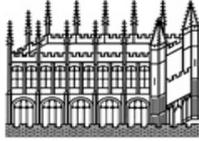


Research Impact for the Environmental Research DTP Exercises

These exercises will give you the opportunity to try out some of the tools presented to you in this training session.

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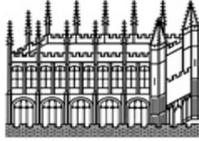
SECTION 1: Journal Level Metrics

Finding top journals and conferences in your research area can be helpful when you are deciding where to publish/present 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 and conferences must be gathered and considered from a number of sources and critically assessed based on a number of factors, such as what subject area you are investigating, what decision you are trying to make, and what you are comparing.

Question 1 – JCR and Impact Factors

1. Open **SOLO** (solo.bodleian.ox.ac.uk) and search for **Journal Citation Reports (JCR)**. Click **View Online**.
2. On the JCR home screen, click on the **Select Categories** button. From the list of categories that appears, choose the **Biodiversity Conservation** category.
3. Select **2014** as the JCR edition year. Also, untick the check box labelled **SSCI**. This will make sure you only see data from the Science Citation Index rather than the Social Science Citation Index.
4. Finally, click the **Submit** button towards the bottom of the screen.
5. The visualisation diagram on the screen should refresh and the table beneath the diagram will show you a list of all journals in the Biodiversity Conservation category arranged according to **Impact Factor**.
6. Locate the journal called **Conservation Biology** in the list and click on its title. You will be shown much more detailed information about the journal. You can click on any of the **Graph** links to see a visualisation of how a particular metric has changed over the years.
7. Click the **Home** button at the top left of the screen. This will take you back to the home page.
8. Try searching for a particular journal title you are familiar with using the **Go to journal profile** search box at the top left of the home page. This will allow you to view metrics for any journal included in JCR.

TIP: Clicking the 'Help' button link in JCR gives you access to details of journals indexed in each subject category, a glossary of terms and information on how each metric in JCR is calculated.



Question 2 – SJR SCImago

1. Navigate to <http://www.scimagojr.com>
2. Click the link for **Journal Rankings** on the left of the screen
3. From **Subject Area** choose **Environmental Science**
4. From **Subject Category** choose **Environmental Science (miscellaneous)**. Make sure that **Region/Country** is set to **All** and that journals are being ordered by **SJR**. The default year is **2014**. Click the **Refresh** button.
5. A list of all journals in the subject appears. Notice that different numbers of journals are included in subject categories compared to roughly equivalent categories in JCR.
6. Find the journal **Climate Research** in the list and click on the title. This will give you access to a range of further metrics about the journal collected over a number of years. This includes information such as the numbers of cited versus uncited papers in a journal and statistics about international collaborations on published papers.

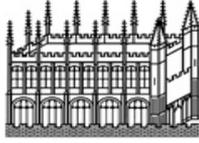
SECTION 2: Article Level Metrics

There are a number of tools to provide information on the potential research impact of an article, conference paper, patent, etc. This will be useful to find top papers to read or highlight your own important research contributions, but keep in mind that there is no definitive metric or ranking.

Question 3 – Citation Counts

Many tools allow you to see how often an article, conference paper or other items have been cited to determine its research impact; however, each tool will give you a different number depending on the information that they base their calculations on. For example, some tools may include citations to sources like patents and books as well as journals. Tools may also use data collected over different periods of time. It is best to consider a few of these services to get an idea of a rough estimate for a citation count.

1. Using a few of the tools listed below, search for an article of your choice or try -
 - 'Creation of a bacterial cell controlled by a chemically synthesized genome' (2010) by D. G. Gibson *et al. Science*, 329 (5987)



See how often the article is cited, who is citing it, and compare your results:

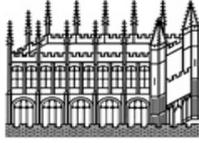
- a. **Google Scholar:** scholar.google.co.uk
- b. **Microsoft Academic Search** academic.research.microsoft.com
- c. **Scopus:** Open **SOLO** (solo.bodleian.ox.ac.uk) and search for **Scopus**. Click **View Online**.

Web of Science has a feature that will allow you to quickly identify top papers in a set of search results based on citation counts.

1. Open **SOLO** (solo.bodleian.ox.ac.uk) and search for **Web of Science**. Click **View Online**.
2. Make sure you have the **Web of Science Core Collection** selected. Carry out a search for a topic of your choice or do a search for **insect diversity**.
3. Once your set of results appears, look down the various refining options that appear on the left of the results screen. Open up the section which says **ESI Top Papers**
4. You will usually see one or two refining options here for **'Highly Cited Papers'** and/or **'Hot Papers'**, tick one or other option and then click **Refine**. Check the updated list of results to see the most cited papers related to your search topic.
 - Highly Cited Papers are those papers which have received most citations within their subject area over a specific period, usually putting them in the top 1% of most cited papers.
 - Hot Papers are papers which have received an unusually high number of citations over a relatively short period of time, usually placing them within the top 0.1% of most highly cited publications.

Question 4 – Article altmetrics

Altmetrics are metrics proposed to complement citation counts. There are a number of different altmetrics to consider. Some services 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 in news and social media websites. If you wish, you can read a short article from Nature that discusses the purpose, benefits and drawbacks of altmetrics – 'Altmetrics make their mark' (2013) R. Kwok. *Nature*, v.500 [<http://www.nature.com/naturejobs/science/articles/10.1038/nj7463-491a>]. Let's take a look at an example of some services that provide altmetrics:



1. PLOS (Public Library of Science) publish a number of scientific Open Access journals which provide additional altmetric data for each article published. Start by visiting <https://www.plos.org/>. Use the search function to find a paper on a topic of your choice, or search for '**How many species Mora**'. This should locate the following article –

- 'How Many Species Are There on Earth and in the Ocean?' (2011) by Camilo Mora *et al.*

Open the article and click the **Metrics** tab. This will display a whole range of sources that have been used to share this article. Additionally it will show you how many times the article has been accessed and downloaded. If there are associated datasets in repositories like FigShare these will be shown too.

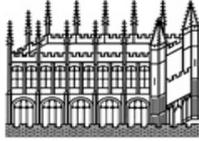
2. Open **SOLO** (solo.bodleian.ox.ac.uk) and search for **Scopus**. Click **View Online**. Search for an article on a topic of your choice using the **Document Search** tab. Sort the results list by **Cited By** to find the top cited article on that topic. Alternatively, search for the following paper –

- 'Seeing left- or right-asymmetric tail wagging produces different emotional responses in dogs' (2013) by M. Siniscalchi *et al.* *Current Biology*.

Click on the article title to get more information. On the far right column, you will see various types of citation information. At the bottom of that column is a box titled **Metrics** that will give you information on the social media attention this article has received and also whether this article has been saved by others into reference managers. Click on **view all metrics** to get a full metrics report. Here you can follow links to see details on each tweet, Facebook post etc. to see if the attention has been positive or negative and in what context. Many of the Metrics are compiled according to Snowball Metrics methods. Snowball Metrics is a project driven by higher education providers to try and produce metrics that are standardised and meaningful. You can find out more about Snowball Metrics here -

<http://www.snowballmetrics.com/wp-content/uploads/flyer-2014.PDF>

3. Read through the website www.altmetric.com to learn more about altmetrics from one company that provides this information (Note: altmetrics is the generic term for alternative article-level metrics, Altmetric.com is one of many providers of this type of information). You



can download a bookmarklet (www.altmetric.com/bookmarklet.php) so that you can receive altmetrics for recent articles you view through your browser. Install it and search for articles in Google scholar (scholar.google.co.uk) to try it out for yourself.

SECTION 3: Researcher Level Metrics

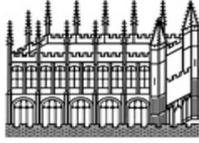
There are a number of ways to measure the potential research impact of an individual. This can be useful information to have for a CV, grant applications, and for promotion considerations. It will also be useful when trying to determine top researchers in a particular field. Information on individuals must be gathered and considered from a number of sources and critically assessed based on a number of factors, such as the subject area and the length of the career of the researcher.

Question 5 – The H-Index

The h-index measures the impact of individual researchers by looking at the number of papers published and the degree to which they have been cited. The h-index is the number of papers he/she has published which 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 4 of the papers were instead cited 6 times each, 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 other indices being used 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 a few tools:

Web of Science

1. Open **SOLO** (solo.bodleian.ox.ac.uk) and search for **Web of Science**. Click **View Online**.
2. Make sure you have the **Web of Science Core Collection** selected and *not* **All Databases**.
3. Using the drop-down menu, change the default **Basic Search** to **Author Search**.
4. You will now follow a 3 step process to identify a particular author, entering in the author name, research domain, and organization, and then running the search. Pick an author of your choice to search for. Click on the link for **# Record Sets** to see a list of possible author matches.



5. Select each author entry you want to view and click on **View Records**. It is possible that all the entries refer to the same person, but just with variations in the format of their name, their organization, their research domain, etc.
6. You should be presented with a list of that author's publications. Click on **Create Citation Report** (to your right) to view 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**.
2. Click on **Author Search**, enter in an author name and, if needed to differentiate, an affiliation, and click on **Search**.
3. Look through the sets of authors which Scopus finds. Click an author's name on the set which matches the person you are looking for. *Note: Sometimes you will find two or more separate entries for the same author, in this case a request to merge authors can be made to Scopus.*
4. You will now be taken to the authors Scopus profile page where you will be able to see a list of their publications along with their h-index.

Question 6 – Identifying yourself

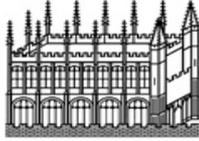
A researcher profile and unique ID number allows you to keep track of all of your publications, helps ensure that nothing will be missed when calculating research impact metrics (such as an h-index), can be used to showcase yourself and your work (increasing you and your work's exposure), and can be linked with other tools and documents (such as grant applications and publications). Try setting up your profile on one or more of these researcher profile services:

ORCID @ Oxford

1. Visit <http://ox.libguides.com/orcid> and follow the instructions to register for your Oxford affiliated ORCID number.
 - If you already have an ORCID number, you can follow the instructions to affiliate your existing ID with Oxford University.
2. Once you have set up your ORCID number, you can view your profile by visiting <https://orcid.org> and signing in to your account.

Google Scholar Profile (Requires you to have a Google Account – or set one up)

1. Go to scholar.google.co.uk and click on **My Citations** at the top. It will prompt you to log in with your Google account.



2. Fill in the details on the form, and then click **Next Step**.
3. Google will attempt to search for publications associated with your name. You can claim any found as your own, or skip this step for now. Continue through to finish setting up your profile.
4. If you would like to add publications manually, you can do so by going back to the main Google Scholar search, search for your article, when you find it, click on **Save** to save it to **My Library**. Go to **My Library** (left menu), click on the article title, click **Label**, and then **Add My Citations**. It will now show up on your profile.
5. Your profile should link to your publications and provide citation counts and your h-index. Now, in a Google scholar search by author (click on the down arrow on the right of the search box for advanced search options), your profile would be presented at the top of the search results.

SECTION 4: Open Access

Question 7 – Sherpa tools

In order to comply with Open Access policies from your funder, you may need to publish papers in an Open Access format. You need to check the Open Access policy of the journal you are publishing with to decide if you will use the Gold or Green Open Access publication route. Two tools which can help you are SherpaFACT and SherpaROMEIO.

1. Start in SherpaFACT by going to <http://www.sherpa.ac.uk/fact>
2. Into the journal title field enter **Geochemistry, Geophysics, Geosystems**
3. Next choose the **Natural Environment Research Council** option from the drop-down menu in the funder's field.
4. Finally click the **Check Compliance** button
5. If you were following the Green Open Access route, how long would you have to embargo your paper for in ORA?
6. Click the **RoMEO Record** link. This will take through to more complete information about this journal.

TIP: Take care when using records from Sherpa services as they are occasionally not updated to reflect changes in individual journal or publisher policies.