

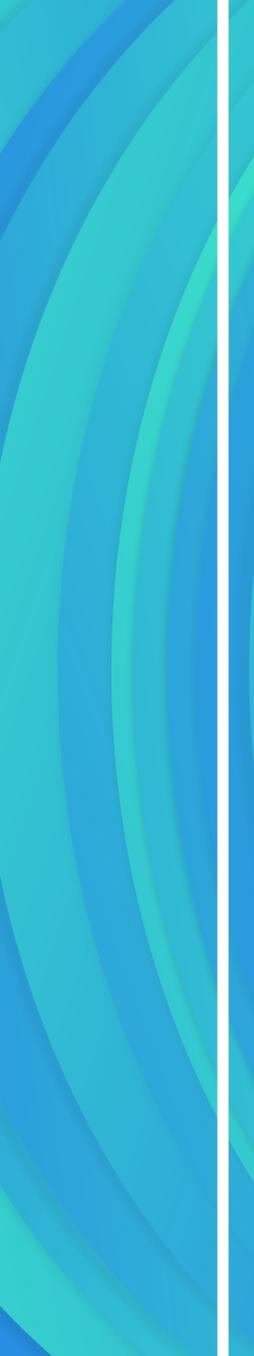


# Measuring the impact of your publications using metrics

Publishing Power Hour 7

Vanessa Varis and Jenny Copestake, Faculty Librarians

October 2022



Curtin University acknowledges the traditional owners of the land on which Curtin Perth is located, the Wadjuk people of the Nyungar Nation; and on our Kalgoorlie campus, the Wongutha people of the North-Eastern Goldfields.

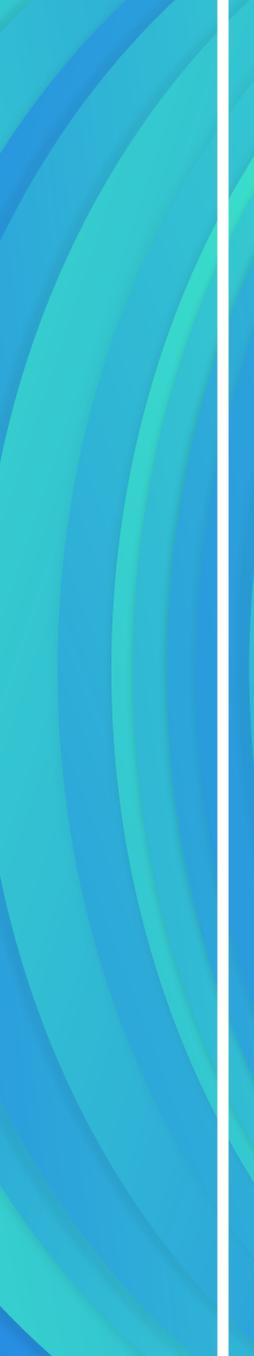
# Session outline

Why metrics?

Telling your story

Key resources and examples

- Incites
- Scopus and Web of Science
- Altmetric Explorer



# Why metrics?

# Metrics can provide supporting evidence of claims:

- Research performance
- Track record
- Contribution to discipline
- Contribution to society
- International collaboration
- Benchmarking against peers



**HOWEVER:**  
Metrics are  
meaningless  
without context

# Responsible use of metrics

Several key points:

- Account for variation by field in publication and citation practices.
- Eliminate use of journal based metrics. Promote the use of article-level metrics and indicators.
- Consider the value and impact of all research outputs including datasets, software and Non-Traditional Research Outputs (NTROs).
- Consider a broad range of impact measures including qualitative indicators, such as influence on policy and practice.

San Francisco Declaration on  
Research Assessment (DORA)

<https://sfdora.org/read/>

Leiden Manifesto

<http://www.leidenmanifesto.org/>



<https://sfdora.org/read>

About Communities Meetings Grants Contact

The Declaration Signers Project TARA News and Resources

# 22,168 individuals and organizations in 100 countries have signed DORA to date.



- IARS' Press
- Exon Publications
- Royal Geographical Society of South Australia, Inc.
- Asia-Pacific Applied Economics Association Australia
- The University of Melbourne Australia
- The GrantEd Group Australia
- Tour de Cure Australia
- Orygen Australia
- Design Out Crime and CPTED Centre Australia
- Vascular Cell Australia
- National Health and Medical Research Council Australia
- Australasian Neuroscience Society Australia
- Victor Chang Cardiac Research Institute Australia
- The Macfarlane Burnet Institute for Medical Research and Public Health (Burnet Institute) Australia
- The Bionics Institute Australia
- The Association of Australian Medical Research Institutes Australia
- Neuroscience Research Australia Australia
- Garvan Institute of Medical Research Australia
- Australian Academy of Science Australia
- Association of Australian Cotton Scientists Australia
- Institute for Molecular Bioscience, Brisbane Australia Australia



# Telling your story

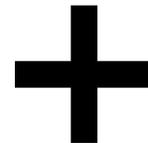
# What story do you want to tell?

- How well you are progressing compared to your peers?
- An increase in your impact over time?
- Who is citing your work and where?
- Cross-disciplinary influence?
- International or industry collaboration?
- Impact on policy?

## ACADEMIC ATTENTION

Journal Rankings  
Citation counts  
Field Weighted Citation  
Impact  
Number of publications

'Traditional'  
metrics



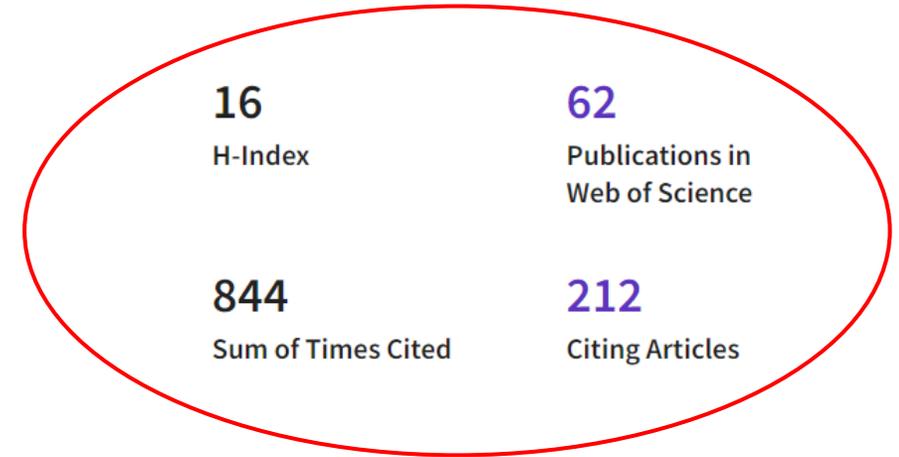
## BROADER ATTENTION

Mentions in news reports  
References in policy  
Mentions in social media  
Patent citations  
Reference manager  
readers... etc.

'Alternative' metrics/  
'altmetrics'

# 'Traditional' metrics – Author level :

Number of publications, number of citations, average citations per paper, and tracked performance over time.



## Beware the h-index...

*h = h number of articles being cited h or more times*

### Limitations:

- Can be misleading, does not describe the impact, importance or quality of the publication(s).
- Should not be used to directly compare individuals. Can disadvantage ECRs.

# 'Traditional' metrics – Journal level :

What is the quality of the journals you are publishing in?  
How much impact do they have?

4.139

Journal  
Impact Factor  
™ (2021)

## Beware the Journal Impact Factor...

*JIF = average number of citations received by articles in a journal within a two-year window.*

Limitations:

- Indicates how well a journal is cited.
- Should not be used as a proxy for quality of individual articles.

# ‘Traditional’ metrics – Article level :

How well cited & how much impact have your individual publications had?

## Normalised indicators recommended...

- Shows how a paper performs relative to averages or baselines
- Category Normalised Citation Impact (InCites)
- Field Weighted Citation Impact (Scopus)

$$\text{CNCI or FWCI} = \frac{\text{Actual citation count of an article}}{\text{Expected citation count based on the average for other outputs of the same subject field, document type, and year of publication}}$$

*CNCI or FWCI = 1 exactly on par with the global average.*

*> 1 more cited than expected according to global average; < 1 cited less than expected.*

# 'Alternative' metrics :

- Measures attention garnered based on online activities in social media, mainstream media, online reference management tools, policy documents, patents, and more..
- Less about quantitative metrics demonstrating impact in a particular area and more about using data to tell the story that demonstrates your impact.

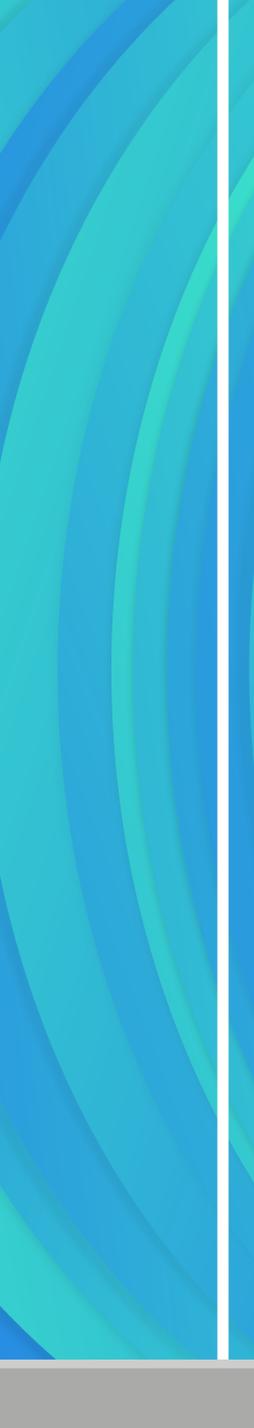


## Altmetric score (what's this?)

- Tweeted by 1746
- On 52 Facebook pages
- Mentioned in 19 Google+ posts
- Picked up by 18 news outlets
- Blogged by 25

# Measures of esteem

- Conference publications
- International reach/collaborations
- Influence on industry/government/public policy/community orgs
- Successfully acquitted research grants/research projects
- Awards and prizes
- Editorships
- Research fellowships
- Membership of learned academies
- Patents and registered designs
- Book reviews, 'best seller' lists, editions, translations, publisher-supplied information (eg sales stats, number of downloads, etc)



# Key tools and platforms with examples

**Access InCites, Scopus or Web of Science via the Library  
database listing**

**<https://databases.library.curtin.edu.au/>**

**Access Altmetric Explorer on campus at**

**<https://www.altmetric.com/login.php>**

**Register to access off campus at**

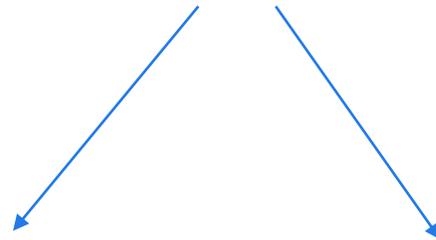
**<http://tiny.cc/curtinaltex>**

# Key Tools and Platforms



**Web of Science™**

Citation database



**InCites™**

Benchmarking and Analytics

**Journal Citation Reports™**

Journal information, metrics & rankings

- Publication-level metrics
- Automated Author Profiles
- Journal-ranking metrics
- Benchmarking of authors and institutions.

**ELSEVIER**

**Scopus**

Citation database

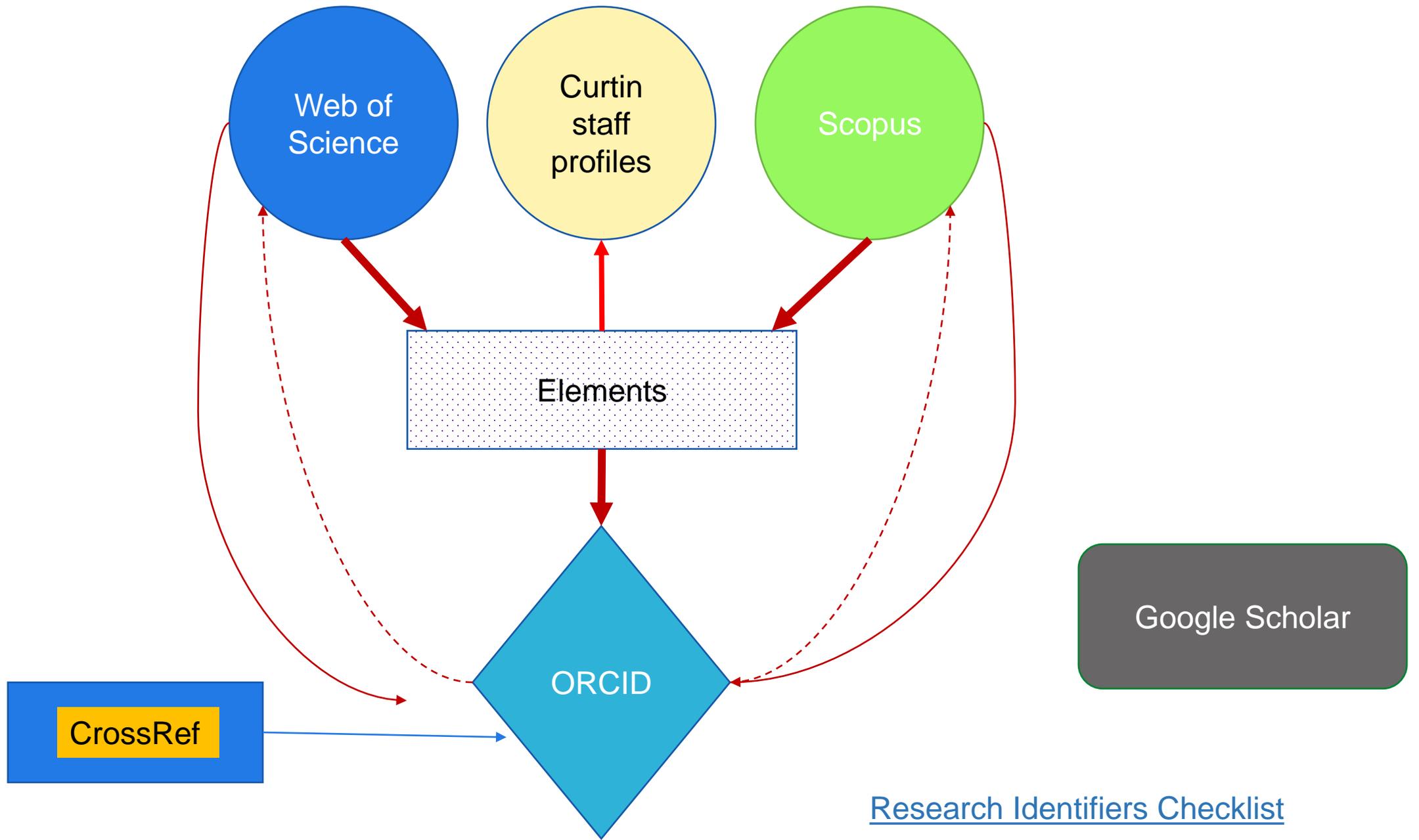
Journal information, metrics & rankings



\* **SciVal**

Benchmarking and Analytics

\*not available at Curtin



[Research Identifiers Checklist](#)

# The standard 5

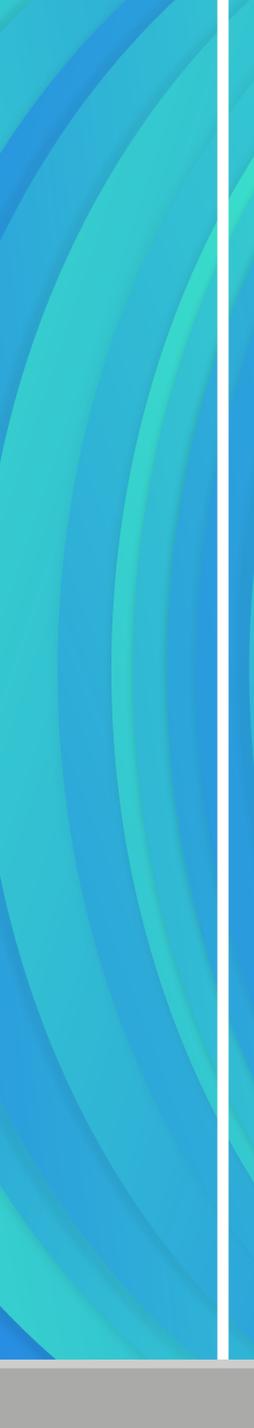
Author search in Scopus, Web of Science, or InCites.

1. Number of publications
2. Career citation count
3. Citations per paper
4. % cited (or % uncited)
5. H-index (MCR onwards)

Always consult discipline experts and Faculty grant panels for advice on tailoring statements to your discipline's requirements

“I have 15 refereed journal articles of which 14 are indexed by Scopus. These articles have received 56 citations, giving the average citation per indexed paper of 4 (Scopus, 28/05/21).”

“I have an h-index of 23 from 81 publications from 1998 to the present” (Scopus, 17/02/2021)



Key tools and Platforms and examples:

# Web of Science

# Verified record in Web of Science

Record Merge Records ⓘ Relevance < 1 of 1 >

nda ✓

Res Inst,Sarich Neurosci Res Inst Bldg  
STRALIA

1991-2020  
Years  
Documents: **102**

la E. C.

e System  
i,Dept Biol

1956-2016  
Years  
Documents: **14**

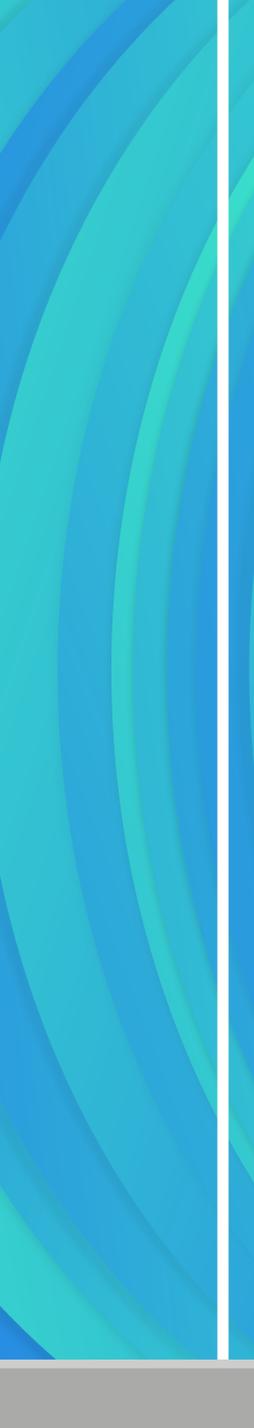
a

nslat Sci  
Inst  
ALIA

2019-2022  
Years  
Documents: **12**

## Verified record in Web of Science - Tips

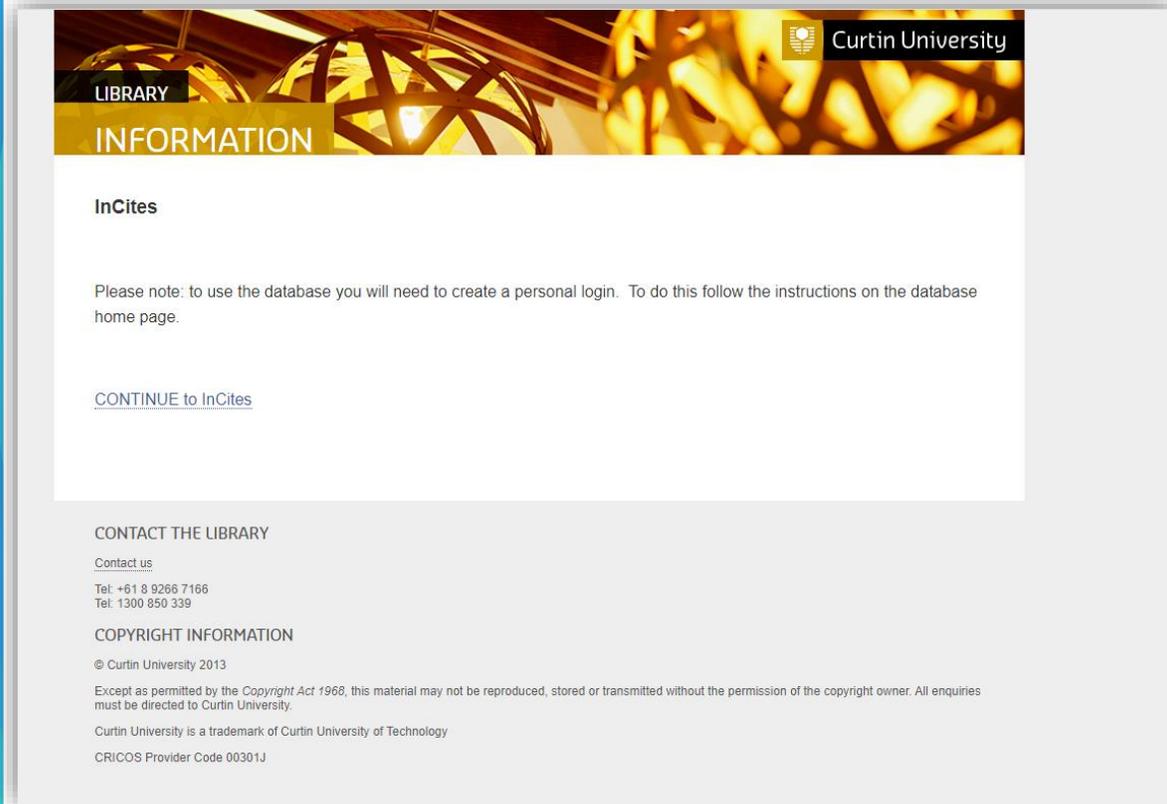
- Combine your profiles when performing analysis whilst waiting for a merge request
- By clicking on the author name you can see all of the publications assigned to that profile as well as some basic metrics that have been calculated based on the citations to these publications. Publication numbers include non-articles - filter these out by viewing as a set of results
- **View citation report** leads to more more information.



Key tools and Platforms and examples:

Incites

# Incites



The screenshot shows the Curtin University Library website. At the top, there is a header with the Curtin University logo and the text "Curtin University". Below this, there is a navigation bar with "LIBRARY" and "INFORMATION". The main content area is titled "InCites" and contains the following text:

Please note: to use the database you will need to create a personal login. To do this follow the instructions on the database home page.

[CONTINUE to InCites](#)

Below the main content, there are sections for "CONTACT THE LIBRARY", "COPYRIGHT INFORMATION", and "CRICOS Provider Code 00301J".

To access the InCites Platform you will need to register through InCites or Web of Science if you have not done so already. To access either go to <http://databases.library.curtin.edu.au>

# InCites: Analyse and report

The screenshot displays the InCites web application interface. At the top, a dark navigation bar contains links for 'Web of Science', 'InCites', 'Journal Citation Reports', 'Essential Science Indicators', 'EndNote', and 'Publons'. On the right side of this bar are user options: 'James', 'Help', and 'English'. Below the navigation bar, the 'InCites' logo is on the left and the 'Clarivate' logo is on the right. A secondary navigation bar includes 'Analyze', 'Report', 'Organize', and 'My Organization'. A left-hand sidebar menu is titled 'Analyze by...' and lists categories: 'Researchers', 'Organizations', 'Locations', 'Research areas', 'Publication Sources', and 'Funding agencies'. The main content area features three white cards on a green background:

- Analyze**: Includes an icon of a magnifying glass over a bar chart. Text: 'Dig into the data. Start from scratch, revisit recent analyses, or pick a popular use case to launch a starter analysis.' Button: 'Start an analysis'.
- Report**: Includes an icon of a presentation screen with a bar chart. Text: 'Gather your insights to present and share. Create a custom report or revisit saved reports. Or, start with an overview report with analyses you can adjust as needed.' Button: 'Explore reports'.
- Organize**: Includes an icon of three document tabs. Text: 'Keep tabs on multiple research questions and trends. Organize your analyses, visuals, and reports into folders and dashboards that you can revisit.' Button: 'Organize your projects'.

# Incites

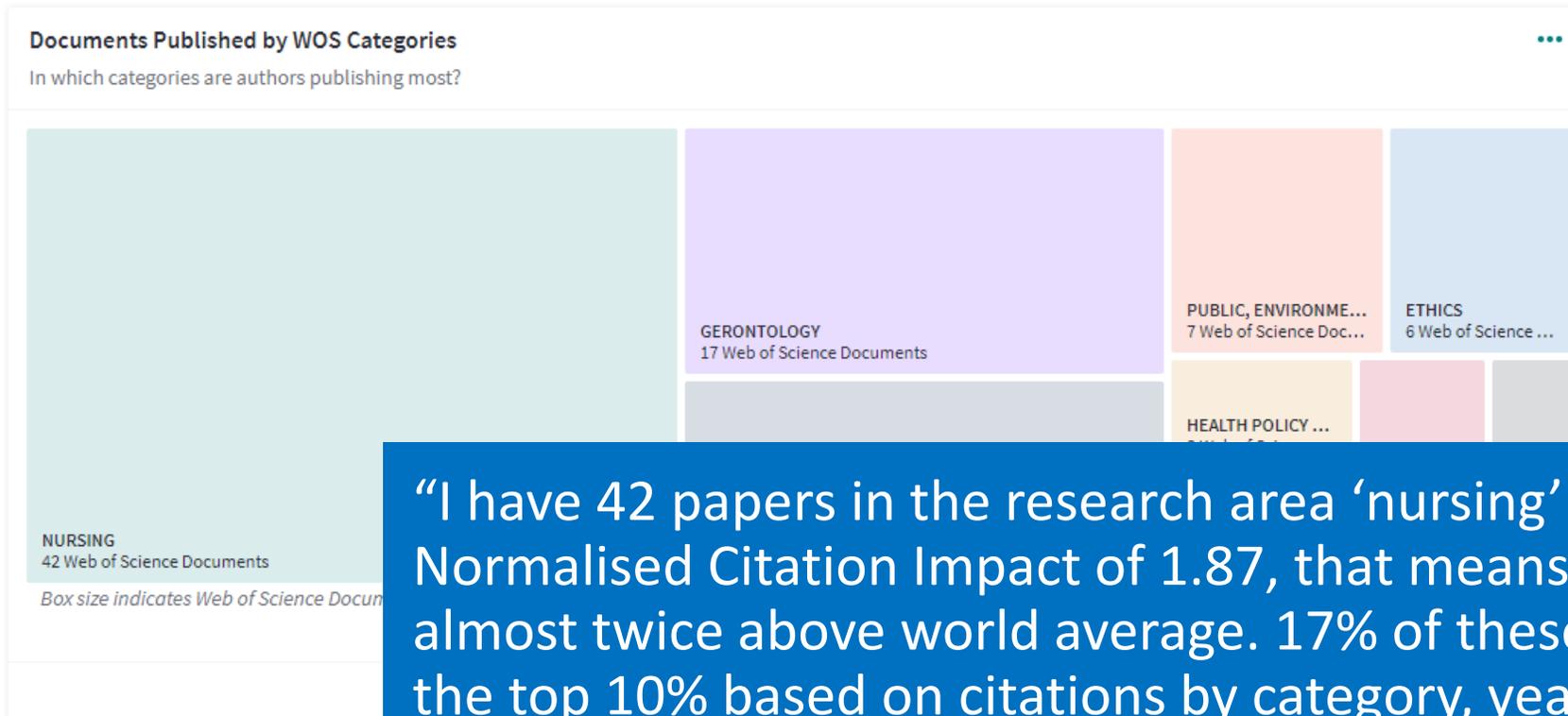
$$\text{CNCI} = \frac{\text{Count of citations}}{\text{Expected count of citations for documents of the same type, year of publication and subject area}}$$

- CNCI = 1 exactly on par with the expected count of citations for documents of the same type, year of publication and subject area.
- CNCI > 1 Above than the expected count
- CNCI < 1 Below the expected count
- When a document is assigned to more than one subject area an average of the ratios of the actual to expected citations is used

# InCites

## Overview

H-Index <span>ⓘ ...</span>	Documents Published <span>...</span>	Times Cited <span>...</span>	% Documents in top 10% <span>...</span>
20	71	1,282	12.68



“I have 42 papers in the research area ‘nursing’ with a Category Normalised Citation Impact of 1.87, that means these papers are almost twice above world average. 17% of these papers are in the top 10% based on citations by category, year and publication type.” (InCites, 17/2/2022)

# I have productive international collaborations...

Analyse your co-author network by country and/or institution.

What % of your Web of Science indexed articles have an overseas co-author?

“48% of my journal articles have international co-authors, including 5 papers with University College London based co-authors...” (InCites, 25/05/2022)

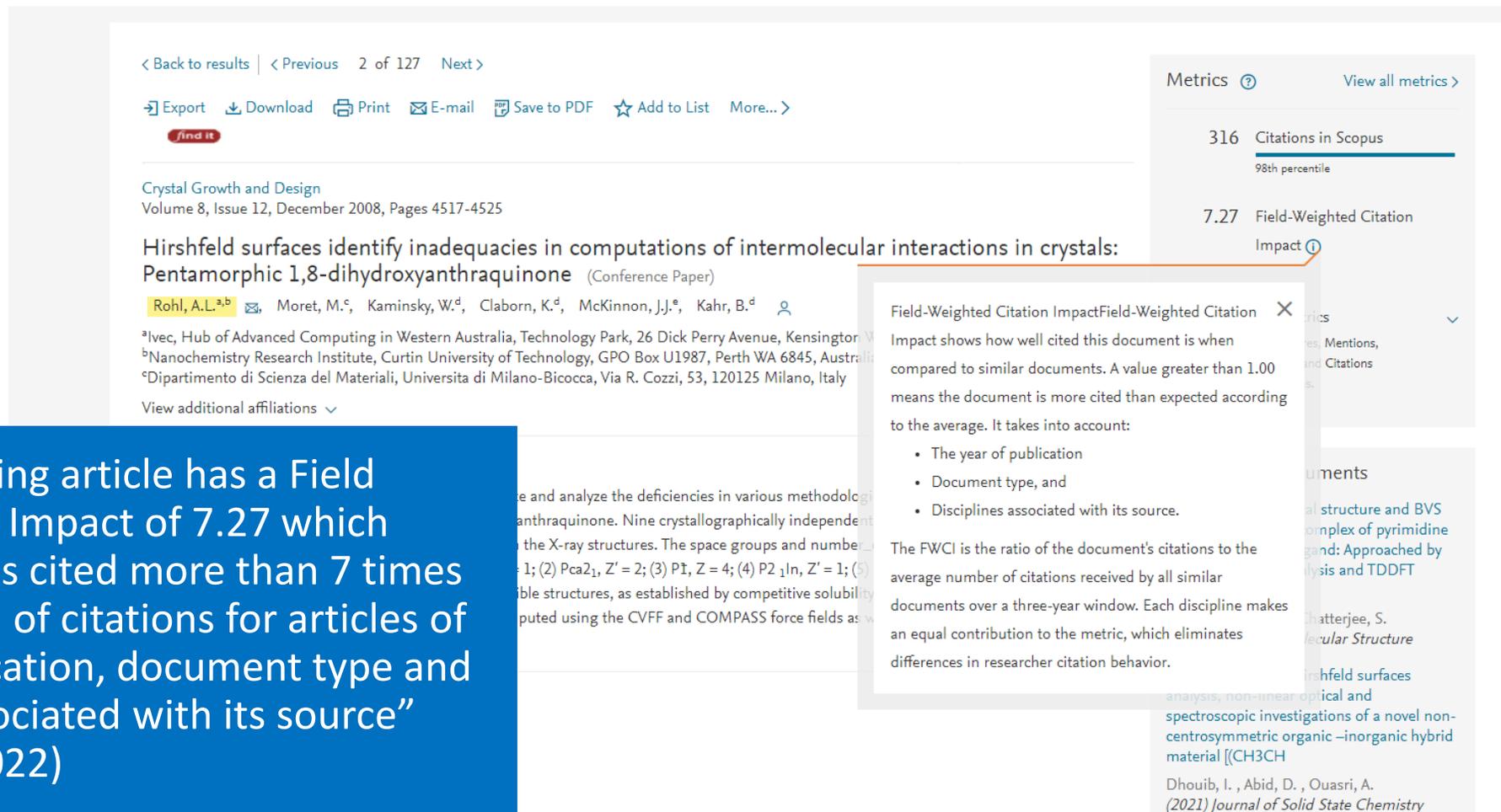


Key tools and Platforms and examples:

Scopus

# SCOPUS – Field Weighted Citation Impact (FWCI)

## Document details



The screenshot displays a document page from Scopus. At the top, there are navigation links: '< Back to results', '< Previous', '2 of 127', and 'Next >'. Below these are action buttons: 'Export', 'Download', 'Print', 'E-mail', 'Save to PDF', 'Add to List', and 'More...'. A red 'Find it' button is also visible. The document title is 'Hirshfeld surfaces identify inadequacies in computations of intermolecular interactions in crystals: Pentamorphic 1,8-dihydroxyanthraquinone (Conference Paper)'. The authors listed are Rohl, A.L.<sup>a,b</sup>, Moret, M.<sup>c</sup>, Kaminsky, W.<sup>d</sup>, Claborn, K.<sup>d</sup>, McKinnon, J.J.<sup>e</sup>, and Kahr, B.<sup>d</sup>. The journal information is 'Crystal Growth and Design', Volume 8, Issue 12, December 2008, Pages 4517-4525. On the right side, a 'Metrics' panel shows '316 Citations in Scopus' (98th percentile) and '7.27 Field-Weighted Citation Impact'. A tooltip for 'Field-Weighted Citation Impact' is open, explaining that it shows how well cited the document is compared to similar documents, with a value greater than 1.00 indicating it is more cited than expected. The tooltip lists factors: year of publication, document type, and disciplines associated with its source. It also defines FWCI as the ratio of the document's citations to the average number of citations received by all similar documents over a three-year window, noting that each discipline makes an equal contribution to the metric.

Metrics ? [View all metrics >](#)

316 Citations in Scopus  
98th percentile

7.27 Field-Weighted Citation Impact ?

Field-Weighted Citation Impact ×

Impact shows how well cited this document is when compared to similar documents. A value greater than 1.00 means the document is more cited than expected according to the average. It takes into account:

- The year of publication
- Document type, and
- Disciplines associated with its source.

The FWCI is the ratio of the document's citations to the average number of citations received by all similar documents over a three-year window. Each discipline makes an equal contribution to the metric, which eliminates differences in researcher citation behavior.

“My best performing article has a Field Weighted Citation Impact of 7.27 which means my article is cited more than 7 times the expected level of citations for articles of that year of publication, document type and for disciplines associated with its source” (Scopus, 17/02/2022)

# Scopus Metrics- Tips

nts View citation overview Request to merge authors Save to author list

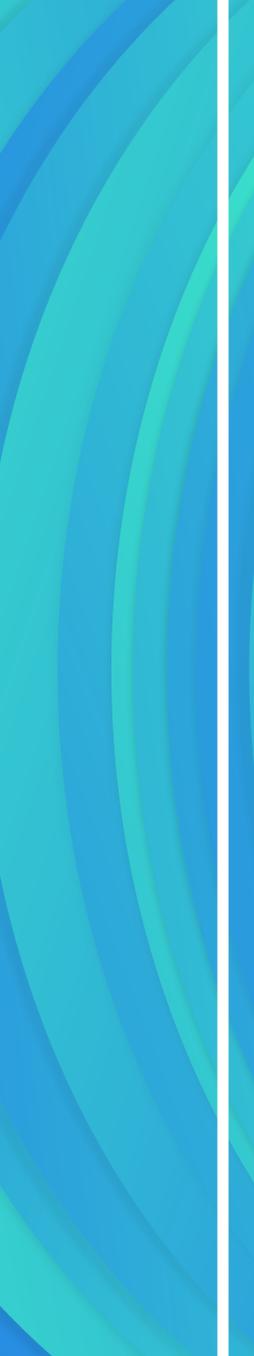
Documents	<i>h</i> -index ⓘ	Affiliation	City	Country/Territory
486	83	Curtin University	Perth	Australia
6	2	Curtin University	Perth	Australia

Combine your profiles when performing analysis whilst waiting for a merge request

Scopus contains comprehensive author metrics and visualisations which can be accessed through:

- Analyse author output
- Citation Overview

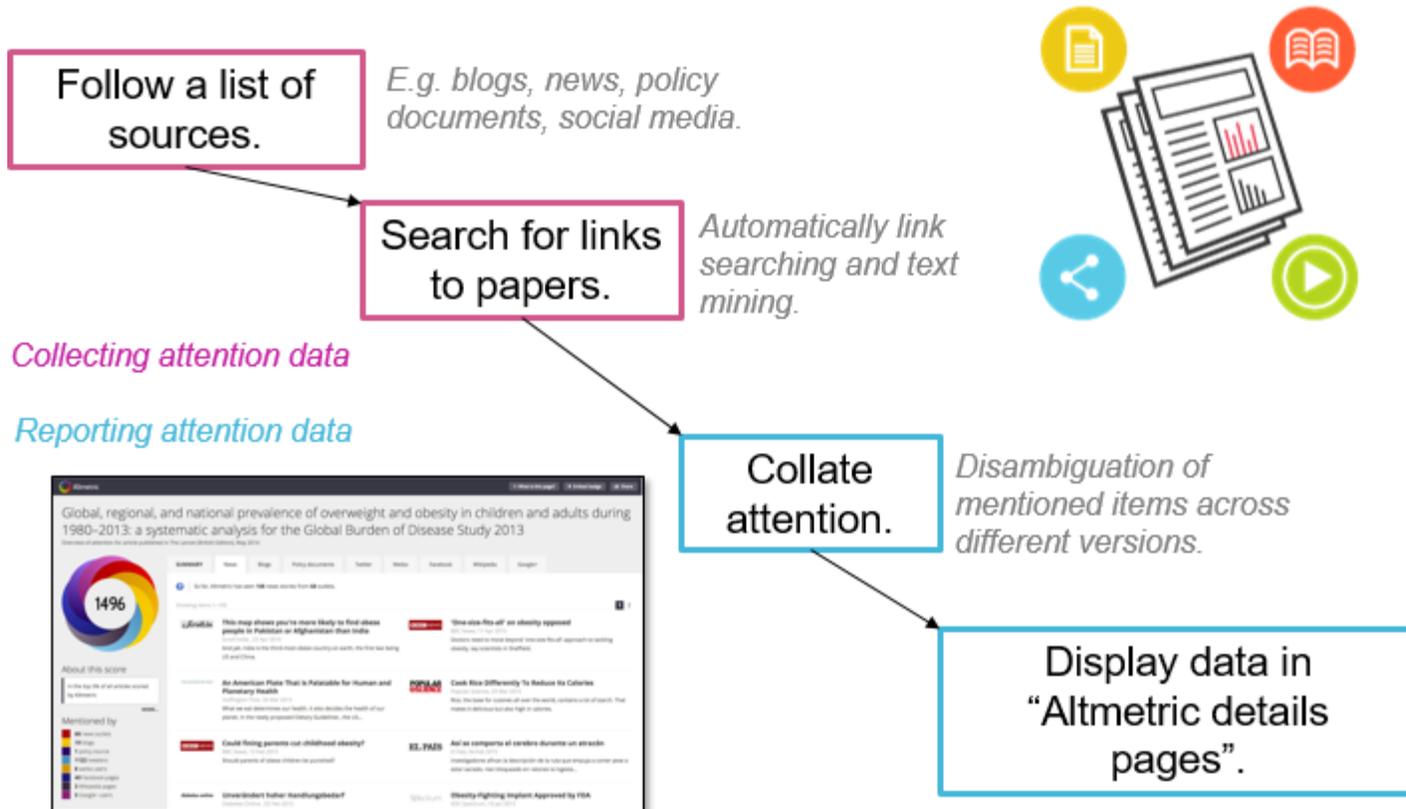
Publication numbers include non-articles - filter these out by viewing as a set of results



Key tools and Platforms and examples:

Altmetric Explorer

# How does Altmetric Explorer aggregate online attention?



# What sources does Altmetric track?

## News outlets

- Over 1,300 sites
- Manually curated list
- Text mining
- Global coverage

## Social media and blogs

- Twitter, Facebook, Google+, Sina Weibo
- Public posts only
- Manually curated list

## Post-publication peer review

- Publons
- PubPeer

## Reference managers

- Mendeley, CiteULike
- Reader counts
- *Don't count towards the Altmetric score*

## Other sources

- Wikipedia
- YouTube
- Reddit
- F1000
- Pinterest
- Q&A

## Policy documents

- NICE Evidence
- Intergovernmental Panel on Climate Change
- Many more...



About this Attention Score

In the top 5% of all research outputs scored by Altmetric

MORE...

Mentioned by

- 7 news outlets
- 21 blogs
- 1 policy source
- 1174 tweeters
- 10 Facebook pages
- 3 Wikipedia pages
- 4 Google+ users
- 1 Redditor

Citations

- 105 Dimensions

Readers on

- 262 Mendeley
- 5 CiteULike

Tools

SUMMARY

- News
- Blogs
- Policy documents
- Twitter
- Facebook
- Wikipedia
- Google+
- Reddit
- Dimensions citations

**Title** "Excellence R Us": university research and the fetishisation of excellence

**Published in** Palgrave Communications, January 2017

**DOI** 10.1057/palcomms.2016.105 [↗](#)

**Authors** Samuel Moore, Cameron Neylon, Martin Paul Eve, Daniel Paul O'Donnell, Damian Pattinson

[View on publisher site](#)

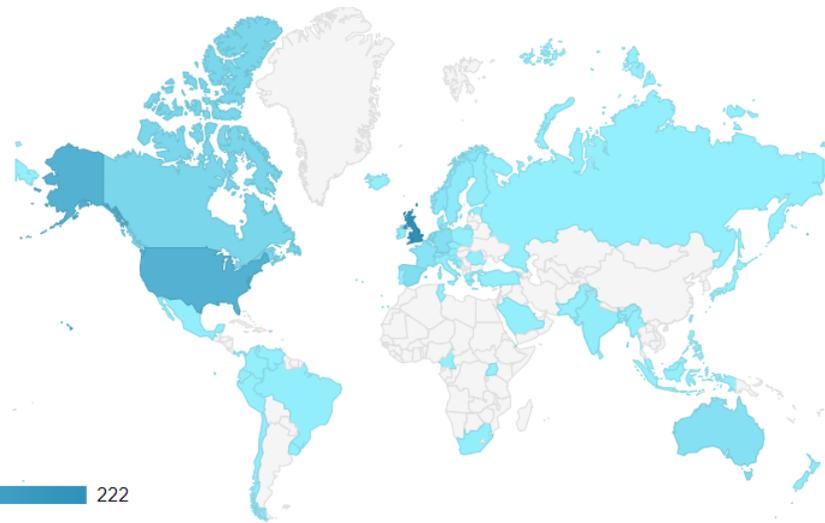
[Alert me about new mentions](#)

TWITTER DEMOGRAPHICS

MENDELEY READERS

ATTENTION SCORE IN CONTEXT

The data shown below were collected from the profiles of **1,174** tweeters who shared this research output. [Click here to find out more about how the information was compiled.](#)



Geographical breakdown

Country	Count	As %
United Kingdom	222	19%

Demographic breakdown

Type	Count	As %
Members of the public	677	58%

# My work has influenced public policies...

# My work has led to new inventions in industry...

## Altmetric Explorer

- Policy mentions
- Patent mentions
- Mass media mentions (demonstrate reach to practitioners and industry)

“This work has been established as foundational knowledge regarding robotics sensors, as evidenced by citations in 2 international patent documents.” (Altmetric Explorer, 28/05/2021)

“This report has been influential in shaping international policy with 4 citations shared between the United Nations, The European Union and World Bank .” (Altmetric Explorer, 28/05/2021)

# Altmetric Explorer – Patents and Policy Documents

▼ Add source   ALL PATENTS  ALL POLICY DOCUMENTS   SHOW HIGHLIGHTS ONLY

Show mentions between  and  Show mentions from

**i** Showing 10 mentions (from 10 individual posts) of research outputs from the results of your search query.   [What's in this tab?](#)

2020-02-18  
12:00 AM UTC 

**Pharmaceutical compositions, comprising a combination of select carriers, vitamins, tannins and flavonoids as antigen-specific immuno-modulators**

Patent citation

The present invention provides adjuvant compositions that are capable of modulating the immune response in a subject, including enhancing or suppressing the immune response. These adjuvant compositions may also be used to enhance or suppress the...

Cites the following research outputs [show 91 more]:

-  **An ab Initio Study of the Structure and Properties of Aluminum Hydroxide: Gibbsite and Bayerite**  
Article in Journal of Physical Chemistry B, October 2001
-  **Vesiculated alpha-tocopheryl succinate enhances the anti-tumor effect of dendritic cell vaccines**  
Article in Cancer Immunology, Immunotherapy, July 2005

# Points to remember:

- Metrics - traditional and alternative - can be used to tell a story or support a claim. **Context is always key.**
- **No one database** will provide a comprehensive measurement of impact.
- The results between citation databases are **not comparable** as coverage varies.
- When using any metric - explain exactly **what** it is, what the **source** is and the **date** you retrieved it. We recommend keeping a screenshot of data.
- **Setting up Researcher Identifiers** (e.g. ORCID, Researcher ID or Author ID) is important to keep track of your publications and for generating analytical reports.
- When promoting an referring to your research in sources tracked by Altmetrics always provide a DOI or espace handle link to ensure tracking

# Research Toolkit – Relevant Guides

The image shows a screenshot of the Curtin University Research Toolkit website. At the top left is the Curtin University logo. To its right is the text "Research toolkit home". A navigation menu follows with the following items: "Planning", "Searching", "Data", "Publishing", "Impact", "GRASP", and "Milestone". The "Impact" menu item is highlighted with a blue circle, and a dropdown menu is open below it. The dropdown menu contains the following items:

- Author identifiers**  
Set up and maintain research identifiers
- Demonstrating impact**  
Prove your research impact using metrics
- 9 Research Impact Things**  
Increase research impact beyond the academic sphere
- Data publication**  
Discover how to publish research data
- Other research outputs**  
Share and publish non-traditional research outputs
- Maximising visibility**  
Ensure your research gets noticed
- How to get a DOI**  
Set up your own digital object identifier
- More Impact...**

Below the navigation menu, the main content area features the heading "Research 1" in a large, bold, black font. Below this heading is the text "Level up your research. Tools for students and staff." followed by a large black downward-pointing chevron symbol.

# Publishing Power Hours 2022

**1: Publishing in quality journals**

Tuesday 13 September | 12 – 1pm

**2: Predatory journals and unethical publishing**

Tuesday 20 September | 12 – 1pm

**3: Publishing your research data**

Friday 23 September | 12 – 1pm

**4: Publishing your software code**

Tuesday 4 October | 12 – 1pm

**5: Publishing copyright essentials**

Friday 7 October | 12 – 12.30pm

**6: Getting your article published**

Tuesday 11 October | 12 – 1pm

**7: Measuring the impact of your research publications**

Tuesday 18 October | 12 – 1pm

**8: Open Access publishing**

Tuesday 25 October | 12 – 1pm

**9: Using the institutional repository (espace) to make your research open access** *For academic staff only.*

Thursday 27 October | 12 – 1pm

**10: Making EndNote work for you and your publications**

Thursday 3 November | 12 – 1pm

**11: Preprints**

[This is a pre-recorded workshop available at this link.](#)

# *Your Faculty Librarians*

Email: [LibraryResearchSupport@curtin.edu.au](mailto:LibraryResearchSupport@curtin.edu.au)



**Health Sciences**  
Vanessa Varis



**Business and Law,  
Humanities**  
Jaya Ralph &  
Kitty Delaney



**Science & Engineering**  
Jenny Copestake



**Centre for Aboriginal  
Studies**  
Dr Petra Dumbell