Activity Workbook

This activity workbook will give you the opportunity to try out some of the tools shown to you in this training session. You can work through the sections/parts in any order or select only the sections/parts of interest to you. Don’t hesitate to ask questions.

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SECTION 1: Finding journals in your subject area

Funders and universities including the University of Oxford support the use of ‘responsible metrics’ in research assessments, in line with the San Francisco Declaration of Research Assessment (DORA), https://sfdora.org/read/, which recommends that Journal Impact Factors should not be used as a surrogate measure of the quality of research articles.

We’ll be using journal ranking tools to find titles that are best suited for publishing your research, regardless of the journal impact factor.

Finding journals in your research area can be helpful when you are deciding where to publish or to learn more about a subject area that is new to you, but keep in mind that there is no definitive metric or ranking. Information on journals must be gathered from a variety of sources and critically assessed according to a number of factors, such as the subject area you are investigating, the decision you are trying to make, and what you are comparing.

Part A – Journal rankings and metrics

1. Open SOLO (solo.bodleian.ox.ac.uk) and search for Journal Citation Reports (JCR). Click View Online under its entry.
2. Click Select Categories. Choose a category, then click Submit at the bottom left of the screen.
3. In the left-hand panel under Select Edition (about halfway down the page), untick the edition, SCIE or SSCI [Social Sciences Citation Index] not relevant to your selected category.
4. You will see the number of journals in the selected category and the total cites. Click on the number below Journals.
5. For each journal you will also see the Total Cites, Journal Impact Factor, and Eigenfactor Score.
6. The Impact Factor is the average number of times articles from the journal published in the past two years have been cited in the reporting year. The higher the impact factor the better. However, the use of the metric has been much criticized. Consult this suggested readings:

The impact factor game: It is time to find a better way to assess the scientific literature. (2006). *PLoS Medicine, 3*(6), 0707-0708. doi:10.1371/journal.pmed.0030291

7. Click on a journal impact factor to see the calculation.

8. You can add additional metrics by clicking Customize Indicators, selecting the indicators you want, then clicking on the cross to close the box. You may need to have an account with Thomson Reuters to proceed further after clicking save.

9. If you add several more indicators, you may have to alter the column widths to see them all.

10. To see the full citation record for a particular journal with graphs and tables, click on the journal title.

11. Try comparing your list with journal rankings from Scimago. Go to https://www.scimagojr.com/. Click Journal Rankings and select the same (or most closely matching) subject area and category as you chose in Step 2.

11. You will see a list of journals, this time with SJR and H index metrics. Notice the number of journals in your selected category and compare with the number found in Journal Citation Reports. The SJR indicator (Scimago Journal Ranking) is similar to the impact factor, but attempts to weight citations taking into account the subject field and its citation practice, the quality and the prestige of the citing journal over a period of 3 years. H index is the average number of citations a paper receives in a journal. For more information, click Help on Scimago website. Scroll down to SJR and H index definitions.
12. **CiteScore indicator** is another metric available in Scopus. Search for Scopus (database) in SOLO [http://solo.bodleian.ox.ac.uk/](http://solo.bodleian.ox.ac.uk/). On Scopus homepage, click **Source**, top of the page, and select the same or matching subject area. CiteScore measures average citations received per document (any document type, including articles, reviews, conference papers, letters, editorials) published in the journal. The next column shows the CiteScore percentile, the journal’s ranking within its subject field. Further along, you will see a column showing the SJR indicator. (Click **Help** to read more about these different metrics). As you can see, depending upon your metrics, journals will be ranked differently, but these lists can give you an idea of top journals in your subject area.

*Note: For more details on these journal metrics and others, go to the Bibliometrics & Citation Tracking LibGuide cited at the bottom of this page.*

13. You can also run a search in **Scopus** or **Web of Science Core Collection** databases to identify relevant journals for your research topic, re-sort the results by source, or review the results using the source filter. Open Scopus via SOLO at [http://solo.bodleian.ox.ac.uk/](http://solo.bodleian.ox.ac.uk/). Search for your topic. On the left hand side column, click **Source title**. The source title lists the number of results by journal title. Alternatively, use **Sort on** on top right of the result list and select **Source title**.

Repeat the search with **Web of Science Core Collection** via SOLO at [http://solo.bodleian.ox.ac.uk/](http://solo.bodleian.ox.ac.uk/)

14. **Google Scholar** ([scholar.google.co.uk](http://scholar.google.co.uk)) provides a list of top 100 publications covering titles from all broad subject areas, and lists of top 20 titles for specific subject categories. Click menu icon ☑️, **Metrics**, and then choose a subject and subcategory to obtain a list of publications ranked by h5-index. Click on the h5-index link for further details on the metric.

**Part B – Conference rankings and metrics**

1. **Google Scholar** ([scholar.google.co.uk](http://scholar.google.co.uk)) can provide lists of top publications, which include conferences in the Engineering & Computer Science category. Click **Metrics**, select **Engineering & Computer Science** and choose a subcategory to obtain a list of publications ranked by h5-index. Click on the h5-index link for further details on the metric.
2. The Computing Research and Education Association of Australasia (CORE) (www.core.edu.au) has created journal and conference ranking lists up to 2014 for the field of Computer Science. Go to portal.core.edu.au/conf-ranks/, leave the search box blank, and click Search. To sort the conferences by rank, click on the rotated square next to Rank at the top of the column. Click on a conference title for more information about the field of research the conference covers. More information about the ranking process for conferences can be found here: www.core.edu.au/conference-portal.

3. Conferences are not normally assigned impact factors. However, a useful metric for conferences is acceptance rate. An acceptance rate of less than 20% usually indicates a top conference. Some acceptance rates for Computer Science conferences can be found using the ACM Digital Library. Open SOLO (solo.bodleian.ox.ac.uk) and search for ACM Digital Library. Click Online Access. Search for a conference, or click Conferences, and select a conference of interest in the Grid View. For example, click ASE to see a description on that conference with the list of metrics arranged in a Bibliometrics bar. Scroll down to see details of Most Popular Downloaded and Cited.

4. There are a number of other directories of academic conferences where you can set up an alert for the subjects you are interested in. The Natureevents Directory (www.nature.com/natureevents/science/) can be searched by subject area or browsed by subject area, date or location. Conal® Conference Alerts (www.conferencealerts.com/) lists conferences by subject and location, and can be searched date range, location or keyword. AllConferences.com (www.allconferences.com) lists past and upcoming meetings, and can be searched or browsed by subject, date or location.

5. In Scopus, you can select Conference Paper in the Document Type box before doing your search, or apply the Conference Paper filter to your results. You can then click Analyze search results above the list of results, select Source, and choose one of the conference titles from the list on the left to see the metrics for this conference (for explanations of these, see p. 3 for CiteScore and SJR, and www.journalmetrics.com for IPP and SNIP).

6. In Web of Science, results can be filtered by Conference Titles. Click View all options and select Conference Titles to display the top 100 conferences by record count.

7. Individuals also maintain websites where conference acceptance rates can be found, for example www.adaptivebox.net/CILib/CICON_stat.html for conferences on computer
Science. Internet searches for the acceptance rate for a particular conference can sometimes be successful, but always take into account your sources.

**SECTION 2: Open access (OA)**

A number of funders have OA policies requiring journal articles to be freely available, eg UK Research Councils, Wellcome Trust. The University also has an OA policy which asks researchers to deposit their papers into our institutional repository ORA [https://ora.ox.ac.uk/](https://ora.ox.ac.uk/). It is therefore helpful to have an understanding of open access and how it affects you, including what funds may be available to help you pay OA publishing charges, and how to apply for them.

**Part C – Open access publishing websites and tools**

1. Browse the University of Oxford’s open access website to learn more: [openaccess.ox.ac.uk](http://openaccess.ox.ac.uk).
   - Click *What do I need to do?* if you need help with funder requirements.
2. Explore the FAQ section: [openaccess.ox.ac.uk/home-2/faq/](http://openaccess.ox.ac.uk/home-2/faq/)
3. Explore the SHERPA/RoMEO ([www.sherpa.ac.uk/romeo/](http://www.sherpa.ac.uk/romeo/)) and SHERPA/JULIET ([www.sherpa.ac.uk/juliet/](http://www.sherpa.ac.uk/juliet/)) databases if you need information about open access and self-archiving policies for a particular journal or funder. Try searching for a particular journal title in SHERPA/RoMEO, and see what its open access policies are.
4. Try searching or browsing the Directory of Open Access Journals ([https://doaj.org](https://doaj.org)) to see what OA journals are available in your subject area. To browse, click *Advanced Search*, and use the filters on the left to limit to journals in a subject area of your choosing.
5. On the Scimago Journal ranking/metrics site, [https://www.scimagojr.com/journalrank.php](https://www.scimagojr.com/journalrank.php), select a subject category; then tick the box *Only Open Access Journals*.
6. Journal Citation Reports has an Open Access filter on its home page. Select a category, then tick the Open Access box and click *Submit* to see a list of OA journals in that category.

**Part D - Open science tool**

1. Search for “unregulated cell growth” in the preprint collections [https://osf.io/preprints/](https://osf.io/preprints/).
   - Refine the search on the left by the provider bioRxiv. Click on a title and then click “Metrics” to view the article usage. Note that metrics are not available on all preprint services.
2. Enter a topic of your choice or type “language”. Refine your search by subject “Medicine and Health Sciences”, sub-category “psychiatry and psychology”. Select a title. Locate some metrics information.

3. If you are interested in adding a preprint you can register via Add a preprint. You can open an account with your Oxford ORCID.

SECTION 3: Measuring the research impact of publications

There are a number of tools available to provide information on the potential research impact of an article, book, book chapter, conference paper, etc. They can be useful for finding top papers or books to read or use to highlight your own important research contributions, but keep in mind that there is no definitive metric or ranking. Information on items must be collected from a variety of sources and critically assessed according to a number of factors, such as the subject area you are investigating, what decision you are trying to make, and what you are comparing, as with journals.

Part D – Citation counts for journal articles

Many tools allow you to see how often an article, conference paper, etc. has been cited, in order to determine its research impact; however, each tool will give you a different result, depending on the information they base their calculations on. It is best to compare a few of these resources to get an overview.

Try searching for an article (e.g. “Effectiveness of PowerPoint presentations in lectures” by Bartsch et al.) in a few of these tools, see how often it is cited and who is citing it, and compare your results:

1. **Google Scholar**: a Google search engine for finding scholarly literature (journal articles, theses, etc.) - [scholar.google.co.uk](http://scholar.google.co.uk)

2. **Scopus**: a multidisciplinary online database of scholarly literature, with cited references going back to 1996. Open SOLO ([solo.bodleian.ox.ac.uk](http://solo.bodleian.ox.ac.uk)) and search for Scopus. Click View Online under its entry. Using the Document search tab, enter the beginning of the article title in the first box. Click on the + sign. Select First Author and enter the author’s name. The results page shows the number of citations. Click on that number to see a list of articles citing Bartsch’s paper. Alternatively, run a search with an article of your choice.

3. **Web of Science**: another large multidisciplinary online database of scholarly literature, containing cited references going back to 1945 for the science subject areas.
Open SOLO (solo.bodleian.ox.ac.uk) and search for *Web of Science*. Click *View Online* under its entry. Click *Link for Users in Oxford*. Select *Web of Science Core Collection* from the *Search* dropdown menu at the top. Under *More Settings*, untick the indexes you want to exclude from your search. Repeat the search with Bartsch’s paper or an article of your choice.

**Europe PubMed Central** ([https://europepmc.org/](https://europepmc.org/)): a large collection of life science publications and preprints from trusted sources around the globe. Search for the article by Heneghan, Goldacre and Mahtani, *Why clinical trial outcomes fail to translate into benefits for patients*. Open the *Citations and Impact* tab. Try *Jump to citations*, explore the citation counts with the graph, and click the Altmetric link to view the data represented by the Altmetric doughnut.

**Part E – Citation counts for books or book chapters**

The tools that provide citation counts for journal articles also provide citation counts for books and book chapters, but the coverage is usually smaller and focused on book series and reference works. This section also covers tools for looking at individual book titles for citation counts and reviews.

Try searching for a book (e.g. “The language instinct” by S. Pinker) or a book chapter (e.g. “The construction of preference: an overview” by Sarah Lichtenstein) using the following tools. See if the items are indexed, cited (and by whom) and/or reviewed, and compare your results:

1. Open the Bibliometrics & Citation Tracking LibGuide, [http://ox.libguides.com/bibliometrics](http://ox.libguides.com/bibliometrics). Read about different databases’ coverage of books under the *Book Measures and Tools* tab.
2. The *Web of Science Book Citation Indexes* are available under *More Settings* on the *Web of Science Core Collection* search page. There are two indexes, one covering science, and one covering social sciences and humanities. Both include titles published from 2005 onwards. The LibGuide includes links to check which publishers and books are included in the Web of Science Book Citation Indexes.
   a. Open SOLO (solo.bodleian.ox.ac.uk) and search for *Book Citation Index*. Click *View Online* under its entry. Click *Link for Users in Oxford*. Under *More Settings*, you will see that only the book citation indexes are ticked.
b. Select Cited Reference Search from the drop-down menu next to Basic Search. Enter the first word of a book title followed by an asterisk (e.g. language*) in the Cited Work field and the author (e.g. Pinker S*) in the Cited Author field. Click Search.

c. The Cited Reference Index lists references matching the search terms, including Pinker’s book “The language instinct”. Tick a reference for this book (e.g. 1986) that has been cited once according to the Citing Articles column. Click Finish Search at the top of the Cited Reference Index. Click on the citing article title. You can check Pinker’s reference in the article bibliography using the Cited References link in the right-hand column.

d. Let’s search for a book chapter (e.g. “The construction of preference: an overview” by Sarah Lichtenstein). In the Cited Reference Search, enter the chapter title and select the Cited Title field from the drop-down menu. Add the author in the Cited Author field, and run the search. Click on the link in the View Record column to open the chapter record, and access citing works through the Times Cited link in the right-hand column.

3. Scopus provides a list of all the books included in the database. Click Content coverage at the bottom of the Search page. Click Book Title List to get an Excel spreadsheet, which you can then sort by title, year or ISBN.

4. Google options for searching for books are additional tools for finding citation data on books and book chapters.


      Search for a book of your choice or use the Pinker example.

   b. Google Scholar: a Google search engine for finding scholarly literature (journal articles, theses, etc.), with citation counts - scholar.google.co.uk

      Search for a book of your choice or use the Pinker example.

**Part F – Altmetrics**

Altmetrics are alternative metrics that complement citation counts. Some databases allow you to see how often an article has been viewed or downloaded. Other tools allow you to see what kind of attention your article has been receiving on news and social media websites. Let’s take a look at examples of some databases that provide altmetrics:
1. Open SOLO (solo.bodleian.ox.ac.uk) and search for Scopus. Click View Online under its entry. Using the Document search tab, type in “sports and exercise products” in the first search box. Click Add search field and enter the author, “Heneghan C”. Using the drop-down box, change the search field to First Author. Run the search. Click on the title of the first article to get more information. On the right-hand side of the page you will see a box with a brief summary of citation information. Click View all metrics to get more detailed information on each metric. The top of the page shows Snowball metrics. Click About Snowball Metrics to find out more about these article metrics. The lower part of the page shows PlumX metrics – the metrics that record attention online through downloads, posts in citation tools, blog posts, and activity on social media and mass media sites. For more information on metrics in Scopus click Scopus Metrics. If you click Set citation alert, you can set up an alert so that you are emailed when this article is cited in another paper.

2. Open the website www.altmetric.com to learn more about altmetrics. Altmetrics is the generic term for alternative article-level metrics. Altmetric.com is the founder of this alternative metric, represented by a doughnut ring. Each colour represents a social media site, and the amount of space taken up by each colour indicates the amount of interest a site has generated for a particular article. The more colours the ring contains, the more social media sites have been used to mention the article. You can install a bookmarklet by going to www.altmetric.com/bookmarklet.php and dragging it to your Bookmarks toolbar. You can then see if there’s any online attention for articles you look at in your browser. Install it and search for articles in Google scholar (scholar.google.co.uk) to try it out for yourself. You can also install a badge on your webpage to showcase impact you receive from your research outputs. See https://www.altmetric.com/products/altmetric-badges/ for installing the badge.

3. Altmetric.com is one of many providers of alternative metric tools. Other altmetrics applications are listed on this page: http://altmetrics.org/tools/

Part G – Top papers
Finding key papers in your research area can be helpful when you want to learn more about a topic that is new to you or if you want to find out if your articles (or articles by your colleagues) are cited
highly compared with others. But keep in mind that there is no definitive metric or ranking. Explore the following tools:

1. **Essential Science Indicators** can provide information on top journals, scientists, institutions, countries and even top papers in various fields (based on Web of Science data). Open SOLO (solo.bodleian.ox.ac.uk) and search for Essential Science Indicators. Click View Online under its entry. The Indicators tab will be highlighted, showing Top Papers by Research Fields. Top Papers is the sum of Highly Cited Papers (last 10 years) and Hot Papers (last 2 years). Click on the name of a research field for statistical data on papers and citations. To get a list of top papers sorted by number of citations, click anywhere in the row for the chosen research field except the name. Click on the title of a paper to view it in Web of Science with its abstract, references and citation counts.

2. **The Altmetric Top 100 Articles 2015** at http://www.altmetric.com/top100 lists the 100 articles that have received the most attention online in 2015.

**SECTION 4: Measuring the research impact of individuals**

There are a number of ways of measuring the research impact of an individual. This is useful information to have for a CV, grant applications, and promotion considerations. It is also useful when trying to determine top researchers in a particular field. Information on individuals should be collected from a variety of sources and compared and critically assessed according to a number of factors, such as the subject area and the length of the career of the researcher.

**Part H – The h-index and other metrics**

The h-index measures the impact of individual researchers by looking at the number of papers they have published and the amount they have been cited. The h-index is the number of papers a researcher has published that have been cited at least the same number of times. For example, if you have published 8 papers, 4 of which have been cited 2 times, your h-index is 2. If they were cited 6 times, your h-index would be 4.

For more information about the h-index, see J. E. Hirsch’s original 2005 paper in PNAS: www.pnas.org/content/102/46/16569.abstract. There are also other indices to measure a researcher’s impact, such as the g-index. You can learn more about these other indices at www.harzing.com/pop.htm#metrics.
Let’s find out the h-index of an individual using the tools below (try your supervisor, a peer or the head of your department). Note that you will likely get a different h-index number because these tools calculate the h-index by looking at the journals they include in their collections. As the coverage and the period range for each of these tools differ, a researcher’s journal paper may not be included in one or the other calculation.

Web of Science
1. Open SOLO (solo.bodleian.ox.ac.uk) and search for Web of Science Core Collection. Click View Online under its entry. Click Link for Users in Oxford.
2. From the drop-down menu next to Basic Search, select Author Search.
3. For a detailed author search, select More, and click Author Search. Follow the steps, entering the author name, research domain, and organization, and then click Finish Search. Click on the # Article Groups tab at the top to see a list of possible author matches.
4. Select all the author entries you want to view and click View Records. It is possible that they are all the same person, but with variations in the format of their name, their organization, their research domain, etc.
5. You should be presented with a list of that author’s publications. Click Create Citation Report on the right to see the author’s h-index and other citation information.

Scopus
1. Open SOLO (solo.bodleian.ox.ac.uk) and search for Scopus. Click View Online under its entry.
2. Click Author search, enter an author name and, if required for differentiation, an affiliation, and run the search. With Scopus, you can also search by ORCID (an author’s unique identifier) – see Part J for more details.
3. Select all the author entries you want to view, and click Show documents. Again, it is possible that they are all the same person, but with variations in the format of their name, their organization, their research domain, etc.
4. Click View citation overview to view the author’s h-index and other citation information. On the Citation overview page, you can also click View h-graph to see a graphical representation.
Publish or Perish

Publish or Perish is a software application you can install on your computer that can pull information from Google Scholar and Microsoft Academic Search to calculate various metrics.

1. Try downloading and installing Publish or Perish: [www.harzing.com/pop.htm](http://www.harzing.com/pop.htm)
2. Start the program, and click **on Google Scholar** from the list of sources shown in the middle of the screen.
3. In the **Authors** line, search for an author’s name. You can search for multiple variations by combining names with Boolean operators, for example, “Senia Paseta” OR “S Paseta”. You can also add other information such as faculty, “University of Oxford” OR “St Hugh’s College”, or key research terms for that author in the line **Any of the Words.**
You will see a list of publications by authors of that name. If the list is long, you can re-arrange the order by clicking on the title of a column at the top.
4. Select the papers you want to include in the calculations, and you will see that the list of the metric values, shown on the left hand side, changes as you adjust the selections. A summary of the h-index is shown on top of the screen.
5. In **Google scholar**, [scholar.google.co.uk](http://scholar.google.co.uk), a list of highly-cited authors can be accessed through **Classic papers** via **Metrics** from the menu icon on the left. Select a broad field, then a sub-category. Papers are arranged by high citation. Click on a highly cited papers.
Authors who have a Google Scholar profile have their name underlined. Click on an author that is underlined. Check his/her profile for h-index and assessing research influence.

Part I – Top researchers

Finding top researchers in your research area can be helpful when you want to learn more about a topic that is new to you by reading their publications, or perhaps because you want to investigate the potential for a collaboration. But keep in mind that there is no definitive metric or ranking. Information on top researchers must be collected from a variety of sources and compared and critically assessed according to a number of factors, such as the subject area you are investigating, the decision you are trying to make, and how you are making comparisons.

1. **Essential Science Indicators** provides a filter for finding top researchers. From the **Results List** drop-down menu select **Authors**. You will get a list of authors by number of citations. Click on a name to get citation data for this author.
Part J – Author IDs and ORCID

A researcher identifier allows you to uniquely identify yourself and keep track of your publications. It can also be used to showcase yourself and your work (increasing your exposure), and can be linked with other systems and documents (such as grant applications and publications). ORCID is a major provider of researcher IDs. For this exercise, please register for an ORCID number:

**ORCID: an ID system for researchers worldwide**

<table>
<thead>
<tr>
<th>Create an ORCID at Oxford account</th>
<th>Already have an ORCID ID?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Registration for new users</td>
<td>Convert it to an ORCID at Oxford</td>
</tr>
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1. [https://register.it.ox.ac.uk/self/orcid](https://register.it.ox.ac.uk/self/orcid)
2. Click on Log in to ORCID.
3. Fill in the form on the ORCID website and click Authorize.
4. This creates your ORCID, and returns you to IT Services Self Registration which confirms your ORCID has successfully been linked to your Oxford account.
5. Click return home.
6. Your ORCID number is displayed, and an option to 'View your ORCID profile'. Click on it to return to the ORCID site and add information such as publications.

1. [https://register.it.ox.ac.uk/self/orcid](https://register.it.ox.ac.uk/self/orcid)
2. Click Log in to ORCID.
3. Click Sign in (to your ORCID account).
4. Click Authorize.
5. A page confirming your ORCID is linked to your Oxford account will be displayed.
6. Click return home.
7. Your ORCID number is displayed, and an option to 'View your ORCID profile'. Click on it to return to the ORCID site and add information such as publications.

**NOTE:** if you want Oxford-verified affiliation to display, please delete any manually-entered Oxford Employment before Step 1 above. It needs to be blank to enable verification.

1. Once you have followed these instructions, you can log in to ORCID and add personal information and publications to your profile. Publications can be added in various ways using Scopus, CrossRef, etc. (click Link Works and follow the instructions).
2. Setting up ORCID also helps to uniquely identify yourself in Scopus, so that author metrics will be more accurate by only including your publications. You can read more about ORCID at orcid.org and on our LibGuide at [https://libguides.bodleian.ox.ac.uk/orcid](https://libguides.bodleian.ox.ac.uk/orcid).