
# What is it and how to use?

*"The search for knowledge*
*is a long and difficult task"*
*(Fabiola Gianotti)*

# introduction

- According to Fabiola Gianotti, (Italian physicist), “The search for knowledge is a long and difficult task”. Man chose library as the first step for search for information. The library is as like a temple to seeker of information. The abundance of information is increasing in the present world. It is getting difficult for a common man to ascertain the validity of information. In this scenario, the man is talking help from the librarian. The search for information gets necessary for higher education, or scientific research of different purposes of work. Now a day, common man finds from different kinds of websites. Various articles may be found in various kinds of databases or online journal. Relevance is of almost importance in these cases. ‘Web of Science’ is a relevant service provider which has an important role in case of citation search.

# What is Web of Science

- Web of Science is an online subscription-based scientific Citation indexing service
- Web of Science provides most reliable, integrated, multidisciplinary research
- Web of Science is now maintained by Clarivate Analytics
- Web of Science previously known as Web of Knowledge

# HISTORY OF Web of Science

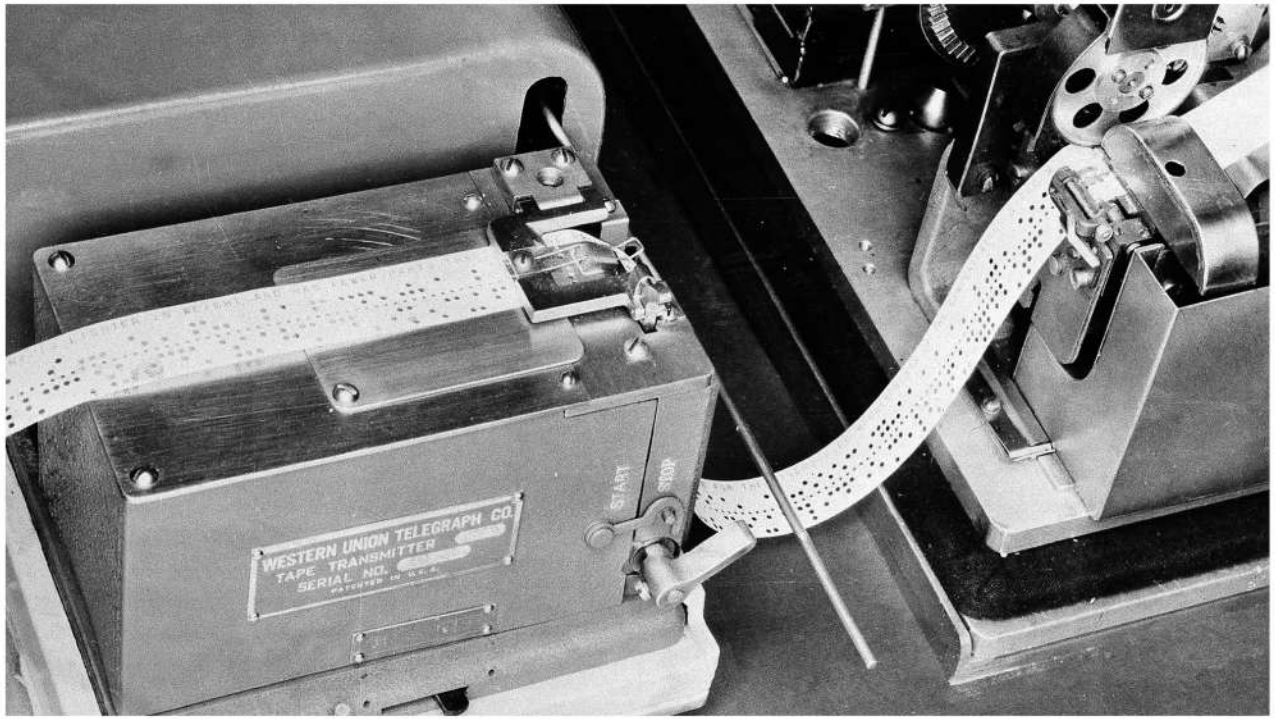
- "*As We May Think"* is a 1945 essay by Vannevar Bush which has been described as visionary and influential, anticipating many aspects of information society. It was first published in *The Atlantic* in July 1945.
- Eugene Eli Garfield inspired by Vannevar Bush's highly cited 1945 article *"AS WE MAY THINK"*, then he founded Institute for Scientific Information (ISI) in 1955.
- Eugene Garfield the "father of citation indexing", who launched the Science Citation Index (SCI) in 1964.
- At first citation indexing publishes in print and compact disc forms, now available in web.
- ISI formed a major part of the science division of Thomson Reuters. In October 2016 Thomson Reuters completed the sale of its intellectual property and science division; it is now known as Clarivate Analytics.
- Web of Science previously known as "Web of Knowledge".

TECHNOLOGY

# As We May Think

"Consider a future device … in which an individual stores all his books, records, and communications, and which is mechanized so that it may be consulted with exceeding speed and flexibility. It is an enlarged intimate supplement to his memory."

By Vannevar Bush




The telegram was a breakthrough in communication technology, which Vannevar Bush imagined could evolve in unprecedented ways. (AP)

# Relation between WOS and Citation Indexing

- A citation is the text reference and acknowledgement of documented information.
- Count is the frequency of an article cited by other articles.
- A citation index is a kind of bibliographic database, an index of citation between publications, allowing the user to easily establish which later document site which earlier document.
- Citation indexing consists of the charting of the text details of each such reference.
- Citation indexing publishes the citation indexes in print and compact disc forms, which are generally accessed through the web under the name 'Web of Science' (WOS).

# CORE COLLECTION OF WEB OF SCIENCE

- Web of Science is a curated collection of over 20,000 peers - reviewed; high-quality scholarly journals published worldwide (including Open Access journals) in over 250 science, social sciences, and humanities disciplines. Conference proceedings and book data are also available.
- **Content:** Life sciences, biomedical sciences, engineering, social sciences, arts & humanities
- **Number of journals:** 20,300 journals + books and conference proceedings
- **Coverage:** Over 71 million records, More than 94,000 books, Over 10 million conference papers

**Databases covered:** Science Citation Index, Social Sciences Citation Index, Arts & Humanities Citation Index, Conference Proceedings Citation Index, Book Citation Index, Emerging Sources Citation Index

**Time period covered:** **i)** Sciences: 1900-present,
ii) Social Sciences: 1900-present,
iii) Arts & Humanities: 1975-present,
iv) Proceedings: 1990-present,
v) Books: 2005-present,
vi) Emerging Source Citation Index: 2005-present

**Cited references:** > 1 billion (1900 to present)
64 million items with cited references

**Author indexing:** All authors from all publications are indexed.

**Institution indexing:** Institution's variants and parent/child relationships are mapped and connected to a preferred institutional name through a manually-curated process.

## Citation databases of Web of Science

- A citation database is a form of bibliographic index which provides a record of citations between publications, enabling a user to see which publications have cited which other publications. Such a database will show which authors have cited a publication and how many times an author has been cited.

Science Citation Index: i)Covers: More than 8500 journals (150 disciplines)

ii)Starting year: 1900 to present

Chemistry Citation Index: i)Covers: 330 Chemistry journals

ii) Starting year: 1992 to present

# Web of Science Core Collection

Science Citation Index: i)Covers: More than 8500 journals (150 disciplines)

ii)Starting year: 1900 to present

Chemistry Citation Index: i)Covers: 330 Chemistry journals

ii) Starting year: 1992 to present

Social Science Citation Index: i) Covers: More than 3000 journals (50 disciplines)

ii) Starting year: 1900 to present

Arts and Humanities Citation Index: i) Covers: More than 1700 journals

ii) Starting years: 1975 to present

Book Citation Index: i)Covers: More than 60000 editorially selected books

ii) Starting year: 2005 to present

Citation conference proceedings index: i)Covers: More than 160000 conference titles

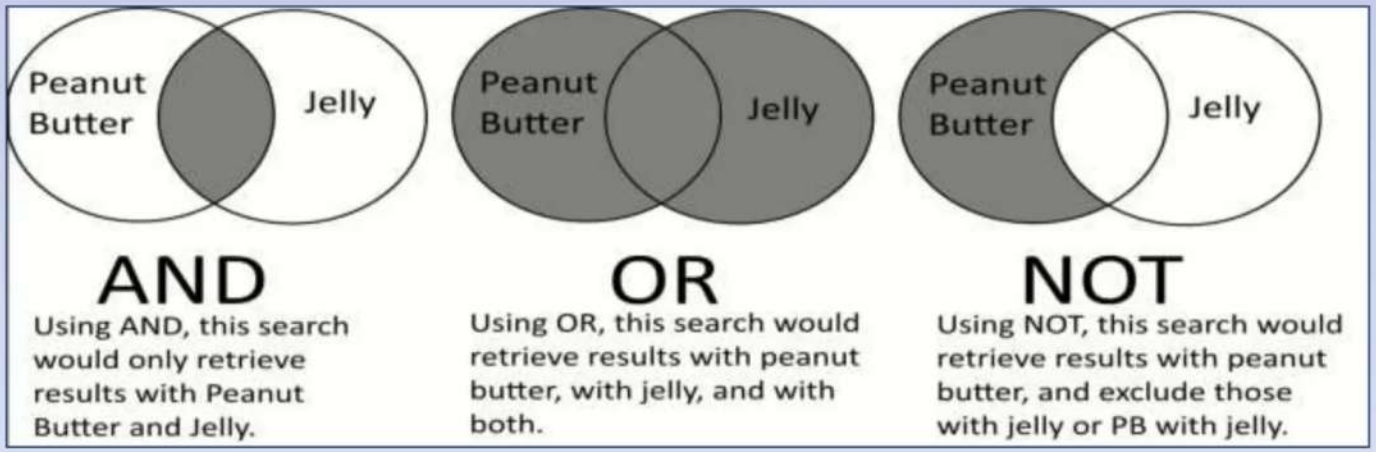
ii)Starting years: 1990 to present

# Regional databases

- Chinese Science Citation Database
- SciELO Citation Index
- Korea Citation Index
- Russian Science Citation Index

# Search technique of Web of Science

- OPERATOR: AND, OR, NOT, NEAR, and SAME
- Boolean Operators: Boolean Operators are words used to combine or exclude keywords in a search. They help to produce more focused search result.



*AND*: Use AND to find records containing *all* terms separated by the operator.
EXAMPLE: Blood pressure AND Stroke

*OR*: Use OR to find records containing any of the terms separated by the operator.
EXAMPLE: Myocardial OR Heart attack

*NOT:* Use NOT to exclude records containing certain words from your search.
EXAMPLE: Cardiovascular disease NOT Heart attack

Note: When searching for organization names that contain a Boolean (AND, NOT, NEAR, and SAME), always enclose the word in quotation marks ( “ ”)

# EXAMPLE

- (Japan Science "and" Technology Agency (JST))
- ("Near" East Univ)
- ("OR" Hlth Sci Univ)

Another technique

- "Japan Science and Technology Agency (JST)"
- "Near East Univ"
- "OR Hlth Sci Univ"

# Proximity Operators

- A proximity operator is a character or word used to narrow search engine results by limiting them to those that have query keywords placed within a specific number of words in the content.
- *NEAR/x, SAME*
- *NEAR/x:* Use NEAR/x to find records where the terms joined by the operator are within a specified number of words of each other.

EXAMPLE: salmon NEAR/x virus

Note: If someone use NEAR without /x, the system will find records where the terms joined by NEAR are within 15 words of each other.

- salmon NEAR virus
- salmon NEAR/15 virus

Note: 1. Cannot use the AND operator in queries that include the NEAR operator

EXAMPLE: TS = (Germany NEAR/10 (monetary AND union))

This query is not valid

2. The NEAR operator may be used to find a word or phrase within X number of words of a phrase.

EXAMPLE: TS = (Germany NEAR/10 "monetary union")

3. NEAR/0 dictates that the words joined by the operator should be adjacent.

EXAMPLE: TS = (Germany NEAR/10 (monetary NEAR/0 union))

4. The Word NEAR Appears in a Title Always enclose the word NEAR in quotation marks ( " " ). when the word appears in the title of a source item such as a journal, book, proceeding, or other type of work.

EXAMPLE: Atomistic simulations of a solid/liquid interface: a combined force field and first principles approach to the structure and dynamics of acetonitrile **"near"** an anatase

Same: In Address searches, use SAME to restrict our search to terms that appear in the same address within a Full Record. Use parentheses to group our address terms.

EXAMPLE: AD=(McGill Univ SAME Quebec SAME Canada)
Finds records in which McGill University appears in the Addresses field of a Full Record along with Quebec and Canada.

Note: SAME works exactly like AND when used in other fields (such as Topic and Title fields) and when the terms appear in the same record.

EXAPLE: TS=(cat SAME mouse) retrieves the same results as TS=(cat AND mouse).

# Search Operator Precedence

- If you use different operators in your search, the search is processed according to this order of precedence

  NEAR/x, SAME, NOT, AND, OR
- Use parentheses to override operator precedence

Example: influenza OR flu AND avian

Finds records containing the word *influenz*a. It also finds records containing both *flu* and *avian*.

(influenza OR flu) AND avian

Finds records containing both *influenz*a and *avian* or both *flu* and *avian*.

Example: copper OR lead AND algae

Finds all records in which both lead AND algae are present as well as all records in which the word copper is present.

(Copper OR lead) AND algae

Finds all records in which the word algae is present together with either copper or lead.

# Use of Parentheses

- Use parentheses to override operator precedence. The expression inside the parentheses is executed first.

Example: (cadmium AND gill*) NOT Pisces

finds records containing both cadmium and gill (or gills), but excludes records containing the word Pisces.

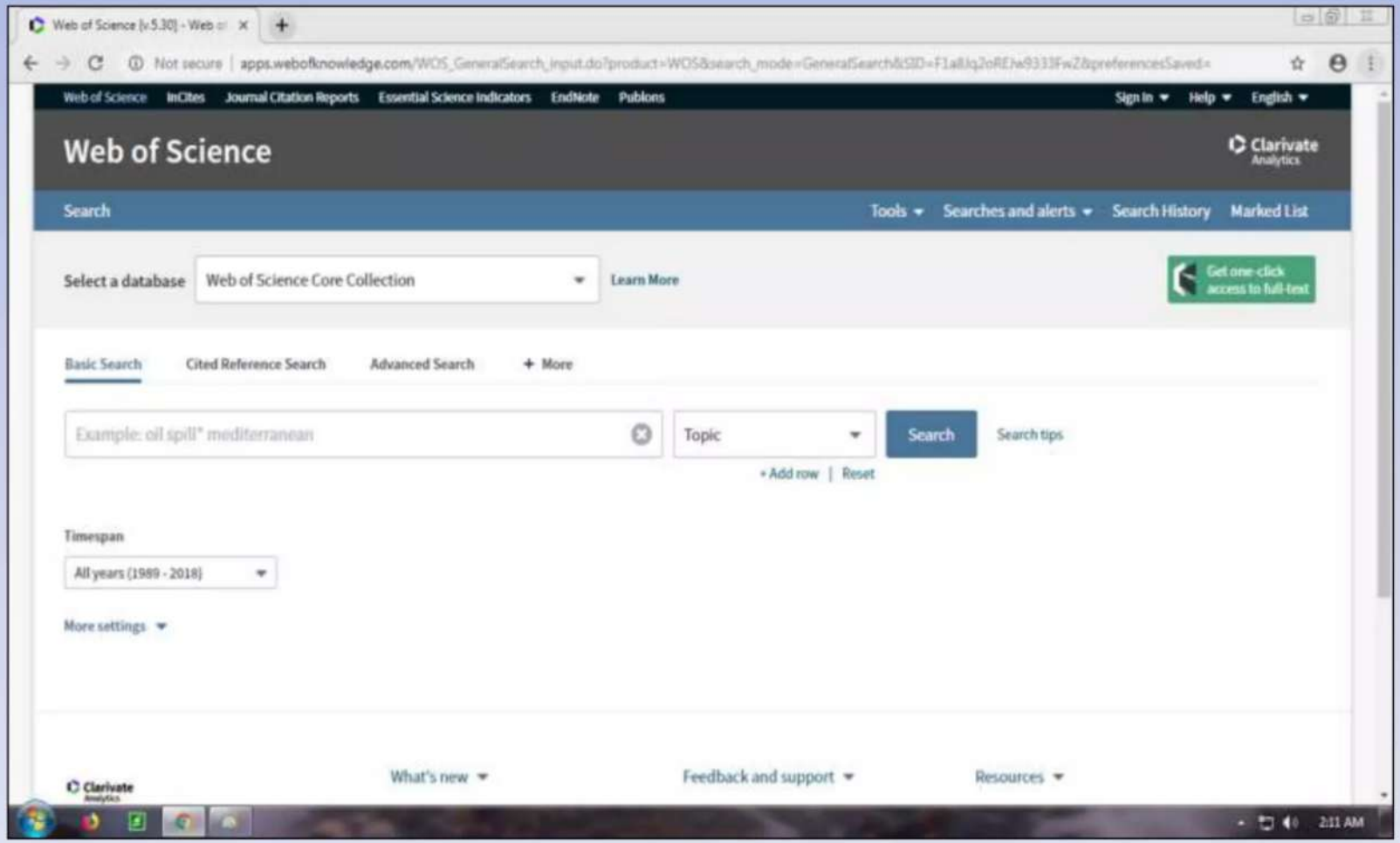
Example: (salmon OR pike) NEAR/10 virus

Find records containing salmon or pike within 10 words of virus.

# WILD CARD SYMBOL

| SYMBOL | DESCRIPTION |
| --- | --- |
| * | To retrieve words with variant zero to many characters .<br>(Example : disease* will include diseases, diseased, diseasing etc.) |
| ? | To retrieve words words with the replacement of 1 character.<br>( Example : Wom?n include women, woman.) |
| $ | Retrieves zero or one character.<br>(Example : Disease$ includes only diseases) |
| “ ” | To search exact phrases.<br>(Example : “ strict dietary restrictions”.) |

# TYPES OF SEARCHES



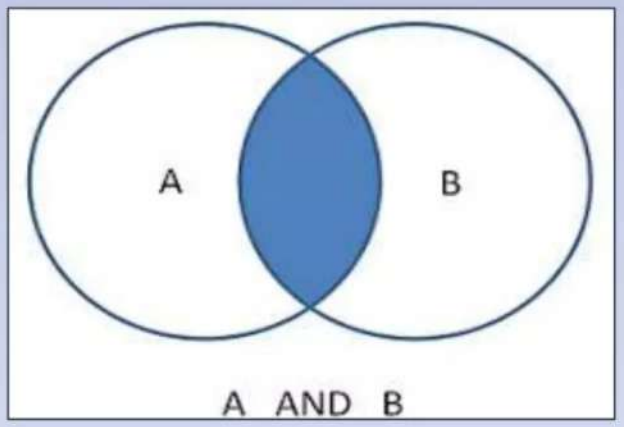
# BASIC SEARCH

- The basic search provides a user-friendly interface that lets you define complex queries, without needing to know how to use JQL (advanced searching).
- Boolean operators (AND, OR, NOT) are used in Basic search.
- A basic search allows limiting by material type.
- How to use: i) At first select Web of Science Core Collection and then select the basic search option and put the key word “lemur”.

ii) Here someone can uses the left side pull down menus for selection of the right Boolean Operators (AND, OR, NOT)

# EXAMPLE AND

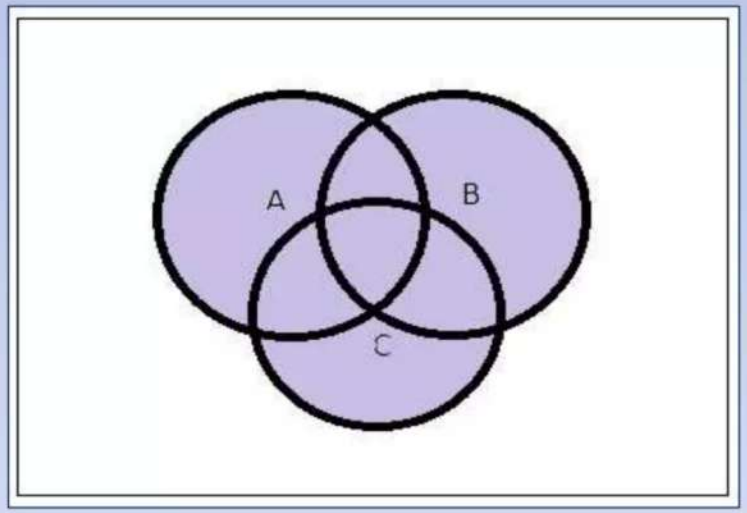
- Lemur AND Drought
- RESULT: Few numbers




where both key words (Lemur, Drought) are present

# EXAMPLE OR

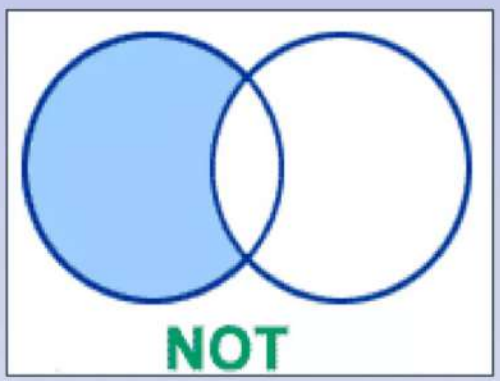
- Lemur OR Marmoset OR Sifaka
- RESULT: Lots of




- It finds those documents where at least any of the keywords may be present

# EXAMPLE NOT

- Lemur NOT Ring – tailed
- RESULT: Lots of but more than AND less than OR




Where only one key words are present

# ADVANCE SEARCH

- An advanced search adds the option to limit by language, publication date, and publisher.
- These options for limiting the search are also available for title, author, and subject searches.
- Web of science user uses different search tools for advanced search. Like Boolean operators, field tags, parentheses, wild card symbol.

| | FIELD TAG | |
|---|---|---|
| CI = City | AD= Address | OG = Organization |
| AI= Author Identifiers | PS = Province/State | AU= Author |
| PY = Year published | CF = Conference | SA = Street address |
| SG = Sub organization | DO = Document object identifier | SO = Publication Name |
| ED= Editor | SU = Research Area | FG = Grant Number |
| FO = Funding Agency | TS = Topic | TI = Title |
| FT = Funding Text | UT = Accession Number | |

# EXAMPLE OF ADVANCE SEARCH

- The Advanced Search allows to create complex queries using two-character field tags and set combinations.
- To run a search to find articles appearing in Energy or Energy Policy about carbon dioxide emissions

Following search is

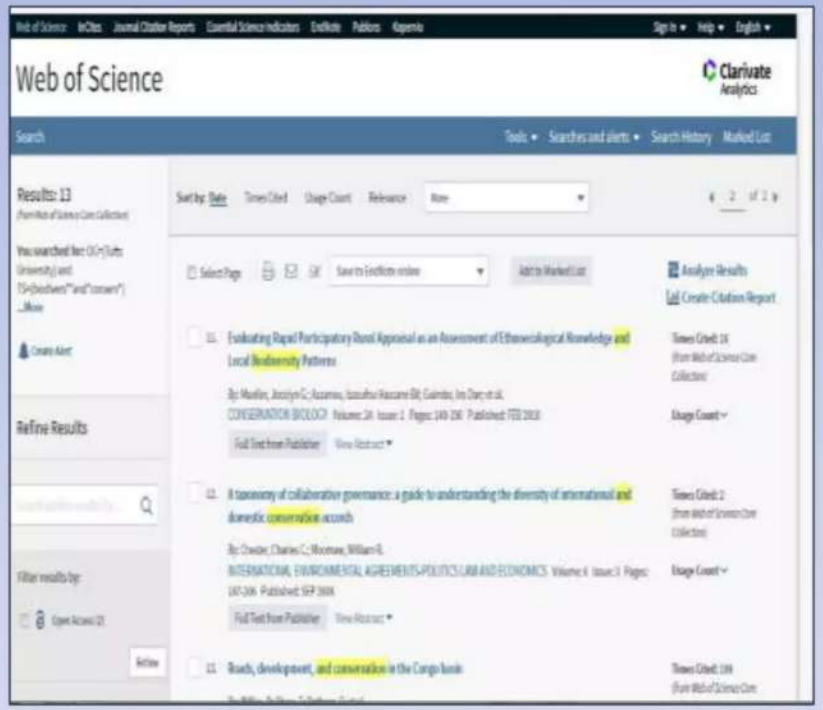
TS=((“carbon dioxide” or co2) same emission*) and SO=(energy or energy policy)

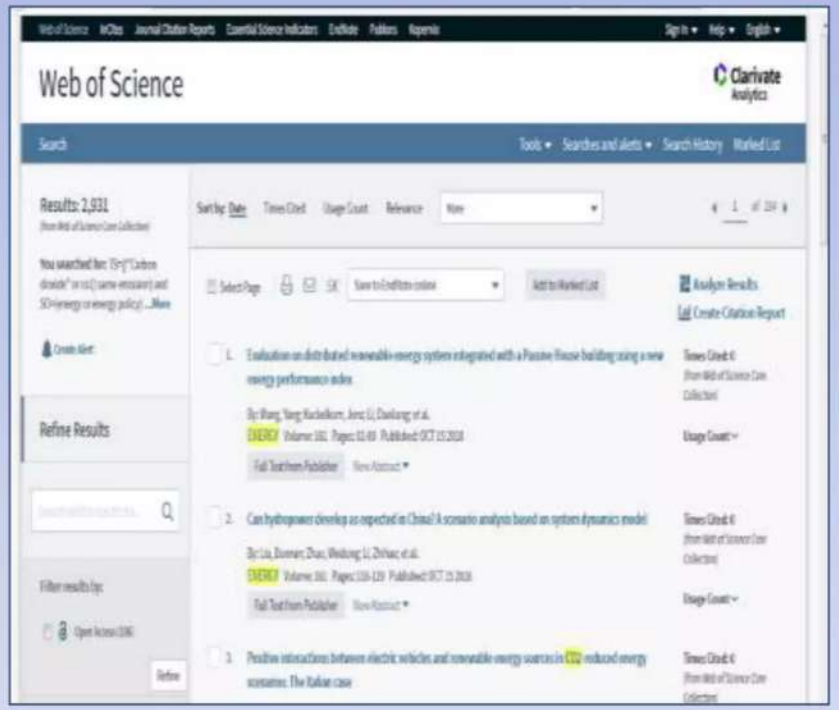
Here, TS means Topic and SO means publication name

Another example: OG=(Tufts University) AND TS=(biodivers* “and” conserv*)

Here, OG means Organization and TS means Topic

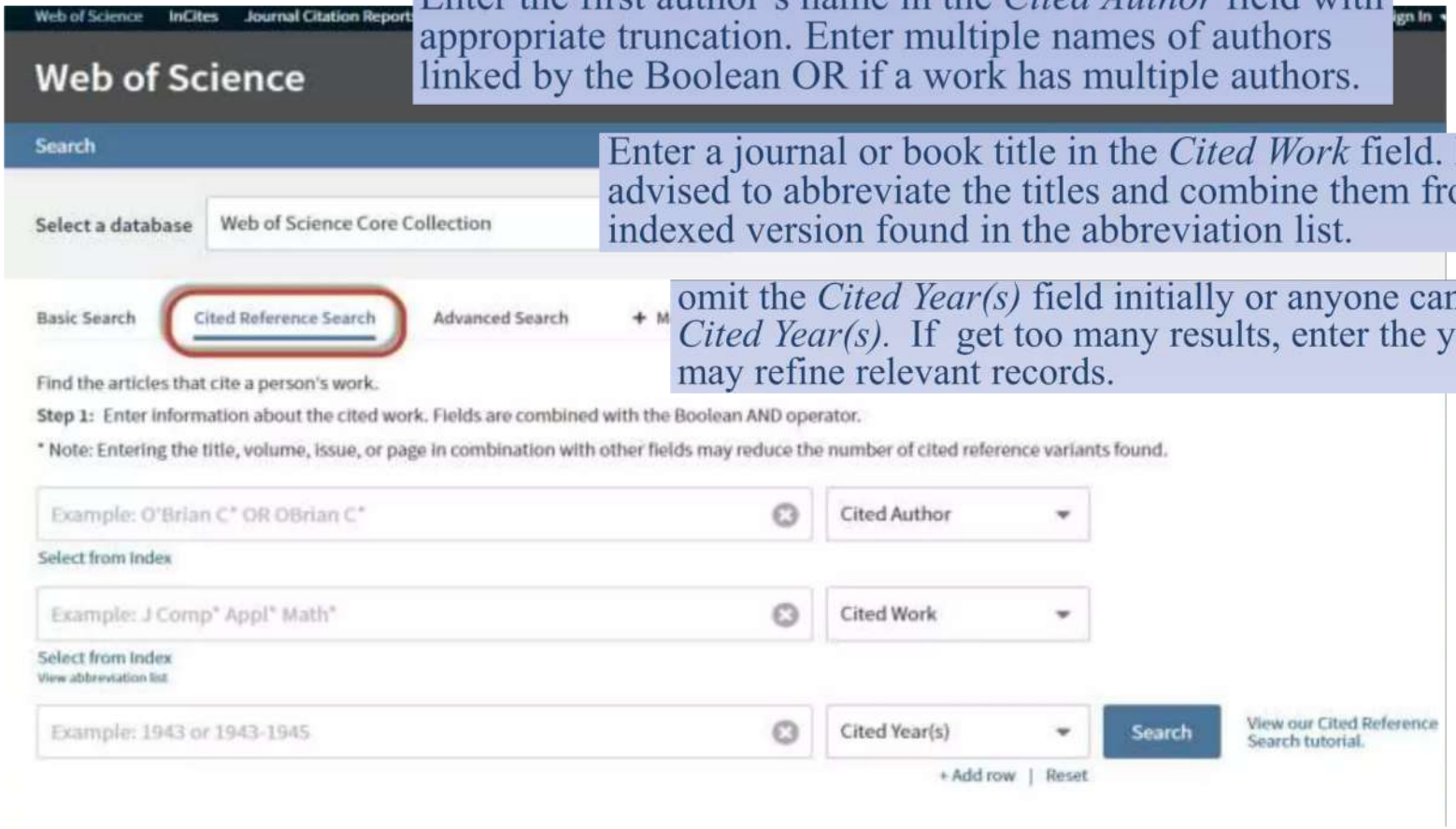
# Result of Advance Search




OG=(Tufts University) AND TS=(biodivers* “and” conserv*)
TS=((“carbon dioxide” or co2) same emission*) and SO=(energy or energy policy)

# Cited Reference Search




Enter the first author's name in the *Cited Author* field with appropriate truncation. Enter multiple names of authors linked by the Boolean OR if a work has multiple authors.

Enter a journal or book title in the *Cited Work* field. It is advised to abbreviate the titles and combine them from their indexed version found in the abbreviation list.

omit the *Cited Year(s)* field initially or anyone can give the *Cited Year(s)*. If get too many results, enter the year(s) that may refine relevant records.

➢ EXAMPLE:

- Cited Author: Boltanski L* OR Thevenot L*
- Cited Work: De la justifi* OR On justifi*
- Cited year(s): Omit and then refine if needed to: 1991 OR 2006

# Citation Indexing

- The following types of literature are indexed:

scholarly book, peer reviewed journals, original research articles, reviews, editorials, chronologies, abstracts, as well as other items. Disciplines included in this index are agriculture, biological sciences, engineering, medical and life sciences, Physical and chemical sciences, library sciences, architecture, dance, music, film.

# Citation Network

- Firstly, locate a single paper using traditional search techniques, which displays in its full record format.
- For the backward citations, click the cited references link to access all the research literature used to write the article or paper citing the viewed record and to get an idea of the more recent developments in citation performance.
- In addition, access related records to access the records and research fields that are closely related to the original article. “Related Records” use the concept of bibliographic coupling to establish the relationship; based on the fact that similar items often cite the same literature.

# H-index

- h-index is based on a list of publications ranked in descending order by the Times Cited count.
- h-index of 20 means there are 20 items that have 20 citations or more.

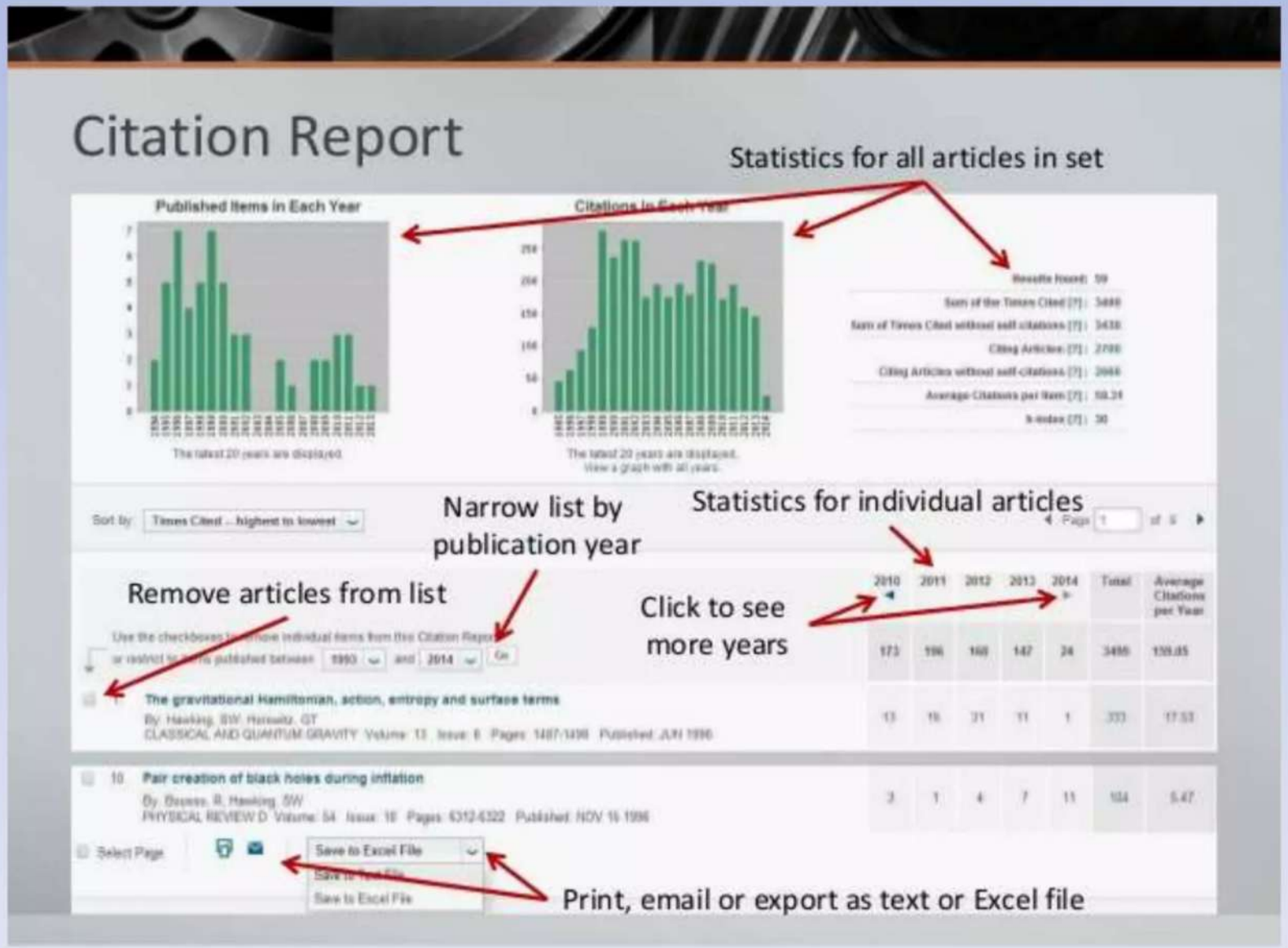
➢ Calculation:

- The h-index factor is based on the depth of years of user's product subscription and selected timespan.
- Items that do not appear on the Results page will not be factored into the calculation. If user's subscription depth is 10 years, then the h-index value is based on this depth even though a particular author may have published articles more than 10 years ago.
- Moreover, the calculation only includes items in your product - books and articles in non-covered journals are not included.

# Create Citation Report

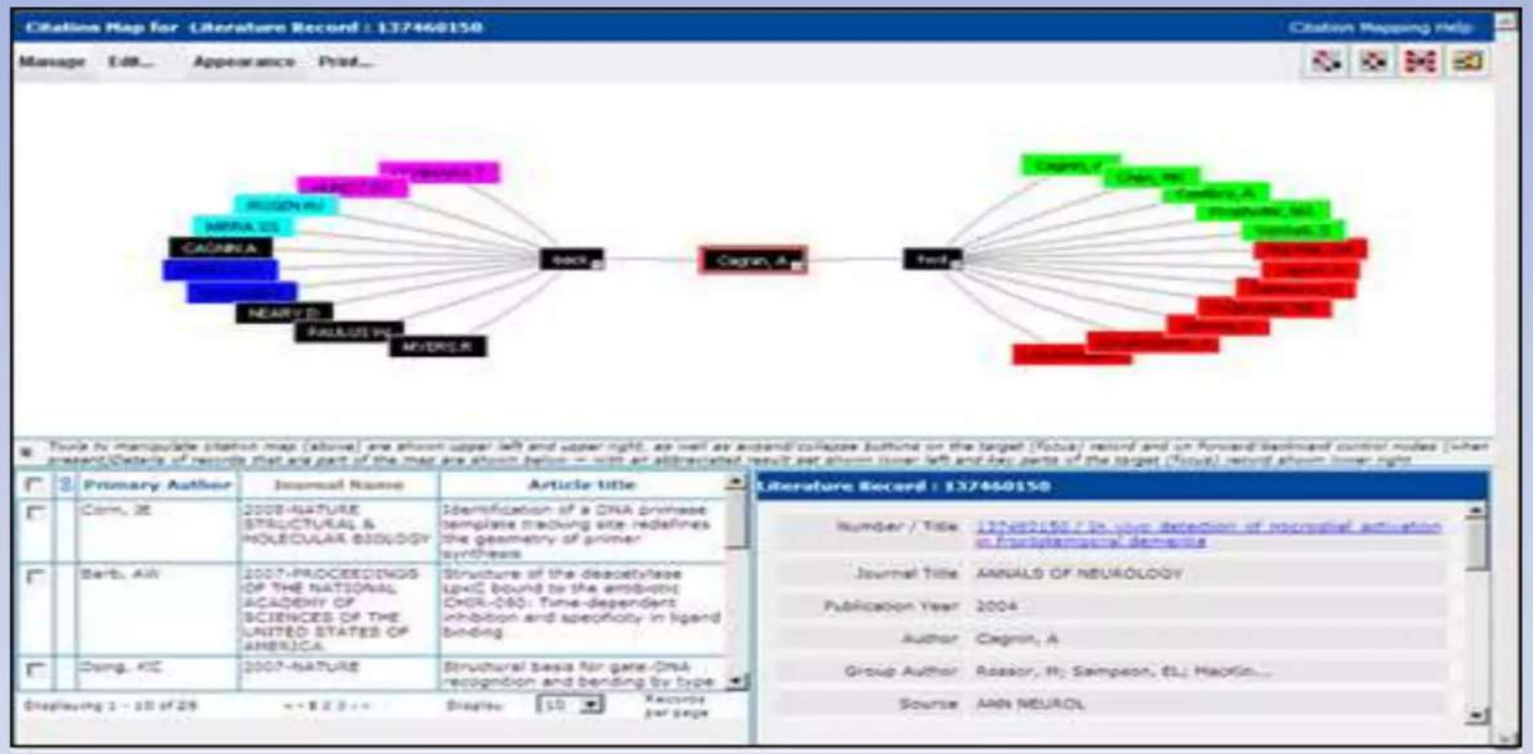
- Connect to the Web of Science database
- The most effective search is by author. First, change the default search setting from "Topic" to "Author." Enter the last name, a space, and the first initial of the first name followed by an asterisk, Ex. *Oldow j**
- Once the results are retrieved for the author, click Create Citation Report in the upper right corner
- On the Citation Report page, displayed are a graph for the number of articles or items published by the author (left), a graph listing the number of times the author has been cited by year (center), and finally the h-index (right)

# Citation Report - Graph



# Citation Mapping

- Web of Science's most innovative tools is the citation mapping feature
- Enter the title in the search box and then search under title. If we click on the title, it will take us to the record for that article.
- On the right, we will see a menu titled "Citation Network." The number of times cited will take to articles that have cited the selected article while cited references will take to a list of articles listed in the selected article's bibliography.
- 3. Click on "View citation map" in order to begin the citation mapping process and select which direction we want our citation map to give us.
- Then, we need to select how many generations we want our map to show. First generation gives us articles that have either been cited by or cited the selected article while second generation gives us the articles that have either cited or been cited by the articles from the first generation.
- Select "forward only" and "first generation" and then click "create map" .map will be generated.

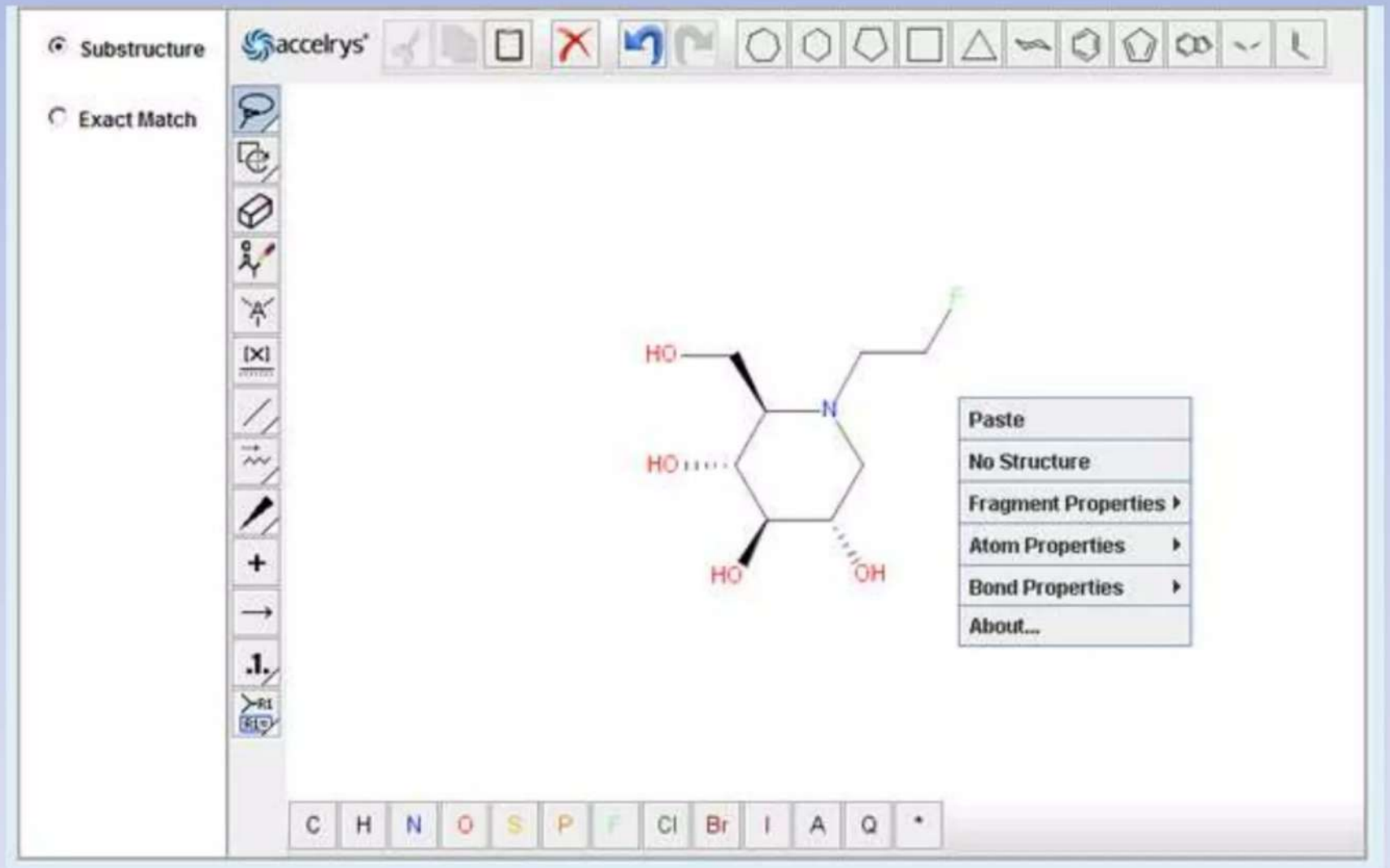



- The title of original record or listed at the top of the page and is also found in the center node of the map. This area in the lower left hand area gives us a list of all of the articles that have cited this article while the lower right hand area shows us the full record of the selected article or node.
- Click and drag to move around the map. Double click on a node in order to see the details of that article.

# New Update structure drawing

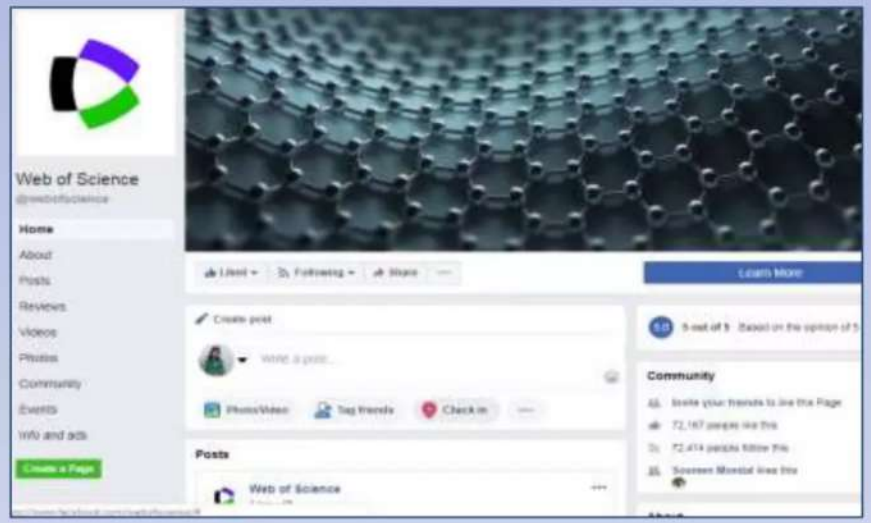
- Web of Science is now using ‘Dotmatics’ Elemental as the new drawing tool that enables researchers to find the articles related to specific chemical compounds to structures
- To draw a new chemical compound, use the Elemental structure drawing tools (such as phenyl ring, the bonds, etc.) that are available in the top row
- Then select the elements using the right side column. Clicking on the element will toggle between valid element will toggle between valid elements that can be inserted here (i.e., CH4◊CH3◊CH2◊CH1◊CH◊C).

# Compound Structure



# Web of Science in Social Media

- We get to access Web of Science in social media like Face book and twitter.
- Web of Science has a page in Face book. They post various research and education related topic time to time.
- They also share videos.



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