



# The path to information







#### In this session we'll speak about

- Scientific information
- Information sources categories
  - Primary sources
  - Secondary sources
  - Tertiary sources
- Information sources types
  - Databases different types
  - Repositories
  - Aggregating systems





#### What is Scientific Information?

It is current, relevant, accurate information whose author is qualified to speak on the subject and whose objective is to be impartial, objective and to promote the evolution of science.

It is information certified through the process of peer review, and published in scientific journals.

# What is the Peer Review or the peer review process?

It is the process by which scientific publishers ensure the quality of their publications. It consists in the submission of the works proposed for publication (articles) to the evaluation of one or more specialists in the field, designated by the publishers and invited among the world's leading specialists in the various scientific / disciplinary areas





#### What are scientific articles

It is the main medium used for the formal communication of science

They are written by scientists

Have peer review

Allow researchers to communicate to peers the results of an investigation

It is published in magazines with mechanisms of certification of knowledge







https://www.youtube.com/watch?v=KXVw6cvugLE





#### Types of articles

#### **Scientific article:**

It describes first hand the results of a study, of a research.

#### **Review article:**

It is a type of article that organizes and critically evaluates previously published studies in that field of expertise

#### There are also articles on theoretical research:

In which the authors present new theories, based on a critical analysis of existing theories and investigations





#### **Proceedings**

Proceedings are publications through which the various papers / communications that have been submitted, approved and presented at a particular congress or conference are known.

It is common for International Conferences, workshops or Seminars to submit the communications to the review process.

They may or may not have been previously published





# **Types of Information Sources**

**Primary sources** - contain original information about the subject, that is to say, when the information is expressed by the 1st time:

- Theses
- Research articles reporting new results published in scientific journals
- Scientific and technical reports
- Conference proceedings
- Statistics, interviews, surveys
- Books and articles presenting original ideas





# **Types of Information Sources**

#### **Secondary sources:**

These analyze, interpret and comment the primary sources; They are meant to summarize and structure information from primary sources

- Books and articles (review articles) that report or summarize the findings of others, ie a summary of existing knowledge
- Library catalogs are included in this categorie





# **Types of Information Sources**

#### **Tertiary sources:**

These are specialized works that cover «a set of knowledge or concise explanations related to themes, authors, works, associations, resources, etc.; These sources catalog, select and organize information from primary and secondary sources. "(Faria, Pericão, 1999)

Reference books from the different scientific areas - allow familiarization with terminology related to the disciplinary area and help to form a general idea of a subject (handbook, textbook) Encyclopedias Dictionaries



#### Where to start



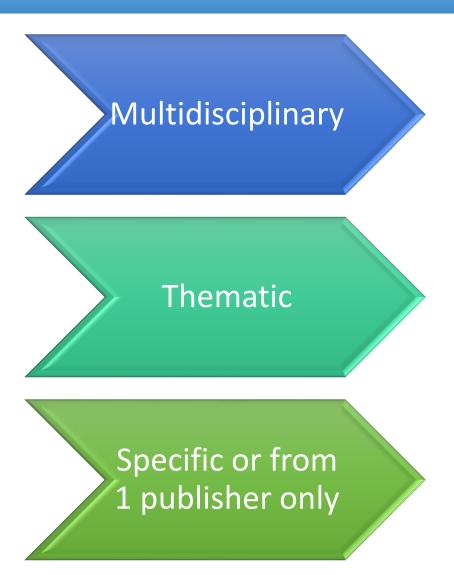


https://www.youtube.com/watch?v=KKIbnNLCh8g



# **Different types of databases**









# Big Bucket, Small Bucket and specific databases

Big Bucket
Web of
Science
Scopus
IEEE

Proquest



Small Bucket
Emerald
Science Direct

Specific DB
PubMed
Reaxys
ASME; ASCE; AIAA





# **Aggregators**



B-On Nova Discovery Google?





# What are aggregators

- They are tools that aggregate in a single point of search several databases and other platforms
- They are advisable for us to have an overview on the recent publication of various subject areas
- They are very comprehensive and have the great advantage of saving time
- They don't always present a structured indexing language, since they collect information from different information systems
- They aren't appropriate when the goal is to carry out more specialized research



#### **Data bases versus Search engines**



#### **Data Bases**

#### **Search Engines**

Both are tools that serve to find answers to an informational need

Subscribed, in open access, repositories, OPAC's = online catalogs (books, scientific journals, etc.) Searchable web sites databases

They are organized by information specialists to meet the needs of researchers

The information is automatically managed by computer programs

They contain subscribed information (inaccessible to the general public) and open access (accessible to the general public)

They contain information accessible to the general public

Where we can find quality information specifically directed to researchers

There is no quality control, information is not always complete and is not always reliable





#### Subscribed databases



- Academic institutions pay to provide the best resources to their users
- These resources are not accessible to the general public
- In-campus access is direct
- From the outside it is done by authentication (change proxy settings)
- As a member of the FCT, you have access to B-on where you can find, among other resources, databases in full-text and reference databases that being similar can operate differently





# **Science and Technology databases**



















#### **Open Access databases**



• RCAAP - Repositórios das várias universidades portuguesas



• OpenDOAR (The Directory of Open Access Repositories)



• **DOAJ** (Directory of Open Access Journals)



• Doab (Directory of Open Access Books)



PubMed



WorldCat



• Scielo (Scientific Electronic Library Online)



• PLoS (Public Library of Science)



Free Medical Journals







# **Data portals**

Eurostat



• INE (Instituto Nacional de Estatística)



Pordata









# B-On Biblioteca do Conhecimento Online







# Why start with B-on

- It is a federated search engine that will retrieve information within the various databases it has access to
- It allows you to identify from which platform the best results are retrieved
- Allows us to "go" to 1 specific resource
- It is a multidisciplinary resource
- It is a trusted resource
- The information is current







#### In B-On we have

Reference databases - They include bibliographic data, the metadata of the publications as well as the abstract and the words that describe the main content of the publication, such as the terminology and its classification. They give news of the most recent publications; Updated weekly; Constitute a good starting point

#### Ex. Web of Science

Databases in full text - contain full text publications (books, book chapters or scientific journal articles). They have the advantage of being able to directly access the document

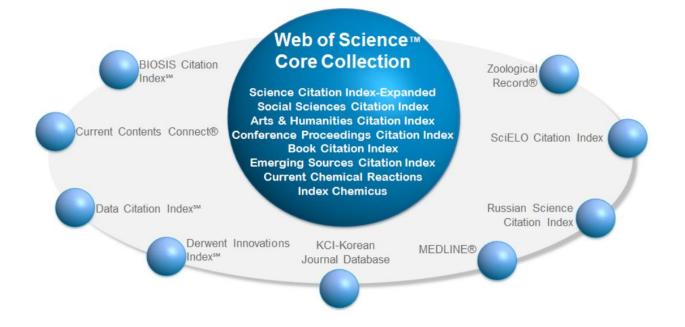
Ex. Academic Search Complete, Business Source Complete ....





# Clarivate Analytics

# WEB OF SCIENCE™



- Web of Science is a platform consisting of several literature search databases designed to support scientific and scholarly research.
- Web of Science Core Collection includes over 20,000 peer-reviewed, high-quality scholarly journals published worldwide (including Open Access journals)in over 250 science, social sciences, and humanities disciplines; over 190,000 conference proceedings; and over 94,000 editorially selected books.
- Search across all databases on the platform to find content spanning multiple disciplines, document types, and formats. Discover the citation connections between these diverse content sets. Explore the more than one billion searchable cited references in Web of Science.
- Over 71 million records
- Over 10 million conference papers
- 1 billion cited references
- 1900 present

 All the journals selected for inclusion in the collection are indexed cover-to-cover.

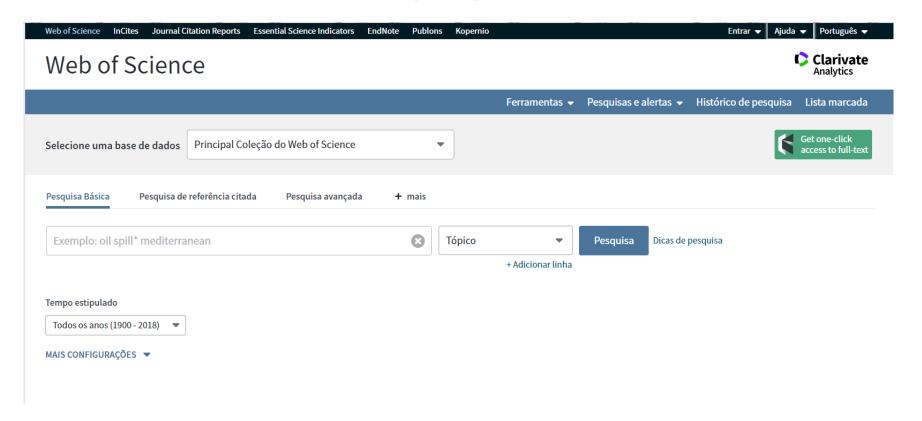
- For each paper WoS captures:
  - all the authors
  - all author affiliations
  - the abstract and keywords (if provided by the author)
  - funding acknowledgements, including agency and grant numbers (if provided)
  - All the cited references

Do we have access to the full text of the documents retrieved in Web of Science?

Not all the references retrieved in the search allow access to the full text of the documents, however, it is always indicated by the SFX button "full text" - "B-On services" the access possibilities.

OR

you may try the "view at publisher" botton!



The NOVA University subscription for Web of Science is for the Core collection of Web of Science, although you might search in "all databases" you won't be able to retrive the full text of the articles.





# Scopus®





#### Scopus

Scopus is the largest database of abstracts and citations in peerreviewed scientific literature, seeking to provide comprehensive coverage of international scientific research in the areas of science, technology, medicine, social sciences, and the arts and humanities.

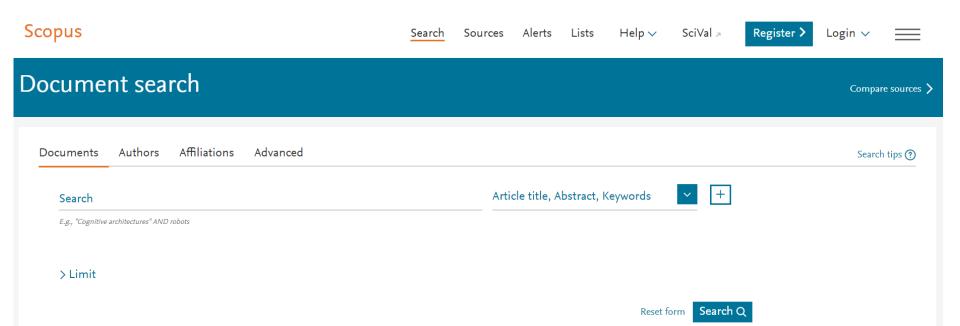
It indexes about 22,000 titles from more than 5,000 publishers, of which 20,000 are "peer reviewed"

It contains more than 55 million records dating back to 1823, of which 84% refer to references from 1996



#### Scopus

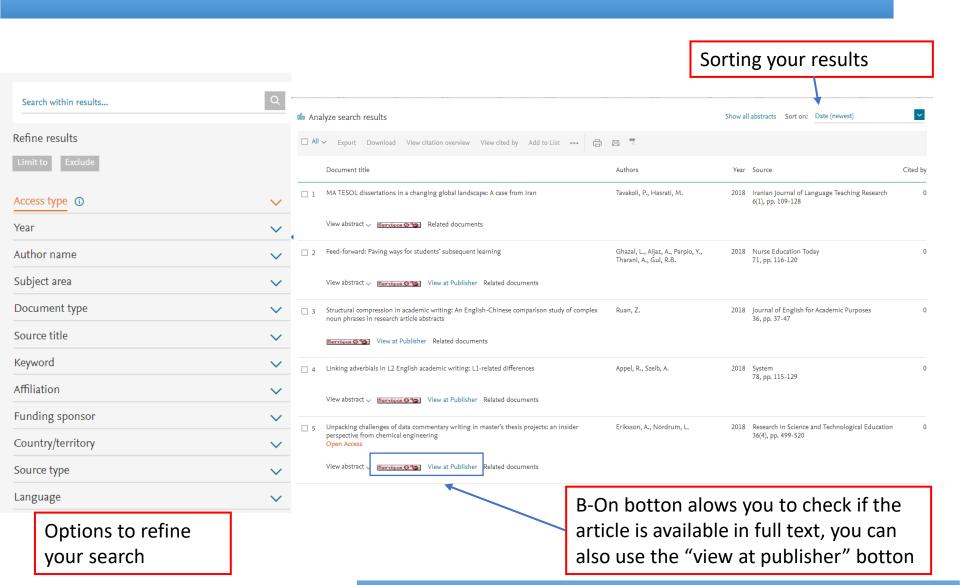






#### Scopus









# Online Library Catalogs – OPAC's

They use a controlled vocabulary

Search by:

Subject/topic

**Authors** 

Title

Etc.,

They allow access to Books

**EBooks** 

Printed or electronic scientific

journals

Thesis or dissertations





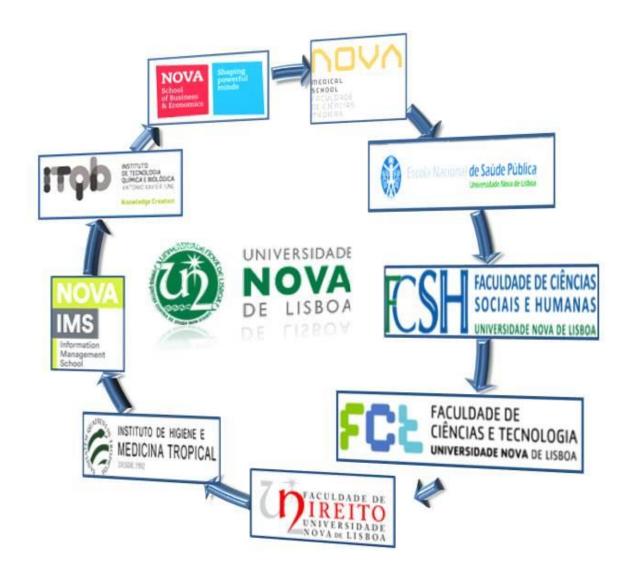


# N **S**iscovery

It is a subscribed resource, made available by NOVA University of Lisbon for all its members

NOVA Discovery is a content aggregator that integrates the catalogs of the various UNL libraries, B-On and Google Scholar.

Searching in this platform within the Campus of the FCT does not require authentication, outside the Campus it is necessary to select the Organic Unit to which we are connected, to configure the remote access and to validate with the CLIP credentials.







# Repositories









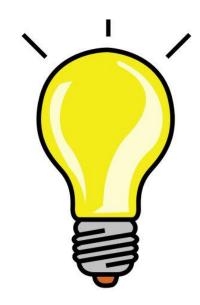
# What are Repositories

- They are information systems with scientific and academic content available in Open Access.
- They include scientific articles, conference papers, master's and doctoral theses, and a whole set of documents that result from the research activities of an institution
- They are associated with a teaching and / or research institution
- Include the digital file of the referenced document, in full-text format and in open access
- They allow the research and discovery of so-called gray literature such as theses, preprints, reports, conference communications ...
- They allow greater (international) visibility to the scientific production of teaching and / or research institutions.





#### Where to start



Start with B-on or NOVA Discovery and from there go to specific information sources