INSTRUCTION MANUAL

HOW TO CALCULATE H-INDEX AND IMPACT FACTOR FROM WOS/SCOPUS

PERPUSTAKAAN UNIVERSITI TEKNOLOGI MALAYSIA

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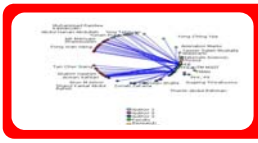

Flow Process

What do you need to know

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- **HOW TO CALCULATE H-INDEX FROM WEB OF SCIENCE**

B1-B3

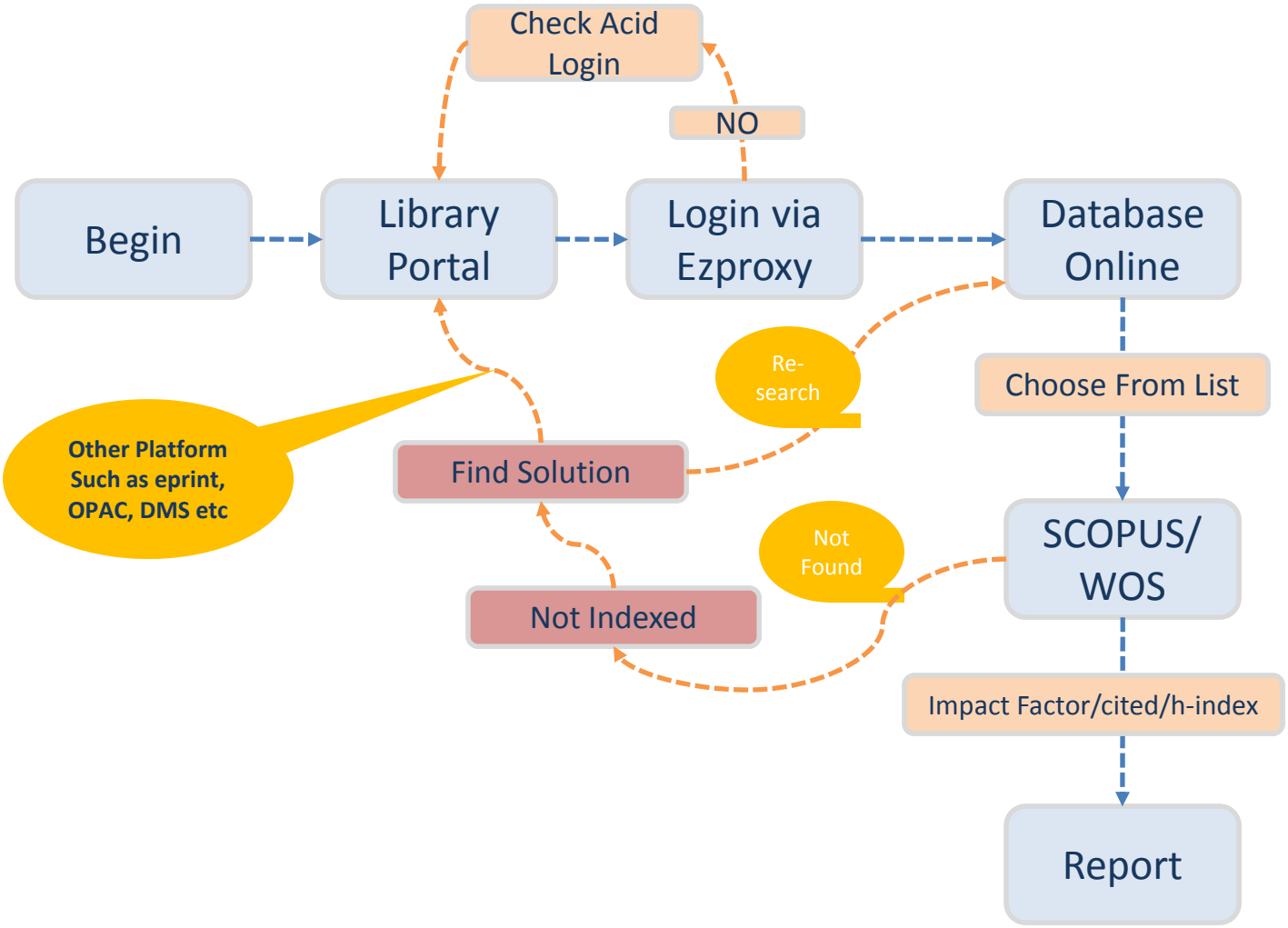
- **HOW TO CALCULATE H-INDEX FROM SCOPUS**

C1-C3

- **SEARCH FOR JOURNAL IMPACT FACTOR -Using ISI Web of Knowledge**

PERPUSTAKAAN UNIVERSITI TEKNOLOGI MALAYSIA

Check your own Impact Factor



WHAT DO YOU NEED TO KNOW

What is Impact Factor

* A citation metric
* The impact factor of a journal is the average number of citations received per paper published in that journal
* The journal must be published in 2 consecutive years, so the IF can be calculated in the 3rd year

Example of IF calculation:

• In 2008, a journal has an impact factor of 3.0, it means papers published in 2006 and 2007 received 3 citations each on average.

Calculation:

example, for 2008 impact factor = A/B

A = the number of times articles published in 2006 and 2007 were cited by indexed journals during 2008

B = the total number of "citable items" published by that journal in 2006 and 2007. ("Citable items" are usually articles, reviews, proceedings, or notes; not editorials or Letters-to-the-Editor.)

What is H-index?

The ***h*-index** is an index that attempts to measure both the productivity and impact of the published work of a scientist or scholar.

The index is based on the set of the scientist's most cited papers and the number of citations that they have received in other publications.

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

The index was suggested by Jorge E. Hirsch, a physicist at UCSD, as a tool for determining theoretical physicists' relative quality and is sometimes called the *Hirsch index* or *Hirsch number*.

MOHE (Ministry of Higher Education Malaysia) adopts a ranking system to rate and reward researchers. Currently MOHE has decided to use ISI impact factors and also SCIMago SJR (SCOPUS) as for the ranking system.

Journal Ranking Using JCR (Journal Citation Reports)

The recent interest in information on journal ranking sparked off by the new Key Performance Indicators for academics and postgraduates has raised a few eyebrows whose owners raise questions such as: Who decides the ranking? Why is this journal better than the other?, etc. The Journal Citation Reports (JCR) is used to evaluate journal ranking for journals indexed in ISI Web of Science. Journals are commonly ranked as Tier 1, Tier 2, Tier 3 and Tier 4. JCR is used by many decision makers in research management, editorial policy and library management. Besides JCR, other journal evaluation techniques are also available. Journals published by Scopus are evaluated by SciMago Journal Rank (SJR) which was developed from the Google Page Rank algorithm. At the University of Malaya, JCR is used as a guide for evaluating journals. As such, this short article will explain: (i) How journals are ranked in tiers, (ii) Who decides the subject categories of journals and (iii) How to calculate journal ranking in tiers using JCR.

How are journals ranked in tiers?

The citation system simply decides the ranking. It is a simple calculation. The total number of citations and articles over a period of two years, to get the impact factor for a journal. The total journal titles in a specific subject category are then arranged by the impact factor in descending order. After this, they are divided equally into four groups. The first group reflects the top 25% of journal titles and is referred to as Tier 1. Tier 2 contains the next 26-50%, Tier 3 from 51 to 75% and finally Tier 4 is for the rest from 76 to 100%. The tier levels can change as the impact factors of the journals change. Similarly, it can also change with the increase or decrease in the total number of journals in any subject category."

PERPUSTAKAAN UNIVERSITI TEKNOLOGI MALAYSIA

HOW TO CALCULATE H-INDEX FROM WEB OF SCIENCE

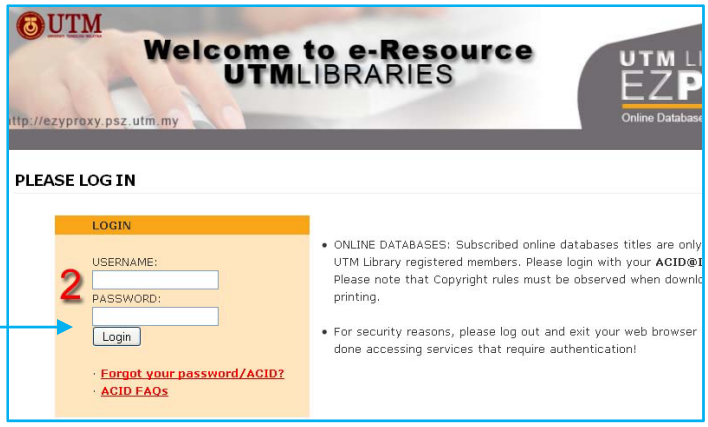
A1

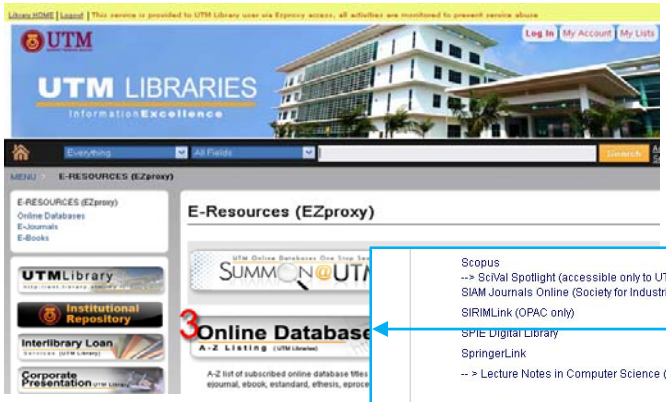
How to confirm:

1. **The article or journal is indexed in Web of Science**
2. **To view who has cited the article**
3. **To view the UTM list of cited articles**

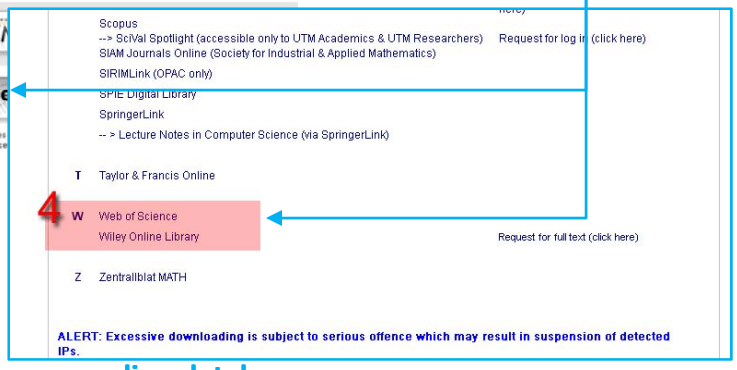
Go to http://ent.library.utm.my

Or http://Ezproxy.psz.utm.my
and Login using your ACID account





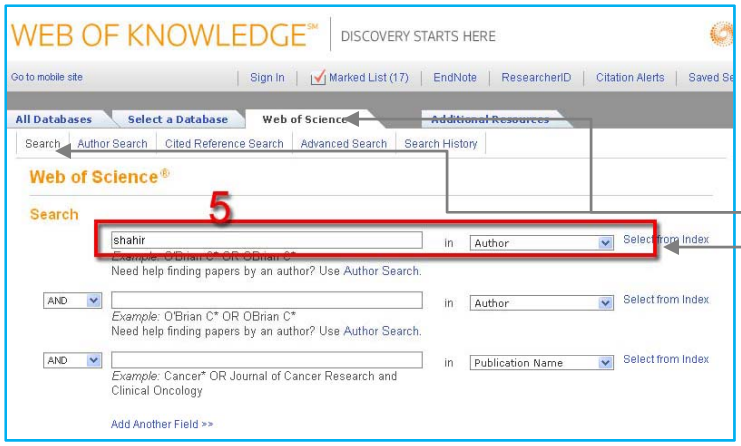
Choose online database and Web of Science



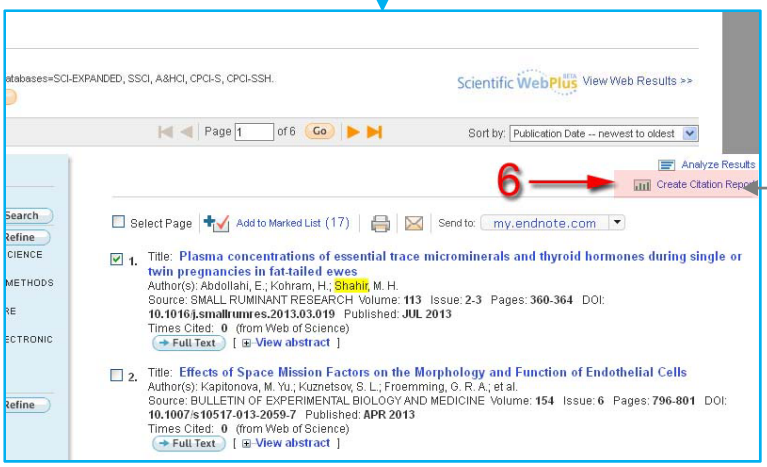
This is the preliminary step to access online databases

HOW TO CALCULATE H-INDEX FROM WEB OF SCIENCE

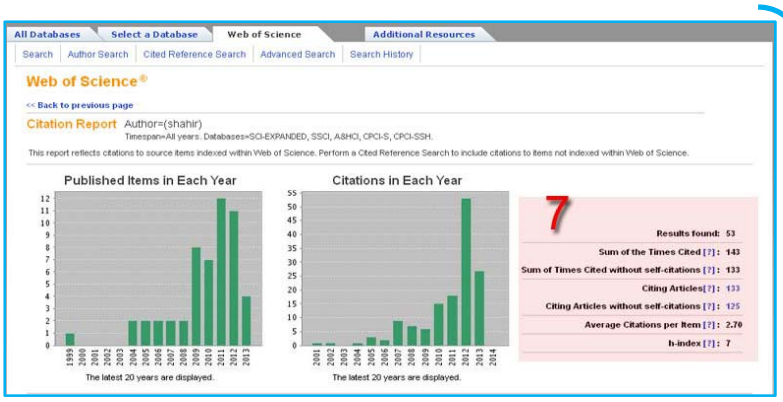
A2



1. If it is a single article, from WOS → choose 'search', in option box choose 'title'
2. Type part of the title of the article or the whole title, click 'search'
3. If the title doesn't exist, re-check by dropping the – (dash) or / (slashes) or : ; (colon/semi colon) →
4. In output page, the bibliographic record will be displayed



5. In 'times cited', the number who cited the said article will be displayed
6. To view who cited the article, simply click at the given 'time cited' link



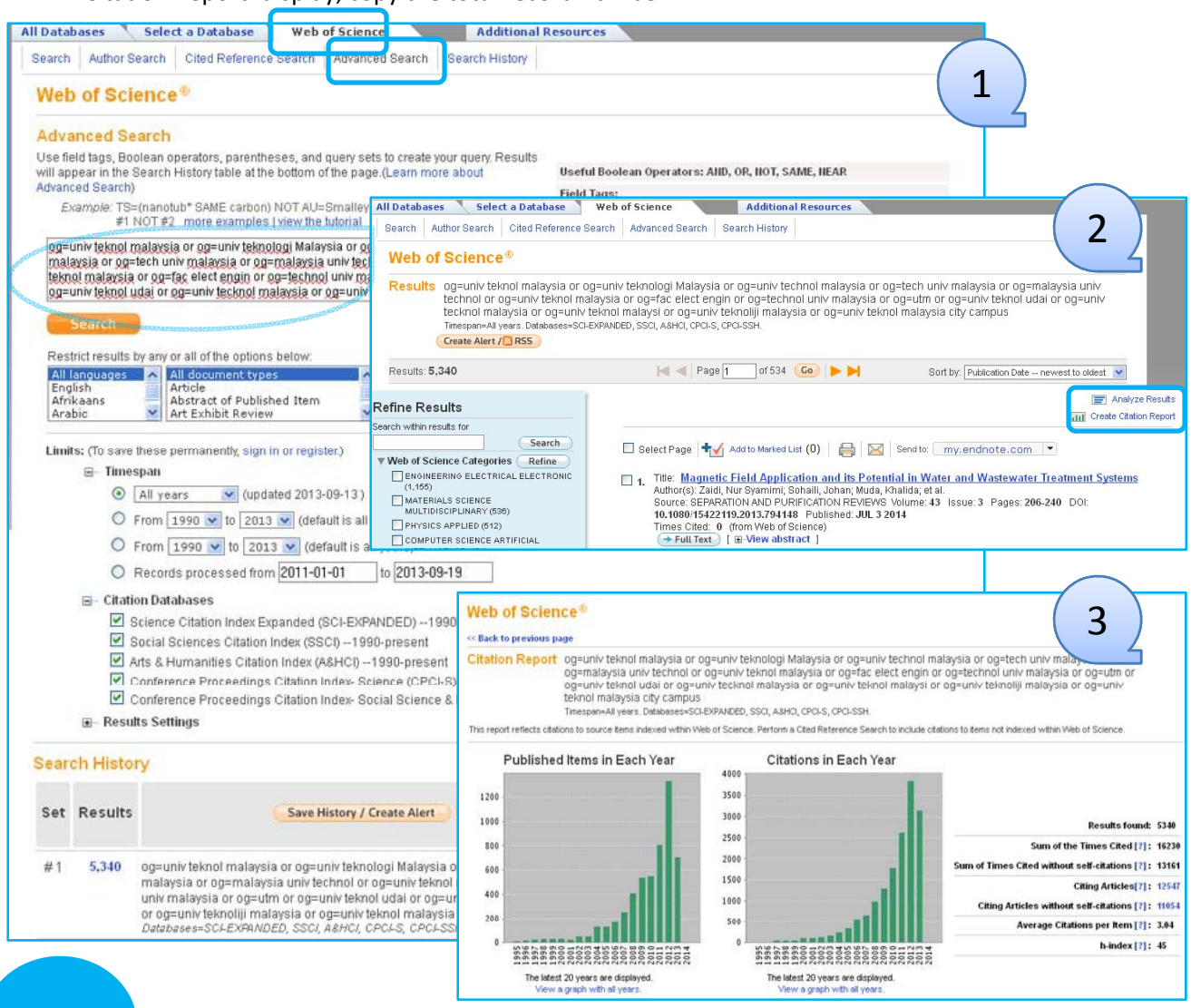
7. To view who cited the article, click underneath cited number for each article
8. To download who cited the article, you are required to do it record by record
9. If it is a single journal, from WOS → choose 'search', in option box choose 'publication name'
10. Type the exact title of the journal, click 'search'
11. If the title doesn't exist, re-check by dropping the – (dash) or / (slashes) or : ; (colon/semi colon) →

HOW TO CALCULATE H-INDEX FROM WEB OF SCIENCE

A3

To view the UTM List of cited articles:

1. Go to page ? And follow section A
2. Under WOS, choose 'Advance Search'
3. Key-in
4. og=univ teknol malaysia or og=univ teknologi Malaysia or og=univ technol malaysia or og=tech univ malaysia or og=malaysia univ technol or og=univ teknol malaysia or og=fac elect engin or og=technol univ malaysia or og=utm or og=univ teknol udai or og=univ tecknol malaysia or og=univ teknol malaysi or og=univ teknoliji malaysia or og=univ teknol malaysia city campus except for og=UTM, click 'search'
5. Repeat the step with og=UTM
6. If you would like to view the list of cited article, in result screen click at 'create citation report' → in 'Citation Report' display, copy the total record number



HOW TO CALCULATE H-INDEX FROM SCOPUS

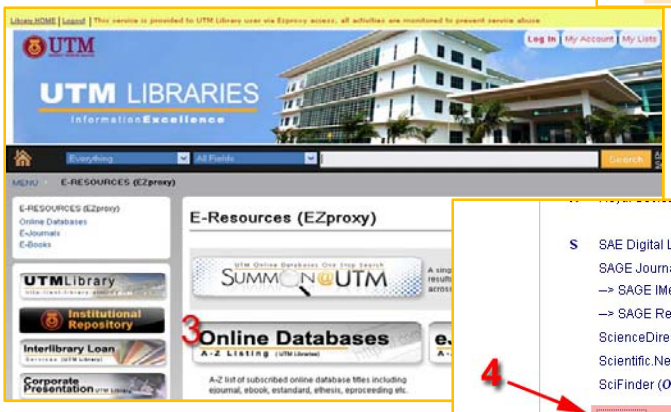
B1

How to confirm:

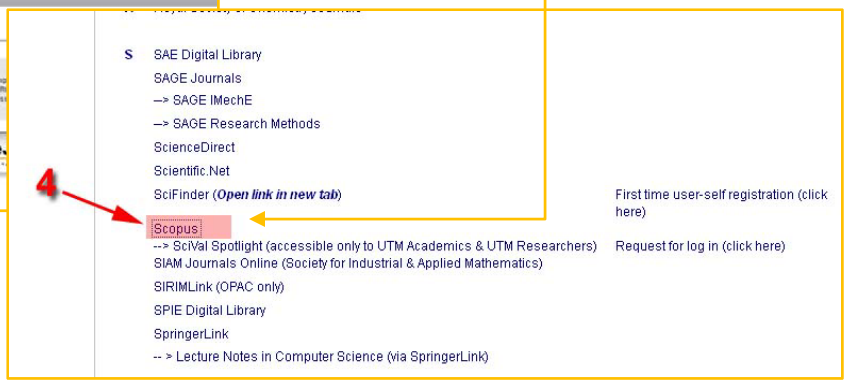
1. **The article or journal is indexed in SCOPUS**
2. **To view who has cited the article**
3. **To view the UTM list of cited articles**

Go to http://ent.library.utm.my

Or http://Ezproxy.psz.utm.my
and Login using your ACID account

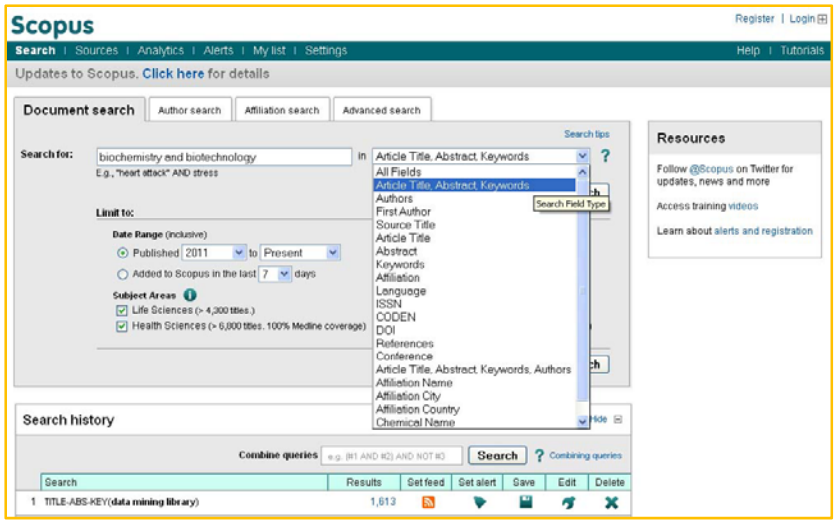


Choose online database folder and click at SCOPUS



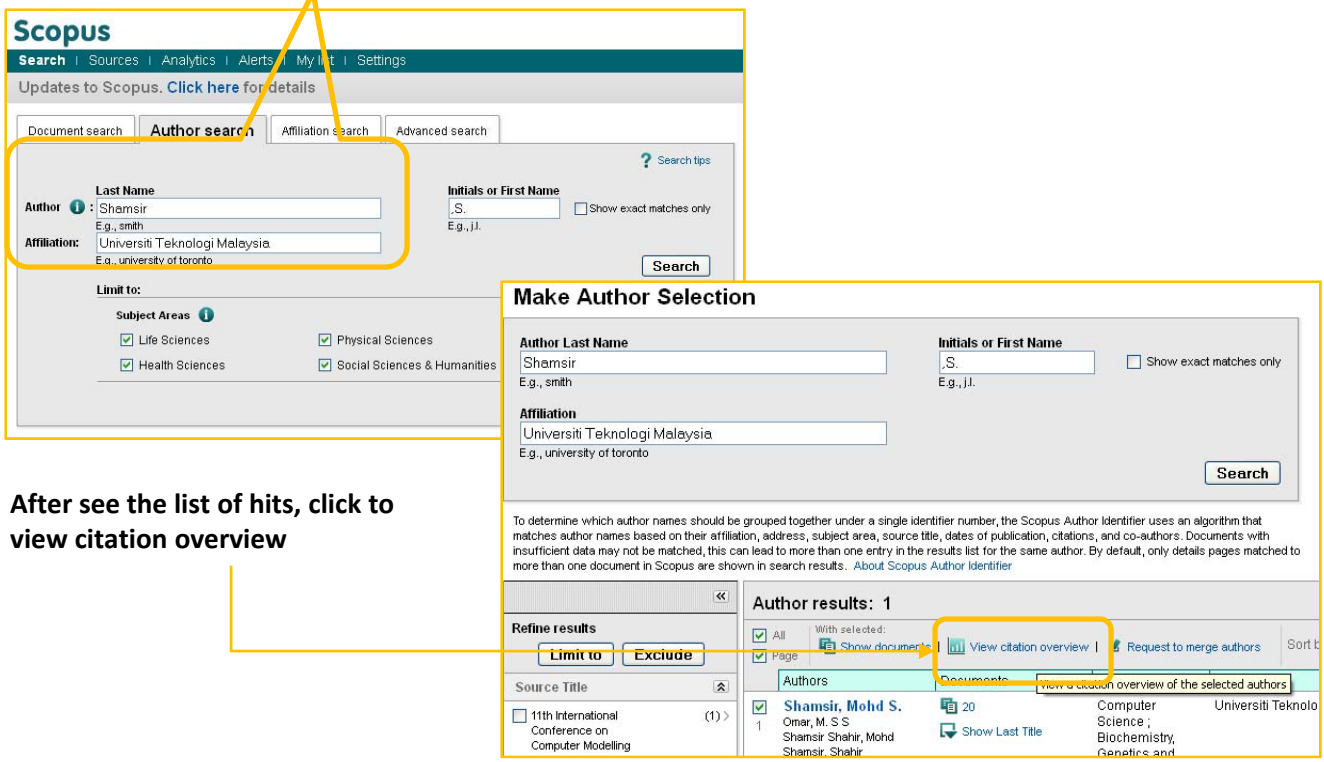
CITED ARTICLES FROM SCOPUS

B2



To determine which author names should be grouped together under a single identifier number, the Scopus Author Identifier uses an algorithm that matches author names based on their affiliation, address, subject area, source title, dates of publication, citations, and co-authors. Documents with insufficient data may not be matched, this can lead to more than one entry in the results list for the same author. By default, only details pages matched to more than one document in Scopus are shown in search results.

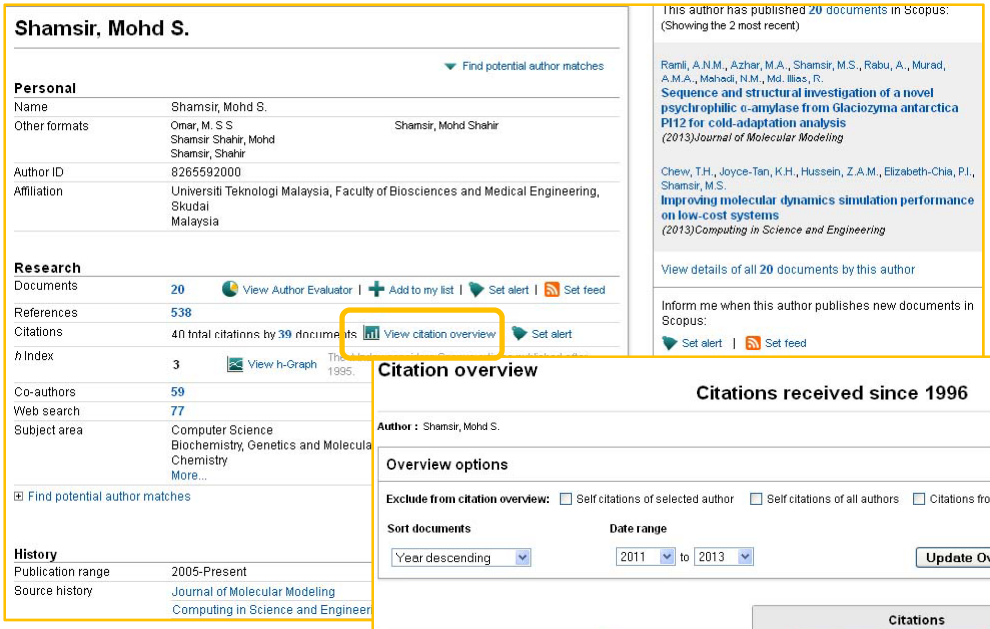
Example: Prof. Madya. Dr. Shahir Samad, (Shahir, S) Key in author's initial entry (AUTHOR) Universiti Teknologi Malaysia (affiliation)

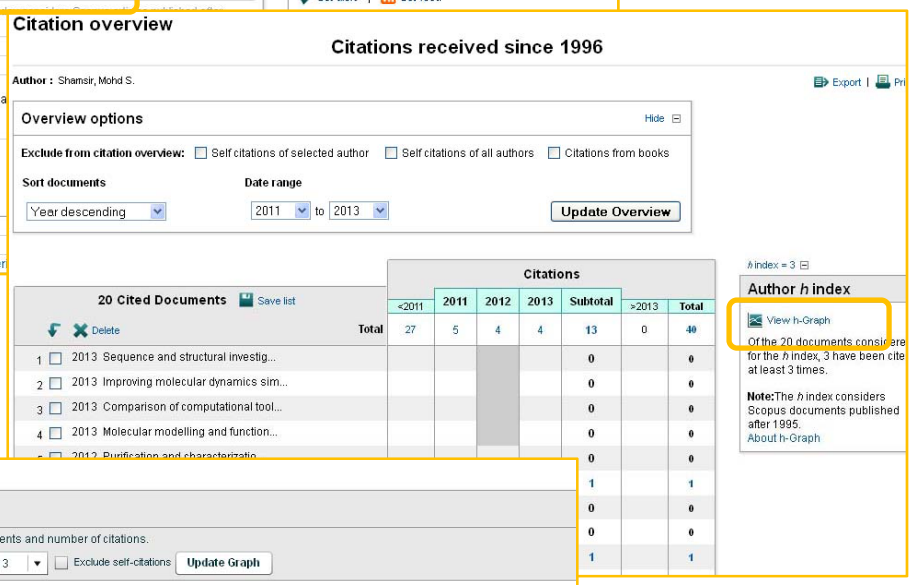


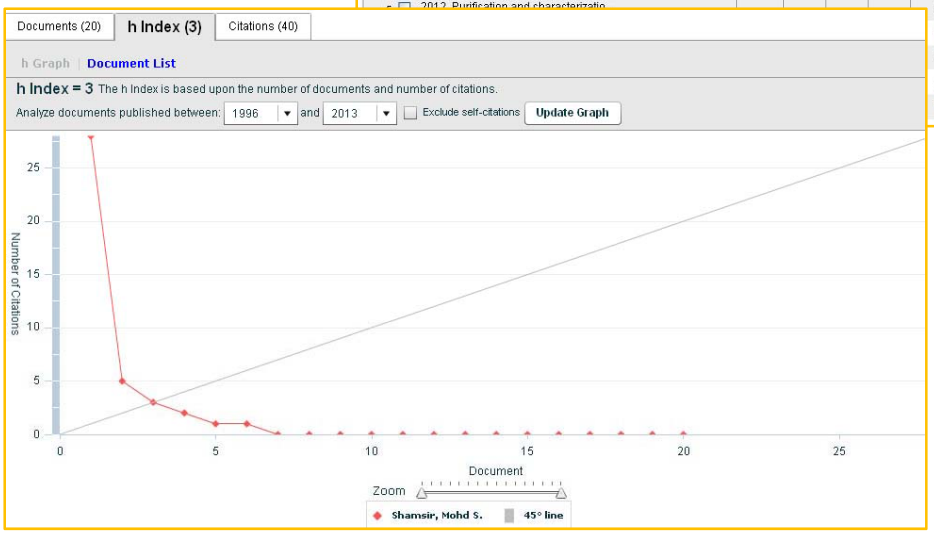
After see the list of hits, click to view citation overview

HOW TO CALCULATE H-INDEX FROM SCOPUS

B3







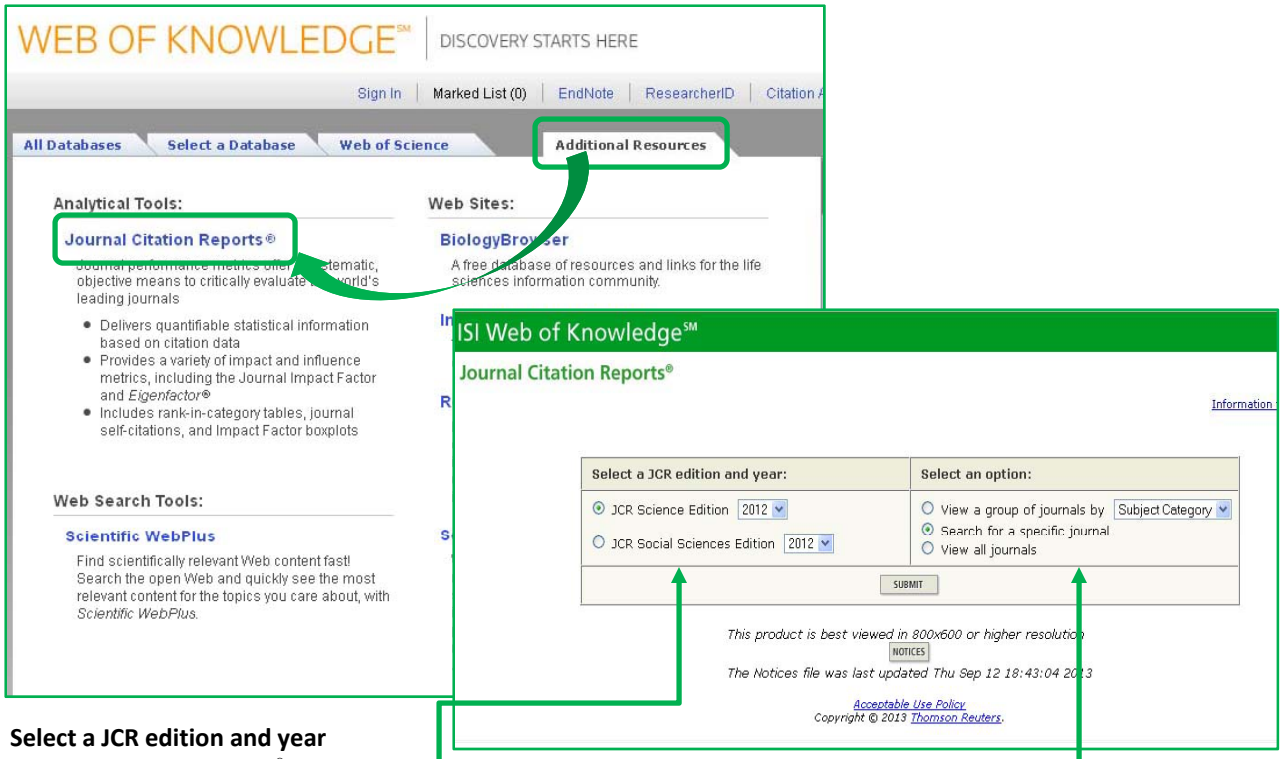
On the author's details page, you will find a button to generate the h-index called "view h-graph"

on the view h-graph page, you can adjust different variable (e.g. the range of dates of the documents published by the author) and recalculate the h-index. The chart will show you the number of documents, h index and citations

SEARCH FOR JOURNAL IMPACT FACTOR
Using ISI Web of Knowledge

C1

1. **Go to Section A1 and follow the instructions → Web of Science**
2. **Choose 'additional resources' tab menu and → choose 'Journal Citation Reports'**



Select a JCR edition and year

Journal Citation Reports® is published annually in two editions. Only the editions and years to which your institution subscribes appear on the home page.

JCR Science Edition contains data about more than 8,000 journals in science and technology.
JCR Social Sciences Edition contains data about more than 2,600 journals in the social sciences.

The year that you select is the JCR year. All of the data that you see for journals and subject categories come from journal data published in that year. For example, if you select **JCR Science Edition 2009**, and you search for a particular journal, you will see the 2009 data for that journal, including:

•Number of articles published in the journal in 2009
•Number of citations to that journal from articles published in 2009
•Impact Factor calculated from 2009 data, and so on

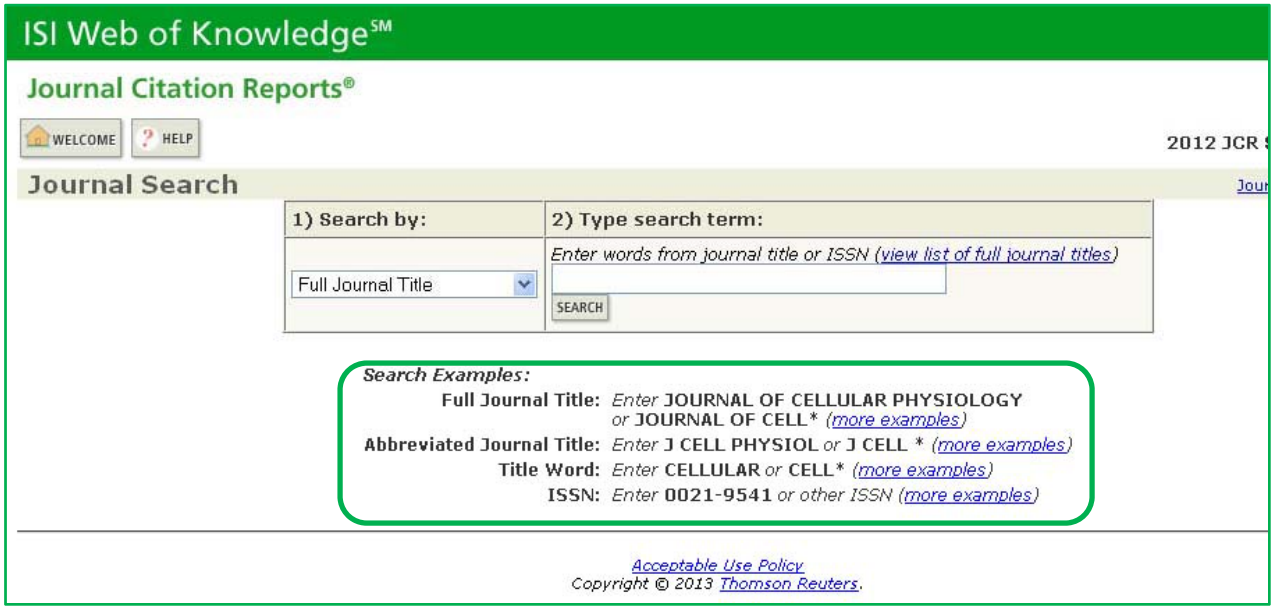
Select an option

View a group of journals by Subject Category, Publisher, Country/Territory. The default option is **Subject Category**.
Search for a specific journal. Search for a specific title.
View all journals. View all journals in the JCR edition and year you selected.

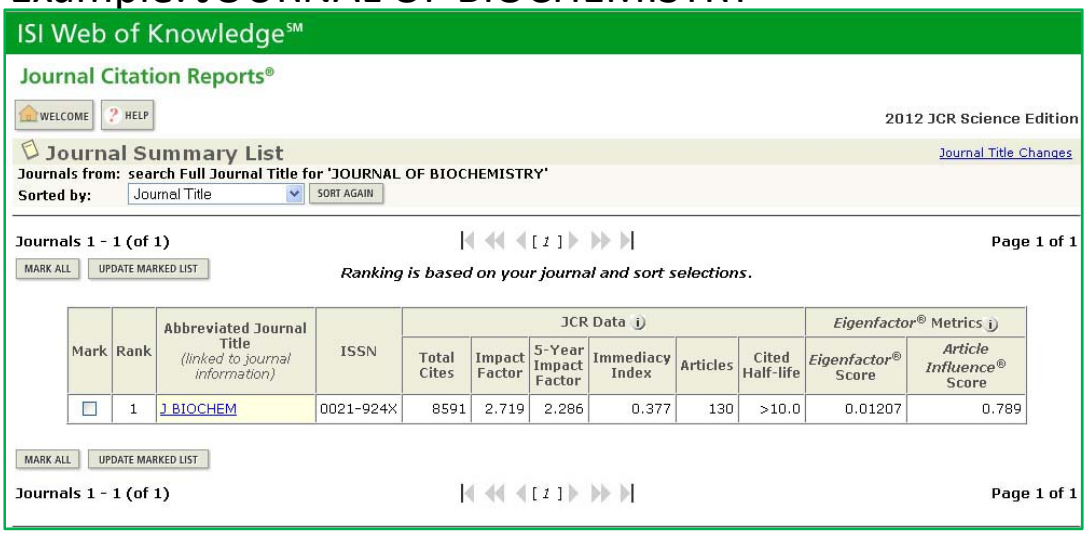
Submit

SEARCH FOR JOURNAL IMPACT FACTOR
Using ISI Web of Knowledge

C2



Example: JOURNAL OF BIOCHEMISTRY

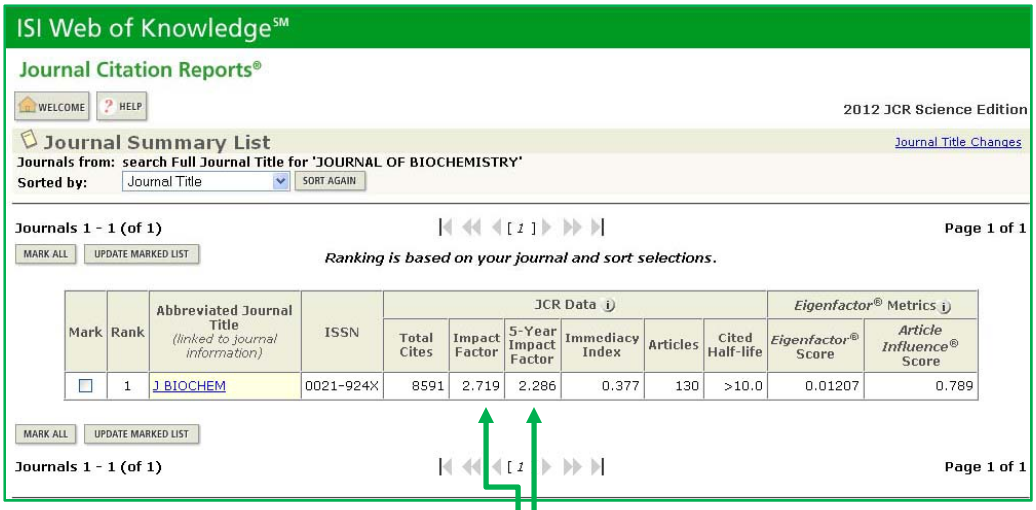


Full Journal Title:	JOURNAL OF BIOCHEMISTRY
ISO Abbrev. Title:	J. Biochem.
JCR Abbrev. Title:	J BIOCHEM
ISSN:	0021-924X
Issues/Year:	12
Language:	ENGLISH
Journal Country/Territory:	JAPAN
Publisher:	OXFORD UNIV PRESS
Subject Categories:	BIOCHEMISTRY & MOLECULAR BIOLOGY

SEARCH FOR JOURNAL IMPACT FACTOR
Using ISI Web of Knowledge

C3

Details



ISI Web of Knowledge℠

Journal Citation Reports®

WELCOME | HELP — 2012 JCR Science Edition

Journal Summary List — Journal Title Changes

Journals from: search Full Journal Title for 'JOURNAL OF BIOCHEMISTRY'

Sorted by: Journal Title | SORT AGAIN

Journals 1 - 1 (of 1) — Page 1 of 1

MARK ALL | UPDATE MARKED LIST

Ranking is based on your journal and sort selections.

Mark	Rank	Abbreviated Journal Title (linked to journal information)	ISSN	JCR Data						Eigenfactor® Metrics	
				Total Cites	Impact Factor	5-Year Impact Factor	Immediacy Index	Articles	Cited Half-life	Eigenfactor® Score	Article Influence® Score
☐	1	J BIOCHEM	0021-924X	8591	2.719	2.286	0.377	130	>10.0	0.01207	0.789

MARK ALL | UPDATE MARKED LIST

Journals 1 - 1 (of 1) — Page 1 of 1

Cites in 2012 to items published in:
2011 = 374
2010 = 488
Sum: 862

Number of items published in:
2011 = 143
2010 = 174
Sum: 317

Calculation: $\frac{\text{Cites to recent items } 862}{\text{Number of recent items } 317} = \mathbf{2.719}$

Cites in {2012} to items published in:
2011 = 374
2010 = 488
2009 = 441
2008 = 381
2007 = 309
Sum: 1993

Number of items published in:
2011 = 143
2010 = 174
2009 = 193
2008 = 179
2007 = 183
Sum: 872

Calculation: $\frac{\text{Cites to recent items } 1993}{\text{Number of recent items } 872} = \mathbf{2.286}$