

LEXICON

- CPP: Citation Per Paper, Citation Impact
- ESI: Essential Science Indicators
- GIPP: Global Institutional Profile Project (<http://ip-science.thomsonreuters.com/globalprofilesproject/>), information used to support THE World University ranking and US News Global ranking
- JCR: Journal Citation Reports
- JIF: Journal Impact Factor
- NCI: Category Normalized Citation Impact
- Research Area: a classification of research outputs in a given schema, also called category or discipline, but equivalent to the Web of Science's "Research Area"
- WoS: Web of Science

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Information provided was valid at the time of release, please refer to the version date above. If you identify errors, please contact your trainer.

Before we start

About your trainer

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Getting more help

Training videos on InCites:

http://wokinfo.com/training_support/training/incites/

InCites Indicators Handbook:

<http://ipscience-help.thomsonreuters.com/inCites2Live/indicatorsGroup/aboutHandbook.html>



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<http://researchanalytics.thomsonreuters.com/m/pdfs/indicators-handbook.pdf>

First access to InCites

You are connected through an authorized network.
Register an email address to sign into InCites from anywhere.

Register first!

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Access to InCites

- First connection to InCites has to take place within the IP range of your institution, after the initial connection, you can use InCites in "roaming".
- At your first connection, you need to register to InCites Next Generation, even if you already have setup an account for the legacy Incites, even if you have a Web of Science account. If you already have an InCites or Web of Science account, use the same details (email and password) when you register.
- Registration is open but mandatory to anyone using InCites from your institutions' IP range. If your institution only subscribes with user/password access, usernames sent to you will be the only possible credentials.

The existing (legacy) version of InCites can be accessed from <http://incites.isiknowledge.com>

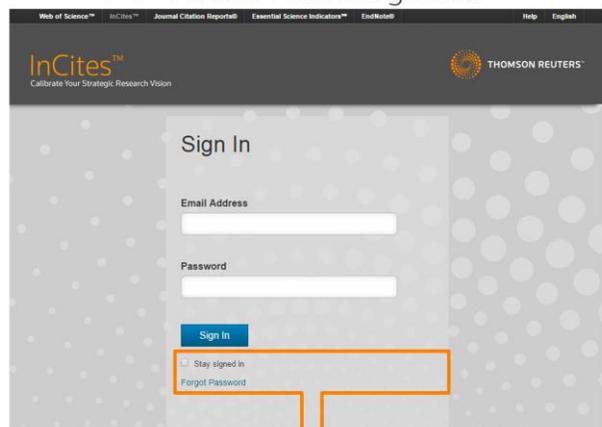
- Journal Citation Reports jcr.incites.thomsonreuters.com
- Essential Science Indicators esi.incites.thomsonreuters.com

When accessing InCites from incites.thomsonreuters.com or by clicking on the link from Web of Science, you should be able to land on InCites' login page.

- Register to InCites or if you have received a username and password from Thomson Reuters (Username/password access subscribers only), login.
- Tick the "Stay connected" if needed.
- InCites "Analytics" tab should be available.

Possible problems with a first access to InCites Next Generation

- IP Access not recognised



No link to register to InCites

- Access to legacy InCites only



Link to legacy InCites

Solution seek help from ts.support.anz@thomsonreuters.com



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Possible problems with a first access to InCites Next Generation

If any of the following problems occur, please contact your local administrator for InCites and our Technical Support team: ts.support.anz@thomsonreuters.com

IP Access not recognised when accessing InCites the first time from your organisation IP range

Most InCites subscribers access InCites through an authorisation setup for your institution's IP range. However, when you first access InCites you will be asked to register. This registration enables you use InCites while roaming.

Existing Web of Science registered users also need to register to link both services.

InCites legacy not recognised or not accessible

Some users still need to access legacy InCites. You may access this version directly through the URL indicated in the previous page. In case you are redirected to the about.incites.thomsonreuters.com page, click on the small link below the "Subscriber Log in" orange box to access legacy InCites.

"You have no subscription to InCites" error message

If you arrive to a page showing error messages telling you have no subscription, you need to refresh your web browser and eventually clear your cache or restart the browser. If the same message appears again, seek assistant from Technical Support. This message often occurs after a trial period.

Course plan (IC2BA02)

1. Prerequisite

1. InCites quick tour: <http://youtu.be/Q2ldsqrT4g> (5' videos)
2. Download training material: <http://bit.ly/1gz4JfDh>
 - InCites Quick reference guide
 - InCites metrics handbook

2. InCites: Benchmarking & Analytics

1. Thomson Reuters' Research Analytics
2. InCites data and metrics
3. Using InCites for evaluation and benchmarking

3. Work toward an example (*optional*)

4. Give us some feedback about today's session



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Summary

This Course is designed to give you an overview of the Journal and Highly Cited Data on Thomson Reuters' InCites platform. We will cover the data and the key features available in InCites Benchmarking & Analytics (B&A).

Prior to attending this session, we ask you to watch the quick tour videos that will give you a general overview on these services.

- InCites B&A quick tour: <http://youtu.be/Q2ldsqrT4g>
- Training material is available from: <http://bit.ly/1gz4JfDh>
- ESI quick tour: <http://youtu.be/HUIm5WbyNfs>
- JCR quick tour: <http://youtu.be/mgUeK0rRjQm>

This session will be divided in 3 parts:

- Thomson Reuters' Research Analytics
- InCites data and metrics
- Using InCites for evaluation and benchmarking

2.1.1 The basics of Research Analytics

- No data for the sake of it, what is your question?
- What do you want to know?
- What success looks like?



No data for the sake of it, what is your question?

Data is used as evidence to support a policy or a strategy, from development to implementation and review.

Data must have a set of features to be acted upon:

- Trusted source of data and calculation methods,
- Robustness to slight changes in environment and outliers,
- Reflective of observed notable changes.

What do you want to know?

Prior to any evaluation or analysis, the key problem should be explicit and formulated in one or more questions:

- *What are my most relevant publications for the last 5 years?*
- *Is University X an important partner?*

What success looks like?

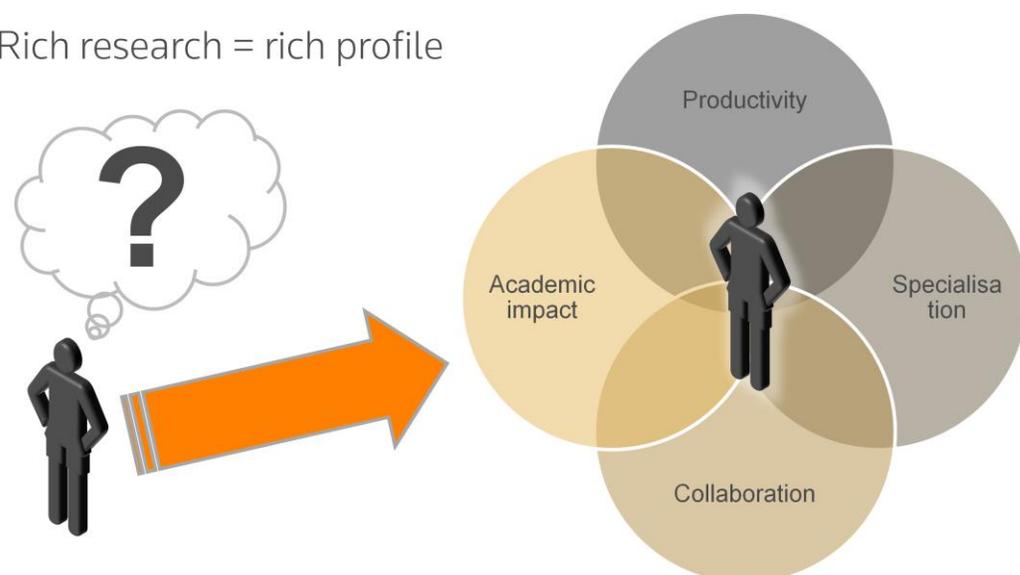
Indicators are used to measure how an entity or a group of entities perform.

Measuring success is linked to initial hypothesis about the measured process, hence determining selected indicators:

- *Relevant publications are highly cited by peers in the discipline, high normalised citation score.*
- *Important partner universities collaborate internationally notably with China, organisations with high % on international collaborations co-authoring with China.*

2.1.2 Thomson Reuters' Research Analytics

- No magic number
- Rich research = rich profile



Indicators are necessarily limited in the scope they cover. Despite the flurry of new research performance metrics published every week, they rarely measure more than limited aspects of research. Including metrics such as the H index.

To cover all aspects of the evaluated activity needed to answer the initial question. Generally, that means all or part of the followings aspects:

- Productivity – how many papers
- Academic impact – absolute of relative citation counts,
- Collaborations – with who, where are they working,
- Specialisation – what disciplines.

2.1.3 From Web of Science to InCites

Web of Science

- Up to date Databases of publications and citations: the “raw data”
- Create Citation reports for “basic bibliometrics”
- Analyze results for some metadata filters
- **Bottom up**



InCites

- Aggregated information to metadata filters (address, categories, documents types etc.)
- “Advanced bibliometrics” using baselines
- Drill down to article level metrics
- **Top down**



Web of Science

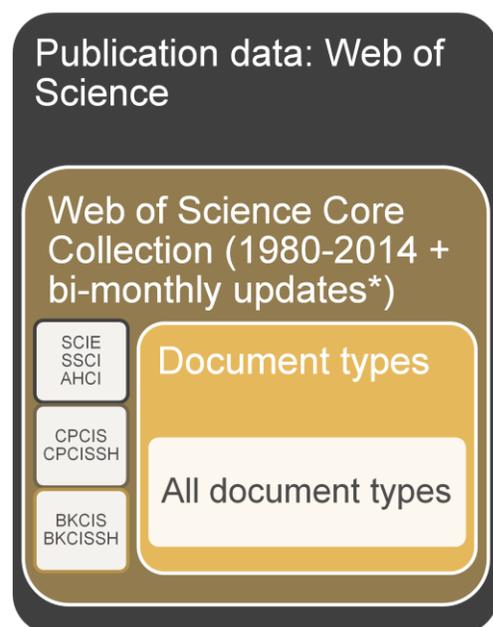
Web of Science can be seen as the source of the up to date Databases of publications and citations: the “raw data”. The platform is designed to leverage article level information (bottom up) into document sets of various dimension. It notably offers the option to create Citation reports for “basic bibliometrics” and analyze results for some metadata filters

InCites

On the other hand, InCites can be seen as the analytics platform where information is accessible for various aggregation filters (address, categories, documents types etc.) – top down. This high level groupings requires more “Advanced bibliometrics” using baselines to show differences or similarities. However, with InCites users can also drill down to article level metrics.

However, the boundaries between the two platforms are becoming thinner given information now flow both ways.

2.2.1 InCites publication data



- A single data source for publications: Web of Science
- Publication window= citation window,
- Baselines calculated for all documents, and the same windows.

* *early 2015*

InCites publication and citation data (included records)

- All journals, proceedings and books indexes from the Web of Science Core collection.
- Selected records: initially published in the last 35 years (eg 1980-2014), but this timeframe is not a constant window. Later versions of InCites will include bi-monthly updates of the latest publications and citations.
- Citations are calculated from the same selected source records (included indexes and timeframe).
- Baselines are calculated from the same publication and citation window.

InCites vs. Web of Science

Publication and citation data are extracted from the Web of Science a few weeks before an InCites update is released. There is not "live" stream of data between the two platforms. When comparing number of publications and citations between the platforms, some differences can be observed:

- publication and citation indexes and time windows need to be similar,
- records in Web of Science can change between the InCites extract and the latest Web of Science update (made weekly),
- fields such as the "Organisation Enhanced" in Web of Science are updated at a different interval.

2.2.2 InCites' other data

Recorded Future

- Scan public web sources, including news publications, "high-caliber" blogs, social media platforms, financial databases, government websites, and much more.
- Sources are analysed through text search, data visualization, natural language processing, and entity extraction.

Beyond publication data

- Global Institutional Profiles Project data (THE WUR, US News global ranking).

Beyond publication data (proposed)

- Patents,
- grant data (mainly US and UK information).



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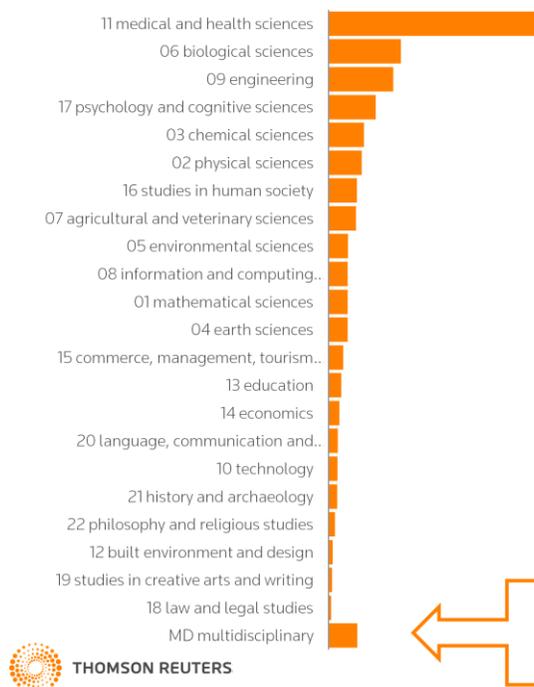
Data currently available

- Recorded Future is a start up company created in 2009 (<https://www.recordedfuture.com/about/>),
- Global Institutional Profiles Project data (THE WUR until 2014, US News global ranking).

Data that could be included later (proposed)

- Patent data will come from Thomson Reuters Derwent Innovation Index,
- Grant data are sourced from Thomson Reuters information systems.

2.2.3 Coverage



- Web of science is a multidisciplinary index of natural and social sciences as well as the arts and humanities,
- However, in some disciplines research outputs are better covered through papers, and books over “*non traditional*” outputs such as creative work, live performances, recordings or exhibitions.

Example of coverage: Documents produced in Australia by FoR codes (InCites)

Example of coverage: Documents produced in Australia by FoR codes (source: InCites) and the type of outputs for some of them (source: ERA 2010 data).

FoR	Documents	Output Type
MD multidisciplinary	20,785	
18 law and legal studies	2,020	
19 studies in creative arts and writing	2,671	72% non traditional outputs, 13% papers
12 built environment and design	3,062	
22 philosophy and religious studies	4,792	
21 history and archaeology	6,407	
10 technology	6,566	
20 language, communication and culture	6,849	33% books, 46% papers
14 economics	7,980	
13 education	9,332	
15 commerce, management, tourism and services	10,662	
04 earth sciences	13,902	
01 mathematical sciences	13,993	
08 information and computing sciences	14,028	75% conference papers, 18% papers
05 environmental sciences	14,150	44% conference papers, 52% papers
07 agricultural and veterinary sciences	20,066	
16 studies in human society	20,693	
02 physical sciences	24,166	
03 chemical sciences	25,746	
17 psychology and cognitive sciences	34,418	
09 engineering	47,014	
06 biological sciences	52,579	
11 medical and health sciences	149,493	96% papers

2.2.4 What is a publication in Web of Science?

Spontaneous fluctuations in brain activity observed with functional magnetic resonance imaging
 By Fox, M.D. (Fox, Michael D.) / Raichle, M.E. (Raichle, Marco E.)
 NATURE REVIEWS NEUROSCIENCE
 Volume 8 Issue 9 Pages 702-711
 DOI: 10.1038/nrn2207
 Published: SEP 2007
 View Journal Information

Abstract
 The majority of functional magnetic resonance imaging (fMRI) studies have focused on the brain's response to a task or stimulus. However, the brain is very active even in the absence of explicit input or output. In this Article we review recent studies examining spontaneous fluctuations in the blood oxygen level dependent (BOLD) signal of functional magnetic resonance imaging as a potentially important and revealing manifestation of spontaneous neural activity. Although several challenges remain, these studies have provided insight into the diverse functional architecture of the brain, stability in behavior and potential pathological correlates of neurological and psychiatric diseases.

Keywords
KeyWords Plus: INDEPENDENT COMPONENT ANALYSIS; RESTING-STATE NETWORKS; LOW-FREQUENCY OSCILLATIONS; DEPOSIT; HYPERFUNCTION; RESONANCE; NATURAL; VIBRATING CONDITIONS; SIGNAL; SIGNAL; FLUCTUATIONS; BRAKE; CORTICAL; NEURONE; MOOD-REGULATING CIRCUIT; EXCITATION; MRI; DEPENDABLE

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Publisher
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Categories / Classification
 Research Areas: Neuroscience & Neurology
 Web of Science Categories: Neurosciences

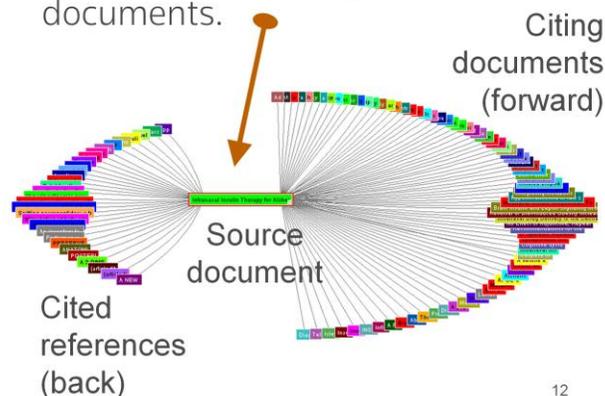
Document Information
 Document Type: Review
 Language: English
 Accession Number: WOS:0024842018
 ISSN: 1473-2985

Journal Information
 Table of Contents: Current Contents: Connect & Performance Trends: Essential Science Indicators™

Other Information
 ISI Number: 2071
 Cited References in Web of Science Core Collection: 189
 Times Cited in Web of Science Core Collection: 5,428

A web of Science document = a publication defined by

- Bibliographic information,
- Metadata,
- Citation network of cited references and citing documents.



The basic element of InCites data is a Web of Science document or publication. These documents are defined by three types of information:

Bibliographic information

- Author names,
- Publication year (cover date),
- Publication outlet (journal, conference, book).

Metadata

- Author affiliation: organisation, country,
- Author identification such as ResearcherID codes,
- Research Areas: the research category of a publication can be attributed through different mechanisms. For instance, the web of science areas are attributed to the outlets such as journals,
- Document type: each publication can be given one or more type. Documents classified as articles or reviews are generally called "paper",
- Open Access status.

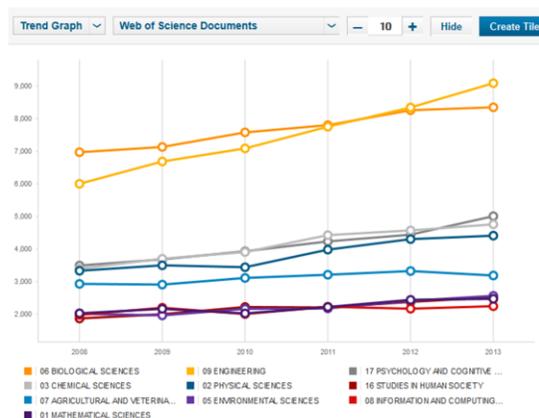
Citation network

- References cited in each document,
- Documents citing the source document.

2.2.5 Productivity metrics: measuring outputs

Number of documents

- In InCites Dataset > In the Research Areas scheme > Selected filtering,
- All documents of specific types can be selected: e.g. papers (articles, reviews, proceedings papers and book chapters),
- Period analysis or trend analysis (annual evolution).



Number of documents

All records from the Web of Science core collection are part of the InCites data but the total number of documents given in InCites will vary upon the selected filtering notably:

- The Research Areas scheme: under each scheme, the total “pool” of documents can vary (e.g. The Essential Science Indicator scheme only includes papers published in journal with a ESI category),
- The document type: all documents types across the WoS Core collection are available and the specific types can be selected. Typically, are called papers documents classified as articles, reviews, proceedings papers and book chapters. Documents in the Web of Science can have more than one type, but in InCites each document will be attributed a single type (e.g. A book chapter published as an article in a journal, might have an article + book chapter type, but will be considered as an article in InCites). The Web of Science scheme will include all the documents available.

Trends

The evolution of the number of documents can be analysed over a period (time frame) or through the annual variation (trend graph) within this time frame.

2.2.6 Impact metrics: influence and comparison

Citation Impact

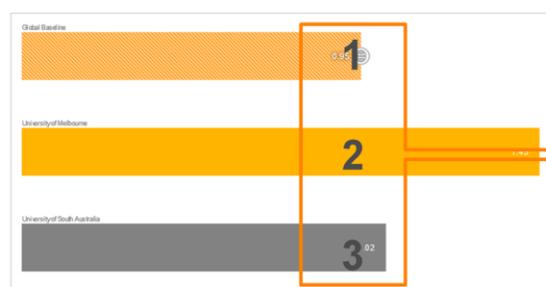
Measure influence.

- Times cites,
- Citation Impact,
- % documents cited.

Citation benchmarks

Measure impact relative to peers.

- Normalized Citation Impact,
- Average percentile,
- Percentage of top papers,
- Percentage of highly cites papers.



- 1: Global baseline = 1*
- 2: NCI=1.45 > 1, above peers
- 3: NCI=1.02 = 1, average

* Calculated value not exactly at 1.00



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Citation impact

The number of citations accrued by publications is an indicator of their overall influence. The higher the value and rate of citation the higher the influence is.

Total cites: raw number of citations, it measures influence of papers, authors, institutions,

Citation impact: average number of citations per document (often referred as CPP),

Percentage of cited documents: can also be seen as the percentage of uncited documents.

Citation benchmark

A given publication will attract a variable level of cites depending on a series of factors. The observed cites will therefore be a function of the age of the publication and these factors as summarised below:

$$\text{Cites to publication} = f(\text{influence of the publication, age, document type, field, other})$$

"other" residual factors can notably include the number of authors and affiliations, the geographic origin of the publication.

To take into account the effect of "age, document type, field" InCites provides a series of normalised indicators that enable the comparison of a pair of publications or a pair of document sets.

Normalized Citation Impact: the average number of citation to the selected publications normalised for the publication year, the category and the document type.

Average percentile: the average rank of papers in the selected publications that are ranked by number of Cites each year and in individual field. Papers in the top 3% will have be ranked in the 97th percentile.

Percentage of top papers: The percentage of papers in the selected publications that are ranked in the top 1% or 10% by number of Cites each year and in individual field.

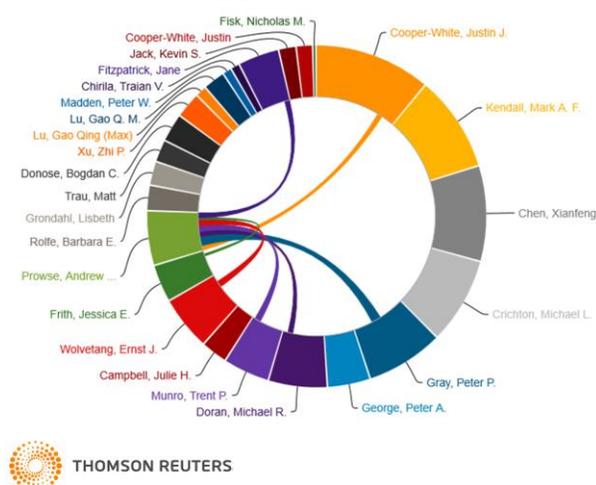
Percentage of highly cites papers: as above but it identify the top 1% papers in individual ESI categories over the latest ESI period (last 10 years).

2.2.7 Collaboration metrics: networks

- View collaboration networks
- Select collaborating entities

Collaboration indicators

- % of international collaborations
- % of industry collaborations



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InCites facilitates several views of collaborations (co-authored publications) within its interface that enable the user to identify and evaluate collaborations at various levels (country/region, institution, person). For example, it is very simple to create an analysis to evaluate the performance of any collaboration. Furthermore, once the collaboration has been identified, it is straightforward to drill down to identify the individual people, subjects or papers that make up the collaboration.

However InCites also includes pre-calculated indicators of collaboration which can be used for complementary performance indicators.

International collaborations

The International Collaborations indicator shows the number of publications that have been found with at least two different countries among the affiliations of the co-authors. The International Collaborations indicator can be applied to any level of aggregation (author, institution, national, journal or field). It does not take into account the total number of countries represented in the publication (no fractional counting).

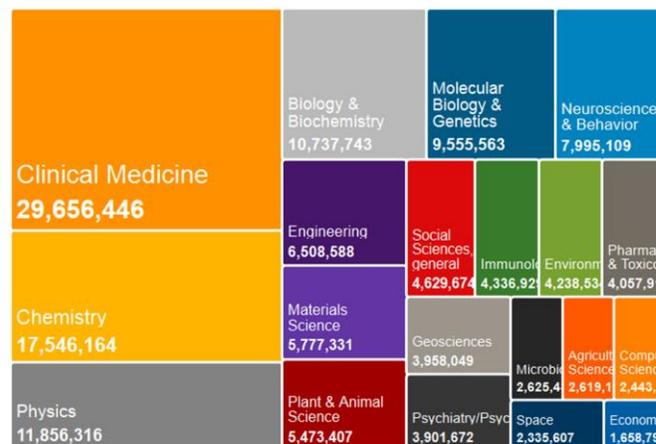
Industry collaborations

The Industry Collaborations indicator shows the number of publications that have been found with at least two different organisation types among the affiliations of the co-authors, with one classified as “corporate”.

Only those entities that have been unified will have an organization type. There will be corporate affiliations that have not yet been unified, will not have an organization type and therefore will not be identified as an industrial collaboration. Thomson Reuters has made considerable efforts to identify the largest corporations and unify them, however this tends to focus on large multinational corporations and may lead to regional bias. In the future, as more organizations are unified, the number of industry collaborative papers is expected to increase.

2.2.8 Specialisation features: diversity

- Selection of Research Areas through various schemas
- Selection of source title sets
- Selection of document types



Because a citation count of a paper needs to be looked at it in the context of peer publications, subject schemas are important to place bibliometric data into context.

It is necessary to understand performance within the context of subject areas because publication rates and citation behaviour can vary considerably from discipline to discipline, document type and over time. In addition, the use of research fields organised in different subject schemas enable the differentiation of the research between organisations, researchers or countries.

Publication sets can also be organised by source titles such as journals or book as well as through document types, for instance to differentiate articles to conference proceedings.

Research Areas

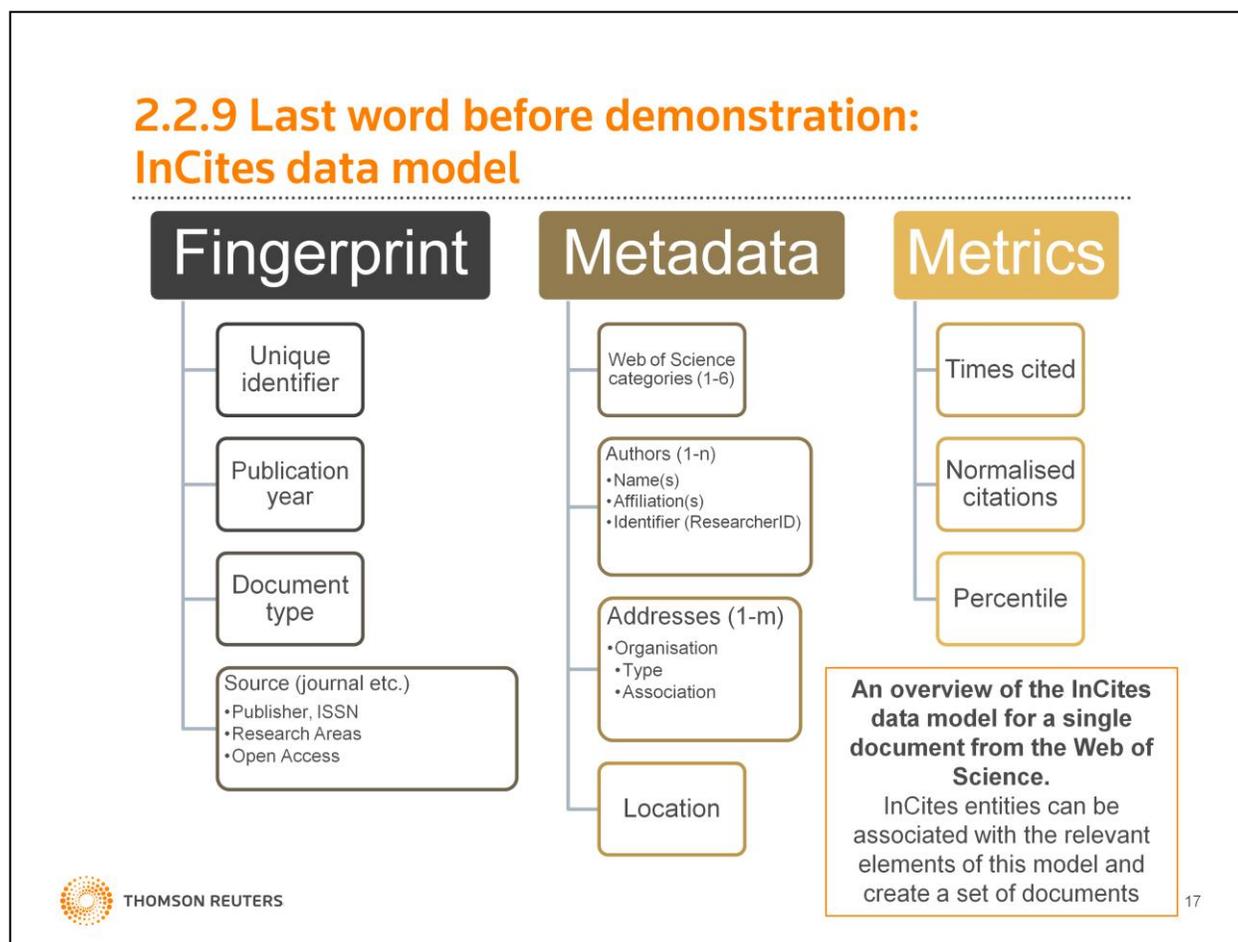
In each Schema, the selection of a Research Area determines the total set of publications analysed the explorer:

- Some schemas are mapped directly to journals (i.e. Web of Science, Essential Indicators, Australia FOR),
- Some schemas are mapped to the Web of Science areas (i.e. GIPP)
- In the Web of Science and Essential Science Indicators schemas, articles can also be mapped individually through the re-classification of the "multidisciplinary" categories.

Document types

In InCites documents from the Web of Science core collection are only attributed a single type, When a document has two or more types in the original data, a precedence table is used. For instance a document classified as "article and proceedings", will be an "article" in InCites.

2.2.9 Last word before demonstration: InCites data model



InCites data model

- InCites calculates results for the listed entities (people, Regions, Organizations, Research Areas, Journal) by aggregating information from the individual Web of Science records meeting the selected filters.
- The schematic on this page shows the structure of the data for a single record in InCites.

Some information is however only associated with Metadata values:

- An Organization is associated with a country,
- An Organisation participating in GIPP will have GIPP data associated.

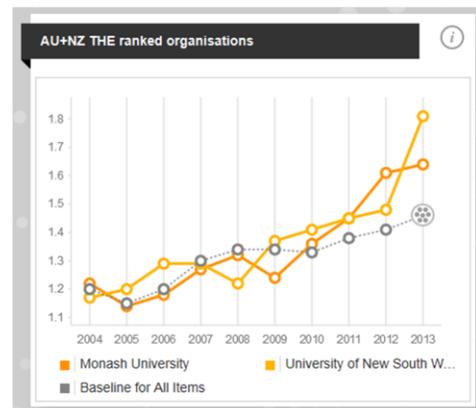
2.3 2.3 incites.thomsonreuters.com



2.3.1 Using InCites for organisations

Q: How does an institution compare to mine?

- Use the Explorer > Organisations
- Select the countries of the institutions to compare
- Pin the target institutions to the top
- Select the visualisations: Bar chart or Trend graph
- Select the time period: 2004-2013 (10 years, excluding incomplete years)
- Select the indicators: number of documents, Category NCI, % international collaborations, H-index, Number or % of highly cited papers and document in top 10%



Evolution of the category NCI of two institutions having similar sizes. The baseline for all items is the value for all universities ranked in the THE WUR in Australia and New Zealand

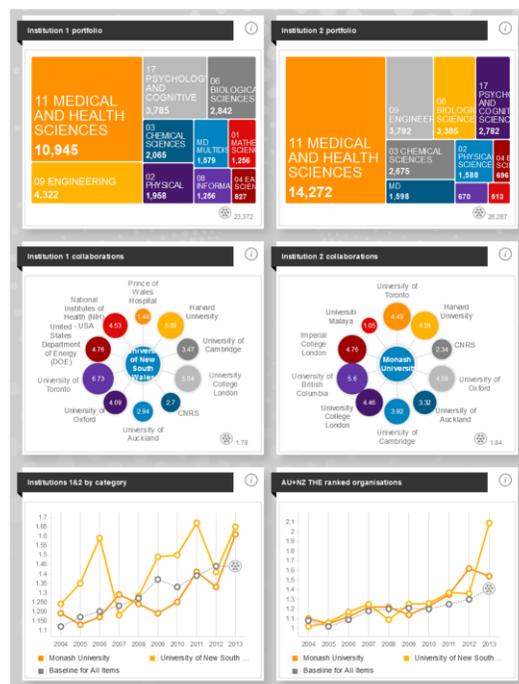
Organisations in InCites

- Organisations listed in InCites represent “unified” addresses from the publications’ by lines, known as the “organisation-enhanced” field in the Web of Science,
- Organisation names not unified are not included,
- Organisations have been classified in types, including “Academic Systems” for groupings of Higher Education institutions.
- “Corporate” organisations have been selected to target companies with the largest publication production. Co-authorship with this organisation type is included to calculate the % industry collaborations.

2.3.2 Using InCites and research areas

Q: Are two institutions complimentary ?

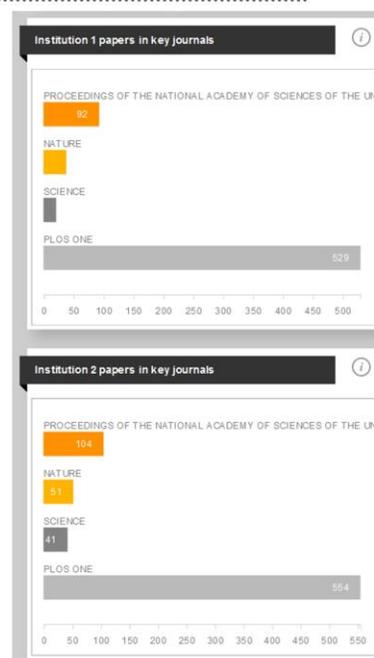
- Compare the multiple dimensions of the institutions
- Analyse the portfolio of publications: treemap for each FoR codes
- Analyse the international collaborations: performance of common collaborators, gap analysis
- Review citation impact in key disciplines: Trend Graph



2.3.3 Using InCites and journals

Q: How articles in key journals compare to peers?

- Use the Explorer > Journals, Books
- Select the Journals and the documents types (i.e. article, review, proceedings paper)
- Select the organisation name of each peer and update the results prior to saving individual tiles
- For aggregated values across selected journals, choose the Explorer > Organizations
- Selected journals can include journals monitored for rankings, Open Access journals or Journals and conferences used in discipline based evaluations.



2.3.4 Using InCites for people

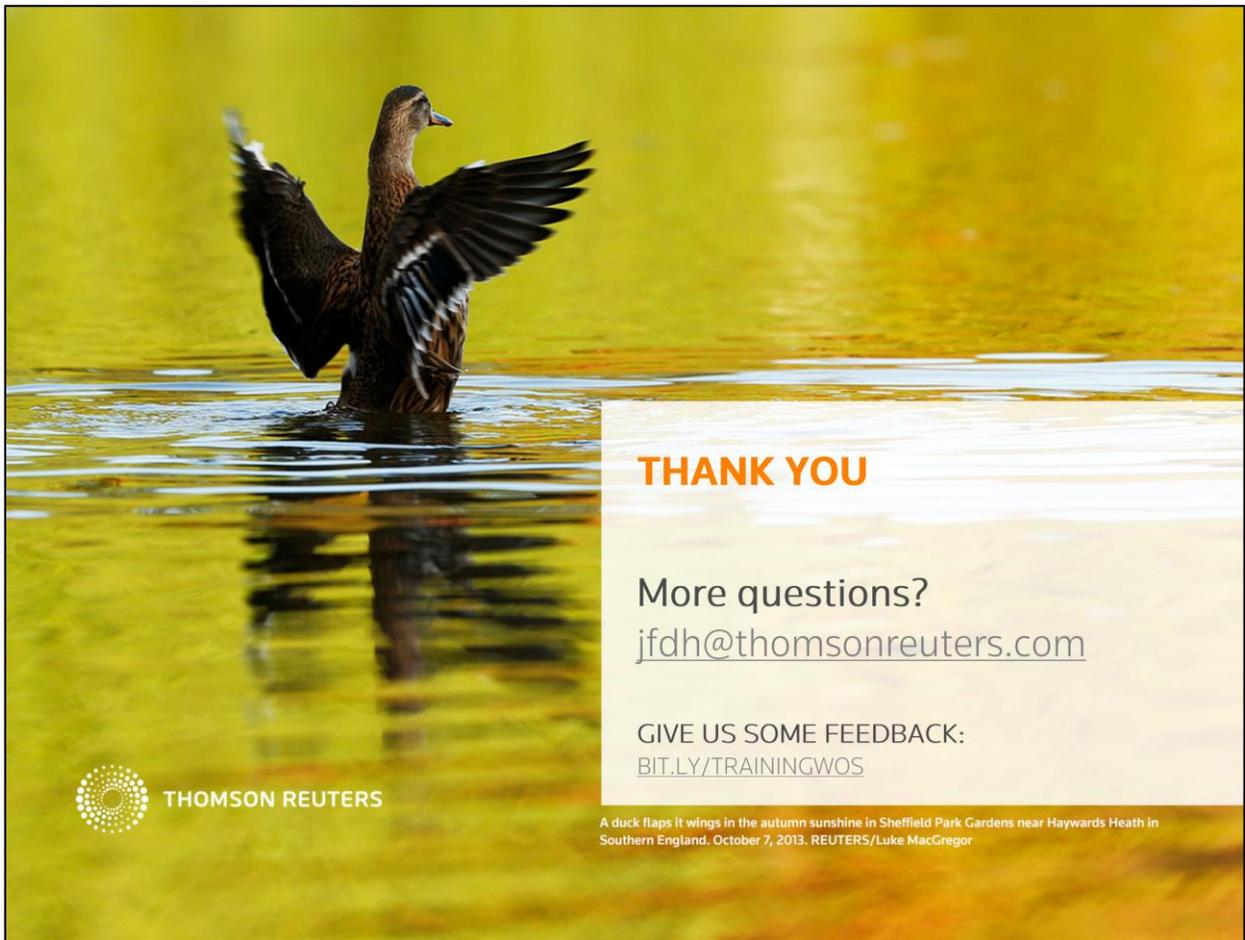
Q: How do I compare to my peers?

- Use the Explorer > people
- Select author names or an author identifier when available (i.e. ResearcherID)
- From the list of author names, create the relevant benchmark (from all items or pinned items)
- The Trend graph will show the evolution of the publications (annual productivity, or annual citation impact (notably category normalized citation impact))
- The Benchmark line in the list will show the overall indicators, including the total number of papers, the normalised citation metrics and the H-index



Who are my peers?

- By normalising the citation counts, the citations received by each paper is compared to the other papers in the same disciplines (Research areas). In such a case the peers are all other authors publishing in these categories. When using the category normalized citation impact as an indicator (3.93 in this example), the value compared to 1.0 shows if the author compares below (-0.8) or above (1.2+) peers.
- For a more precise definition of peers, the same process should be done for other authors (create one tile per author and compare the benchmark values or annual trends). In such case, you need to use an existing list of researchers. The list of Highly Cited researchers can also be an alternative resource: <http://highlycited.com/>



THANK YOU

More questions?

jfdh@thomsonreuters.com

GIVE US SOME FEEDBACK:

[BIT.LY/TRAININGWOS](https://bit.ly/trainingwos)



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A duck flaps its wings in the autumn sunshine in Sheffield Park Gardens near Haywards Heath in Southern England. October 7, 2013. REUTERS/Luke MacGregor