



# USING CITATION ANALYSIS IN RESEARCH EVALUATION

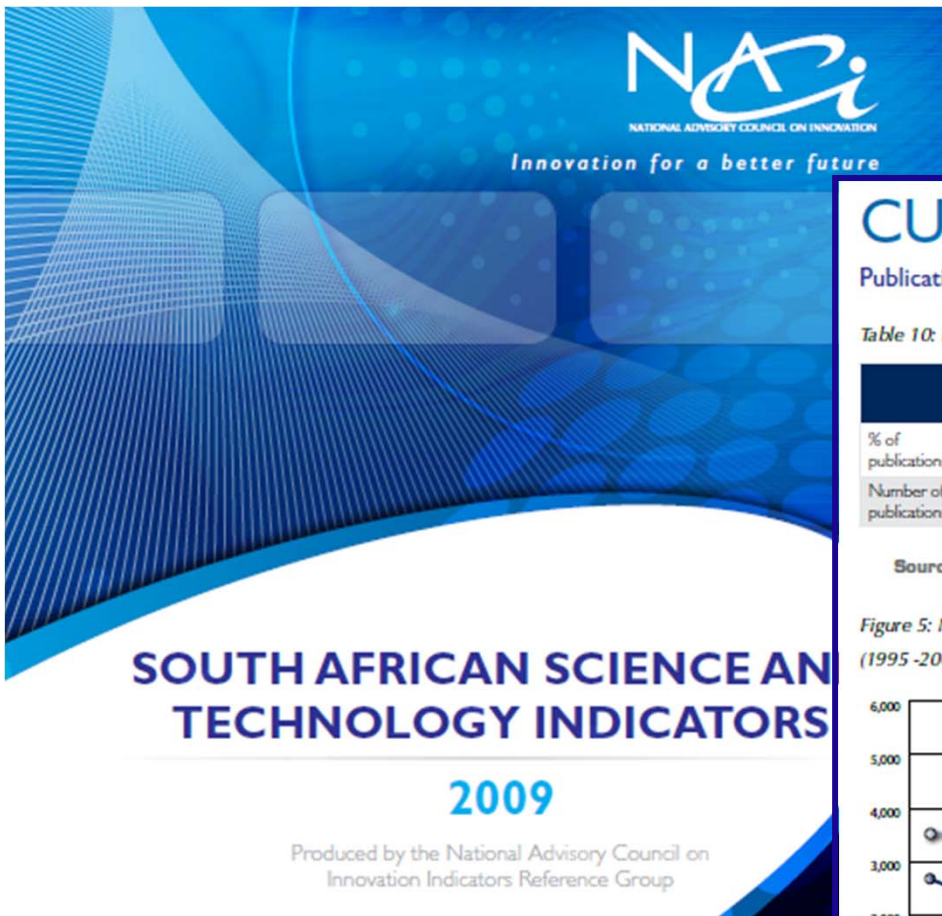
Philip Purnell  
November 2011

South Africa



THOMSON REUTERS

# USING CITATION INDICATORS IN RESEARCH EVALUATION



## CURRENT R&D CAPACITY

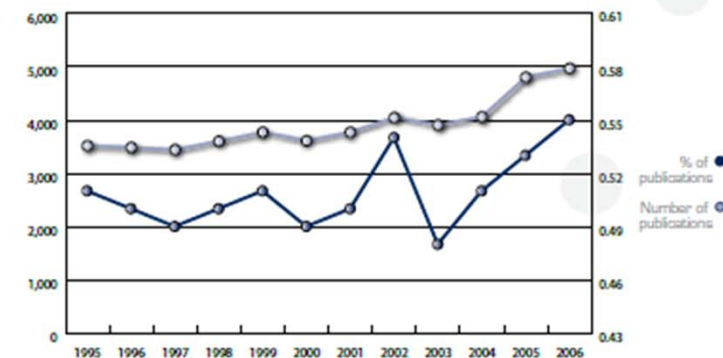
### Publications

Table 10: Number of SA Publications and World Share (1995-2006)

	Year											
	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
% of publications	0.51	0.50	0.49	0.50	0.51	0.49	0.50	0.54	0.48	0.51	0.53	0.55
Number of publications	3,522	3,491	3,447	3,606	3,776	3,614	3,775	4,049	3,910	4,063	4,805	4,971

Source "National Science Indicators Database", Institute for Scientific Information, Philadelphia

Figure 5: Number of SA Scientific Publications in ISI journals and World Share (1995-2006)



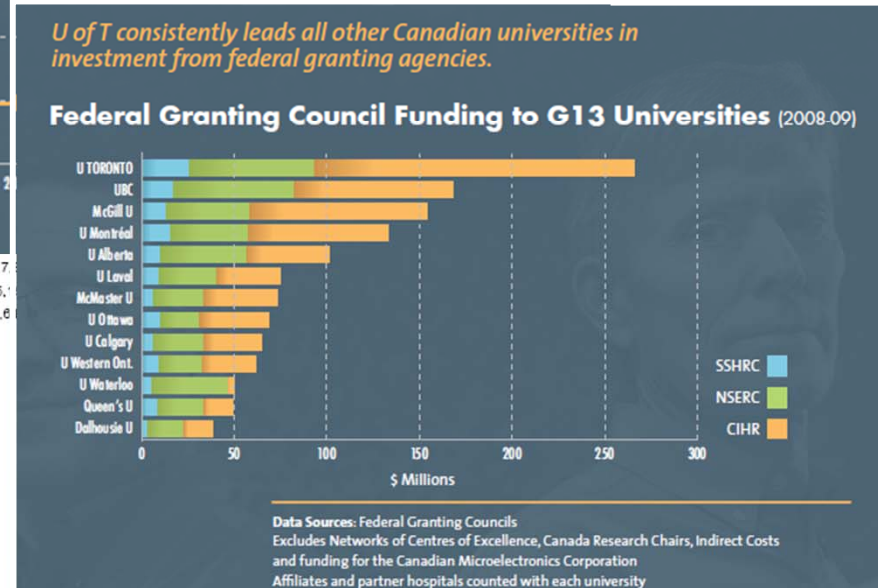
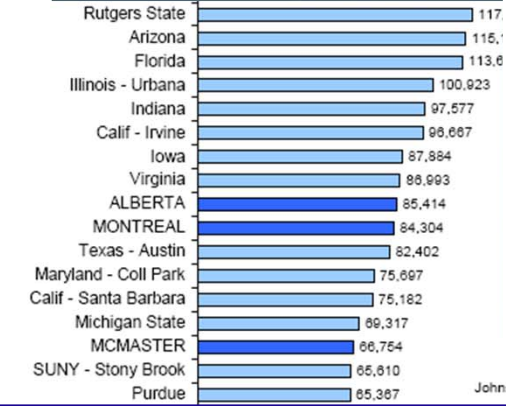
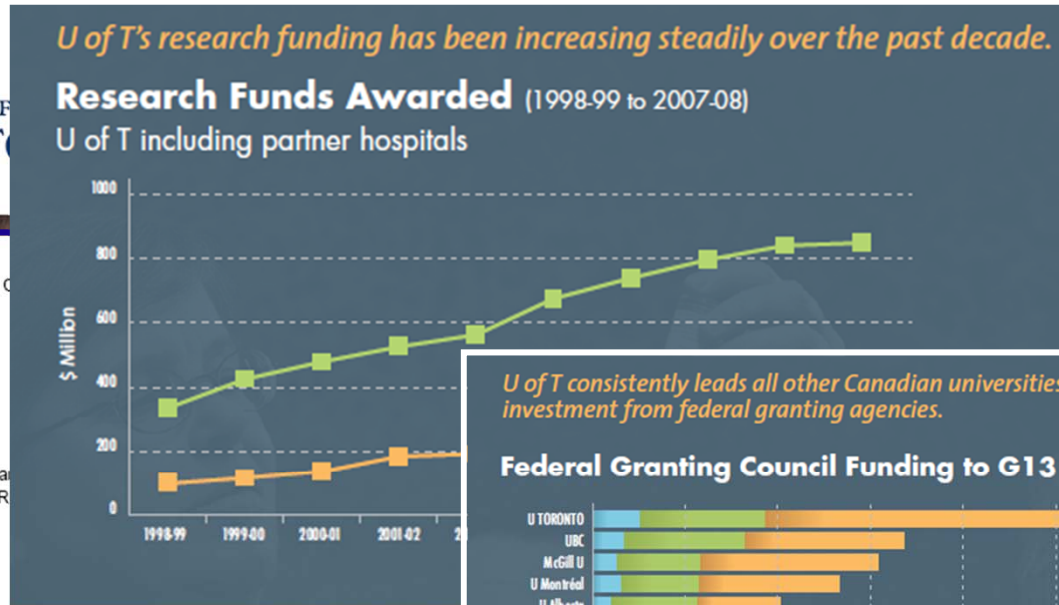
# USING METRICS IN RESEARCH



UNIVERSITY OF  
TORONTO



PERFORMANCE  
FOR GOVERNANCE  
A SUMMARY



# HOW IS RESEARCH EVALUATED?

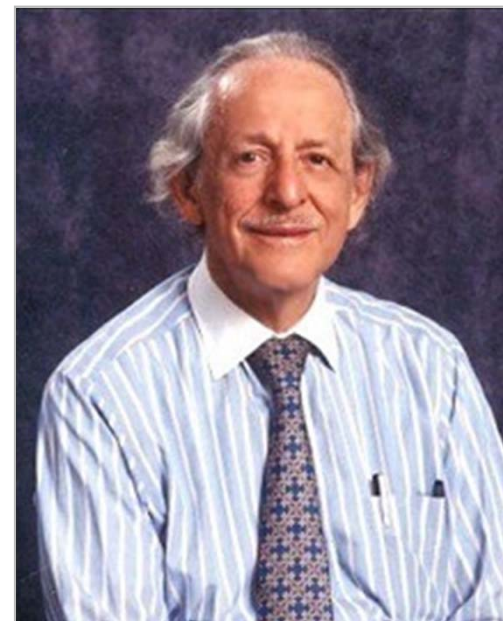
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- Peer Evaluation
  - Experts reading the research papers
- Productivity
  - Number of researchers
  - Publication output
- Grant awards
  - Research funding awarded
- Prestigious awards
  - Nobel Prizes
- Reputation
  - Surveys of teaching performance
  - Surveys of research standards
- Innovation
  - Industry income and patents
- Teaching
  - Undergraduate degrees
  - Teacher to student ratio
- International Mix
  - National / International staff and students
- Citation analysis
  - Normalised for volume and subject area

# A BRIEF HISTORY OF THE CITATION INDEX

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- Concept first developed by Dr Eugene Garfield
  - *Science*, 1955
- The *Science Citation Index* (1961)
  - SCI print (1960's)
  - On-line with SciSearch in the 1970's
  - CD-ROM in the 1980's
  - Web interface (1997) *Web of Science*
- Content enhanced:
  - Science Citation Index – Expanded (SCI-E)
  - Social Sciences Citation Index (SSCI)
  - Arts & Humanities Citation Index (AHCI)
  - Conference Proceedings Citation Index (CPCI)
  - **Book Citation Index (2011)**



# THE DATA

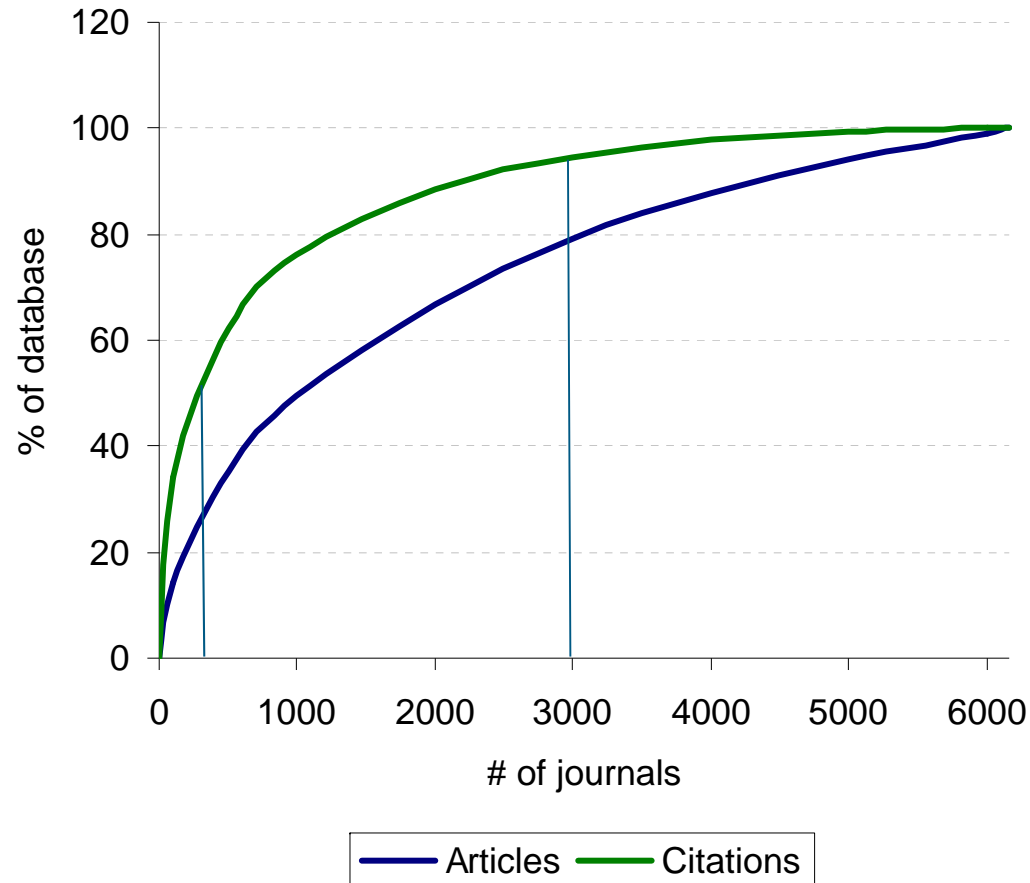
## THOMSON REUTERS WEB OF SCIENCE

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- World's largest bibliographic database & citation index
  - 50 million papers
  - 800 million citations
- Multidisciplinary
  - 252 categories covering Science, Social Sciences, Arts & Humanities
- 110 years consistent coverage
  - Articles: (1898 – 2011)
  - Citations: (1898 – 2011)
- Content
  - Journal publications
  - Conference proceedings papers
  - Books (Joined Web of Science in October 2011)
- Updated weekly
- Exclusively hosted on ISI Web of Knowledge platform



# WHY NOT INDEX ALL JOURNALS?



## 40% of the journals:

- 80% of the publications
- 92% of cited papers

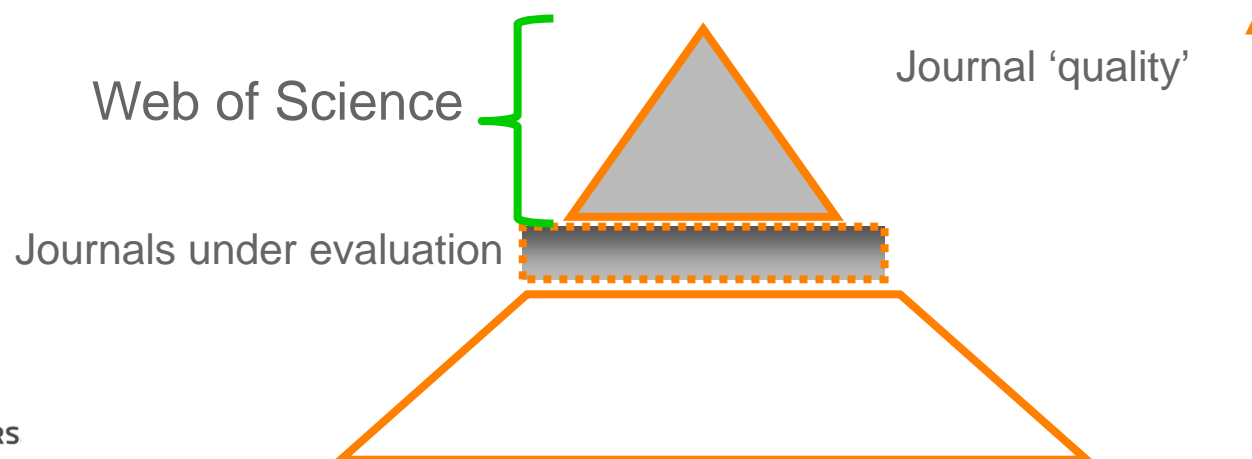
## 4% of the journals:

- 30% of the publications
- 51% of cited papers

# HOW TO DECIDE WHICH JOURNALS TO INDEX

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- Approx. 2.500 journals evaluated annually
  - 10-12% accepted
- Thomson Reuters editors
  - Information professionals
  - Librarians
  - Experts in the literature of their subject area





# THOMSON REUTERS JOURNAL SELECTION POLICY

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- Publishing Standards
  - Peer review, Editorial conventions
- Editorial content
  - Addition to knowledge in specific subject field
- Diversity
  - International, regional influence of authors, editors, advisors
- Citation analysis
  - Editors and authors' prior work

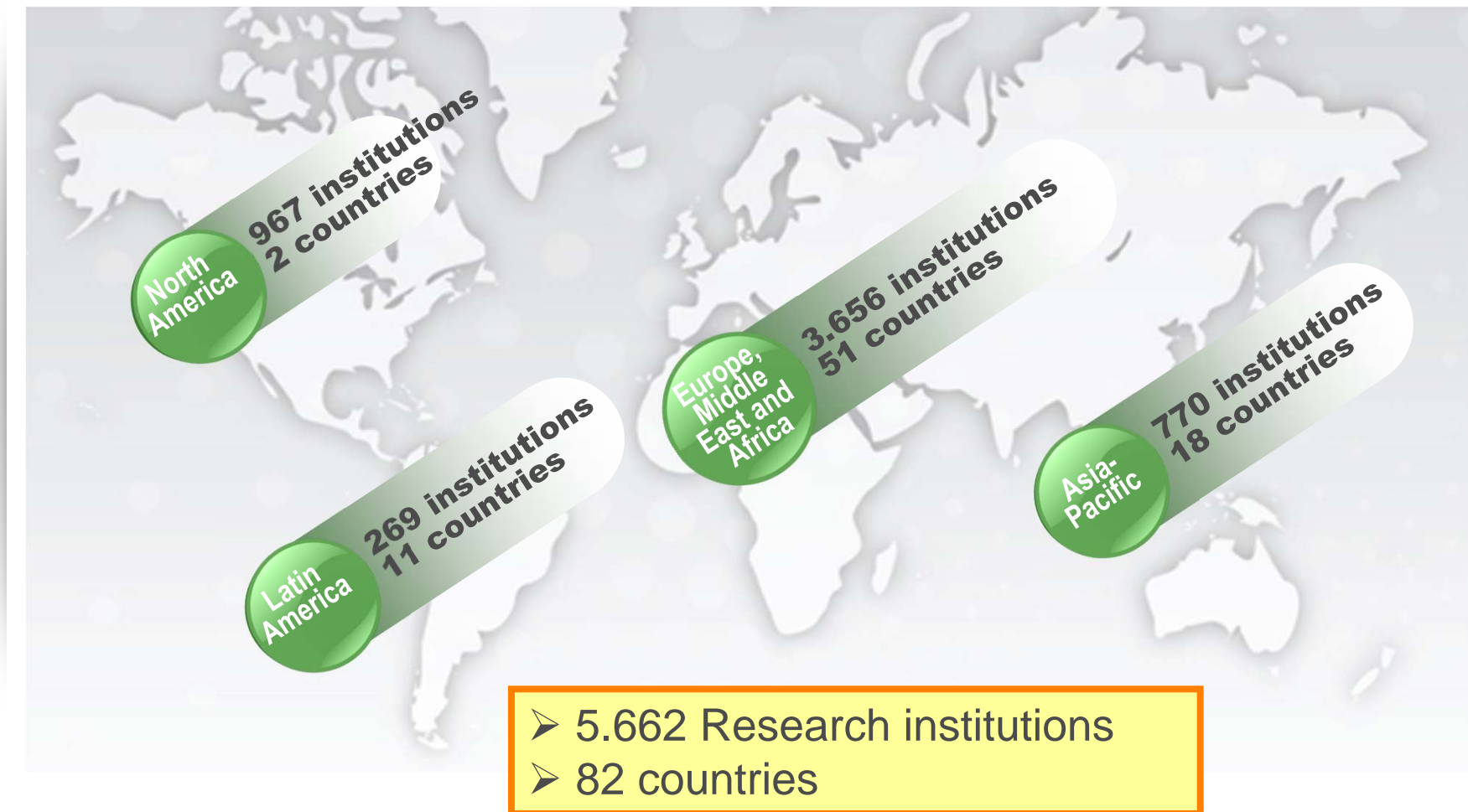
# WEB OF SCIENCE GLOBAL REPRESENTATION

WEB OF KNOWLEDGE<sup>SM</sup> | DISCOVERY STARTS HERE

The screenshot displays the Web of Science interface. At the top, there are navigation tabs: "All Databases", "Select a Database", "Web of Science", and "Additional Resources". Below these are search options: "Search", "Author Finder", "Cited Reference Search", "Structure Search", "Advanced Search", and "Search History". The main content area shows the title "Web of Science<sup>SM</sup>" and a navigation bar with "<< Back to results list" and "Record 1 of 788 >>". Below the navigation bar are action buttons: "Order Full Text", "SFX", "a UIUC Catalog", "Go + (0)", and "Save to: EndNote Web, EndNote, ResearcherID more options". The main title of the article is "FLOW-INJECTION TURBIDIMETRIC ANALYSIS OF SULFATE IN WATER". The author is listed as "Author(s): VANSTADEN, JF (VANSTADEN, JF)". The source information is "Source: WATER SA Volume: 12 Issue: 1 Pages: 43-50 Published: JAN 1986". Other details include "Times Cited: 22 (from Web of Science)", "Cited References: 3 [view related records] Citation Map", "Document Type: Article", "Language: Afrikaans", "Reprint Address: VANSTADEN, JF (reprint author), UNIV PRETORIA, DEPT CHEM, PRETORIA 0002, SOUTH AFRICA", "Publisher: WATER RESEARCH COMMISSION, PO BOX 824, PRETORIA 0001, SOUTH AFRICA", "Web of Science Category: Water Resources", "Subject Category: Water Resources", "IDS Number: AYN58", and "ISSN: 0378-4738".

# GLOBAL RESEARCH COMMUNITY USING WEB OF SCIENCE

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# EVALUATORS USING WEB OF SCIENCE DATA

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- South Africa: DST, NRF, U Pretoria, UKZN, NWU, Fort Hare, UNISA, WITS
- Germany: Max Planck Society, LMU Munich, FU Berlin, TU Dresden
- France: Ministry of Research, OST, CNRS
- United Kingdom: King's College London; U Warwick, Glasgow
- Russia: Russian Foundation for Basic Research (RFBR)
- European Union: EC's DGXII(Research Directorate)
- US: NSF: biennial Science & Engineering Indicators report (since 1974)
- Japan: Ministry of Education, Ministry of Economy, Trade & Industry
- Canada: NSERC, FRSQ (Quebec), Alberta Research Council
- Australian Academy of Science, gov't lab CSIRO
- People's Republic of China: Chinese Academy of Science
- University rankings agencies



# UNIVERSITY RANKINGS AGENCIES

**WEIGHTING SCHEME FOR RANKINGS SCORES**

International mix - staff and students  
Ratio of international to domestic staff 3%  
Ratio of international to domestic students 2%

Industry income - innovation  
Research income from industry

Research - volume, income and reputation  
Reputational survey - research 19.5%  
Research income (scaled) 5.25%  
Papers per academic and research staff 4.5%  
Public research income/total research income 0.75%

**ACADEMIC RANKING OF WORLD UNIVERSITIES** SINCE 2003

財團法人高等教育評鑑中心基金會  
Higher Education Evaluation & Accreditation Council of Taiwan

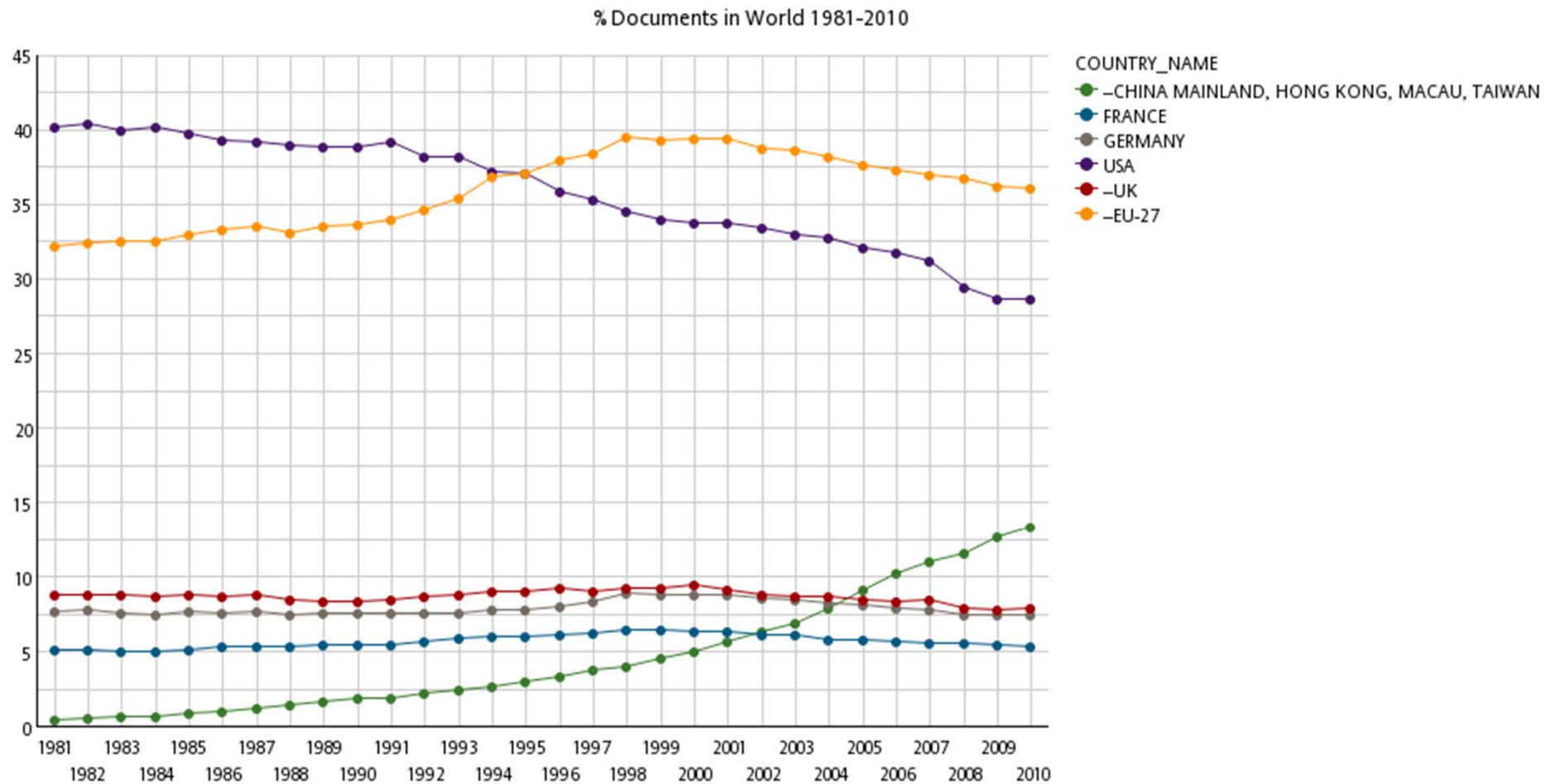
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## 2011 Performance Ranking of Scientific Papers for World Universities

World Rank ▲	University	Region Rank	11 years articles	Current articles	11 years citations	Current citations	Ave. citations	H-Index	HiCi papers	Hi-Impact journal articles	Total score	Ref. World Rank (FTE)
298	University of Cape Town	1	9.26	11.42	3.43	5.85	23.23	30.38	3.18	3.93	12.46	232
488	Stellenbosch University	2	6.21	7.73	1.90	2.90	19.26	21.52	1.34	2.48	8.68	403

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IE Ver.6.0 or later, or Firefox 2.0 or later, is suggested to browse the website / optimal resolution: 1024\*768,96 dpi

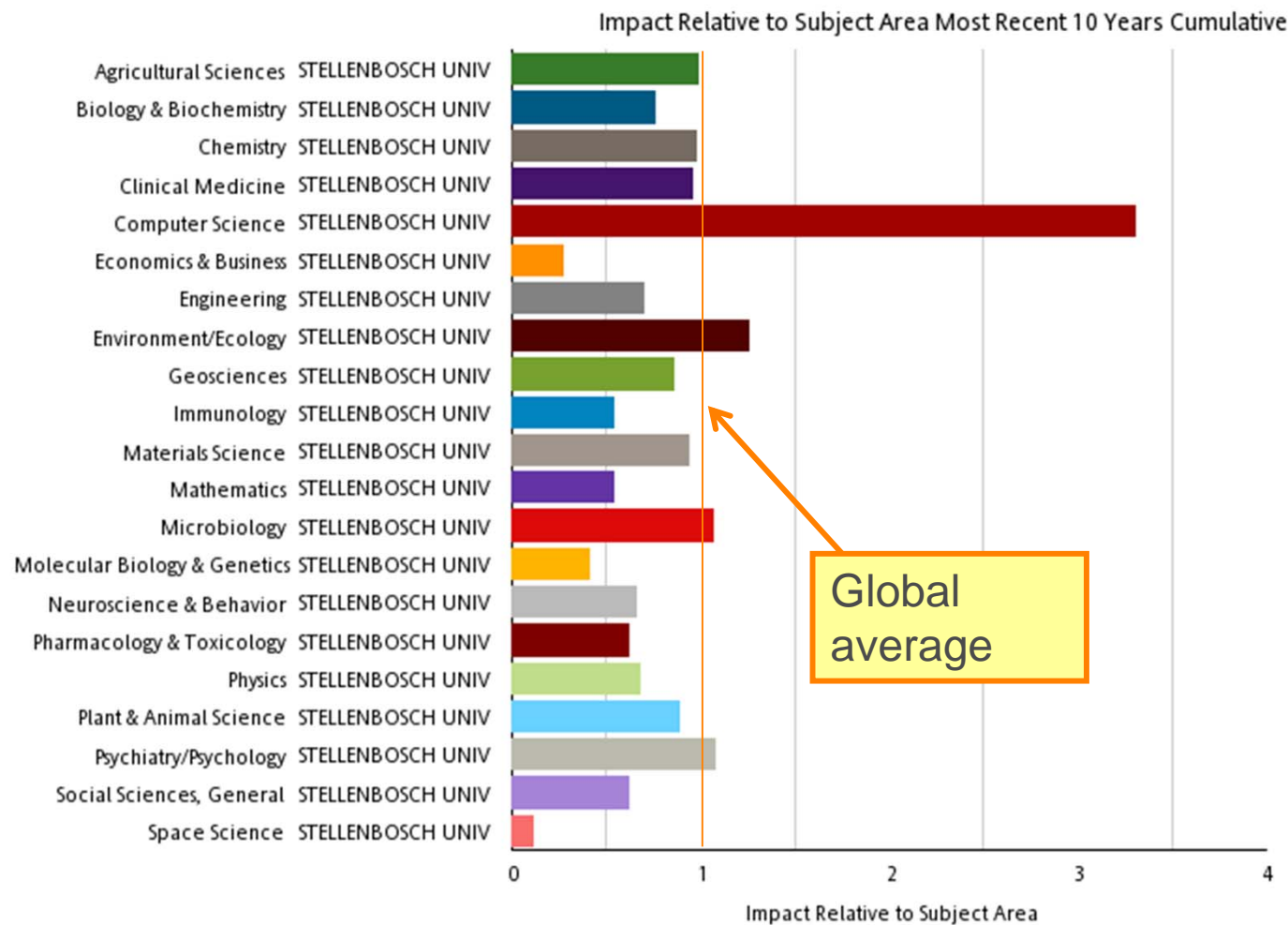
# RESEARCH PAPERS BY TERRITORY WORLD SHARE



# PRODUCTIVITY AND PERFORMANCE BY RESEARCH FIELD

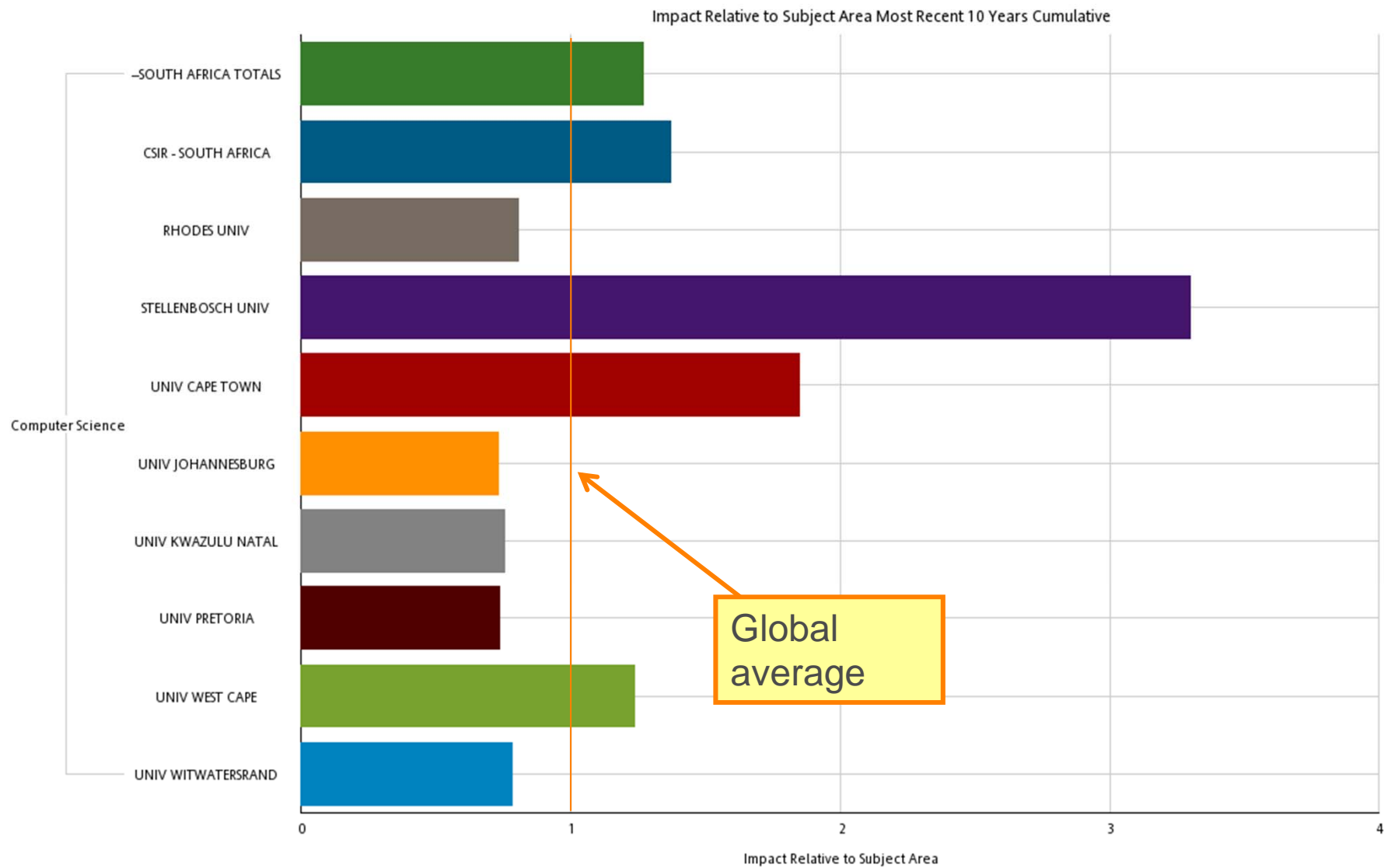
Institution	Subject Area	Web of Science Documents <a href="#">View Graph</a>	Times Cited <a href="#">View Graph</a>	Cites per Document (Impact) <a href="#">View Graph</a>	% Documents Cited <a href="#">View Graph</a>	Impact Relative to Subject Area <a href="#">View Graph</a>	Impact Relative to Institution <a href="#">View Graph</a>
STELLENBOSCH UNIV	Clinical Medicine	1,235	13,704	11.10	77.89	0.95	1.34
STELLENBOSCH UNIV	Plant & Animal Science	920	5,653	6.14	75.76	0.88	0.74
STELLENBOSCH UNIV	Chemistry	535	5,316	9.94	80.19	0.97	1.20
STELLENBOSCH UNIV	Environment/Ecology	505	6,380	12.63	84.16	1.25	1.53
STELLENBOSCH UNIV	Biology & Biochemistry	471	5,612	11.92	85.35	0.76	1.44
STELLENBOSCH UNIV	Social Sciences, General	412	1,128	2.74	53.88	0.62	0.33
STELLENBOSCH UNIV	Engineering	337	1,044	3.10	60.53	0.70	0.38
STELLENBOSCH UNIV	Physics	302	1,651	5.47	68.21	0.68	0.66
STELLENBOSCH UNIV	Agricultural Sciences	289	1,809	6.26	77.16	0.90	0.76
STELLENBOSCH UNIV	Psychiatry/Psychology	276	3,034	10.99	79.35	1.07	1.33
STELLENBOSCH UNIV	Microbiology	229	3,496	15.27	80.79	1.06	1.85
STELLENBOSCH UNIV	Mathematics	186	312	1.68	47.31	0.54	0.20
STELLENBOSCH UNIV	Geosciences	182	1,367	7.51	75.27	0.85	0.91
STELLENBOSCH UNIV	Molecular Biology & Genetics	175	1,609	9.19	90.86	0.40	1.11
STELLENBOSCH UNIV	Economics & Business	167	261	1.56	41.92	0.27	0.19
STELLENBOSCH UNIV	Neuroscience & Behavior	140	1,616	11.54	87.86	0.66	1.40
STELLENBOSCH UNIV	Immunology	82	915	11.16	84.15	0.53	1.35
STELLENBOSCH UNIV	Computer Science	75	876	11.68	61.33	3.30	1.41
STELLENBOSCH UNIV	Materials Science	73	444	6.08	67.12	0.93	0.74
STELLENBOSCH UNIV	Pharmacology & Toxicology	33	225	6.82	81.82	0.61	0.83

# PERFORMANCE BY RESEARCH FIELD

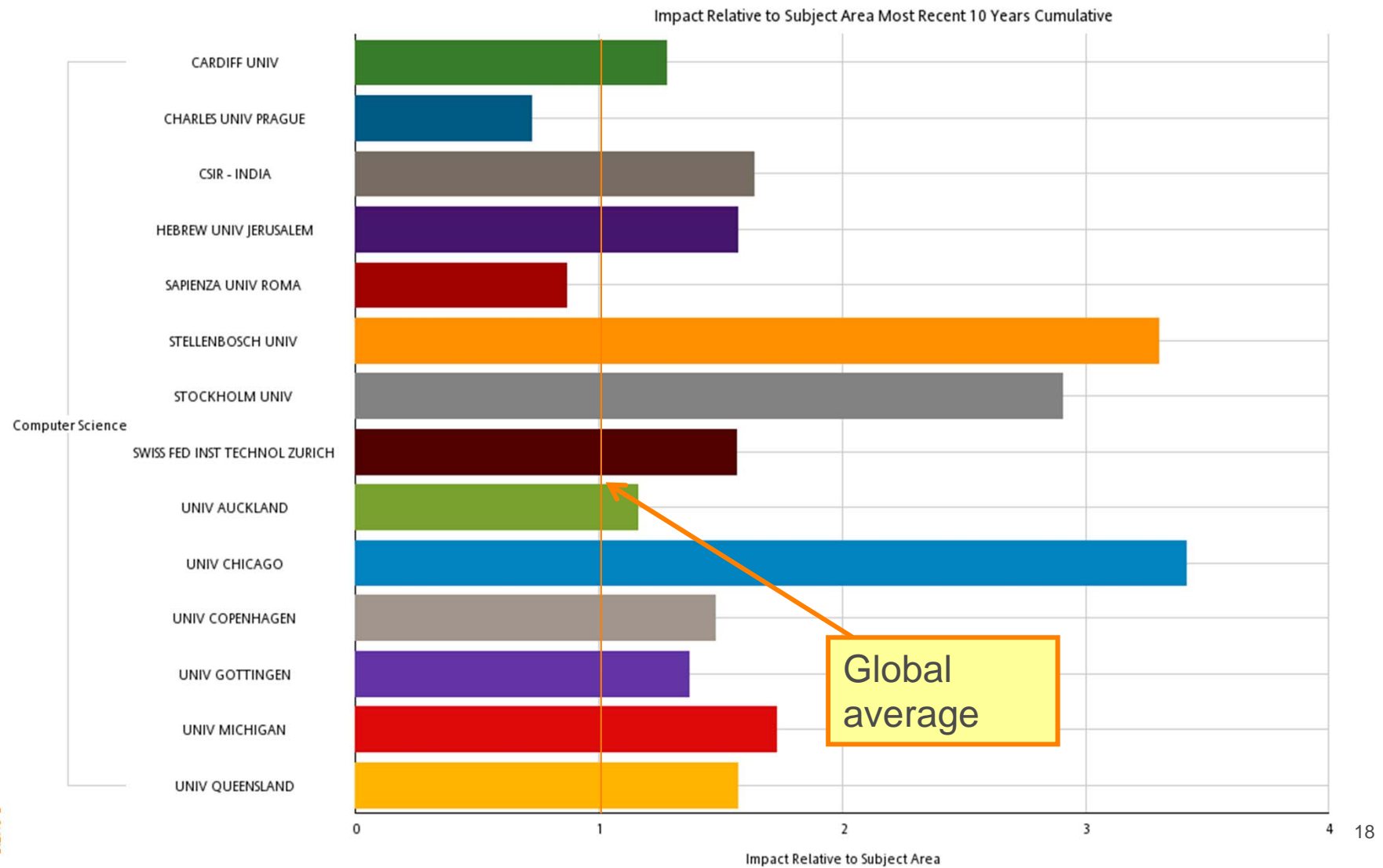




# STELLENBOSCH COMPUTER SCIENCE COMPARED NATIONALLY



# STELLENBOSCH COMPUTER SCIENCE COMPARED GLOBALLY



# EVAUATING INDIVIDUAL ARTICLES ON THEIR OWN MERITS

Times Cited	2nd Generation Citations	2nd Generation Citations per Citing Document	Journal Actual/Expected Citations	Category Actual/Expected Citations	Percentile in Subject Area	Journal Impact Factor	Publication Year	Subject Area <a href="#">View Ranking</a>	Document Type <a href="#">View Ranking</a>	First Author <a href="#">View Ranking</a>	Journal <a href="#">View Ranking</a>	Document Title	Volume	Page
<a href="#">642</a>	13,311	20.73	37.43	20.84	0.07	3.97	1988	<a href="#">OBSTETRICS &amp; GYNECOLOGY</a>	ARTICLE	KRUGER, TF <a href="#">et al.</a>	FERTILITY AND STERILITY	<a href="#">PREDICTIVE VALUE OF ABNORMAL SPERM MORPHOLOGY IN INVITRO FERTILIZATION</a>	49	112-117

## Web of Science <sup>SM</sup>

[<< Back to results list](#)

Record 2 of 171

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### PREDICTIVE VALUE OF ABNORMAL SPERM MORPHOLOGY IN INVITRO FERTILIZATION

**Author(s):** KRUGER, TF (KRUGER, TF); ACOSTA, AA (ACOSTA, AA); SIMMONS, KF (SIMMONS, KF); SWANSON, RJ (SWANSON, RJ); MATTA, JF (MATTA, JF); OEHNINGER, S (OEHNINGER, S)

**Source:** FERTILITY AND STERILITY Volume: 49 Issue: 1 Pages: 112-117 Published: JAN 1988

**Times Cited:** 665 (from Web of Science)

**Cited References:** 21 [[view related records](#)] [Citation Map](#)

**Document Type:** Article

**Language:** English

**Addresses:**

- EASTERN VIRGINIA MED SCH, DEPT BIOL SCI, ANDROL LAB, NORFOLK, VA 23501
- TYGERBERG HOSP, PAROWALLEI, SOUTH AFRICA
- UNIV STELLENBOSCH, STELLENBOSCH, SOUTH AFRICA

**Publisher:** AMER SOC REPRODUCTIVE MEDICINE, 1209 MONTGOMERY HIGHWAY, BIRMINGHAM, AL 35216-2809

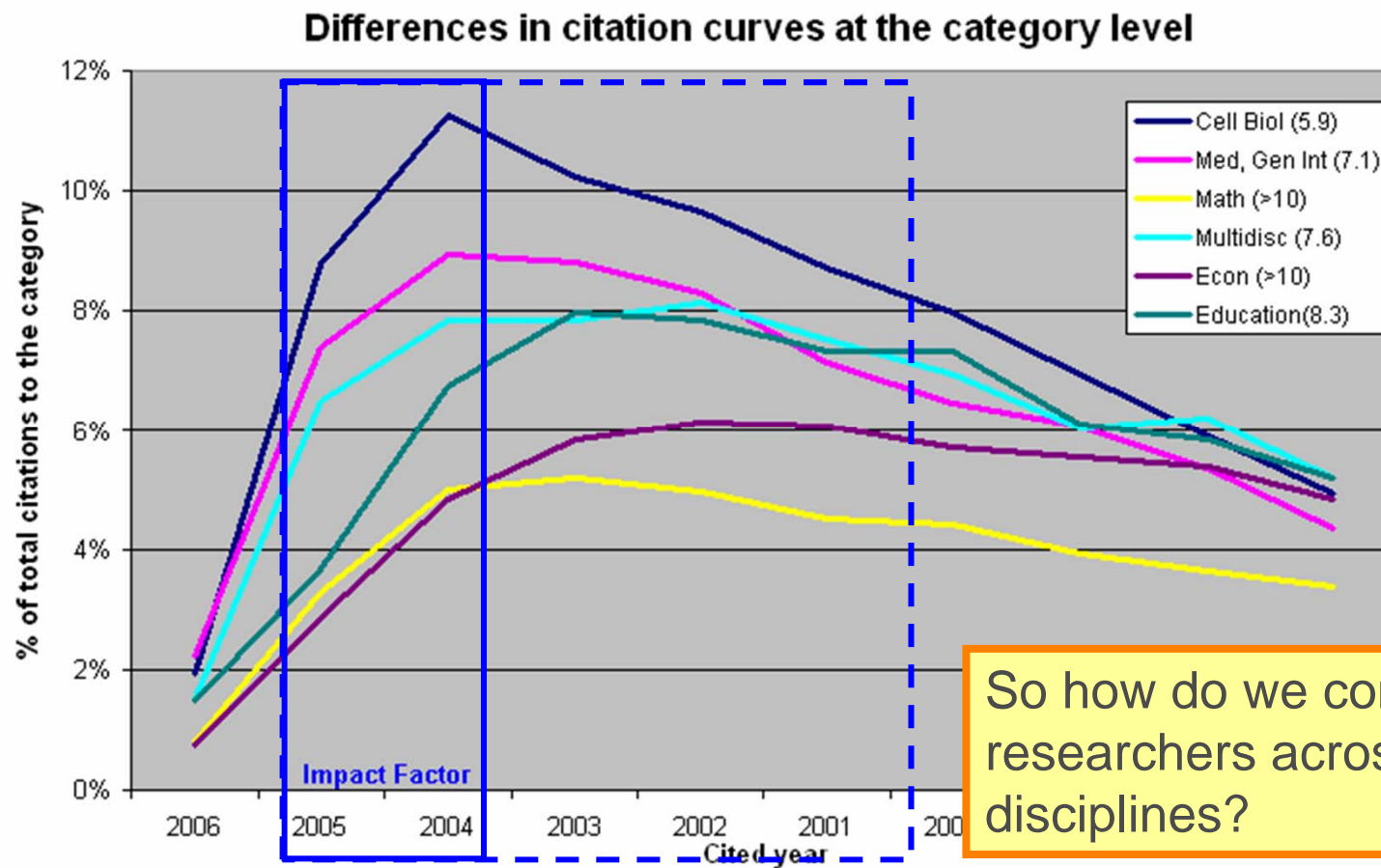
**Web of Science Category:** Obstetrics & Gynecology; Reproductive Biology

**Subject Category:** Obstetrics & Gynecology; Reproductive Biology

**IDS Number:** L7353

**ISSN:** 0015-0282

# CITATION BEHAVIOUR VARIES BETWEEN SUBJECT CATEGORIES



So how do we compare researchers across disciplines?

# BENCHMARK YOUR PAPERS AGAINST GLOBAL AVERAGES – IS THIS A HIGHLY CITED PAPER?

Total Citations	2nd Generation Citations	2nd Generation Citations per Citing article	Journal Expected Citations (JXC)	Category Expected Citations (CXC)	Percentile in Field	Journal Impact Factor	Publication Year	Field <a href="#">View Ranking</a>	Article Type <a href="#">View Ranking</a>	Author <a href="#">View Ranking</a>	Journal <a href="#">View Ranking</a>	
<a href="#">40</a>	776	19.40	34.30	18.83	12.92	10.90	2004	<a href="#">HEMATOLOGY</a>	ARTICLE	<a href="#">CALLE, Y</a>	BLOOD	<a href="#">WASp deficiency in r osteoclast sealing zc resorption</a>

Articles published in 'Blood' from 2004 have been cited 34,30 times

Hematology articles from this year have been cited 18,83 times

This article is ranked in the 12,92nd percentile in its field by citations

This paper has received  $40/34,30=1,17$  times the expected citations for this journal

This paper has received  $40/18,83=2,12$  times the expected citations for this subject category

# WHICH AUTHORS' PAPERS HAVE PERFORMED BEST IN THEIR FIELD?

## AUTHOR RANKING

All paid jobs absorb and degrade the mind  
 – Aristotle c.330BC

Rank	Author	Times Cited	Web of Science Documents	Average Cites per Document	h-index	Journal Actual/Expected Citations	Category Actual/Expected Citations
1		<a href="#">1,520</a>	<a href="#">19</a>	<a href="#">80.00</a>	<a href="#">13</a>	<a href="#">2.99</a>	<a href="#">11.32</a>
2		<a href="#">1,787</a>	<a href="#">27</a>	<a href="#">66.19</a>	<a href="#">10</a>	<a href="#">3.61</a>	<a href="#">8.41</a>
3		<a href="#">676</a>	<a href="#">9</a>	<a href="#">75.11</a>	<a href="#">5</a>	<a href="#">2.02</a>	<a href="#">8.04</a>
4		<a href="#">5,711</a>	<a href="#">55</a>		<a href="#">32</a>	<a href="#">3.20</a>	<a href="#">7.63</a>
5		<a href="#">734</a>	<a href="#">9</a>		<a href="#">5</a>	<a href="#">1.88</a>	<a href="#">7.55</a>
6		<a href="#">576</a>	<a href="#">9</a>		<a href="#">8</a>	<a href="#">3.50</a>	<a href="#">6.66</a>
7		<a href="#">1,609</a>	<a href="#">28</a>		<a href="#">15</a>	<a href="#">3.28</a>	<a href="#">6.41</a>
8		<a href="#">671</a>	<a href="#">10</a>	<a href="#">67.10</a>	<a href="#">6</a>	<a href="#">1.98</a>	<a href="#">6.13</a>
9		<a href="#">275</a>	<a href="#">6</a>	<a href="#">45.83</a>	<a href="#">5</a>	<a href="#">4.01</a>	<a href="#">5.48</a>
10		<a href="#">652</a>	<a href="#">18</a>	<a href="#">36.22</a>	<a href="#">9</a>	<a href="#">1.75</a>	<a href="#">5.20</a>
11		<a href="#">338</a>	<a href="#">16</a>	<a href="#">21.12</a>	<a href="#">7</a>	<a href="#">3.14</a>	<a href="#">4.73</a>
12		<a href="#">807</a>	<a href="#">16</a>	<a href="#">50.44</a>	<a href="#">11</a>	<a href="#">2.27</a>	<a href="#">4.62</a>
13		<a href="#">1,332</a>	<a href="#">28</a>	<a href="#">47.23</a>	<a href="#">17</a>	<a href="#">2.03</a>	<a href="#">4.81</a>
14		<a href="#">135</a>	<a href="#">7</a>	<a href="#">19.29</a>	<a href="#">5</a>	<a href="#">2.54</a>	<a href="#">4.55</a>
15		<a href="#">121</a>	<a href="#">6</a>	<a href="#">20.17</a>	<a href="#">3</a>	<a href="#">2.12</a>	<a href="#">4.50</a>
16		<a href="#">542</a>	<a href="#">23</a>	<a href="#">23.61</a>	<a href="#">10</a>	<a href="#">2.50</a>	<a href="#">4.49</a>
17		<a href="#">5,881</a>	<a href="#">255</a>	<a href="#">16.57</a>	<a href="#">40</a>	<a href="#">4.10</a>	<a href="#">4.46</a>
18		<a href="#">457</a>	<a href="#">12</a>	<a href="#">45.70</a>	<a href="#">8</a>	<a href="#">2.92</a>	<a href="#">4.43</a>
19		<a href="#">1,385</a>	<a href="#">32</a>	<a href="#">28.27</a>	<a href="#">15</a>	<a href="#">2.85</a>	<a href="#">4.36</a>
20		<a href="#">1,925</a>	<a href="#">35</a>	<a href="#">55.00</a>	<a href="#">16</a>	<a href="#">1.88</a>	<a href="#">4.30</a>

Computer Science

Medicine

Source: Thomson Reuters InCites

# SELF-CITATIONS

## AUTHOR RANKING WITH SELF CITATION ANALYSIS

Sort By:

Rank	Author	Web of Science Documents	Times Cited	Self Cites	Times Cited without Self Cites	% Self Cites	Average Cites per Document	Average Cites per Document without Self Cites	h-index	h index without Self Cites
1	Wang, Meng	<a href="#">4</a>	<a href="#">6</a>	<a href="#">3</a>	3	50.00	<a href="#">1.50</a>	0.75	<a href="#">2</a>	1
2	Wu, Hongbin	<a href="#">1</a>	<a href="#">3</a>	<a href="#">1</a>	2	33.33	<a href="#">3.00</a>	2.00	<a href="#">1</a>	1
2	Wu, Hongbin	<a href="#">2</a>	<a href="#">6</a>	<a href="#">2</a>	4	33.33	<a href="#">3.00</a>	2.00	<a href="#">2</a>	2
3	Wu, Hongbin	<a href="#">1</a>	<a href="#">20</a>	<a href="#">6</a>	14	30.00	<a href="#">20.00</a>	14.00	<a href="#">1</a>	1
4	Wang, Hongbin	<a href="#">153</a>	<a href="#">1,931</a>	<a href="#">553</a>	1,378	28.64	<a href="#">12.62</a>	9.01	<a href="#">23</a>	19
5	Wu, Hongbin	<a href="#">8</a>	<a href="#">54</a>	<a href="#">15</a>	39	27.78	<a href="#">6.75</a>	4.88	<a href="#">5</a>	4
6	Wu, Hongbin	<a href="#">2</a>	<a href="#">14</a>	<a href="#">3</a>	11	21.43	<a href="#">7.00</a>	5.50	<a href="#">2</a>	2
7	Wu, Hongbin	<a href="#">8</a>	<a href="#">33</a>	<a href="#">7</a>	26	21.21	<a href="#">4.12</a>	3.25	<a href="#">3</a>	3
8	Wu, Hongbin	<a href="#">2</a>	<a href="#">15</a>	<a href="#">3</a>	12	20.00	<a href="#">7.50</a>	6.00	<a href="#">2</a>	1
9	Wang, Hongbin	<a href="#">40</a>	<a href="#">280</a>	<a href="#">55</a>	225	19.64	<a href="#">7.00</a>	5.62	<a href="#">11</a>	10
10	Wang, Hongbin	<a href="#">9</a>	<a href="#">99</a>	<a href="#">18</a>	81	18.18	<a href="#">11.00</a>	9.00	<a href="#">6</a>	6
11	Wu, Hongbin	<a href="#">126</a>	<a href="#">3,501</a>	<a href="#">494</a>	3,007	14.11	<a href="#">27.79</a>	23.87	<a href="#">33</a>	31
12	Wu, Hongbin	<a href="#">121</a>	<a href="#">2,374</a>	<a href="#">294</a>	2,080	12.38	<a href="#">19.62</a>	17.19	<a href="#">26</a>	23
13	Wu, Hongbin	<a href="#">20</a>	<a href="#">190</a>	<a href="#">22</a>	168	11.58	<a href="#">9.50</a>	8.40	<a href="#">6</a>	6
14	Wu, Hongbin	<a href="#">1</a>	<a href="#">9</a>	<a href="#">1</a>	8	11.11	<a href="#">9.00</a>	8.00	<a href="#">1</a>	1
15	Wu, Hongbin	<a href="#">18</a>	<a href="#">303</a>	<a href="#">33</a>	270	10.89	<a href="#">16.83</a>	15.00	<a href="#">11</a>	11
16	Wu, Hongbin	<a href="#">62</a>	<a href="#">1,622</a>	<a href="#">172</a>	1,450	10.60	<a href="#">26.16</a>	23.39	<a href="#">21</a>	19
17	Wu, Hongbin	<a href="#">1</a>	<a href="#">10</a>	<a href="#">1</a>	9	10.00	<a href="#">10.00</a>	9.00	<a href="#">1</a>	1
17	Wu, Hongbin	<a href="#">1</a>	<a href="#">10</a>	<a href="#">1</a>	9	10.00	<a href="#">10.00</a>	9.00	<a href="#">1</a>	1
18	Wu, Hongbin	<a href="#">307</a>	<a href="#">8,598</a>	<a href="#">836</a>	7,762	9.72	<a href="#">28.01</a>	25.28	<a href="#">51</a>	47

# WHO HAVE WE COLLABORATED WITH?

Institutions 1 - 20 of 287

Sort By:

Rank	Institution	Times Cited	Web of Science Documents	Average Cites per Document	Category Actual/Expected Citations
1	FREE UNIVERSITY OF BERLIN	<a href="#">778,496</a>	<a href="#">54,499</a>	<a href="#">14.28</a>	<a href="#">1.11</a>
2	HUMBOLDT UNIVERSITY OF BERLIN	<a href="#">39,913</a>	<a href="#">1,995</a>	<a href="#">20.01</a>	<a href="#">1.48</a>
3	MAX PLANCK SOCIETY	<a href="#">28,818</a>	<a href="#">1,330</a>	<a href="#">21.67</a>	<a href="#">1.64</a>
4	UNIVERSITY OF MUNICH	<a href="#">14,655</a>	<a href="#">653</a>	<a href="#">22.44</a>	<a href="#">1.67</a>
5	HAHN MEITNER INST BERLIN GMBH	<a href="#">8,690</a>	<a href="#">618</a>	<a href="#">14.06</a>	<a href="#">1.55</a>
6	MAX DELBRUCK CTR MOL MED	<a href="#">17,378</a>	<a href="#">613</a>	<a href="#">28.35</a>	<a href="#">1.45</a>
7	TECHNICAL UNIVERSITY OF BERLIN	<a href="#">13,361</a>	<a href="#">568</a>	<a href="#">23.52</a>	<a href="#">1.96</a>
8	RUPRECHT KARL UNIVERSITY OF HEIDELBERG	<a href="#">11,952</a>	<a href="#">469</a>	<a href="#">25.48</a>	<a href="#">1.57</a>
9	UNIVERSITY OF HAMBURG	<a href="#">8,599</a>	<a href="#">411</a>	<a href="#">20.92</a>	<a href="#">1.53</a>
10	UNIVERSITY OF ERLANGEN NUREMBERG	<a href="#">8,654</a>	<a href="#">359</a>	<a href="#">24.11</a>	<a href="#">1.90</a>
11	EBERHARD KARLS UNIVERSITY TUBINGEN	<a href="#">7,323</a>	<a href="#">315</a>	<a href="#">23.25</a>	<a href="#">1.69</a>
11	UNIVERSITY OF FREIBURG	<a href="#">8,862</a>	<a href="#">315</a>	<a href="#">28.13</a>	<a href="#">1.73</a>
12	UNIVERSITY OF MUNSTER	<a href="#">6,810</a>	<a href="#">306</a>	<a href="#">22.25</a>	<a href="#">1.91</a>
13	UNIVERSITY OF WURZBURG	<a href="#">11,478</a>	<a href="#">294</a>	<a href="#">39.04</a>	<a href="#">2.76</a>
14	ROBERT KOCH INST	<a href="#">6,539</a>	<a href="#">282</a>	<a href="#">23.19</a>	<a href="#">1.71</a>
15	UNIVERSITY OF BONN	<a href="#">4,536</a>	<a href="#">272</a>	<a href="#">16.68</a>	<a href="#">1.35</a>
16	HARVARD UNIV	<a href="#">15,850</a>	<a href="#">264</a>	<a href="#">60.04</a>	<a href="#">3.43</a>
17	UNIVERSITY OF GOTTINGEN	<a href="#">6,647</a>	<a href="#">261</a>	<a href="#">25.47</a>	<a href="#">1.79</a>
18	UNIVERSITY OF COLOGNE	<a href="#">6,127</a>	<a href="#">260</a>	<a href="#">23.57</a>	<a href="#">1.65</a>
19	GOETHE UNIVERSITY FRANKFURT	<a href="#">5,678</a>	<a href="#">258</a>	<a href="#">22.01</a>	<a href="#">1.65</a>



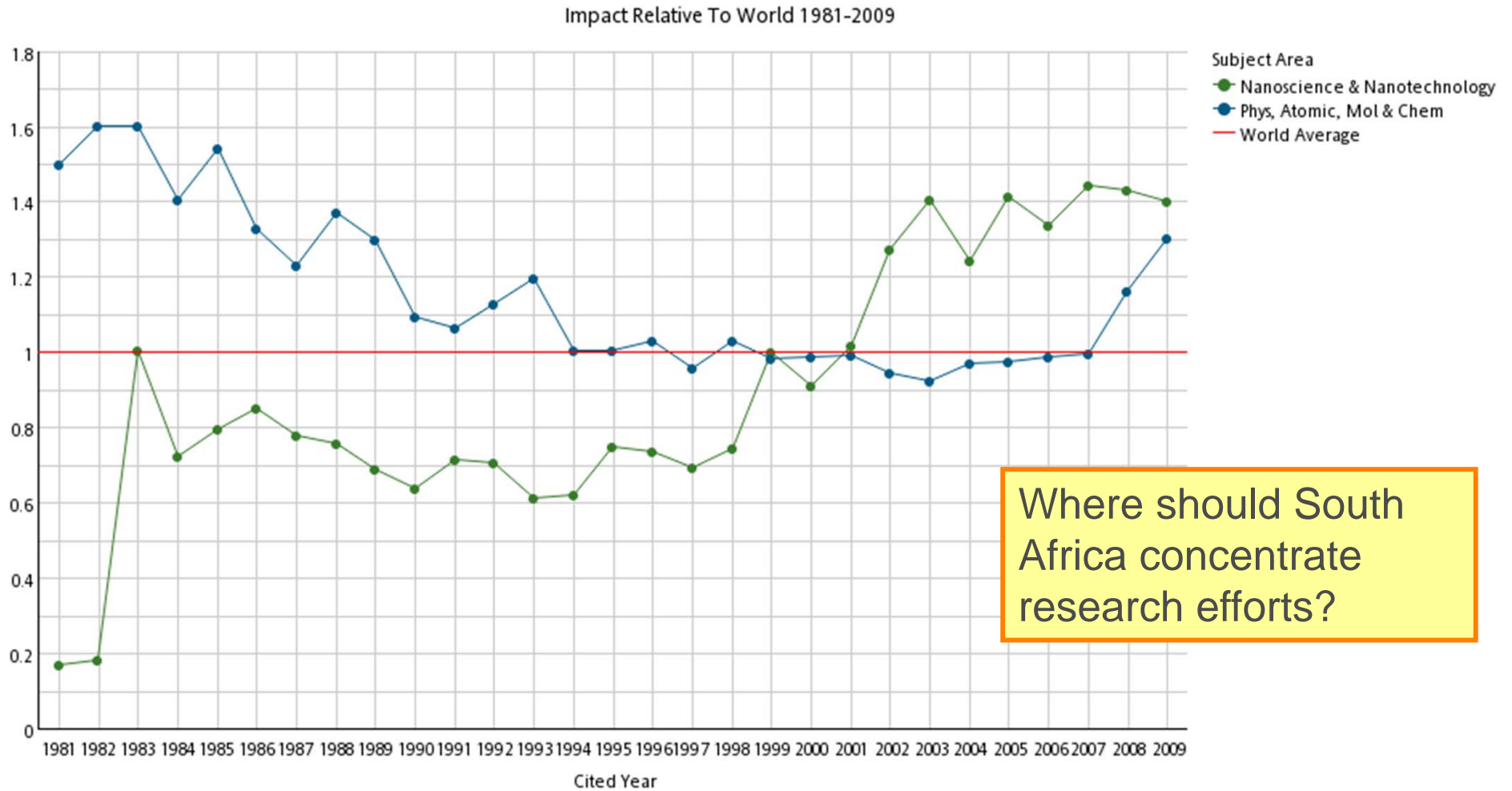
# WHO SHOULD WE BE COLLABORATING WITH?

Institutions 1 - 20 of 287

Sort By:

Rank	Institution	Times Cited	Web of Science Documents	Average Cites per Document	Category Actual/Expected Citations
1	CATHOLIC UNIV LOUVAIN	<a href="#">6,208</a>	<a href="#">39</a>	<a href="#">159.18</a>	<a href="#">13.39</a>
2	CHU VAUDOIS	<a href="#">4,233</a>	<a href="#">39</a>	<a href="#">108.54</a>	<a href="#">6.99</a>
3	UNIV TOULOUSE 3	<a href="#">6,049</a>	<a href="#">68</a>	<a href="#">88.96</a>	<a href="#">6.48</a>
4	CORNELL UNIV	<a href="#">7,851</a>	<a href="#">106</a>	<a href="#">74.07</a>	<a href="#">6.32</a>
5	UNIV PERUGIA	<a href="#">7,300</a>	<a href="#">44</a>	<a href="#">165.91</a>	<a href="#">6.10</a>
6	UNIV COPENHAGEN	<a href="#">7,233</a>	<a href="#">86</a>	<a href="#">84.10</a>	<a href="#">6.06</a>
7	STANFORD UNIV	<a href="#">8,968</a>	<a href="#">101</a>	<a href="#">88.79</a>	<a href="#">5.95</a>
8	UNIV OXFORD	<a href="#">12,404</a>	<a href="#">149</a>	<a href="#">83.25</a>	<a href="#">5.70</a>
9	UNIV ARIZONA	<a href="#">9,657</a>	<a href="#">149</a>	<a href="#">64.81</a>	<a href="#">5.34</a>
10	UNIV LYON 1	<a href="#">3,398</a>	<a href="#">71</a>	<a href="#">47.86</a>	<a href="#">5.27</a>
11	UNIV BOLOGNA	<a href="#">10,310</a>	<a href="#">103</a>	<a href="#">100.10</a>	<a href="#">5.04</a>
12	JET PROP LAB	<a href="#">1,506</a>	<a href="#">38</a>	<a href="#">39.63</a>	<a href="#">4.90</a>
13	UCL	<a href="#">10,654</a>	<a href="#">159</a>	<a href="#">67.01</a>	<a href="#">4.83</a>
14	ERASMUS UNIV ROTTERDAM	<a href="#">6,861</a>	<a href="#">71</a>	<a href="#">96.63</a>	<a href="#">4.75</a>
15	UNIV MINNESOTA	<a href="#">1,610</a>	<a href="#">30</a>	<a href="#">53.67</a>	<a href="#">4.64</a>
16	POTSDAM INST CLIMATE IMPACT RES	<a href="#">1,425</a>	<a href="#">34</a>	<a href="#">41.91</a>	<a href="#">4.53</a>
17	NCI	<a href="#">7,315</a>	<a href="#">65</a>	<a href="#">112.54</a>	<a href="#">4.50</a>
18	RHEUMAZENTRUM RUHRGEBIET	<a href="#">1,955</a>	<a href="#">43</a>	<a href="#">45.47</a>	<a href="#">4.20</a>
19	LAB BIOPROJET	<a href="#">1,762</a>	<a href="#">37</a>	<a href="#">47.62</a>	<a href="#">4.00</a>
20	UNIV LEEDS	<a href="#">1,917</a>	<a href="#">39</a>	<a href="#">49.15</a>	<a href="#">3.99</a>

# DETECT EMERGING & DECLINING FIELDS



Where should South Africa concentrate research efforts?

# DEPARTMENT RANKING PRODUCTIVITY

Departments 1 - 20 of 43

Sort By:

Rank	Department	Times Cited	Web of Science Documents	Average Cites per Document	H-index	Category	Actual/Expected Citations
1	GENETICS AND MOLECULAR MEDICINE	<a href="#">51,270</a>	<a href="#">1,723</a>	<a href="#">29.76</a>	<a href="#">96</a>		<a href="#">2.65</a>
2	CANCER STUDIES	<a href="#">31,629</a>	<a href="#">1,539</a>	<a href="#">20.55</a>	<a href="#">78</a>		<a href="#">1.68</a>
3	PSYCHOSIS STUDIES	<a href="#">27,084</a>	<a href="#">1,474</a>	<a href="#">18.37</a>	<a href="#">74</a>		<a href="#">2.23</a>
4	MRC SOCIAL, GENETIC AND DEVELOPMENTAL PSYCHIATRY CENTRE	<a href="#">39,955</a>	<a href="#">1,388</a>	<a href="#">28.79</a>	<a href="#">88</a>		<a href="#">2.95</a>
5	PSYCHOLOGY	<a href="#">23,008</a>	<a href="#">1,347</a>	<a href="#">17.08</a>	<a href="#">67</a>		<a href="#">1.80</a>
6	HEALTH SERVICE AND POPULATION RESEARCH	<a href="#">13,709</a>	<a href="#">1,239</a>	<a href="#">11.06</a>	<a href="#">50</a>		<a href="#">1.39</a>
7	TRANSPLANTATION, IMMUNOLOGY AND MUCOSAL BIOLOGY	<a href="#">22,012</a>	<a href="#">1,128</a>	<a href="#">19.51</a>	<a href="#">69</a>		<a href="#">1.78</a>
8	PSYCHOLOGICAL MEDICINE	<a href="#">15,093</a>	<a href="#">1,032</a>	<a href="#">14.62</a>	<a href="#">58</a>		<a href="#">1.49</a>
9	HEALTH AND SOCIAL CARE RESEARCH	<a href="#">12,907</a>	<a href="#">991</a>	<a href="#">13.02</a>	<a href="#">50</a>		<a href="#">1.41</a>
10	IMAGING SCIENCES AND BIOMEDICAL ENGINEERING	<a href="#">14,190</a>	<a href="#">844</a>	<a href="#">16.81</a>	<a href="#">57</a>		<a href="#">1.63</a>
11	DIABETES AND NUTRITIONAL SCIENCES	<a href="#">15,112</a>	<a href="#">807</a>	<a href="#">18.73</a>	<a href="#">56</a>		<a href="#">1.45</a>
12	CARDIOVASCULAR DIVISION	<a href="#">19,562</a>	<a href="#">803</a>	<a href="#">24.36</a>	<a href="#">72</a>		<a href="#">1.56</a>
13	IMMUNOLOGY, INFECTION AND INFLAMMATORY DISEASE (DIID)	<a href="#">22,831</a>	<a href="#">799</a>	<a href="#">28.57</a>	<a href="#">71</a>		<a href="#">2.20</a>
14	ASTHMA, ALLERGY AND LUNG BIOLOGY	<a href="#">15,405</a>	<a href="#">773</a>	<a href="#">19.93</a>	<a href="#">60</a>		<a href="#">1.64</a>
15	RANDALL DIVISION OF CELL AND MOLECULAR BIOPHYSICS	<a href="#">21,252</a>	<a href="#">735</a>	<a href="#">28.91</a>	<a href="#">69</a>		<a href="#">1.86</a>
16	INFORMATICS	<a href="#">4,588</a>	<a href="#">650</a>	<a href="#">7.06</a>	<a href="#">31</a>		<a href="#">1.96</a>
17	PHYSICS	<a href="#">8,831</a>	<a href="#">589</a>	<a href="#">14.99</a>	<a href="#">42</a>		<a href="#">1.84</a>
18	NEUROIMAGING	<a href="#">17,856</a>	<a href="#">567</a>	<a href="#">31.49</a>	<a href="#">69</a>		<a href="#">2.67</a>
19	WOMENS HEALTH	<a href="#">9,697</a>	<a href="#">557</a>	<a href="#">17.41</a>	<a href="#">49</a>		<a href="#">1.41</a>
20	INSTITUTE OF PHARMACEUTICAL SCIENCES	<a href="#">9,300</a>	<a href="#">498</a>	<a href="#">18.67</a>	<a href="#">48</a>		<a href="#">1.53</a>

# DEPARTMENT RANKING PERFORMANCE

Departments 1 - 20 of 43

Sort By:

Rank	Department	Times Cited	Web of Science Documents	Average Cites per Document	h-index	Category Actual/Expected Citations
1	CHILD AND ADOLESCENT PSYCHIATRY	<a href="#">9,570</a>	<a href="#">308</a>	<a href="#">31.07</a>	<a href="#">53</a>	<a href="#">3.07</a>
2	MRC SOCIAL, GENETIC AND DEVELOPMENTAL PSYCHIATRY CENTRE	<a href="#">39,955</a>	<a href="#">1,388</a>	<a href="#">28.79</a>	<a href="#">88</a>	<a href="#">2.95</a>
3	BIostatISTICS	<a href="#">4,913</a>	<a href="#">177</a>	<a href="#">27.76</a>	<a href="#">32</a>	<a href="#">2.89</a>
4	NEUROIMAGING	<a href="#">17,856</a>	<a href="#">567</a>	<a href="#">31.49</a>	<a href="#">69</a>	<a href="#">2.67</a>
5	GENETICS AND MOLECULAR MEDICINE	<a href="#">51,270</a>	<a href="#">1,723</a>	<a href="#">29.76</a>	<a href="#">96</a>	<a href="#">2.65</a>
6	WOLFSON CENTRE FOR AGE RELATED DISEASES	<a href="#">16,172</a>	<a href="#">498</a>	<a href="#">32.47</a>	<a href="#">61</a>	<a href="#">2.29</a>
7	GEOGRAPHY	<a href="#">3,744</a>	<a href="#">349</a>	<a href="#">10.73</a>	<a href="#">34</a>	<a href="#">2.28</a>
8	PSYCHOSIS STUDIES	<a href="#">27,084</a>	<a href="#">1,474</a>	<a href="#">18.37</a>	<a href="#">74</a>	<a href="#">2.23</a>
9	IMMUNOLOGY, INFECTION AND INFLAMMATORY DISEASE (DIIID)	<a href="#">22,831</a>	<a href="#">799</a>	<a href="#">28.57</a>	<a href="#">71</a>	<a href="#">2.20</a>
10	OLD AGE PSYCHIATRY	<a href="#">7,552</a>	<a href="#">282</a>	<a href="#">26.78</a>	<a href="#">46</a>	<a href="#">2.03</a>
11	MATHEMATICS	<a href="#">6,268</a>	<a href="#">415</a>	<a href="#">15.10</a>	<a href="#">37</a>	<a href="#">2.01</a>
12	INFORMATICS	<a href="#">4,588</a>	<a href="#">650</a>	<a href="#">7.06</a>	<a href="#">31</a>	<a href="#">1.96</a>
13	RANDALL DIVISION OF CELL AND MOLECULAR BIOPHYSICS	<a href="#">21,252</a>	<a href="#">735</a>	<a href="#">28.91</a>	<a href="#">69</a>	<a href="#">1.86</a>
14	PHYSICS	<a href="#">8,831</a>	<a href="#">589</a>	<a href="#">14.99</a>	<a href="#">42</a>	<a href="#">1.84</a>
15	PSYCHOLOGY	<a href="#">23,008</a>	<a href="#">1,347</a>	<a href="#">17.08</a>	<a href="#">67</a>	<a href="#">1.80</a>
16	TRANSPLANTATION, IMMUNOLOGY AND MUCOSAL BIOLOGY	<a href="#">22,012</a>	<a href="#">1,128</a>	<a href="#">19.51</a>	<a href="#">69</a>	<a href="#">1.78</a>
17	NEUROSCIENCE	<a href="#">9,011</a>	<a href="#">385</a>	<a href="#">23.41</a>	<a href="#">51</a>	<a href="#">1.78</a>
18	CLINICAL NEUROSCIENCES	<a href="#">6,268</a>	<a href="#">374</a>	<a href="#">16.76</a>	<a href="#">37</a>	<a href="#">1.78</a>
19	MANAGEMENT	<a href="#">1,415</a>	<a href="#">207</a>	<a href="#">6.84</a>	<a href="#">22</a>	<a href="#">1.73</a>
20	CANCER STUDIES	<a href="#">31,629</a>	<a href="#">1,539</a>	<a href="#">20.55</a>	<a href="#">78</a>	<a href="#">1.68</a>

# RESEARCH GRANT FUNDING REPORTS

.....

Sort By:

Rank	Funding Agency	Web of Science Documents	Times Cited	Average Cites per Document	Subject Areas Count	Grant Numbers Count
1	Austrian Science Fund	<a href="#">230</a>	828	3.60	<a href="#">73</a>	<a href="#">202</a>
2	European Union	<a href="#">57</a>	260	4.56	<a href="#">37</a>	<a href="#">48</a>
3	National Institutes of Health	<a href="#">54</a>	480	8.89	<a href="#">34</a>	<a href="#">76</a>
4	German Research Foundation	<a href="#">47</a>	336	7.15	<a href="#">32</a>	<a href="#">50</a>
5	Austrian National Bank	<a href="#">44</a>	179	4.07	<a href="#">35</a>	<a href="#">30</a>
6	European Commission	<a href="#">32</a>	267	8.34	<a href="#">26</a>	<a href="#">28</a>
7	Innsbruck Medical University	<a href="#">24</a>	110	4.58	<a href="#">22</a>	<a href="#">9</a>
8	Medical Research Foundation, Austria	<a href="#">21</a>	60	2.86	<a href="#">19</a>	<a href="#">11</a>
8	Tyrolean Science Foundation	<a href="#">21</a>	82	3.90	<a href="#">16</a>	<a href="#">5</a>
9	European Community	<a href="#">17</a>	61	3.59	<a href="#">18</a>	<a href="#">17</a>
10	Wellcome Trust	<a href="#">16</a>	133	8.31	<a href="#">12</a>	<a href="#">8</a>
11	AstraZeneca	<a href="#">15</a>	384	25.60	<a href="#">10</a>	0
11	Pfizer	<a href="#">15</a>	40	2.67	<a href="#">10</a>	0
12	GlaxoSmithKline	<a href="#">14</a>	168	12.00	<a href="#">6</a>	0

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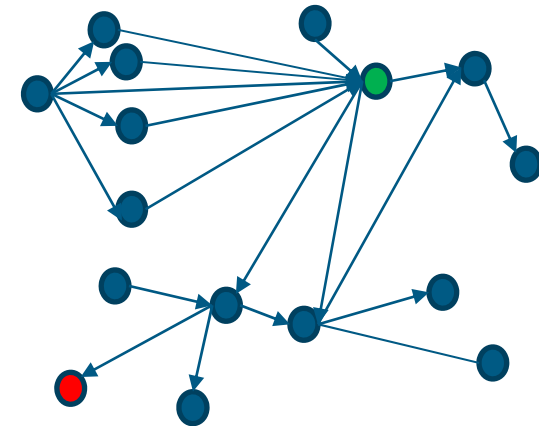
- [Faculty of AgriSciences](#) [588]
- [Faculty of Arts and Social Sciences](#) [1389]
- [Faculty of Economic and Management Sciences](#) [1046]
- [Faculty of Education](#) [234]
- [Faculty of Engineering](#) [734]
- [Faculty of Health Sciences](#) [508] →
- [Faculty of Law](#) [44]
- [Faculty of Military Sciences](#) [10]
- [Faculty of Science](#) [1969]
- [Faculty of Theology](#) [153]
- [SUNMedia](#) [0]
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- [Department of Psychiatry](#) [34]
- [Department of Surgical Sciences](#) [25]
- [Desmond Tutu TB Centre \(Tygerberg\)](#) [1]
- [Faculty of Health Sciences \(former Departments\)](#) [0]
- [Office of the Dean](#) [11]
- [Research Development and Support \(Health Sciences\)](#) [1]
- [Unit for Bio-Ethics \(Tygerberg\)](#) [2]

# EIGENFACTOR BERGSTROM, WEST & ROSVALL

- Eigenfactor™ score
- Current year citations to 5 prior years from Cited journal data tables (Excluding journal self-citations)
- **Some metaphors – random walk; Percentages**

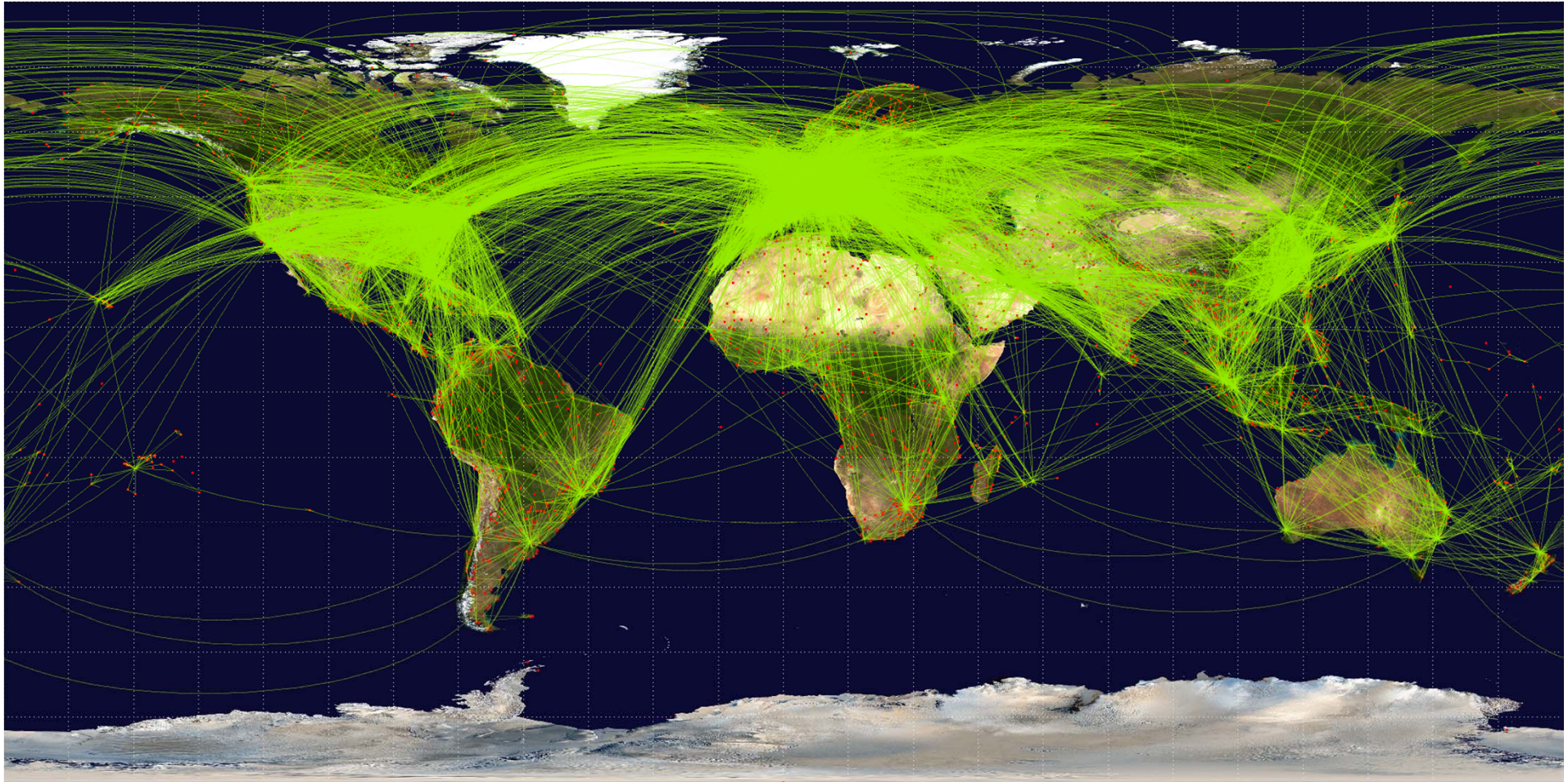
Journals 1 - 20 (of 329)

Citing Journal	Cited Year						
	All Yrs	2008	2007	2006	2005	2004	2003
All Journals	7029	85	322	447	677	650	645
<a href="#">J GEOPHYS RES</a>	812	6	39	55	66	79	73
<a href="#">GLOBAL BIOGEOCHEM CY</a>	572	11	40	45	62	65	46
<a href="#">BIOGEOSCIENCES</a>	355	4	29	29	51	39	36
<a href="#">GLOBAL CHANGE BIOL</a>	250	0	7	12	33	29	36
ALL OTHERS (222)	222	0	5	7	14	8	23
<a href="#">DEEP-SEA RES PT II</a>	157	2	4	14	25	10	11
<a href="#">ATMOS CHEM PHYS</a>	132	1	8	12	13	11	15
<a href="#">GEOPHYS RES LETT</a>	125	4	9	11	25	15	7
<a href="#">PALEOCEANOGRAPHY</a>	112	2	8	13	10	11	5
<a href="#">ATMOS ENVIRON</a>	112	4	3	5	3	7	17
<a href="#">GEOCHIM COSMOCHIM AC</a>	109	4	7	8	11	6	8



# NETWORKS AIR TRAFFIC – LINKS

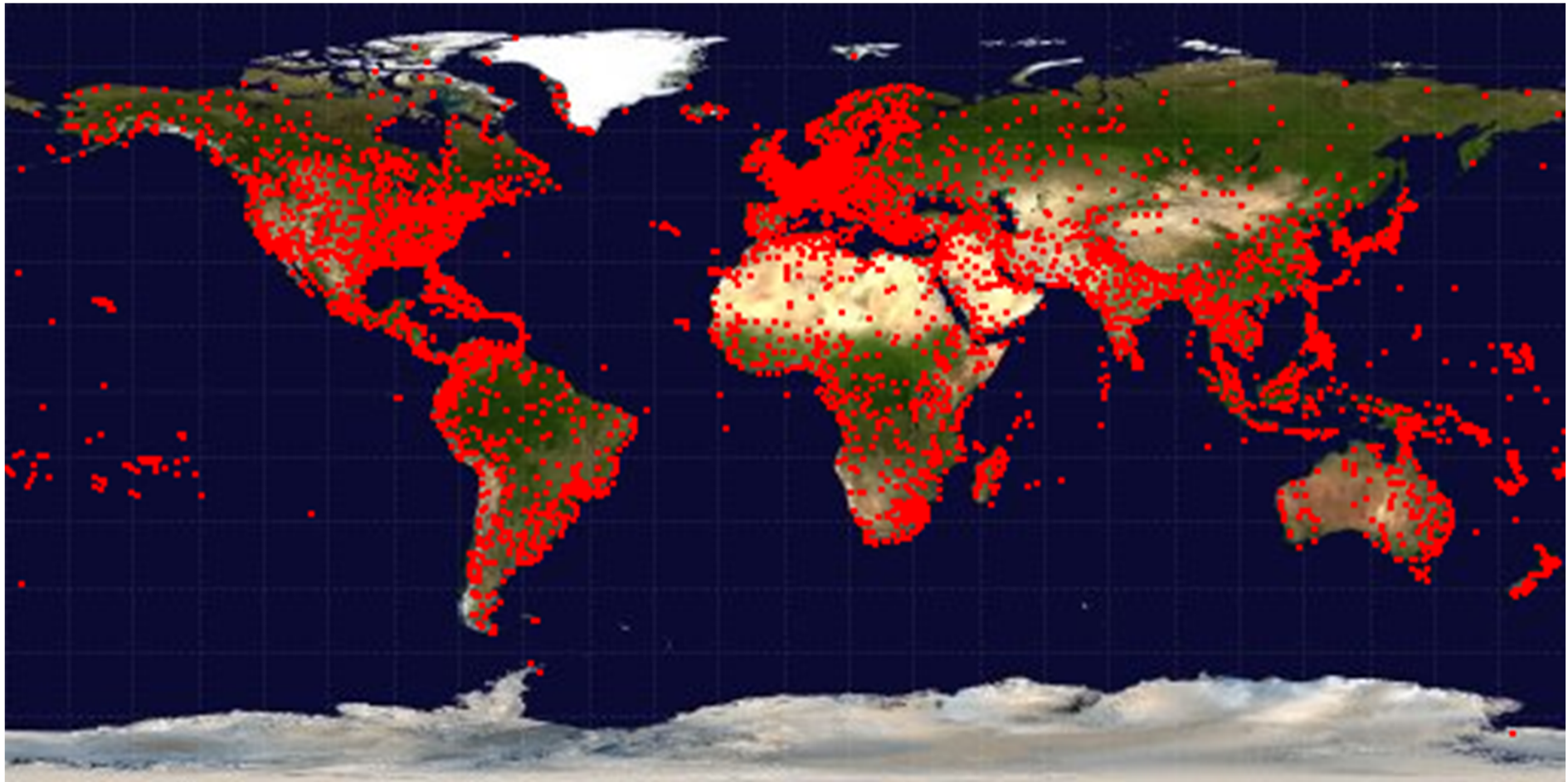
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# NETWORKS AIR TRAFFIC - NODES

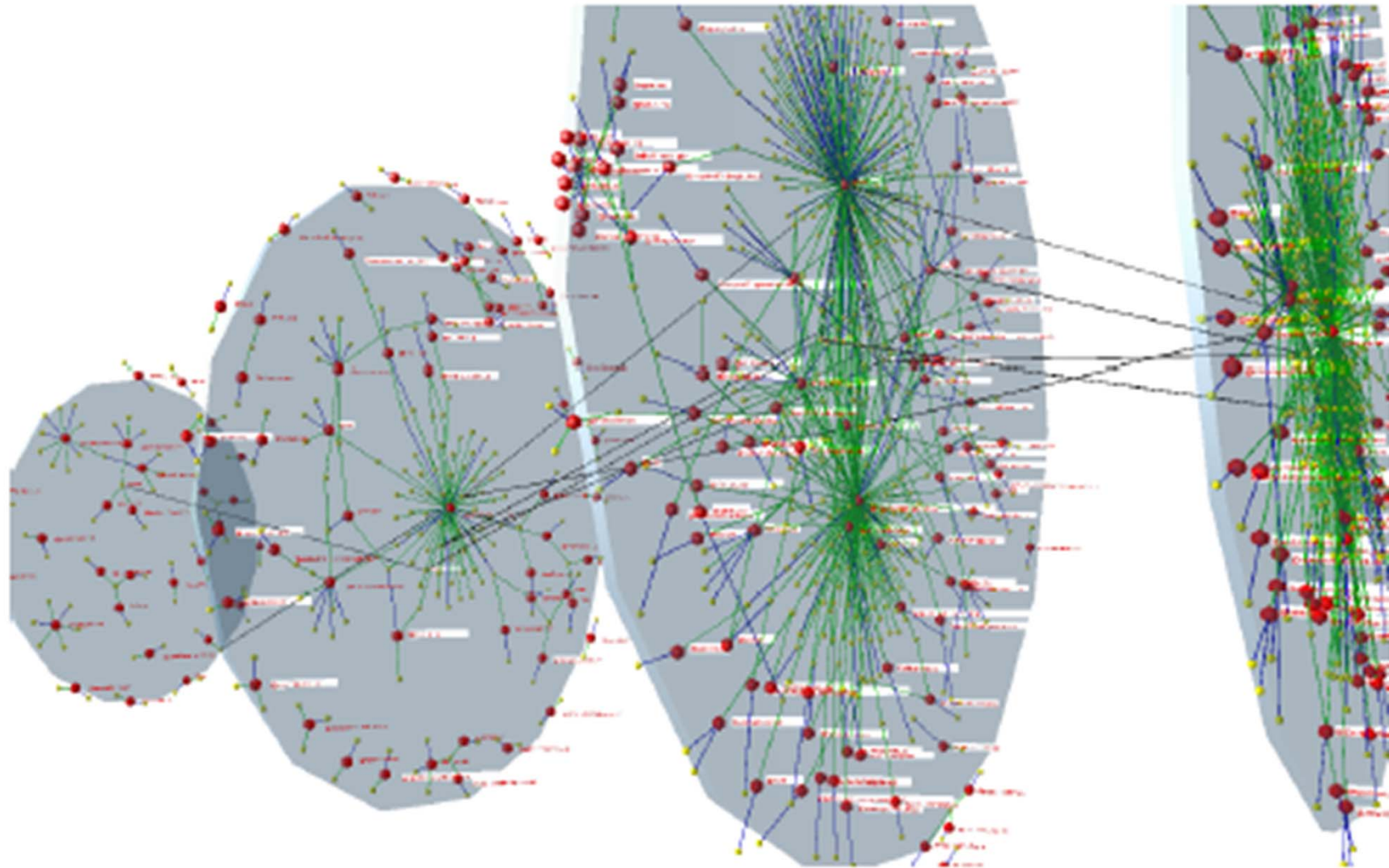
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# NETWORKS

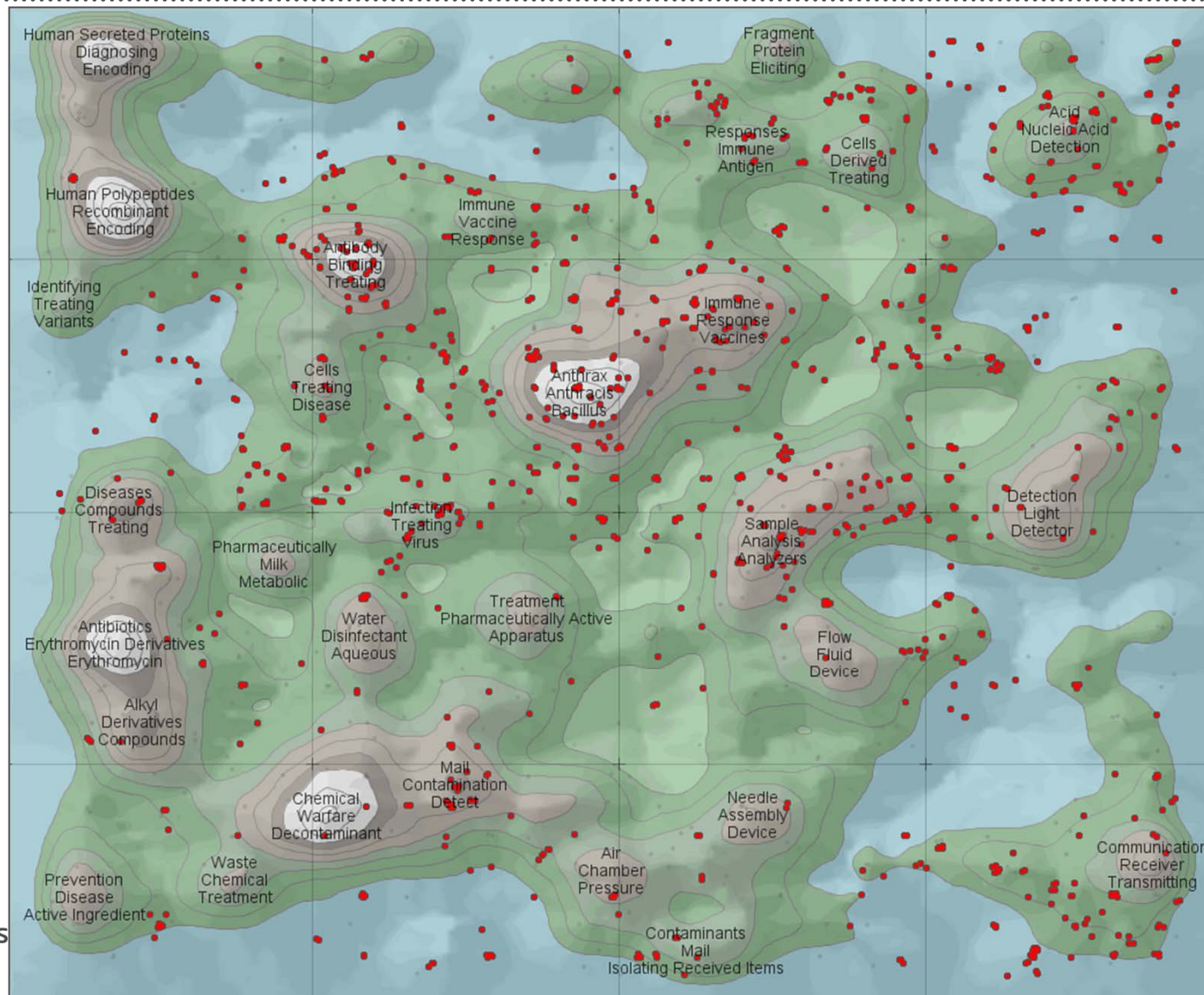
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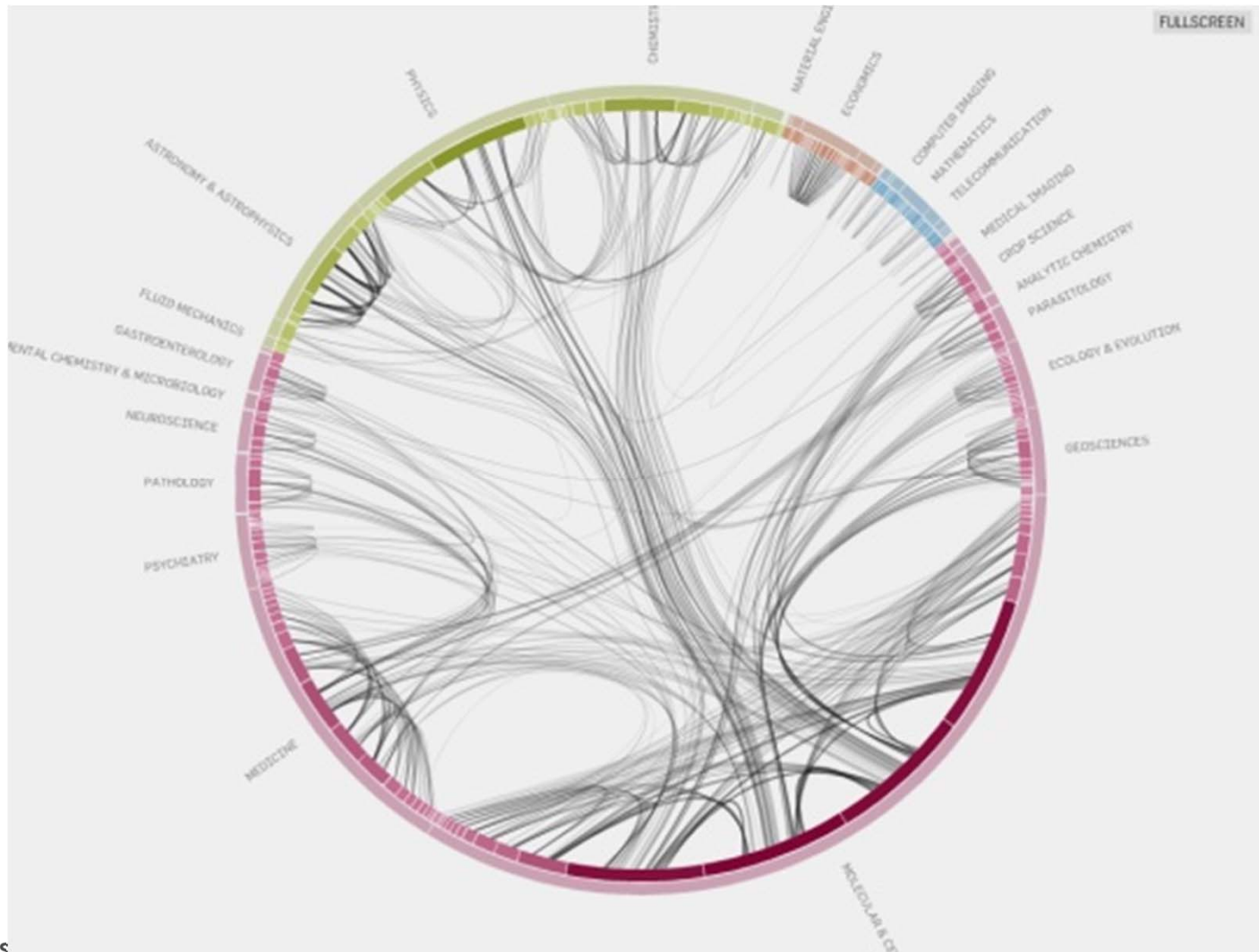


# NETWORKS

## INTELLECTUAL PROPERTY



# NETWORKS CITATIONS



# EIGENFACTOR METRICS COMPLEMENT TO STATISTICAL INDICATORS

## Journal Summary List

[Journal Title Changes](#)

Journals from: countries/territories SOUTH AFRICA

Sorted by:

Journals 1 - 20 (of 36)

Navigation icons: back, forward, search, etc.

Page 1 of 2

Ranking is based on your journal and sort selections.

Mark	Rank	Abbreviated Journal Title <i>(linked to journal information)</i>	ISSN	JCR Data <sup>i</sup>						Eigenfactor™ Metrics <sup>i</sup>	
				Total Cites	Impact Factor	5-Year Impact Factor	Immediacy Index	Articles	Cited Half-life	Eigenfactor™ Score	Article Influence™ Score
<input type="checkbox"/>	1	<a href="#">SAMJ S AFR MED J</a>	0256-9574	2453	1.676	1.610	0.813	75	>10.0	0.00425	0.527
<input type="checkbox"/>	2	<a href="#">AFR J MAR SCI</a>	1814-232X	588	1.229	1.261	2.222	54	3.9	0.00232	0.394
<input type="checkbox"/>	3	<a href="#">S AFR J SCI</a>	0038-2353	1688	0.596	0.748	0.113	62	>10.0	0.00221	0.246
<input type="checkbox"/>	4	<a href="#">S AFR J BOT</a>	0254-6299	1044	1.106	1.144	0.612	98	5.8	0.00218	0.275
<input type="checkbox"/>	5	<a href="#">WATER SA</a>	0378-4738	1203	0.663	0.923	0.303	76	8.2	0.00193	0.233
<input type="checkbox"/>	6	<a href="#">S AFR J GEOL</a>	1012-0750	695	0.638	0.978	0.120	25	>10.0	0.00124	0.346
<input type="checkbox"/>	7	<a href="#">QUAEST MATH</a>	1607-3606	205	0.412		0.053	38	9.6	0.00096	
<input type="checkbox"/>	8	<a href="#">AFR ZOOL</a>	1562-7020	269	1.018	0.881	0.156	32	5.2	0.00085	0.260
<input type="checkbox"/>	9	<a href="#">AFR ENTOMOL</a>	1021-3589	266	0.338	0.547	0.194	36	7.2	0.00066	0.178
<input type="checkbox"/>	10	<a href="#">J S AFR I MIN METALL</a>	0038-223X	257	0.121	0.243	0.013	76	7.8	0.00065	0.087
<input type="checkbox"/>	11	<a href="#">AFR INVERTEBR</a>	1681-5556	124	0.800		0.118	17	3.8	0.00061	

## An example

- REV BRAS FARMACOGN: Regional coverage Expansion
  - Regional coverage Expansion
  - First Journal Impact Factor in 2009

3.462

**Rank in category by Journal Impact Factor**

8 of 46 in Chemistry, Medicinal

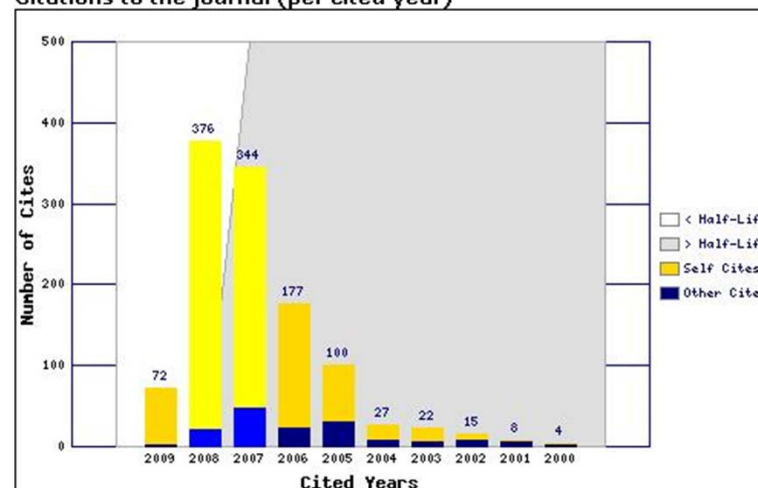
56 of 236 in Pharmacology & Pharmacy

**Rank in category by Eigenfactor™ score**

44 of 46 in Chemistry, Medicinal

217 of 236 in Pharmacology & Pharmacy

Citations to the journal (per cited year)



### Journal Self Cites ⓘ

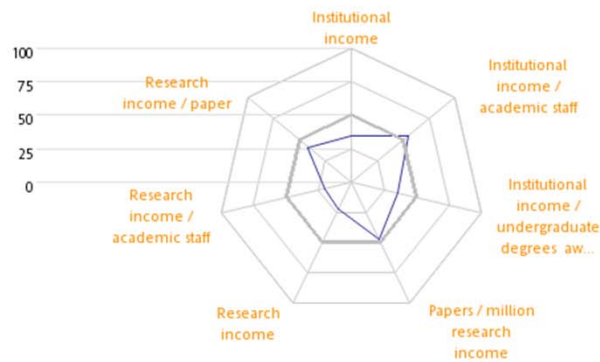
The tables show the contribution of the journal's self cites to its impact factor. This information is also represented in the [cited journal graph](#).

<b>Total Cites</b>	1163
<b>Cites to Years Used in Impact Factor Calculation</b>	720
<b>Impact Factor</b>	3.462

<b>Self Cites</b>	1010 (86% of 1163)
<b>Self Cites to Years Used in Impact Factor Calculation</b>	652 (90% of 720)
<b>Impact Factor without Self Cites</b>	0.327

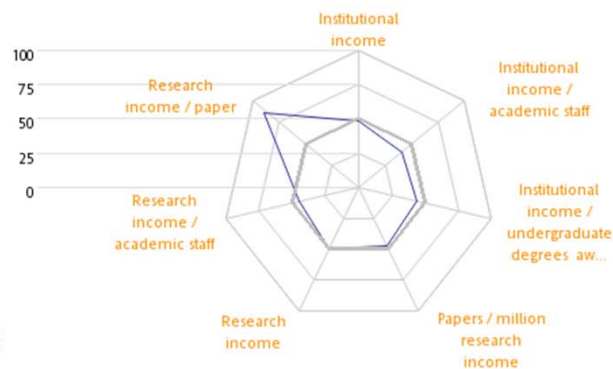
# WIDER INDICATORS FINANCES, STAFFING & REPUTATION

UNIV JOHANNESBURG  
FINANCES in Overall  
for 2008



UNIV JOHANNESBURG		
Data reported by Institution	2008	
FINANCES in Overall	Score	Values
Institutional income	34	413,644,479.07 1,858,091,000.00 (ZAR)
Institutional income / academic staff	55	513,270.23
Institutional income / undergraduate degrees awarded	35	51,441.92
Papers / million research income	47	12.37
Research income	22	16,809,216.38 75,507,000.00 (ZAR)
Research income / academic staff	20	20,857.69
Research income / paper	41	80,813.54

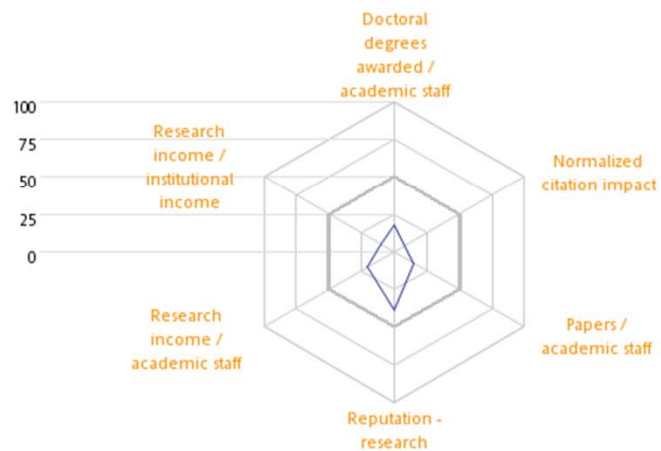
UNIV WITWATERSRAND  
FINANCES in Overall  
for 2008



UNIV WITWATERSRAND		
Data reported by Institution	2008	
FINANCES in Overall	Score	Values
Institutional income	48	691,674,087.27 3,107,000,000.00 (ZAR)
Institutional income / academic staff	41	392,773.47
Institutional income / undergraduate degrees awarded	44	214,539.11
Papers / million research income	47	5.52
Research income	49	173,196,794.30 778,000,000.00 (ZAR)
Research income / academic staff	45	98,351.39
Research income / paper	88	181,168.19

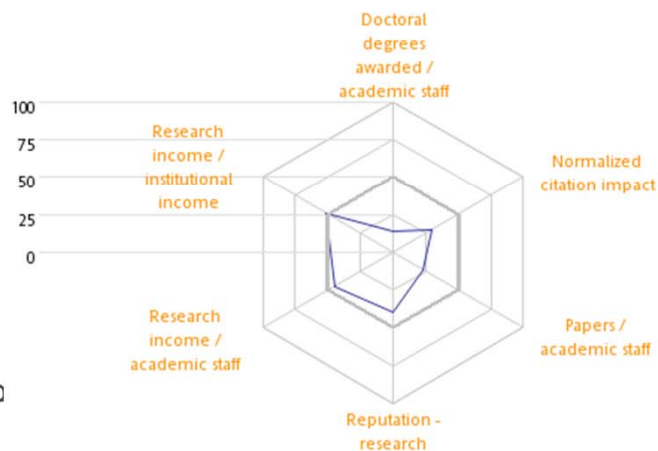
# WIDER INDICATORS FINANCES, STAFFING & REPUTATION

UNIV JOHANNESBURG  
RESEARCH PERFORMANCE in Overall  
for 2008



UNIV JOHANNESBURG		
Data reported by Institution	2008	
RESEARCH PERFORMANCE in Overall	Score	Values
Doctoral degrees awarded / academic staff	18	0.09
Normalized citation impact	9	0.76
Papers / academic staff	15	0.26
Reputation - research	38	0.08
Research income / academic staff	20	20,857.69
Research income / institutional income	10	0.04

UNIV WITWATERSRAND  
RESEARCH PERFORMANCE in Overall  
for 2008



UNIV WITWATERSRAND		
Data reported by Institution	2008	
RESEARCH PERFORMANCE in Overall	Score	Values
Doctoral degrees awarded / academic staff	14	0.06
Normalized citation impact	30	1.02
Papers / academic staff	23	0.54
Reputation - research	40	0.16
Research income / academic staff	45	98,351.39
Research income / institutional income	51	0.25



# WIDER INDICATORS FINANCES, STAFFING & REPUTATION

**THE WORLD UNIVERSITY RANKINGS 2011-12**  
Times Higher Education  
POWERED BY THOMSON REUTERS

RANKINGS HOME RANKINGS BY YEAR BY REGION

### TOP AFRICAN UNIVERSITIES 2011-2012

WORLD RANK	INSTITUTION	COUNTRY / REGION
103	<a href="#">University of Cape Town</a>	South Africa
251-275	<a href="#">Stellenbosch University</a>	South Africa
251-275	<a href="#">University of Witwatersrand</a>	South Africa
301-350	<a href="#">Alexandria University</a>	Egypt

### Stellenbosch University — Matieland, South Africa

Information [Map](#) Like 191 Tweet 11 +1 3

Overall score: Data not supplied

Teaching: 25.4

International outlook: 44.4

Industry income: 99.6

Research: 30

Citations: 36.6

Recognised as one of the top four research institutions in South Africa, Stellenbosch was established in 1918, although its roots can be traced back to the 17th century. It has the country's highest proportion of postgraduates among its 24,000-strong student body, of whom 10 per cent are international. Stellenbosch's multicultural student body is one of its biggest strengths and its student organisations cater for a wide range of interests including culture, politics and religion. It has 800 lecturers and 50 research and service bodies. England batsman Jonathan Trott is a notable alumnus.

# WIDER INDICATORS FINANCES, STAFFING & REPUTATION

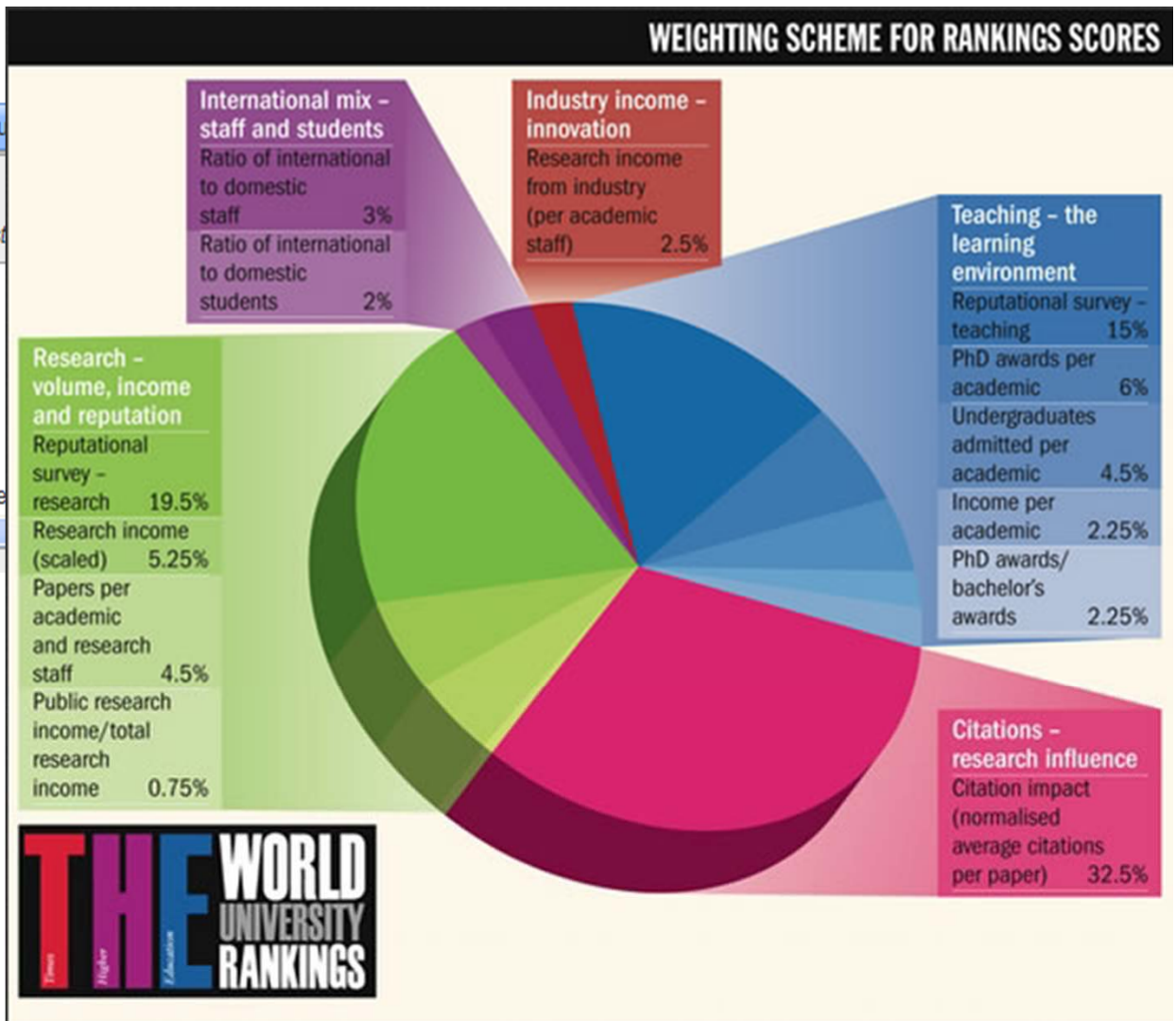
2) Select an Indicator.

Groups Individual Indicators Custom Groups

Select an individual indicator.

Note: You can select up to 2 if you selected < 3 inst

- + Citations / academic and research staff
- + Citations / academic staff
- + Citations / million research income
- + Doctoral degrees awarded
- + Doctoral degrees awarded / academic staff
- + Doctoral degrees awarded / research staff
- + Doctoral degrees awarded / undergraduate de



# HOW IS RESEARCH EVALUATED?

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- Peer Evaluation
  - Experts reading the research papers
- Productivity
  - Number of researchers
  - Publication output
- Grant awards
  - Research funding awarded
- Prestigious awards
  - Nobel Prizes
- Reputation
  - Surveys of teaching performance
  - Surveys of research standards
- Innovation
  - Industry income and patents
- Teaching
  - Undergraduate degrees
  - Teacher to student ratio
- International Mix
  - National / International staff and students
- Citation analysis
  - Normalised for volume and subject area