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 “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

They are the main medium used for the formal communication of science

They are written by scientists

They have undergone peer review

They allow researchers to communicate with their peers the results of a research

They are published in journals with knowledge certification mechanisms
THE CRAAP METHOD:

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

Scientific article:
It describes firsthand 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
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 category
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

What's a library database?

https://www.youtube.com/watch?v=KKIbnNLCh8g
Different types of databases

- Multidisciplinary
- Thematic
- Specific or from 1 publisher only
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

<table>
<thead>
<tr>
<th>Data Bases</th>
<th>Search Engines</th>
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<tr>
<td>Both are tools that serve to find answers to an informational need</td>
<td>Searchable web sites databases</td>
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<tr>
<td>Subscribed, in open access, repositories, OPAC's = online catalogs (books,</td>
<td></td>
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<td>scientific journals, etc.)</td>
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<td>They are organized by information specialists to meet the needs of</td>
<td>The information is automatically managed by computer programs</td>
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<td>researchers</td>
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<tr>
<td>They contain subscribed information (inaccessible to the general public)</td>
<td>They contain information accessible to the general public</td>
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<tr>
<td>and open access (accessible to the general public)</td>
<td></td>
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<td>Where we can find quality information specifically directed to researchers</td>
<td>There is no quality control, information is not always complete and is not</td>
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<tr>
<td></td>
<td>always reliable</td>
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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

WEB OF SCIENCE™
IEEE Xplore DIGITAL LIBRARY
EBSCOHOST Research Databases
Springer
Scopus®
ACM DL DIGITAL LIBRARY
SIAM
SciELo
WILEY Publishers Since 1807
American Institute of Physics
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)
- **Biomed Central**
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 ....
Web of Science™ Core Collection

- Science Citation Index-Expanded
- Social Sciences Citation Index
- Arts & Humanities Citation Index
- Conference Proceedings Citation Index
- Book Citation Index
- Emerging Sources Citation Index
- Current Chemical Reactions
- Index Chemicus

BIOSIS Citation Index™
Current Contents Connect®
Data Citation Index™
Derwent Innovations Index™
KCI-Korean Journal Database
MEDLINE®
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.

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- 1 billion cited references
- 1900 - present
WEB OF SCIENCE

• 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” button!
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 retrieve the full text of the articles.
Scopus®
Scopus

Scopus is the largest database of abstracts and citations in peer-reviewed 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
Options to refine your search

Sorting your results

B-On button allows you to check if the article is available in full text, you can also use the “view at publisher” button
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
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