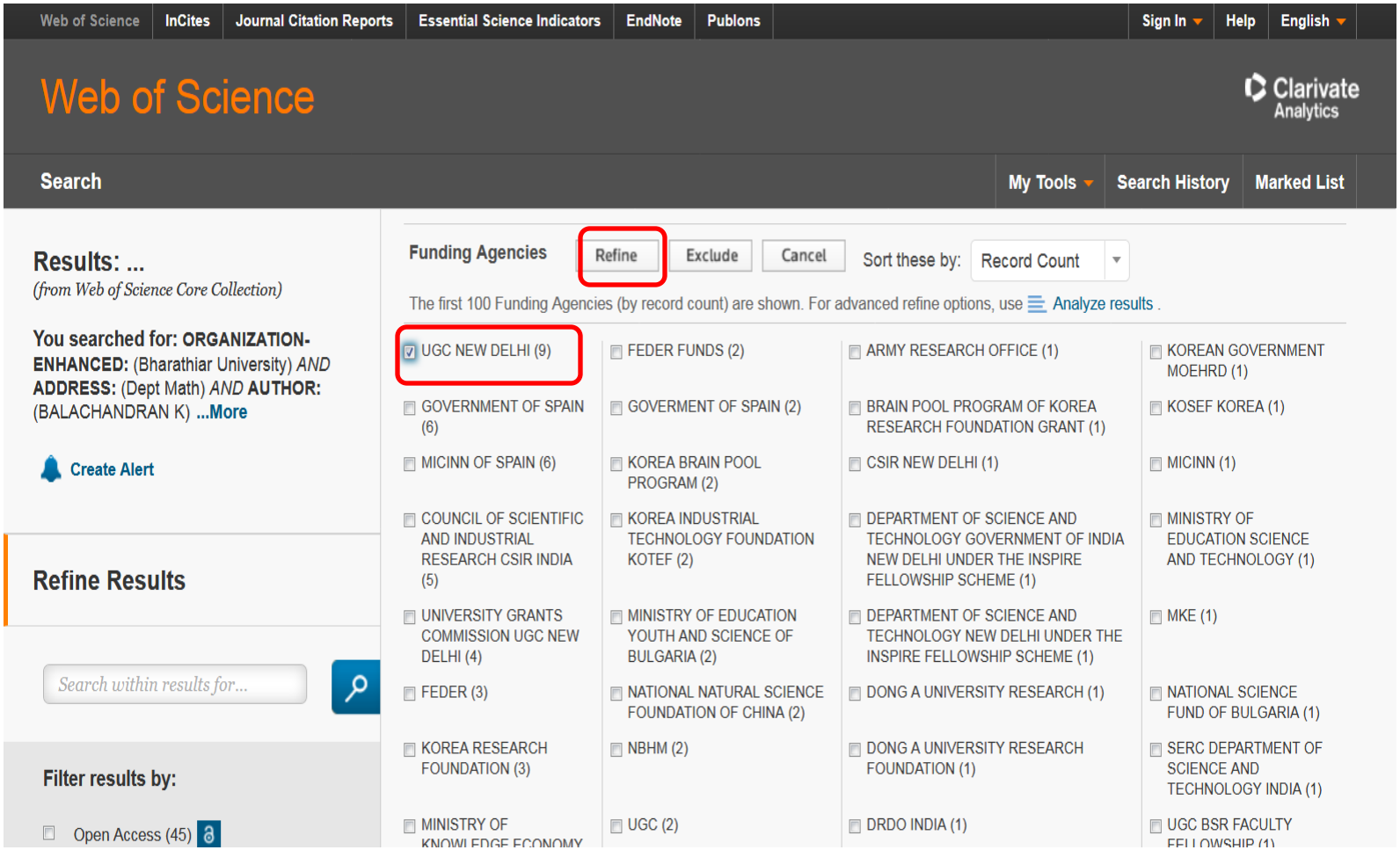

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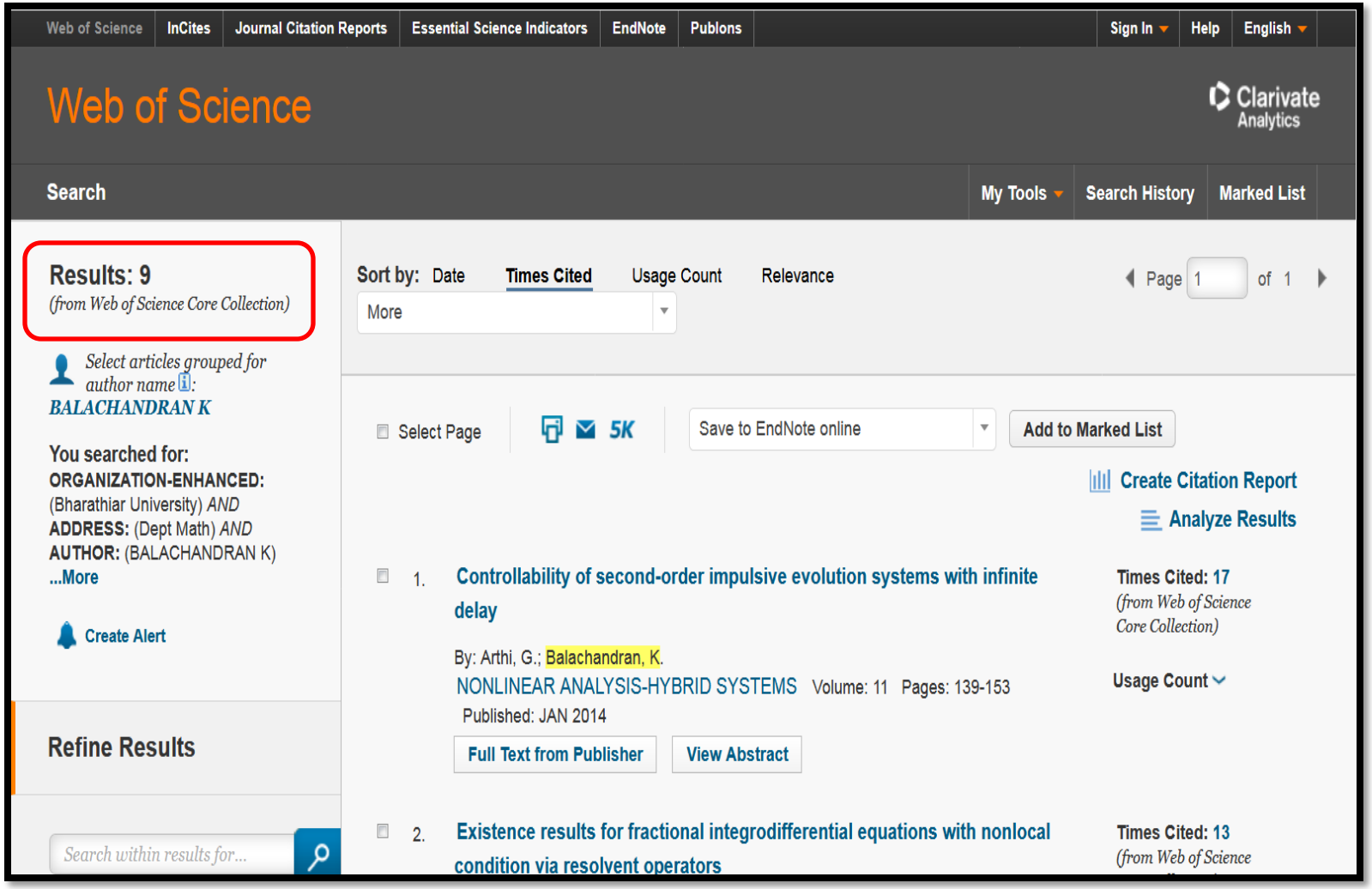

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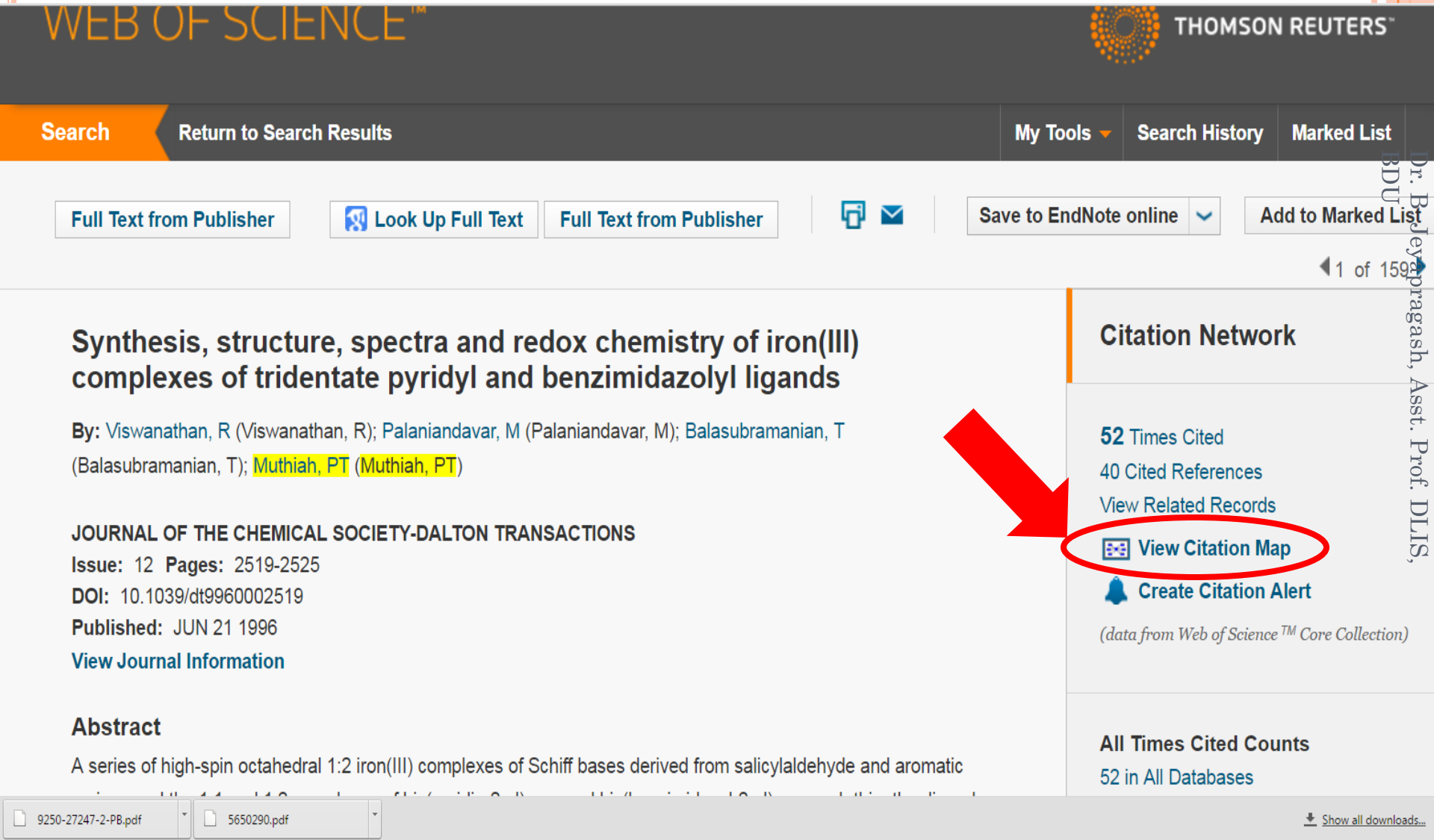

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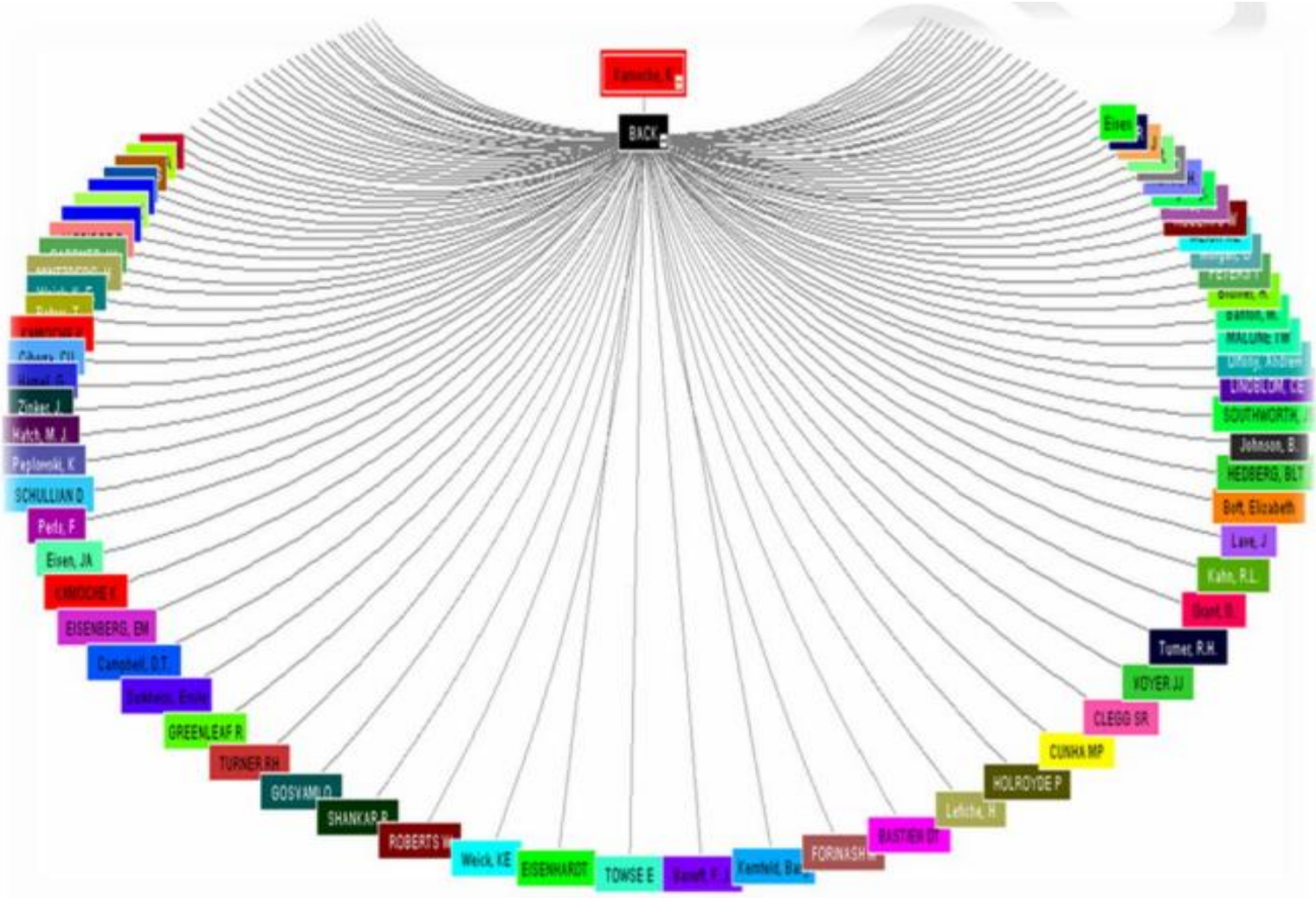

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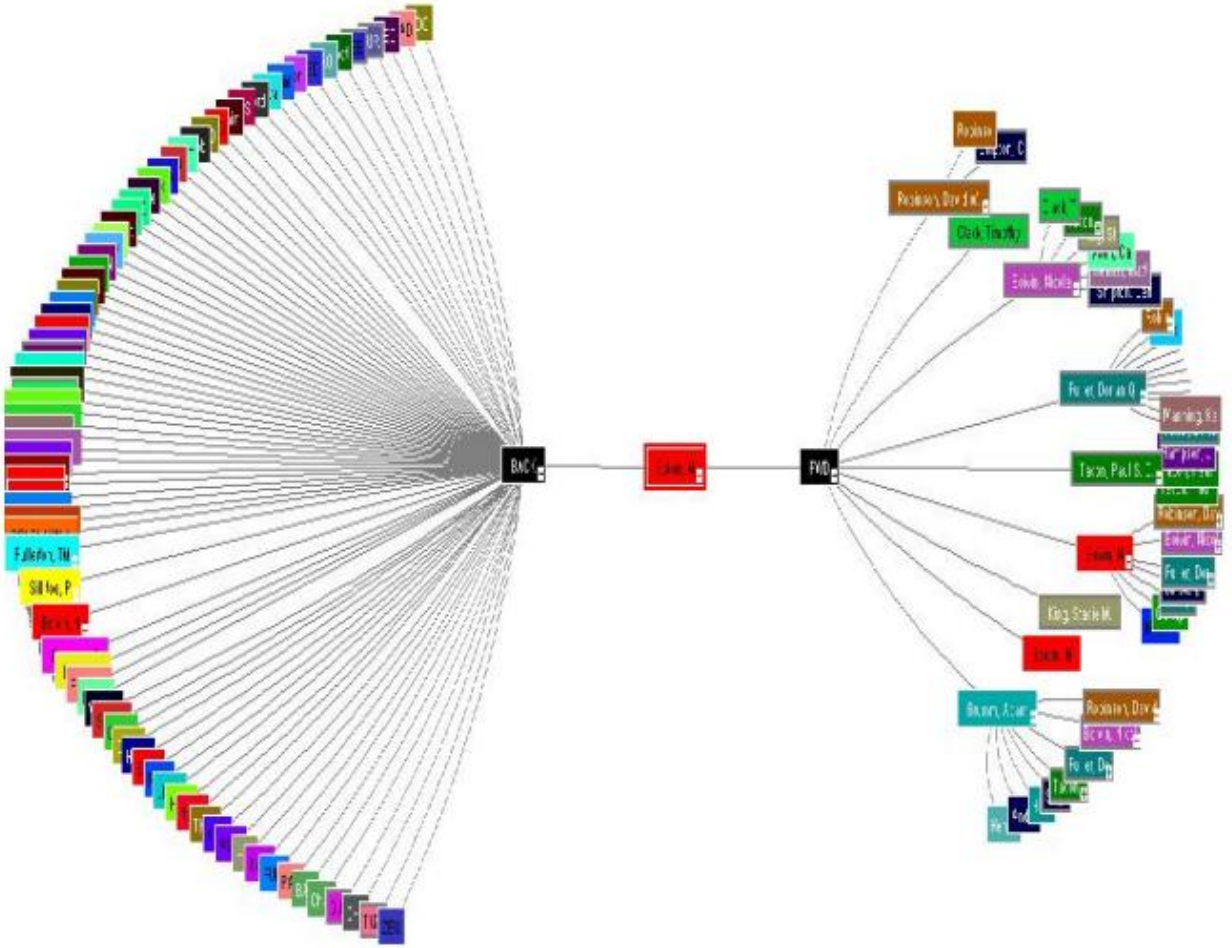

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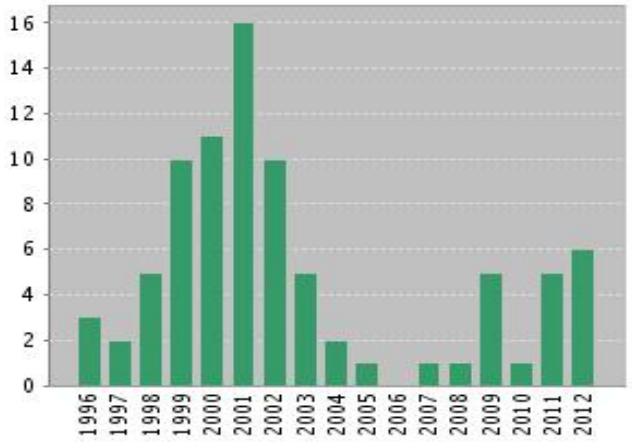

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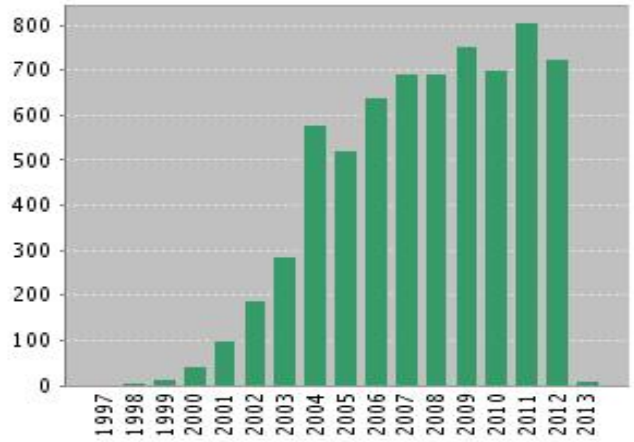

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2. Title: **Relationship of MRI delayed contrast enhancement to irreversible injury, infarct age, and contractile function** Author(s): Kim, RJ; Fieno, DS; Parrish, TB; et al. Source: CIRCULATION Volume: **100** Issue: **19** Pages: **1992-2002** Published: **NOV 9 1999**	131	115	130	76	0	1050	70.00

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On recent developments in the theory of abstract differential equations with fractional derivatives E Hernández, D O'Regan, K Balachandran Nonlinear Analysis: Theory, Methods & Applications 73 (10), 3462-3471	159	2010
Controllability of nonlinear systems in Banach spaces: a survey K Balachandran, JP Dauer Journal of Optimization Theory and Applications 115 (1), 7-28	156	2002
The nonlocal Cauchy problem for nonlinear fractional integrodifferential equations in Banach spaces K Balachandran, JJ Trujillo Nonlinear Analysis: Theory, Methods & Applications 72 (12), 4587-4593	125	2010
Semi-generalized closed maps and generalized semi-closed maps R Devi, H Maki, K Balachandran NASA, 41-54	122	1993
Existence of solutions of a delay differential equation with nonlocal condition K Balachandran, M Chadrasekaran	109	1996

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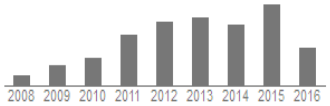

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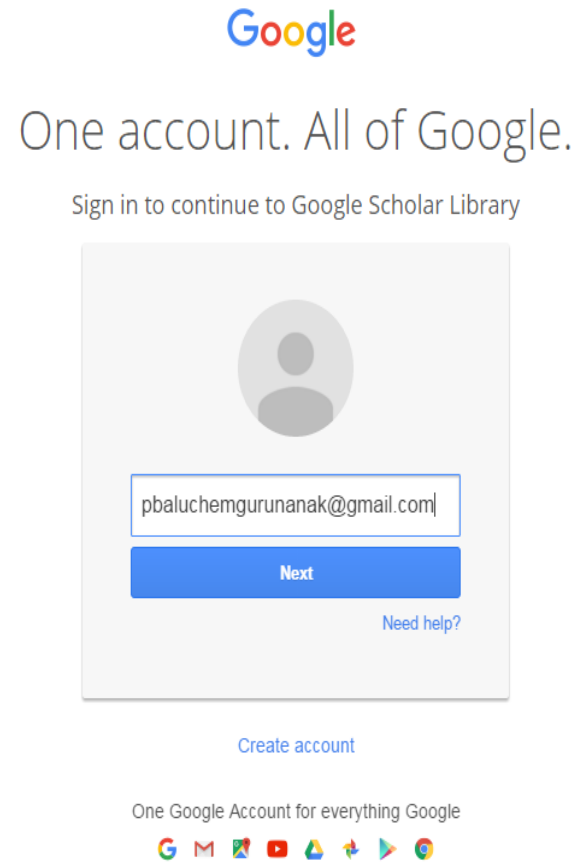

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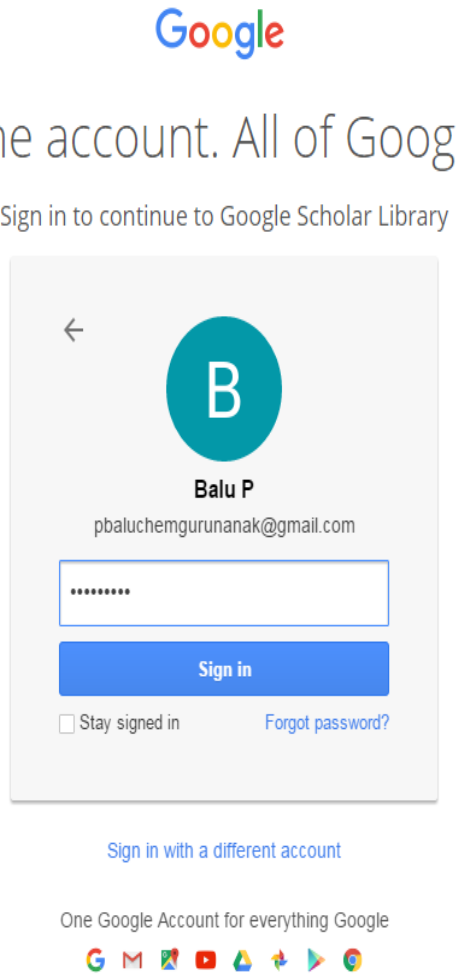

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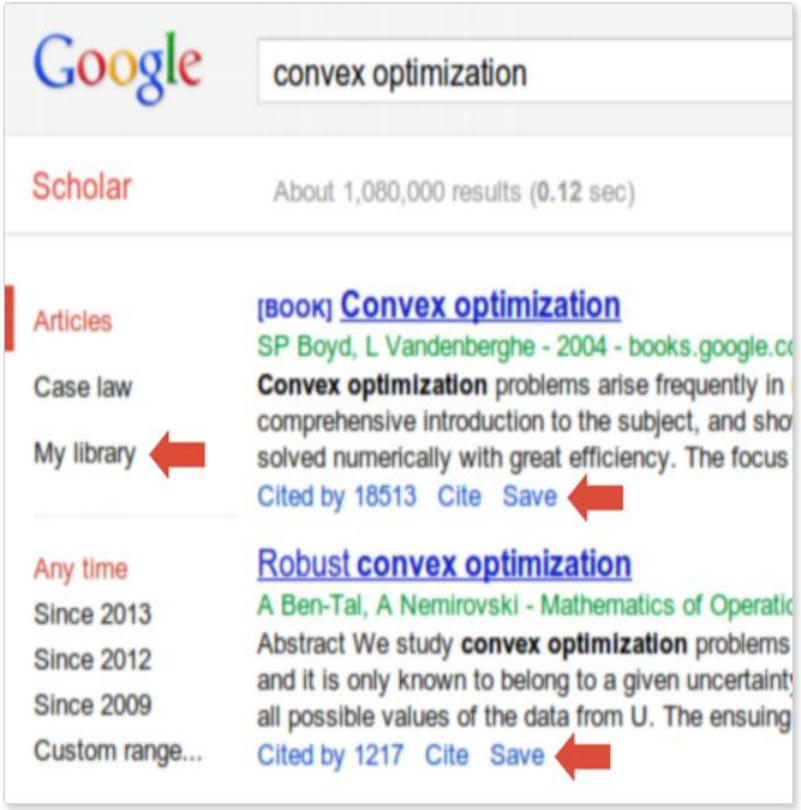

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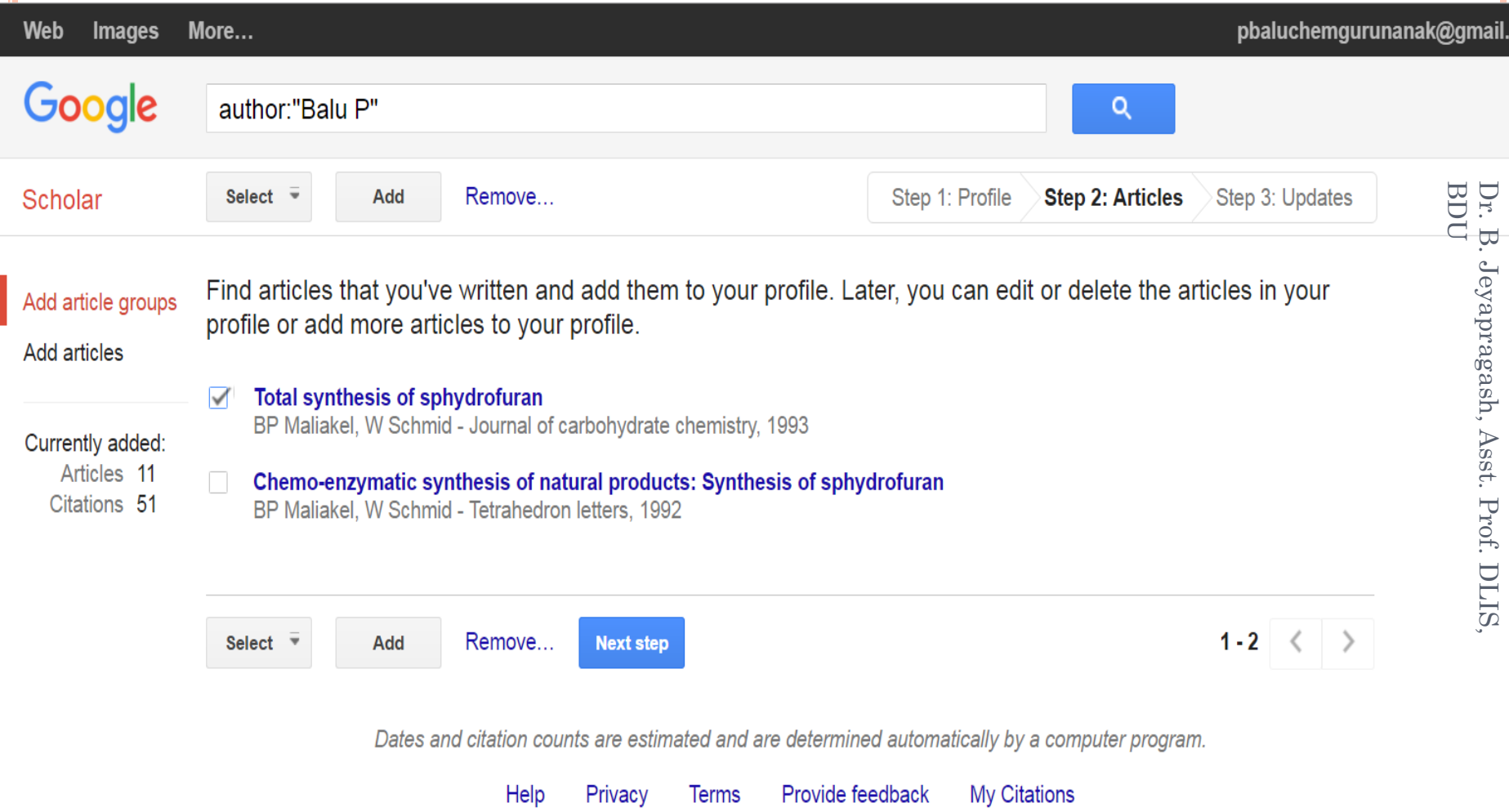

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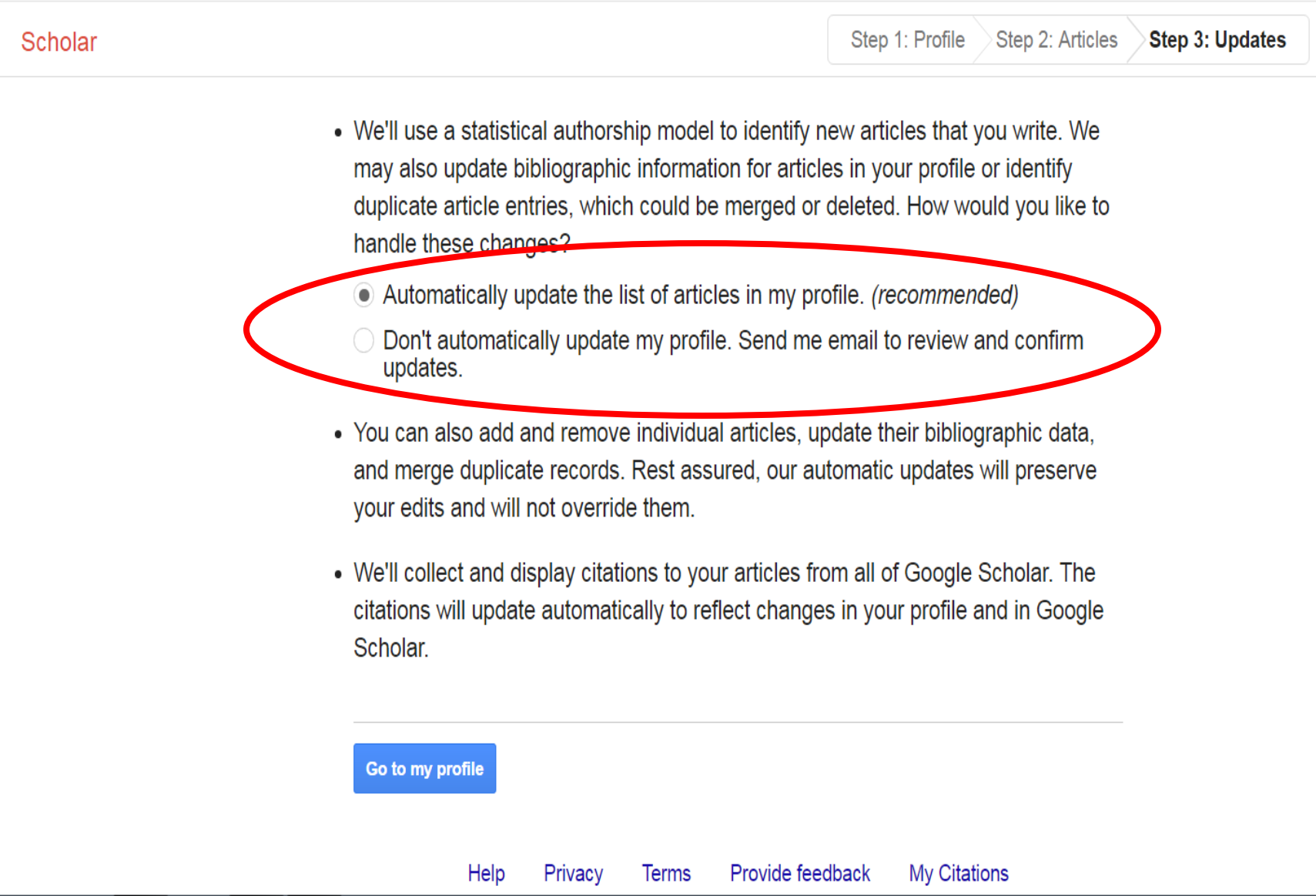

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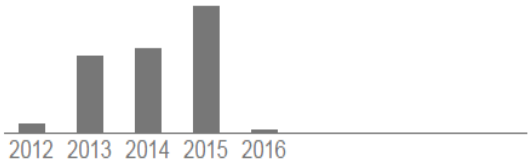

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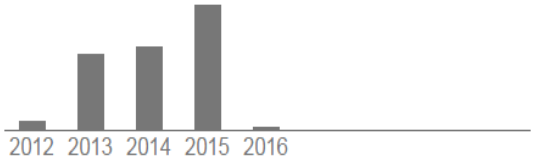

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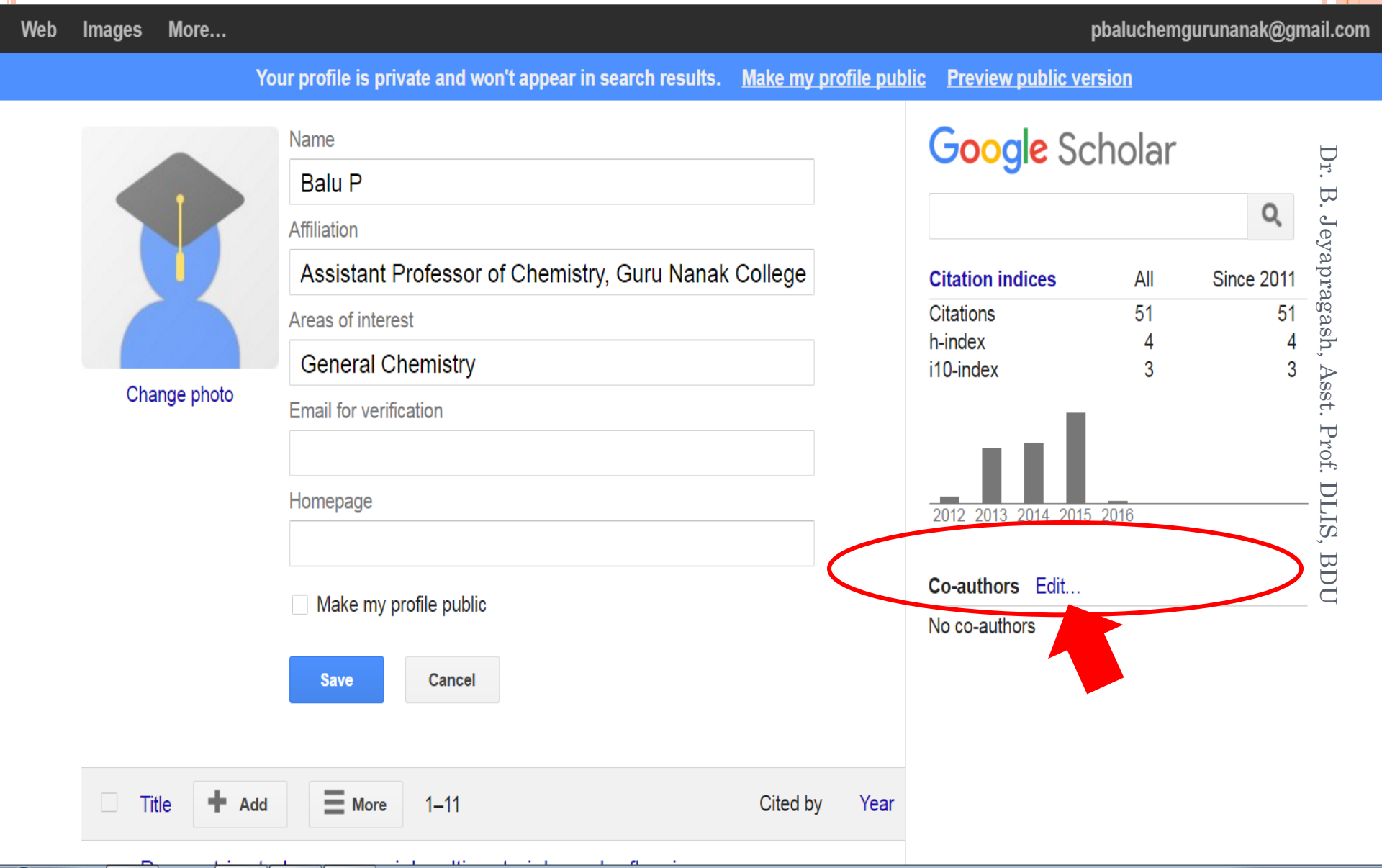

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An investigation into the laser micro-welding of aluminum and copper in lap joint configuration P Balu, B Carlson, R Kovacevic TMS Annual Meeting 3, 205-207				4	2011

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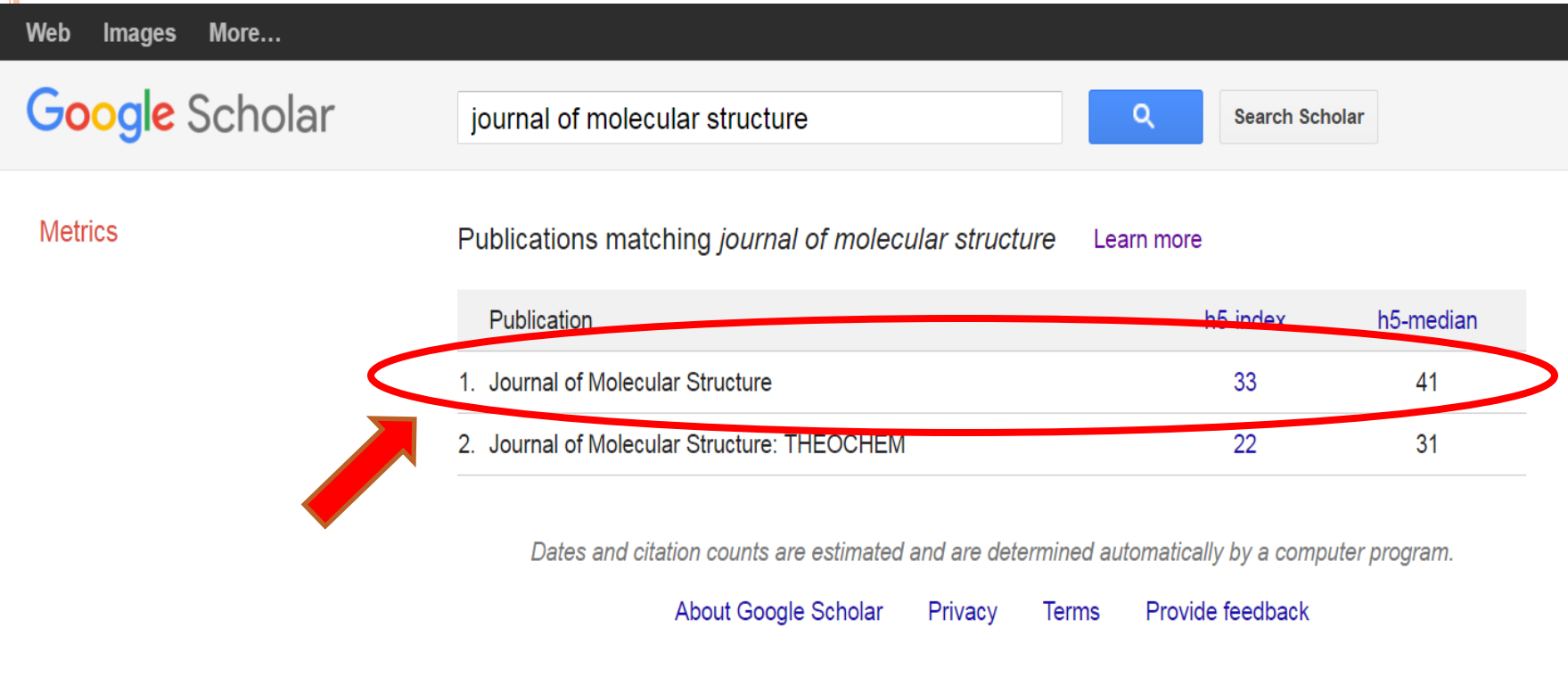

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Framework mobility in the metal–organic framework crystal IRMOF-3: Evidence for aromatic ring and amine rotation W Morris, RE Taylor, C Dybowski, OM Yaghi, MA Garcia-Garibay Journal of Molecular Structure 1004 (1), 94-101	34	2011
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Metal complexes of a novel Schiff base derived from sulphametrole and varelaldehyde. Synthesis, spectral, thermal characterization and biological activity GG Mohamed, MA Zayed, SM Abdallah Journal of Molecular Structure 979 (1), 62-71	33	2010
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FT-IR, Raman and thermoluminescence investigation of P 2 O 5–BaO–Li 2 O glass system C Ivascu, AT Gabor, O Cozar, L Daraban, I Ardelean Journal of Molecular Structure 993 (1), 249-253	33	2011

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Theoretical and spectroscopic studies of 1-butyl-3-methylimidazolium iodide room temperature ionic liquid: Its differences with chloride and bromide derivatives M Shukla, N Srivastava, S Saha Journal of Molecular Structure 975 (1), 349-356	43	2010
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Men's Batting Rankings

TEST **Test Batting Rankings** SHARE

1 Steve Smith AUS 947

Pos	Player	Team	Rating
2	Virat Kohli	IND	900
3	Joe Root	ENG	881
4	Kane Williamson	NZ	855
5	David Warner	AUS	827

ODI **ODI Batting Rankings** SHARE

1 Virat Kohli IND 876

Pos	Player	Team	Rating
2	AB de Villiers	SA	872
3	David Warner	AUS	865
4	Babar Azam	PAK	846
5	Rohit Sharma	IND	816

T20I **T20I Batting Rankings** SHARE

1 Colin Munro NZ 793

Pos	Player	Team	Rating
2	Aaron Finch	AUS	784
3	Virat Kohli	IND	776
4	Evin Lewis	WI	734
5	Lokesh Rahul	IND	726

insights Explore Sachin Tendulkar's performance

Batting and fielding averages

	Mat	Inns	NO	Runs	HS	Ave	BF	SR	100	50	4s	6s	Ct	St
Tests	200	329	33	15921	248*	53.78			51	68		69	115	0
ODIs	463	452	41	18426	200*	44.83	21367	86.23	49	96	2016	195	140	0
T20Is	1	1	0	10	10	10.00	12	83.33	0	0	2	0	1	0
First-class	310	490	51	25396	248*	57.84			81	116			186	0
List A	551	538	55	21999	200*	45.54			60	114			175	0
T20s	96	96	11	2797	100*	32.90	2310	121.08	1	16	359	38	28	0

Bowling averages

	Mat	Inns	Balls	Runs	Wkts	BBI	BBM	Ave	Econ	SR	4w	5w	10
Tests	200	145	4240	2492	46	3/10	3/14	54.17	3.52	92.1	0	0	0
ODIs	463	270	8054	6850	154	5/32	5/32	44.48	5.10	52.2	4	2	0
T20Is	1	1	15	12	1	1/12	1/12	12.00	4.80	15.0	0	0	0
First-class	310		7605	4384	71	3/10		61.74	3.45	107.1		0	0
List A	551		10230	8478	201	5/32	5/32	42.17	4.97	50.8	4	2	0
T20s	96	8	93	123	2	1/12	1/12	61.50	7.93	46.5	0	0	0

insights Explore Carl Hooper's performance

Batting and fielding averages

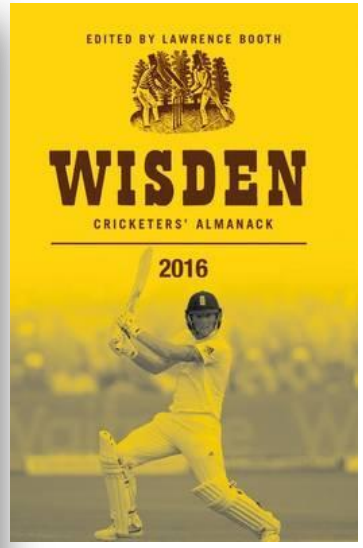
	Mat	Inns	NO	Runs	HS	Ave	BF	SR	100	50	4s	6s	Ct	St
Tests	102	173	15	5762	233	36.46	11462	50.27	13	27	633	63	115	0
ODIs	227	206	43	5761	113*	35.34	7517	76.63	7	29	409	65	120	0
First-class	339	535	52	23034	236*	47.68			69	104			375	0
List A	457	414	81	13357	145	40.11			15	85			242	0
T20s	10	9	2	162	49*	23.14	156	103.84	0	0	13	3	6	0

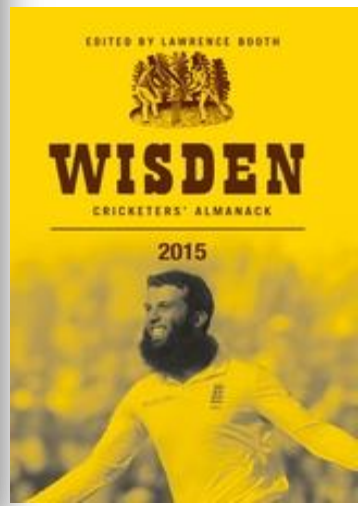
Bowling averages

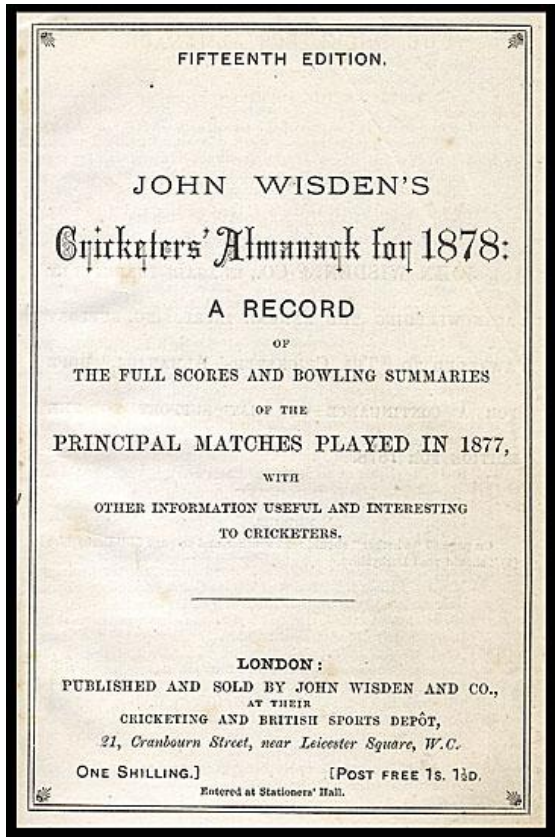
	Mat	Inns	Balls	Runs	Wkts	BBI	BBM	Ave	Econ	SR	4w	5w	10
Tests	102	145	13794	5635	114	5/26	7/178	49.42	2.45	121.0	1	4	0
ODIs	227	203	9573	6958	193	4/34	4/34	36.05	4.36	49.6	3	0	0
First-class	339		46464	19595	555	7/93		35.30	2.53	83.7		18	0
List A	457		19718	13611	396	5/41	5/41	34.37	4.14	49.7	5	1	0
T20s	10	10	204	197	8	4/18	4/18	24.62	5.79	25.5	1	0	0

Hailed by Shane Warne: Shane Warne rated Hooper quite highly during his playing days. He found Hooper's footwork quite challenging for a spinner and, in 2008, named him among the top 100 cricketers of his time, citing in particular his ability to disguise his dances down the track

http://www.cricketcountry.com/criclife/carl-hooper-14-facts-about-the-enigmatic-west-indian-cricketer-510857







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LE IOVRNAL DES SÇAVANS

Du Lundy V. Ianvier M. DC. LXV.

Par le Sieur DE HEDOVVILLE.

A PARIS,

Chez IEAN CVSSON, ruë S. Iacques, à l'Image de S. Iean Baptiſte.

M. DC. LXV.

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5.3 The science and technology of World War II

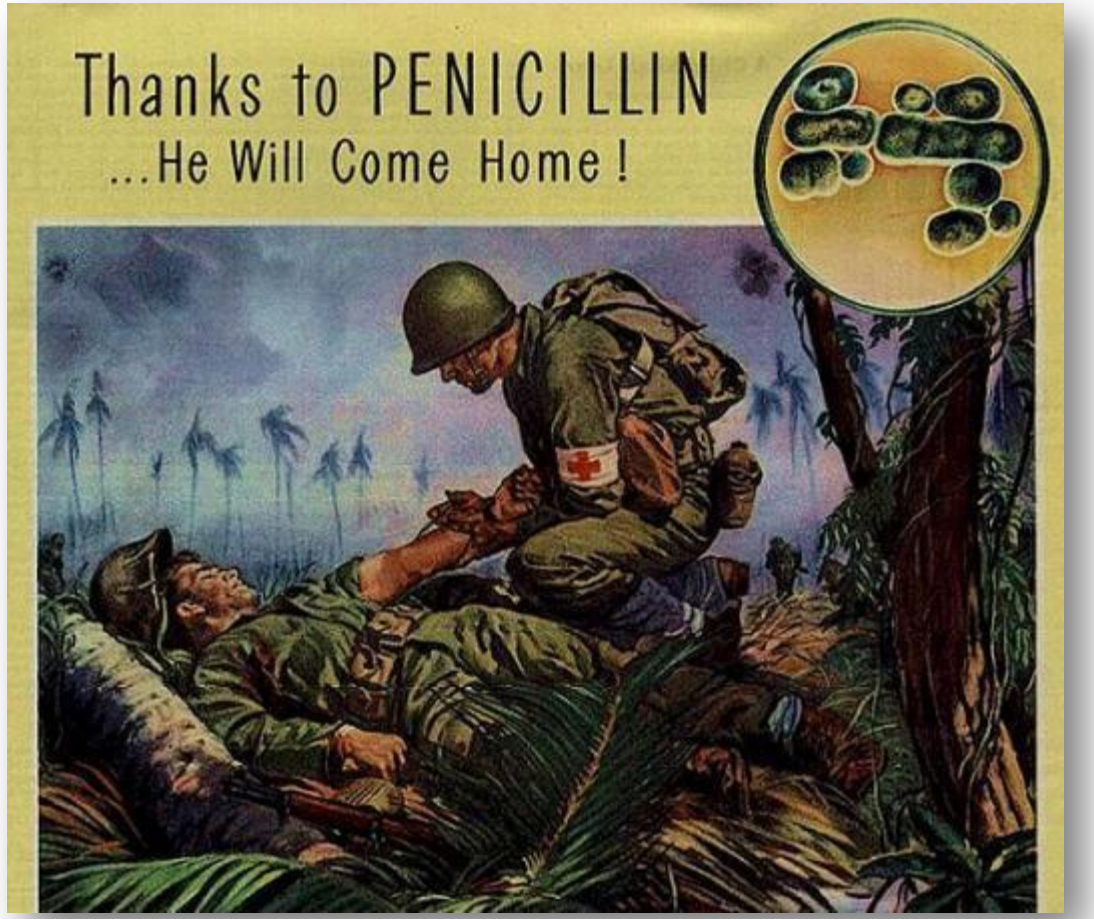
BY DR. DAVID MINDELL

Provided by The National Museum of World War II.

The V-1 or "buzz bomb" was one of the early bombers used during World War II.

For all the role of science, mathematics, and new inventions in earlier wars, no war had as profound an effect on the technologies of our current lives than World War II (1939-45). And no war was as profoundly affected by science, math, and technology than WWII.

We can point to numerous new inventions and scientific principles that emerged during the war. These include advances in rocketry, pioneered by Nazi Germany. The V-1 or "buzz bomb" was an automatic aircraft (today known as a "cruise missile") and the V-2 was a "ballistic missile" that flew into space before falling down on its target (both were rained on London during 1944-45, killing thousands of civilians). The "rocket team" that developed these weapons for Germany were brought to the United States after World War II, settled in Huntsville, Alabama, under their leader Wernher von Braun, and then helped to build the rockets that sent American astronauts into space and to the moon. Electronic computers were developed by the British for breaking the Nazi "Enigma" codes, and by the Americans for calculating ballistics and other battlefield equations.



Science depends on incremental production of information and constantly sharing that information with others across space and time.

Scientists (most often) share their findings by publishing papers in journals or presenting papers in conferences.

CHEMICAL ABSTRACTS

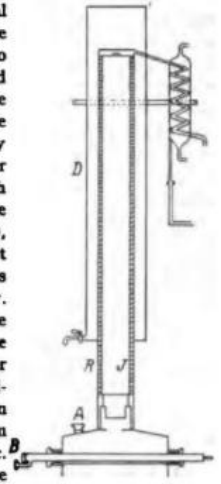
Vol. 9. NOVEMBER 10, 1915. No. 21.

1. APPARATUS.

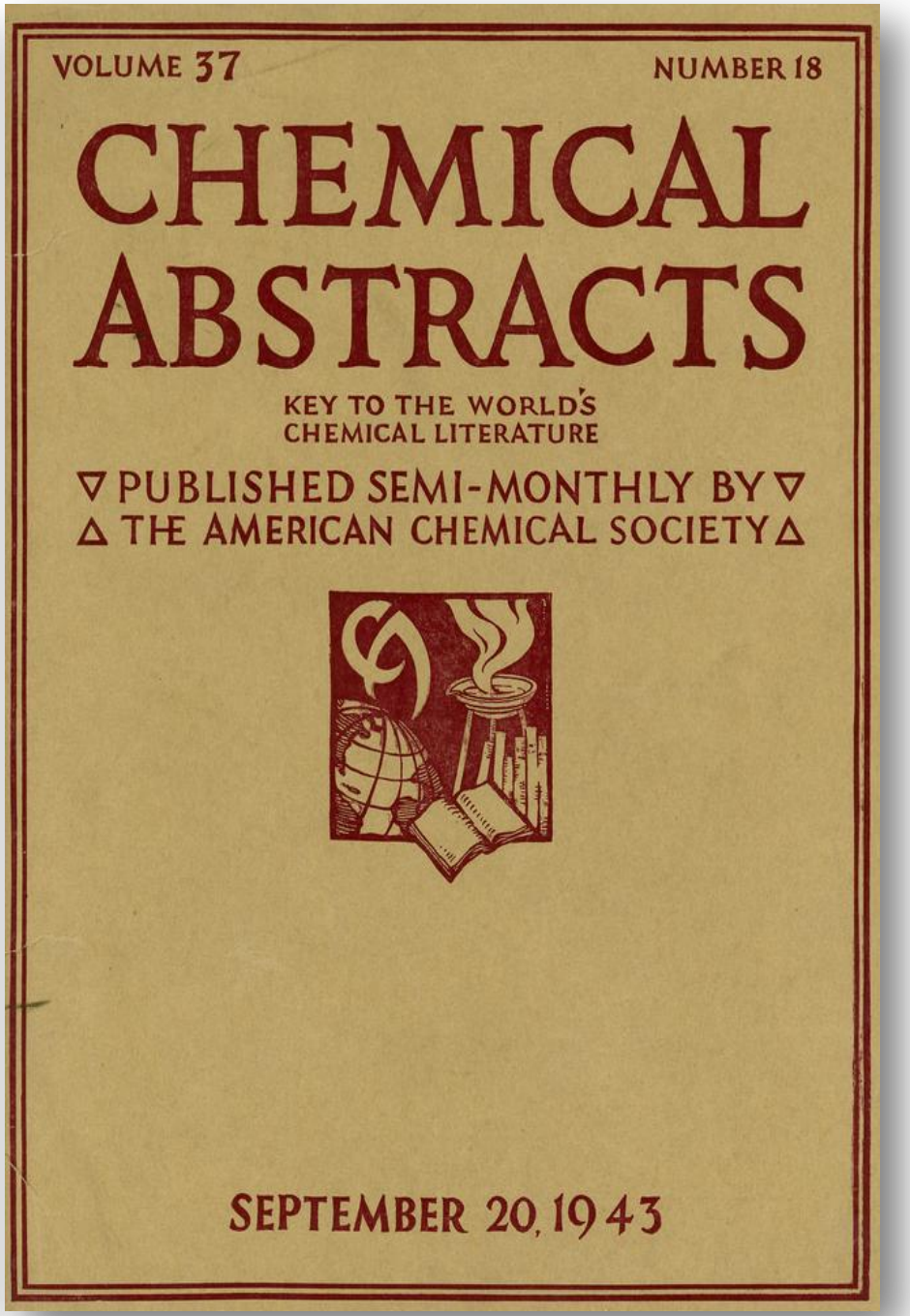
L. C. JONES.

Buret, improved form. JOHN W. FORBING. *J. Am. Pharm. Assoc.* 4, 934(1915).—An illustrated description of a buret with a bulb similar to that of a thistle-tube at the top, designed to facilitate filling and emptying the buret. M. I. W.

Practical alcoholometry. H. P. BARENDRECHT. *Chem. Weekblad* 12, 736–41 (1915).—B. calls attention to the fact that in cases in which the alc. content of diluted alc. is high, the use of alcoholometers is without objection, but that this is not so in the case of fermented liquids. The principal error is caused by the presence in the distillate of small quantities of other volatile compds, which have but little influence on the sp. gr. but cause a great change in the capillary attraction. Detns. of alc. in different alc.-water mixts. with a pycnometer gave from 0.2 to 0.6% higher results than when an alcoholometer was used and the alc. content was 4.5 to 6.5%. The simple distn. method therefore is undesirable and B. recommends an app. which makes it possible to concentrate at least 99% of the alc. in $^1/_{10}$ of the original vol. He constructed a dephlegmator in such a way that the alc. condensed by the dephlegmator cannot run back into the liquid, but is temporarily retained in the rectifier and rectified. The boiling vessel, which is to be filled through the inlet, *A*, with $2^1/_2$ l. liquid has a capacity of $4^1/_2$ l. The vapors have to pass several copper diaphragms, where they are freed of drops carried over mechanically. The rectifier consists of a long tube, *R*, which is almost wholly filled with a tube, *J*. The latter is closed on all sides. The vapors are forced through a narrow ring-shaped opening (5 mm. diam.), which is left between *J* and *R*. Before the cylinder *J* is put in place, it is wrapped in 2 layers of copper gauze (meshes of 2 mm. diam.), which fill this ring-shaped space entirely. This construction causes the alc. to collect between the meshes of the copper gauze, so that it cannot pass to the condenser until the large vol. of water in the dephlegmator is heated by the condensed vapors to the b. p. of alc. rectified to a max., say 78°. When the temp. of the water in the dephlegmator has risen to near 100°, water starts to run from the condenser, which contains the remainder of the alc. The app. is made of copper. All connections should be soldered, to prevent leakage. B. advizes boiling with the aid of steam. The heating should be such that $2^1/_2$ l. of the liquid will not boil within 7 min.; the duration of a complete distn. is about 70 min. 125 cc. of the distillate are collected and contain about 50% alc., the exact strength of which may be detd. with an alcoholometer. Expts. show an error of +0.05% average and +0.08% max. for the new method and an error of —0.18 average and —0.36 max. for the old method (simple distn. to 50% of original vol.). Of 0.597 g. alc. in 3 l. H_2O, 0.588 g. was reclaimed in 30 cc. of the distillate.

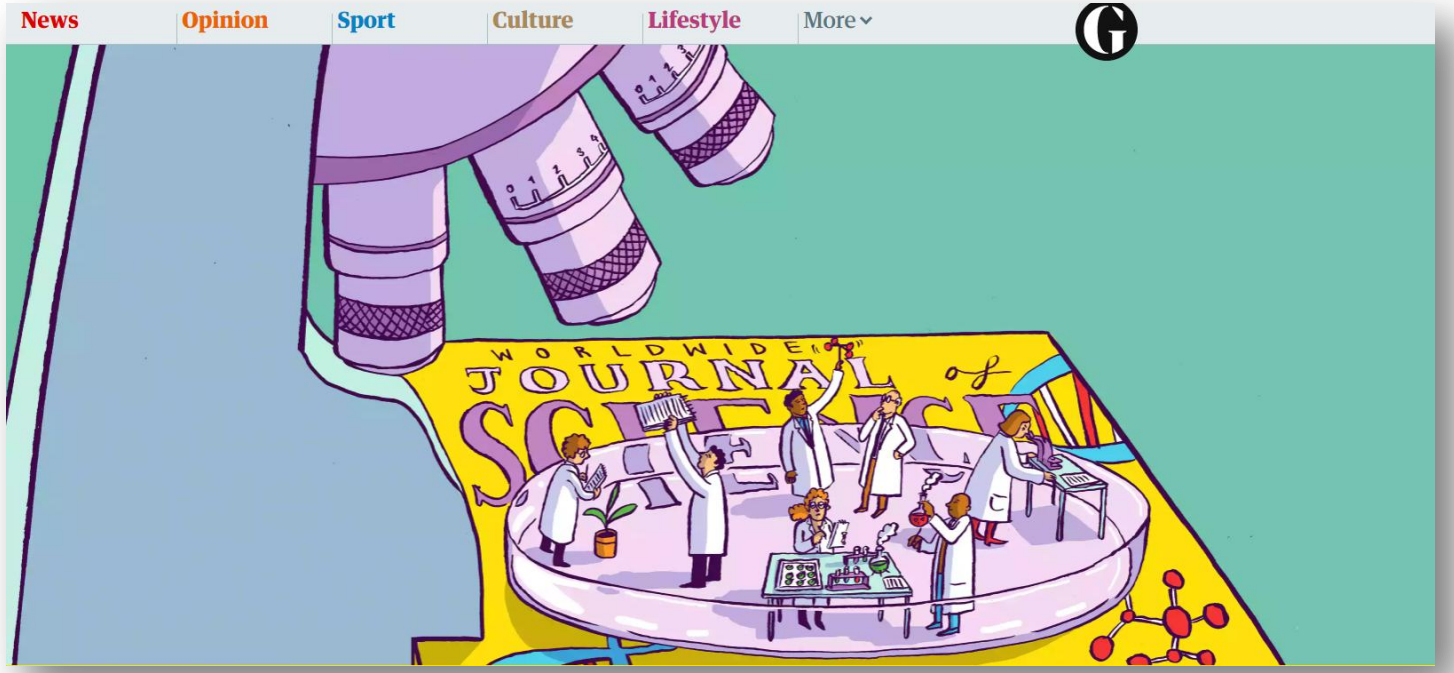


J. T. FLOHIL.



Robert Maxwell (1989)

Member of Parliament for Buckingham	
In office	15 October 1964 – 18 June 1970
Preceded by	Frank Markham
Succeeded by	William Benyon
Personal details	
Born	Ján Ludvík Hyman Binyamin Hoch 10 June 1923 Slatinské Doly, Czechoslovakia (now Solotvyno, Ukraine)
Died	5 November 1991 (aged 68) Sea around Canary Islands
Resting place	Mount of Olives Jewish Cemetery, Jerusalem



Even scientists who are fighting for reform are often not aware of the roots of the system: how, in the boom years after the second world war, entrepreneurs built fortunes by taking publishing out of the hands of scientists and expanding the business on a previously unimaginable scale**. And no one was more transformative and ingenious than Robert Maxwell, who turned scientific journals into a spectacular money-making machine that bankrolled his rise in British society.**

https://www.theguardian.com/science/2017/jun/27/profitable-business-scientific-publishing-bad-for-science

Functions of scholarly journals:

Dissemination of information

Recognition of authors

Quality control

and

Canonical archives

http://www.ariadne.ac.uk/issue7/fytton/

The leisurely prose changed over a period of time where most experimental details are replaced by a superscript or a footnote (reference to an earlier paper).

Today's journals carry a variety of papers such as full-length original research papers, short communications, review articles and letters.

June 18, 1990 Volume 33 Number 25

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Science, Vol:122, No:3159, p.108-111, July 15, 1955

Citation Indexes for Science:

A New Dimension in Documentation through Association of Ideas

Eugene Garfield, Ph.D.

"The uncritical citation of disputed data by a writer, whether it be deliberate or not, is a serious matter. Of course, knowingly propagandizing unsubstantiated claims is particularly abhorrent, but just as many naive students may be swayed by unfounded assertions presented by a writer who is unaware of the criticisms. Buried in scholarly journals, critical notes are increasingly likely to be overlooked with the passage of time, while the studies to which they pertain, having been reported more widely, are apt to be rediscovered." (1)

In this paper I propose a bibliographic system for science literature that can eliminate the uncritical citation of fraudulent, incomplete, or obsolete data by making it possible for the conscientious scholar to be aware of criticisms of earlier papers. It is too much to expect a research worker to spend an inordinate amount of time searching for the bibliographic descendants of antecedent papers. It would not be excessive to demand that the thorough scholar check all papers that have cited or criticized such papers, if they could be located quickly. The citation index makes this check practicable. Even if there were no other use for a citation index than that of minimizing the citation of poor data, the index would be well worth the effort required to compile it.

This paper considers the possible utility of a citation index that offers a new approach to subject control of the literature of science By virtue of its different construction, it tends to bring together material that would never be collated by the usual subject indexing. It is best de scribed as an association-of-ideas index, and it gives the reader as much leeway as he requires. Suggestiveness through association-of-ideas is offered by conventional subject indexes but only within the limits of a particular subject heading.

If one considers the book as the macro unit of thought and the periodical article the micro unit of thought, then the citation index in some respects deals in the submicro or molecular unit of thought. It is here that most indexes are inadequate, because the scientist is quite often concerned with a particular idea rather than with a complete concept. "Thought" indexes can be extremely useful if they are properly conceived and developed.

In the literature-searching process, indexes play only a small, although significant, part. Those who seek comprehensive indexes to the literature of science fail to point out that such indexes, although they may be desirable, will provide only a better *starting point* than the one provided in the selective indexes at present available. One of the basic difficulties is to build subject indexes that can anticipate the infinite number of possible approaches the scientist may require. Proponents of classified indexes may suggest that classification is the solution to this problem. but this is by no means the case. Classified indexes are also dependent upon a subject analysis of individual articles and, at best, offer us better consistency of indexing rather than greater specificity or multiplicity in the subject approach. Similarly, terminology is important, but even an ideal standardization of terminology and nomenclature will not solve the problem of subject analysis.

What seems to be needed, then, in addition to better and more comprehensive indexes, alphabetical and classified, are new types of bibliographic tools that can help to span the gap between the subject approach of those who create documents — that is, authors — and the subject approach of the scientist who seeks information.

TABLE I

	Total	1921–1925	1916–1920	1911–1915	1906–1910	1901–1905	1896–1900	1891–1895	1886–1890	1881–1885	1876–1880	1871–1875
Ber.	686	78	30	67	115	79	64	60	56	53	44	33
J. Chem. Soc.	390	122	37	60	45	47	21	20	5	2	1	.....
Ann.	278	26	8	37	33	23	22	21	19	18	13	.....
Z. physik. Chem.	191	53	6	21	29	19	28	16	6	.....	.....	.....
Compt. rend.	126	26	3	23	15	23	15	21	7	9	8	.....
J. Phys. Chem.	93	42	13	13	5	1	1	.....	.....	.....	.....	.....
Ann. Physik	93	18	4	28	13	6	0	0	6	5	2	.....
J. Biol. Chem.	80	41	16	14	7	.....	.....	.....	.....	.....	.....	.....
Am. Chem. J.	70	.....	.....	9	21	20	14	8	4	2	1	.....
Z. anorg. Chem.	68	21	11	5	8	11	6	2	.....	.....	.....	.....
Ann. Chim.	68	5	0	6	9	7	3	5	1	8	4	2
Bull. Soc. Chim.	60	16	3	4	7	10	4	4	3	4	2	1
Proc. Roy. Soc.	55	30	5	4	8	5	1	0	1	.....	.....	.....
J. Ind. Eng. Chem.	53	33	10	5	1	.....	.....	.....	.....	.....	.....	.....
Z. Phys.	51	41	5	.....	.....	.....	.....	.....	.....	.....	.....	.....
Monatsch.	51	2	1	21	5	9	3	2	5	3	.....	.....
J. prakt. Chem.	50	6	1	2	2	6	3	12	6	6	2	2
Phil. Mag.	49	17	14	4	2	3	3	1	1	0	0	1
Gazz. chim. ital.	44	10	6	2	6	4	8	4	3	0	1	.....
Phys. Rev.	44	23	8	3	5	4	.....	.....	.....	.....	.....	.....
Physik. Zeit.	41	26	0	7	3	.....	.....	.....	.....	.....	.....	.....
Z. Elektrochem.	37	11	13	4	4	4	1	.....	.....	.....	.....	.....
Biochem. Z.	37	18	2	9	10	.....	.....	.....	.....	.....	.....	.....
Rec. trav. chim.	36	14	5	2	2	2	5	4	1	1	.....	.....
SCIENCE	27	22	3	.....	.....	.....	.....	.....	.....	.....	.....	.....
Trans. Far. Soc.	24	18	0	1	0	1	.....	.....	.....	.....	.....	.....
Proc. Nat'l Acad.	22	19	0	.....	.....	.....	.....	.....	.....	.....	.....	.....
Nature	21	13	5	1	.....	.....	.....	.....	.....	.....	.....	.....

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It is best described as an association-of-ideas index, and it gives the reader as much leeway as he requires.

If one considers the book as the macro unit of thought and the periodical article the micro unit of thought, then the citation index in some respects deals in the sub-micro or molecular unit of thought..

Science Citation Index was launched in 1964,

Molecular structure of nucleic acids: A structure for deoxyribose nucleic acid

Full Scre

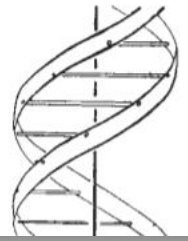
NUCLEIC ACIDS

A Structure for Deoxyribose Nucleic Acid

WE wish to suggest a structure for the salt of deoxyribose nucleic acid (D.N.A.). This structure has novel features which are of considerable biological interest.

A structure for nucleic acid has already been proposed by Pauling and Corey[1]. They kindly made their manuscript available to us in advance of publication. Their model consists of three intertwined chains, with the phosphates near the fibre axis, and the bases on the outside. In our opinion, this structure is unsatisfactory for two reasons: (1) We believe that the material which gives the X-ray diagrams is the salt, not the free acid. Without the acidic hydrogen atoms it is not clear what forces would hold the structure together, especially as the negatively charged phosphates near the axis will repel each other. (2) Some of the van der Waals distances appear to be too small.

Another three-chain structure has also been suggested by Fraser (in the press). In his model the phosphates are on the outside and the bases on the inside, linked together by hydrogen bonds. This structure as described is rather ill-defined, and for this reason we shall not comment on it.



We wish to put forward a radically different structure for the salt of deoxyribose nucleic acid. This structure has two helical chains each coiled round the same axis (see diagram). We have made the usual chemical assumptions, namely, that each chain consists of phosphate di-

purine and pyrimidine bases. The planes of the bases are perpendicular to the fibre axis. They are joined together in pairs, a single base from one chain being hydrogen-bonded to a single base from the other chain, so that the two lie side by side with identical z-co-ordinates. One of the pair must be a purine and the other a pyrimidine for bonding to occur. The hydrogen bonds are made as follows: purine position 1 to pyrimidine position 1; purine position 6 to pyrimidine position 6.

If it is assumed that the bases only occur in the structure in the most plausible tautomeric forms (that is, with the keto rather than the enol configurations) it is found that only specific pairs of bases can bond together. These pairs are: adenine (purine) with thymine (pyrimidine), and guanine (purine) with cytosine (pyrimidine).

In other words, if an adenine forms one member of a pair, on either chain, then on these assumptions the other member must be thymine; similarly for guanine and cytosine. The sequence of bases on a single chain does not appear to be restricted in any way. However, if only specific pairs of bases can be formed, it follows that if the sequence of bases on one chain is given, then the sequence on the other chain is automatically determined.

It has been found experimentally[3,4] that the ratio of the amounts of adenine to thymine, and the ratio of guanine to cytosine, are always very close to unity for deoxyribose nucleic acid.

It is probably impossible to build this structure with a ribose sugar in place of the deoxyribose, as the extra oxygen atom would make too close a van der Waals contact.

The previously published X-ray data[5,6] on deoxyribose nucleic acid are insufficient for a rigorous test of our structure. So far as we can tell, it is roughly compatible with the experimental data, but it must

King's College, London. One of us (J. D. W.) has be
aided by a fellowship from the National Foundati
for Infantile Paralysis.

J. D. WATSON
F. H. C. CRICK

Medical Research Council Unit for the
Study of the Molecular Structure of
Biological Systems,
Cavendish Laboratory, Cambridge.
April 2.

[1] Pauling, L., and Corey, R. B., *Nature*, **171**, 346 (1953); *Proc. U.S. Nat. Acad. Sci.*, **39**, 84 (1953).
[2] Furberg, S., *Acta Chem. Scand.*, **6**, 634 (1952).
[3] Chargaff, E., for references see Zamenhof, S., Brawerman, G., and Chargaff, E., *Biochim. et Biophys. Acta*, **9**, 402 (1952).
[4] Wyatt, G. R., *J. Gen. Physiol.*, **36**, 201 (1952).
[5] Astbury, W. T., Symp. Soc. Exp. Biol. 1, Nucleic Acid, 66 (Camb. Univ. Press, 1947).
[6] Wilkins, M. H. F., and Randall, J. T., *Biochim. et Biophys. Acta*, **10**, 192 (1953).

Molecular Structure of Deoxypentose Nucleic Acids

WHILE the biological properties of deoxypentose nucleic acid suggest a molecular structure containing great complexity, X-ray diffraction studies described here (cf. Astbury[1]) show the basic molecular configuration has great simplicity. The purpose of this communication is to describe, in a preliminary

Fig. 1.

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the origi
is roughl

Should Indian researchers pay to get their work published?

Muthu Madhan, Siva Shankar Kimidi, Subbiah Gunasekaran and Subbiah Arunachalam*

Paying to publish is an ethical issue. During 2010–14, Indian researchers have used 488 open access (OA) journals levying article processing charge (APC), ranging from US$ 7.5 to 5,000, to publish about 15,400 papers. Use of OA journals levying APC has increased from 242 journals and 2,557 papers in 2010 to 328 journals and 3,634 papers in 2014. We estimate that India is potentially spending about US$ 2.4 million annually on APCs paid to OA journals and the amount would be much more if we add APCs paid to make papers published in hybrid journals open access. It would be prudent for Indian authors to make their work freely available through interoperable repositories, a trend that is growing in Latin America and China, especially when funding is scarce. Scientists are ready to pay APC as long as institutions pay for it and funding agencies are not ready to insist that grants provided for research should not be used for paying APC.

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For the backward citations, click the **Cited References** link to access all the research literature used to write the article or paper, also known as bibliography. For the forward citations, click the **Times Cited** link to access the articles or papers citing the viewed record and to get an idea of the more recent developments in citation performance.

Estimating wealth effects without expenditure data - Or tears: An application to educational enrollments in states of India

By: Filmer, D (Filmer, D); Pritchett, LH (Pritchett, LH)

DEMOGRAPHY
Volume: 38 **Issue:** 1 **Pages:** 115-132
DOI: 10.1353/dem.2001.0003
Published: FEB 2001
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Abstract

Using data from India, we estimate the relationship between household wealth and children's school enrollment We proxy wealth by constructing a linear index from asset ownership indicators, using principal-components analysis to derive weights. In Indian data this index is robust to the assets included, and produces internally coherent results. State-level results correspond well to independent data on per capita output and poverty. To validate the method and to show that the asset index predicts enrollments as accurately as expenditures, or more so, we use data sets from Indonesia, Pakistan, and Nepal that contain information on both expenditures and assets. The results shaw large, variable wealth gaps in children's enrollment across Indian states. On average a "rich" child is 31 percentage points more likely to be enrolled than a "poor" child, but this gap varies from only 4.6 percentage points in Kerala to 38.2 in Uttar Pradesh and 42.6 in Bihar.

Keywords

KeyWords Plus: HOUSEHOLD; POVERTY

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Should Indian researchers pay to get their work published?

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View ResearcherID and ORCID

CURRENT SCIENCE
Volume: 112 **Issue:** 4 **Pages:** 703-713
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Abstract

Paying to publish is an ethical issue. During 2010-14, Indian researchers have used 488 open access (OA) journals levying article processing charge (APC), ranging from US$7.5 to 5,000, to publish about 15,400 papers. Use of OA journals levying APC has increased from 242 journals and 2,557 papers in 2010 to 328 journals and 3,634 papers in 2014. We estimate that India is potentially spending about US$2.4 million annually on APCs paid to OA journals and the amount would be much more if we add APCs paid to make papers published in hybrid journals open access. It would be prudent for Indian authors to make their work freely available through interoperable repositories, a trend that is growing in Latin America and China, especially when funding is scarce. Scientists are ready to pay APC as long as institutions pay for it and funding agencies are not ready to insist that grants provided for research should not be used for paying APC.

Keywords

Author Keywords: Article processing charge; hybrid OA journals; institutional repositories; OA policy; open access journals
KeyWords Plus: ARTICLE PROCESSING CHARGES; OPEN ACCESS JOURNALS; SCIENCE; IMPACT

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Nevertheless, the SCI's success did not stem from its primary function as a search engine, but from its use as an instrument for measuring scientific productivity, made possible by the advent of its by-product, the SCI Journal Citation Reports (JCR) and its Impact Factor rankings.

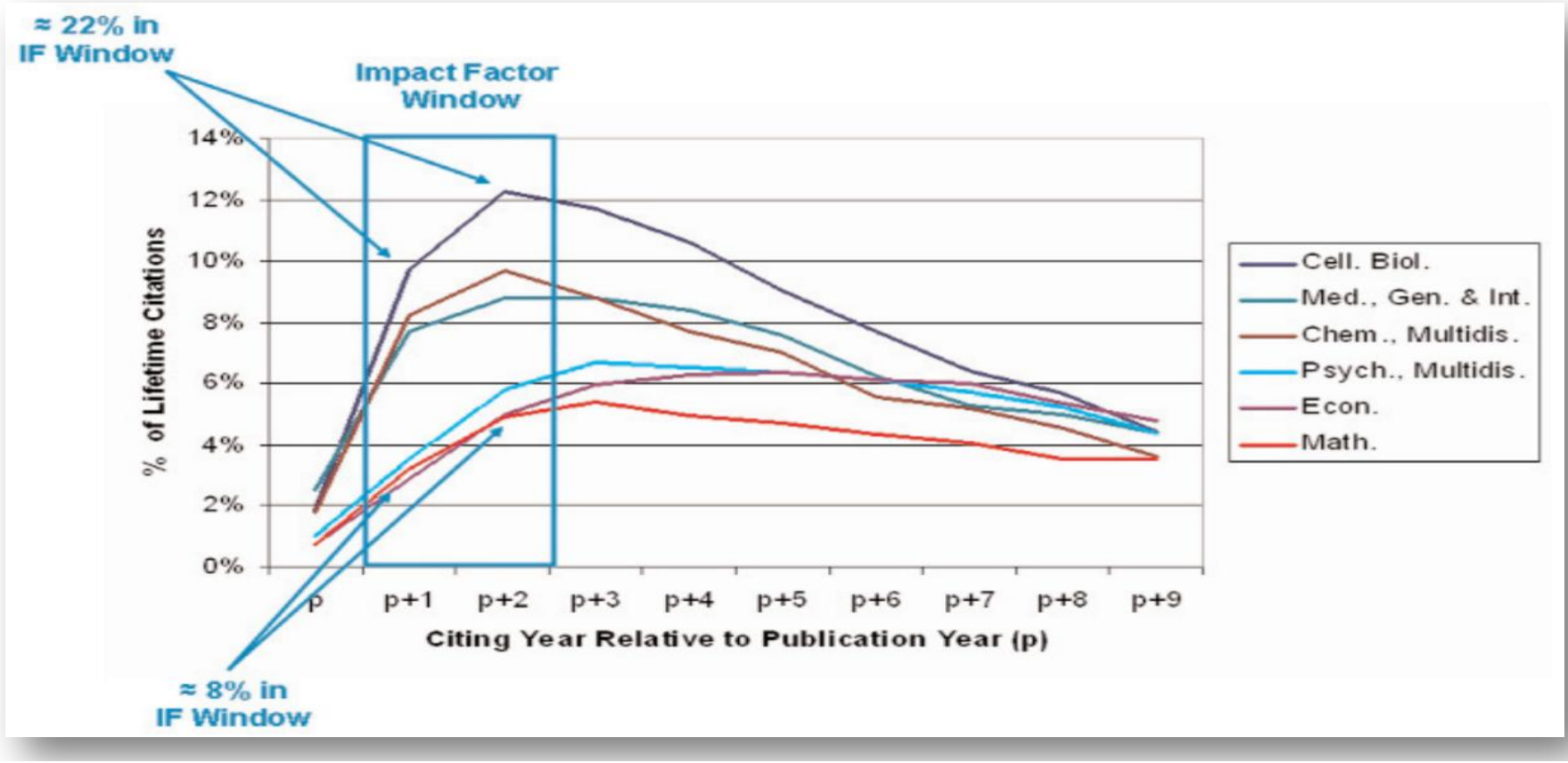
Eugene Garfield

CURRENT SCIENCE

Volume 78 Number 10 25 May 2000

Why do scientists publish their results? Firstly, of course, there is the great desire to be recognized as having contributed to the solution of a scientific problem. Secondly, there is the more mundane imperative; published papers appear to be the only available yardstick to measure the work done by an academic scientist.

Impact factors



$$\text{2007 impact factor} = \frac{\text{citations in 2007 to articles published in 2005 and 2006}}{\text{number of articles published in 2005 and 2006}}$$

$$\text{2007 impact factor for } \textit{Advances in Physics} = \frac{201}{21} = 9.571$$

https://www.uksg.org/sites/uksg.org/files/19-Cross-H76M463XL884HK78.pdf

hindex

	Researcher A	Researcher B
1	35	200
2	33	100
3	31	90
4	30	70
5	27	50
6	27	40
7	24	35
8	23	10
9	9	9
10	4	8
Citations per publication	**24.3**	**61.2**
H-index	**9**	**9**

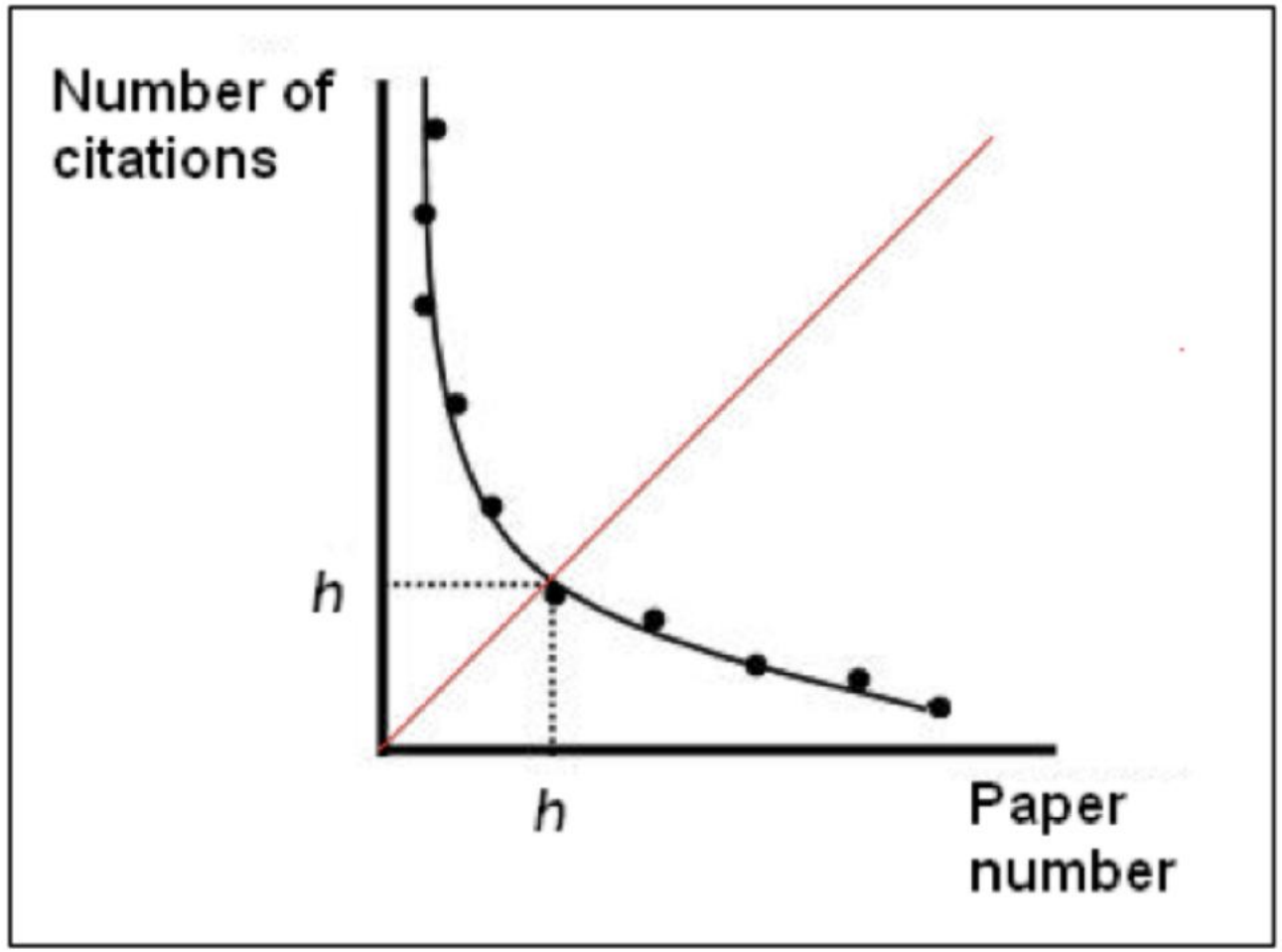
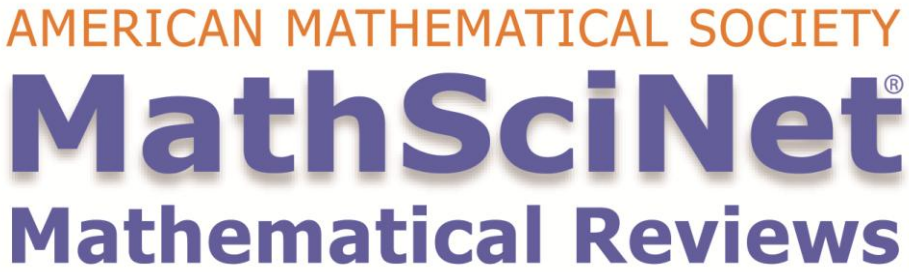


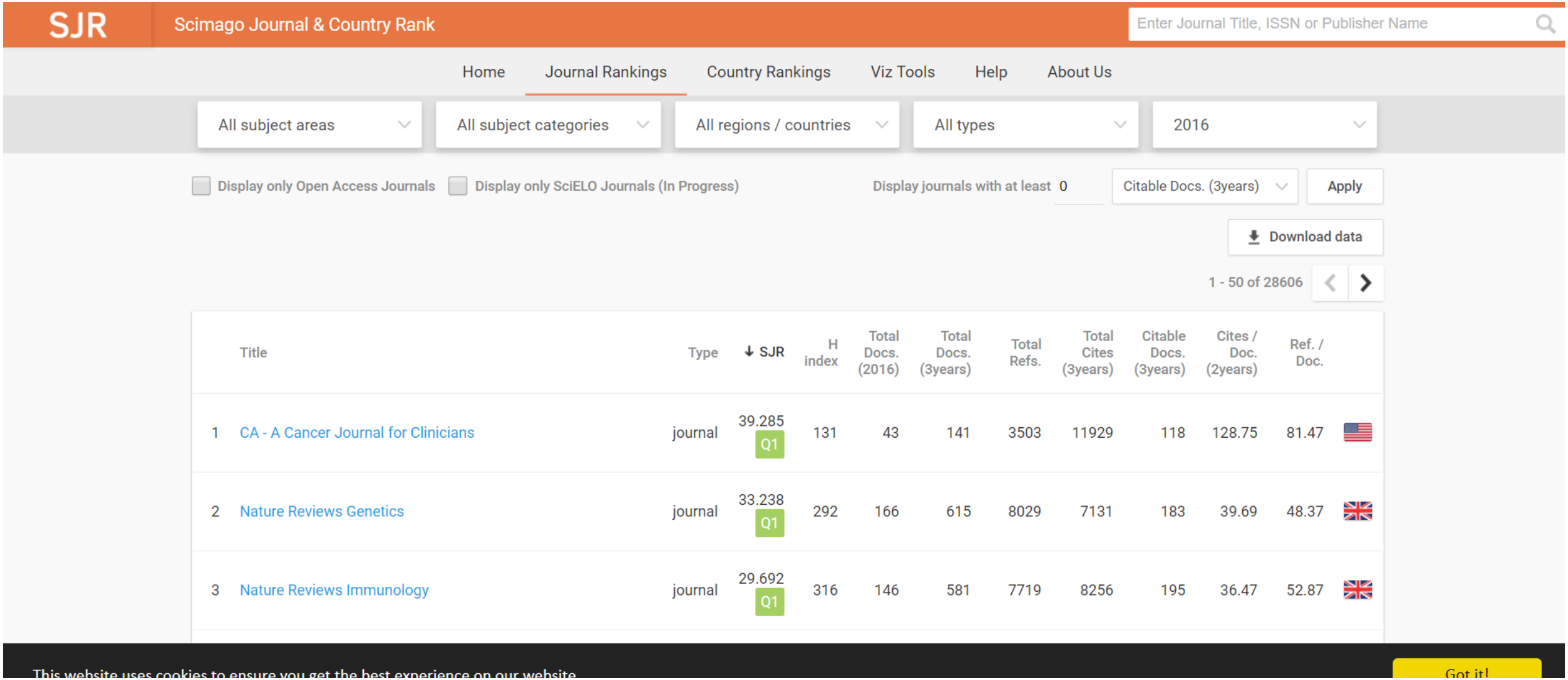
Figure 1

Figure 1. Curve for number of citations versus paper number, with papers numbered in order of decreasing citations (*Hirsch, 2005*). The intersection of the 45° line with the curve indicates *h*. Figure adapted from[2].

CAB Abstracts



Aquatic Sciences and Fisheries Abstracts (ASFA)



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Thanks

Academic Performance Indicators (API)

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UGC's 4th Amendment Regulation 2016

These Regulations may be called the University Grants Commission (Minimum Qualifications for Appointment of Teachers and other Academic Staff in Universities and Colleges and Measures for the Maintenance of Standards in Higher Education.

(4th Amendment), Regulations, 2016. Dated 11th July 2016

Work Load

Direct Teaching Hours per week

Assistant Professor 16

Associate Professor 14

Professor 14

No. of working days / teaching hours As per UGC

Odd Semester	90 days	18 × 5 = 90 No. of weeks × No. of working days in the week = total no. of days
Even Semester	90 days	18 × 5 = 90 No. of weeks × No. of working days in the week = total no. of days

16 hours per week	Four weeks (one month) (16 x 4)	64 × 5 Months = 320 hours (per semester)
40 hours per week	Four weeks (one month) (40 x 4)	160 × 5 Months = 800 hours (per semester)

Categories of API

Academic Performance Indicators has III categories

CATEGORY I:

- **TEACHING, LEARNING AND EVALUATION RELATED ACTIVITIES**

CATEGORY II:

- **PROFESSIONAL DEVELOPMENT, CO-CURRICULAR AND EXTENSION ACTIVITIES**

CATEGORY III:

- **RESEARCH AND ACADEMIC CONTRIBUTIONS**

Category-I(Appendix III: Table1)

(a) Direct Teaching

(b) Examination Duties (Question paper setting, Invigilation, Evaluation of answer scripts) as per allotment)

(c) Innovative Teaching (Learning Methodologies, updating of subject contents/courses, mentoring)

Category I
(a) Direct Teaching: Calculation

Assistant Professor	Associate Professor	Professor
70 points(Max)	60 points(Max)	60 points(Max)
For example if you are assistant professor your teaching hours per week is 16. 36X16=576 576/7.5 =76.8	36X14=504 504/7.75 = 65.03	Formula prescribed by the UGC Total teaching hours/ 7.75 (Example 504/7.75= 65.03 points per year)

Category I
(b) Examination duties

It deals with question paper setting, Invigilation, evaluation of answer scripts as per allotment

Assistant Professor	Associate Professor	Professor
20 points(Max)	**20 Points(Max)**	**10 Points(Max)**

Formula by UGC : Actual hours spent per academic year/10

For example if it is 50 hours, then 50/10= 5 points

Category I
(c) Innovative Teaching

It deals with learning methodologies, updating of subject contents/courses, mentoring etc.

Asst. Professor	Associate Professor	Professor
10 (Max. Points)	15 (Max. Points)	20 (Max. Points)
Formula by the UGC: Actual hours spent per academic year /10	for example if we spent 100 hours , then 100/10= 10 points	

Category I
Maximum Points for each sub-category

Description	Asst. Professor	Assoc. Professor	Professor
Teaching	70	60	60
Examination	20	20	10
Innovative Teaching	10	15	20
Total	**100**	**95**	**90**

Category II
PROFESSIONAL DEVELOPMENT, CO-CURRICULAR AND EXTENSION ACTIVITIES

(a) Student related co-curricular, extension and field based activities
(b) Contribution to corporate life and management of the department and institution through participation in academic and administrative committees and responsibilities.
(c) Professional Development activities

Category II
(a) Student related co-curricular, extension and field based activities

Cat.	Nature of Activities	Maximum API Score	Actual Score	Example
II (a)	Student related co-curricular, extension and field based activities. (i) Discipline related co-curricular activities (e.g. remedial classes, career counseling, study visit, student seminar and other events.) (ii) Other co-curricular activities (Cultural, Sports, NSS, NCC etc.) (iii) Extension and dissemination activities (public /popular lectures/talks/seminars etc.)	15	Actual hours spent per academic year ÷ 10	If you spend 50 hours , then 50÷10=5 points.

Category II
(b) Contribution to corporate life and management of the department and institution through participation in academic and administrative committees and responsibilities

Cat.	Nature of Activities	Maximum API Score	Actual Score	Example
II (b)	i). **Administrative responsibility (including as Dean / Principal / Chairperson / Convener / Teacher-in-charge/similar other duties that require regular office hrs for its discharge**) (ii). **Participation in Board of Studies, Academic and Administrative Committees**	15	Actual hours spent per academic year ÷ 10	If you spend 50 hours , then 50÷10=5 points.

Category II
(c) Professional Development activities

Cat.	Nature of Activities	Maximum API Score	Actual Score	Example
II-c	Professional Development activities(such as participation in seminars, conferences, short term training courses, industrial experience, talks, lectures, in refresher / faculty development courses, dissemination and general articles and any other contribution)	15	Actual hours spent per academic year ÷ 10	If we spend 50 hours , then 50 ÷10=5 points.

Category II
Maximum Points for each sub-category

Description	Asst. Professor	Assoc. Professor	Professor
co-curricular, extension and field based activities	15	15	15
participation in academic and administrative committees and responsibilities	15	15	15
Professional Development activities	15	15	15
Total	**45**	**45**	**45**

Category III
RESEARCH AND ACADEMIC CONTRIBUTIONS

III (A)-Research Papers published in Refereed Journals as notified by the UGC & other Reputed Journals as notified by the UGC

III (B) - books, chapters in books

III (C) - Research Projects: i. Sponsored Projects ii)Consultancy Projects, Project out-comes/out puts

III (D) - Research Guidance : Ph.D and M.Phil

III (E) - Fellowships, Awards and Invited lectures delivered in conferences / seminars

III (F) - Development of e-learning delivery process/material

Category III (A)
Research Papers published in Refereed Journals as notified by the UGC & other Reputed Journals as notified by the UGC search Papers published in Refereed Journals as notified by the UGC & other Reputed Journals as notified by the

Refereed Journals as notified by the UGC	Other Reputed Journals as notified by the UGC
25 per publication	10 per publication
i. Paper with **impact factor less than 1 -** by 5 points; ii. Papers with impact factor between **1 and 2** by 10 points; iii. Papers with impact factor between **2 and 5** by 15 points; iv. Papers **with impact factor between 5 and 10** by 20 points v. Papers with **impact factor above 10** by 25 points	Please browse other reputed journal in the web site www.ugc.ac.in

Category III (B)
Books

Text/Reference, Books published by International Publishers	30 per Book for Single Author
Subject Books, published by National level publishers, with ISBN/ISSN number or State / Central Govt. Publications	20 per Book for Single Author
Subject Books, published by Other local publishers, with ISBN number as approved by the University	15 per Book for Single Author
Chapters in Books, published by National and International level publishers, with ISBN number as approved by the University	International –10 per Chapter National – 5 per Chapter

III (C)
(i) Sponsored Projects

Faculty of Sciences / Engineering / Agriculture / Medical / Veterinary Sciences	Faculties of Languages / Humanities / Arts / Social Sciences / Library / Physical education / Management	Points
(a) Major Projects with grants above Rs. 30 lakhs	Major Projects with grants above Rs. 5 lakhs	20 per Project
(b) Major Projects with grants above Rs. 5 lakhs up to Rs. 30 lakhs	Major Projects with grants above Rs. 3 lakhs up to Rs. 5lakhs	15 per Project
(c) Minor Projects with grants above Rs. 1 lakh up to Rs. 5 lakhs	Minor Projects with grants above Rs. 1 lakh up to Rs. 3 lakhs	10 per Project

III (C)
(ii) Consultancy Projects

Faculty of Sciences / Engineering / Agriculture / Medical / Veterinary Sciences	Faculties of Languages / Humanities / Arts / Social Sciences / Library / Physical education / Management	Points
Amount mobilized with a minimum of Rs.10 lakhs	Amount mobilized with a minimum of Rs. 2 lakhs	10 points for every Rs.10 lakhs(Faculties of Sci. etc) 10 points for Rs.2 lakhs (Faculties of Languages etc)

III (C)
(iii) Projects Outcome /Outputs

Faculty of Sciences / Engineering / Agriculture / Medical / Veterinary Sciences	Faculties of Languages / Humanities / Arts / Social Sciences / Library / Physical education / Management	Points
Patent / Technology transfer / Product / Process	Major Policy document prepared for international bodies like WHO/UNO/UNESCO/UNICEF etc. Central / State Govt./Local Bodies	30 for each International / 20 for each national level output or patent. ---------- Major policy document of International bodies - 30 Central Government – 20, State Govt.-10 Local bodies – 5

III (D) Research Guidance

Category	Points
M.Phil. Degree Awarded	5
Ph.D. Degree Awarded	15
Ph.D. Thesis Submitted	10

III (E)
(i) Fellowships, Awards

International Award/Fellowship from academic bodies	15 per Award / 15 per Fellowship
National Award/Fellowship from academic bodies	**10 per Award / 10 per Fellowship**
State/University level Award from academic bodies/associations	**5 per Award / 5 per Fellowship**

III (E)
(ii) Invited lectures /papers

International Level	**7 per lecture /5 per paper presented**
National Level	**5 per lecture /3 per paper presented**
State/University Level	**3 per lecture /2 per paper presented**

III (F)
Development of e-learning delivery process/material

- Development of e-learning delivery process/material – 10 point per module

Librarians

Dr. B. Jeyapragash, Asst. Prof,
DLIS, Try

Direct working Hours

Designation	Direct working Hours	weightage
Assistant Librarian/ College Librarian	40	100
	36+4*	90
Librarian	32+8*	80

CATEGORY I:
Procurement, organization, and delivery of knowledge and Information through Library services

Nature of Activity	Univ. Assistant Librarian/College Librarian		Deputy Librarian		Librarian	
	Max. Score	Actual Score	Max. Score	Actual Score	Max. Score	Actual Score
a) Library resources organization and maintenance of books, journals, reports; Provision of library reader- services, literature retrieval services to researchers and analysis of reports; Provision of assistance to the departments of University/College with the required inputs for preparing reports, manuals and related documents; Assistance towards updating institutional website with activity related information and for bringing out institutional Newsletters, etc. (40 Points) Development, organization and management of e-resources including their accessibility over Intranet / Internet, digitization of library resources, e-delivery of information, etc (15 Points) User awareness and instruction programmes (Orientation lectures, users' training in the use of library services as e-resources, OPAC; knowledge resources user promotion programmes like organizing book exhibitions, other interactive latest learning resources, etc. (15 Points)	70	Actual hours spent per academic year ÷ 20	60	Actual hours spent per academic year ÷ 20	55	Actual hours spent per academic year ÷ 20

b) ICT and other new technologies' application for upgradation of library services such as automation of catalogue, learning resources procurement functions, circulation operations including membership records, serial subscription system, reference and information services, library security (technology based methods such as RFID, CCTV), evelopment of library management tools (software), Intranet Management	15	Actual hours spent per academic year ÷ 10	15	Actual hours spent per academic year ÷ 10	15	Actual hours spent per academic year ÷ 10
c).Additional services such as extending library facilities on holidays, shelf order maintenance, library user manual, building and extending institutional library facilities to outsiders through external membership norms	15	Actual hours spent per academic year ÷ 10	15	Actual hours spent per academic year ÷ 10	10	Actual hours spent per academic year ÷ 10

CATEGORY II:
PROFESSIONAL DEVELOPMENT, CO-CURRICULAR AND EXTENSION ACTIVITIES

Nature of Activity	Maximum API Score	Actual score
a) Student related co-curricular, extension and field based activities (such Cultural exchange and Library service Programmes (various level of extramural and intramural programmes); extension, library-literary work through different channels.	15	Actual hours spent per academic year ÷ 10
b) Contribution to Corporate life and management of the library units and Institution through participation in library and administrative committees and responsibilities	15	Actual hours spent per academic year ÷ 10
c) Professional Development activities (such as participation in seminars, conferences, short term, e- library training courses, workshops and events, talks, lectures, membership of associations, dissemination and general articles, not covered in Category III below)	15	Actual hours spent per academic year ÷ 10

CATEGORY-III: RESEARCH AND ACADEMIC CONTRIBUTIONS

	Activity	University/College Librarians	Max.score *
III (A)	Research Publications in	Refereed Journals as notified by the UGC#	25 per Publication
		Other Reputed Journals as notified by the UGC#	10 per Publication
III (B)	Publications other than journal articles (books, chapters in books)	Text/Reference Books, published by International Publishers, with ISBN/ISSN number as approved by the University and posted on its website. The List will be intimated to UGC.	30 per Book for Single Author
		Subject Books, published by National level publishers, with ISBN/ISSN number or State / Central Govt. Publications as approved by the University and posted on its website. The List will be intimated to UGC.	20 per Book for Single Author
		Subject Books, published by Other local publishers, with ISBN/ISSN number as approved by the University and posted on its website. The List will be intimated to UGC.	15 per Book for Single Author
		Chapters in Books, published by National and International level publishers, with ISBN/ISSN number as approved by the University and posted on its website. The List will be intimated to UGC.	International –10 per Chapter National – 5 per Chapter

III (C)	RESEARCH PROJECTS		
III (C) (i)	Sponsored Projects	Major Projects with grants above Rs. 5 lakhs	20 per Project
		Major Projects with grants above Rs.3 lakhs up to Rs.5 lakhs	15 per Project
		Minor Projects with grants above Rs. 1 lakh up to Rs.3 lakhs	10 per Project
III (C)(ii)	Consultancy Projects	Amount mobilized with a minimum of Rs. 2 lakhs	10 for every Rs.2 lakhs
III (C)(iii)	Projects Outcome / Outputs	Major Policy document prepared for international bodies like WHO/UNO/UNESCO/UNICEF etc. Central / State Govt./Local Bodies prepared	Major policy document of International bodies – 30 Central Government – 20, State Govt.–10 Local bodies – 5

III (D)	RESEARCH GUIDANCE		
III(D)(i)	M.Phil.	Degree awarded	5 per candidate
II(D)(ii)	Ph.D.	Degree awarded / Thesis submitted	15 /10 per candidate
III E	Awards / Fellowships/Invited lectures delivered / papers presented in conferences / seminars		
III(E) (i)	Award / Fellowship	International Award/Fellowship from academic bodies/ associations	15 per Award / 15 per Fellowship
	Award / Fellowship	National Award/Fellowship academic bodies/ associations	10 per Award / 10 per Fellowship
	Award/Fellowship	State / University Award/Fellowship from academic bodies/associations	5 Per Award
III(E) (ii)	Invited lectures / papers presented	International	7 per lecture / 5 per paper presented
		National level	5 per lecture / 3 per paper presented
		State/University level	3 per lecture / 2 per paper Presented
	The score under this sub-category shall be restricted to 20% of the minimum fixed for Category III for any assessment period		
III(E) (iii)	Development of e-delivery process/material		10 per module

Thank You!

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