

ALTMETRICS AND EMERGING MEASURES OF IMPACT

Presentation to Emerging Researcher Programme
University of Cape Town, 28 November 2012

Michelle Willmers

Scholarly Communication in Africa Programme

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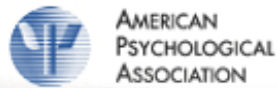
DEFINING SCHOLARLY COMMUNICATION IN THE INTERNET ERA (THORIN, 2003)

- Conducting research, developing ideas and informal communications.
- Preparing, shaping and communicating what will become formal research outputs.
- Disseminating formal outputs.
- Managing personal careers, and research teams and programmes.
- Communicating scholarly ideas to broader communities.

THE WORLD HAS CHANGED RADICALLY (AND SO HAS SCHOLARLY COMMUNICATION)

- > What does this mean for how we think about the impact of our research, and how we reward it?
- > Given the current challenges in African higher education, what does impact assessment mean in our context?
- > How do we move beyond journal Impact Factor as sole measure?

TRACKING TRADITIONAL CITATION OF NEW FORMS OF SCHOLARSHIP



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Because posts from online social media, such as Twitter and Facebook, are not yet often fodder for scholarly research, specific reference examples aren't included in the *Publication Manual*. However, some examples can be found in the [Social Media section of the APA Style Blog](#).

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... AND NEW FORMS OF CITING TRADITIONAL SCHOLARSHIP

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18:00 22 October 2012

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US tainted drug deaths are symptom of wider problem

The death toll from fungal meningitis caused by contaminated medication has risen to 23, but the problems behind the scandal are far from unique

First analysis of beluga whale mimicking human speech

Stories of beluga whales "talking" were once dismissed as sailor's tales, but now there is hard evidence that they really can do it

Memento mori: it's time we reinvented death

The knowledge that we will die profoundly shapes our lives - but the nature of death itself is elusive and changeable

Recovering heroin addicts may lose their inner voice

People recovering from addiction seem to suffer a working memory overload when it comes to words

No signs of life from Lake Vostok - so far

Recent comments

By Thomas Latcham

Penguin ascension wins wildlife photographer prize:
Great photo. The energy and composition are what makes it. And it's scientific value and value ...

By Giovanni Barraza

Galaxy dance of death creates starburst shockwave:
COOL. Its just sad that we will get suked in by my favorite galaxy andromeda. Though i really w...

By Stephen R. Stapleton

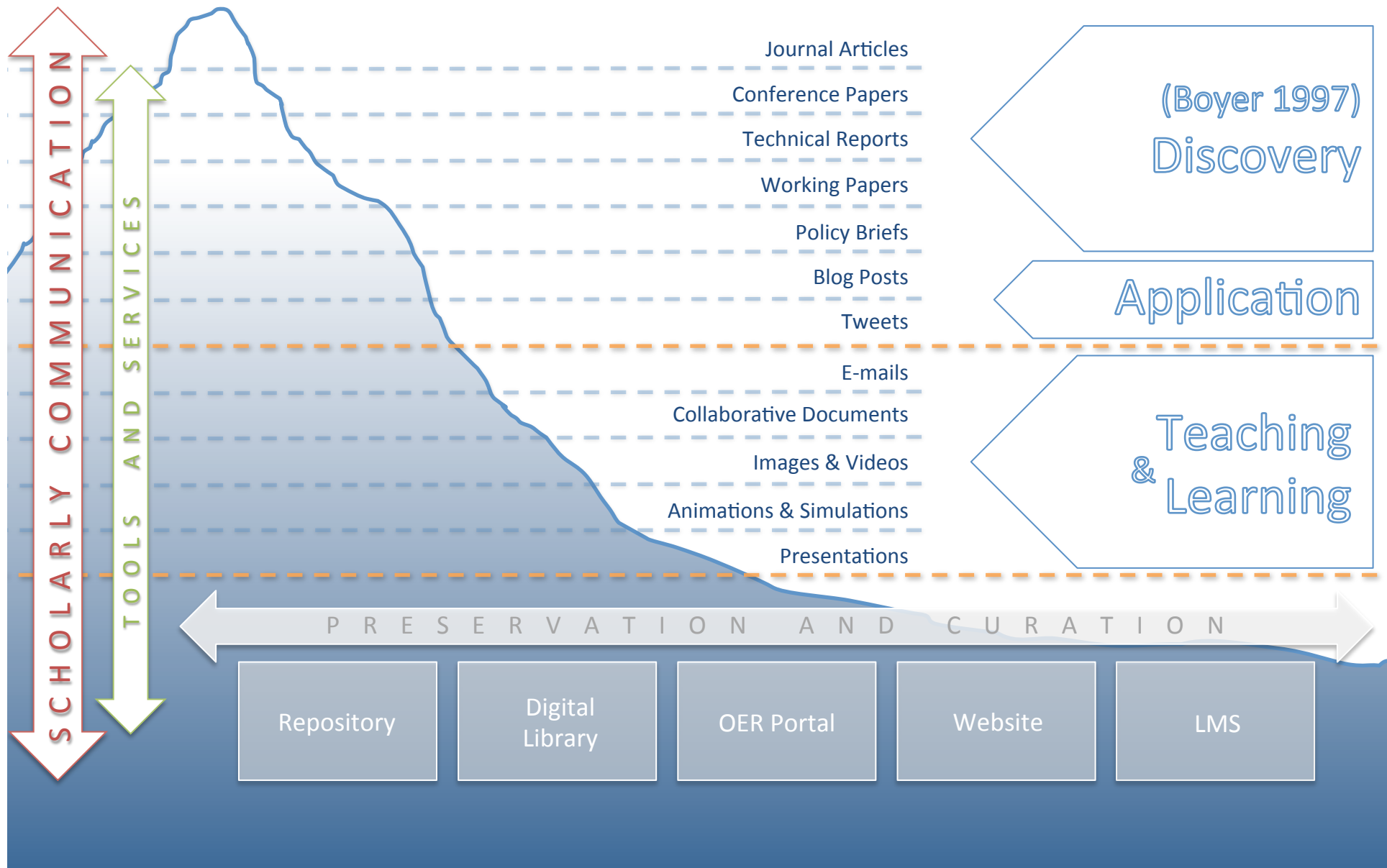
Tiny tractor beams enter the third dimension:
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It *is* rocket science.

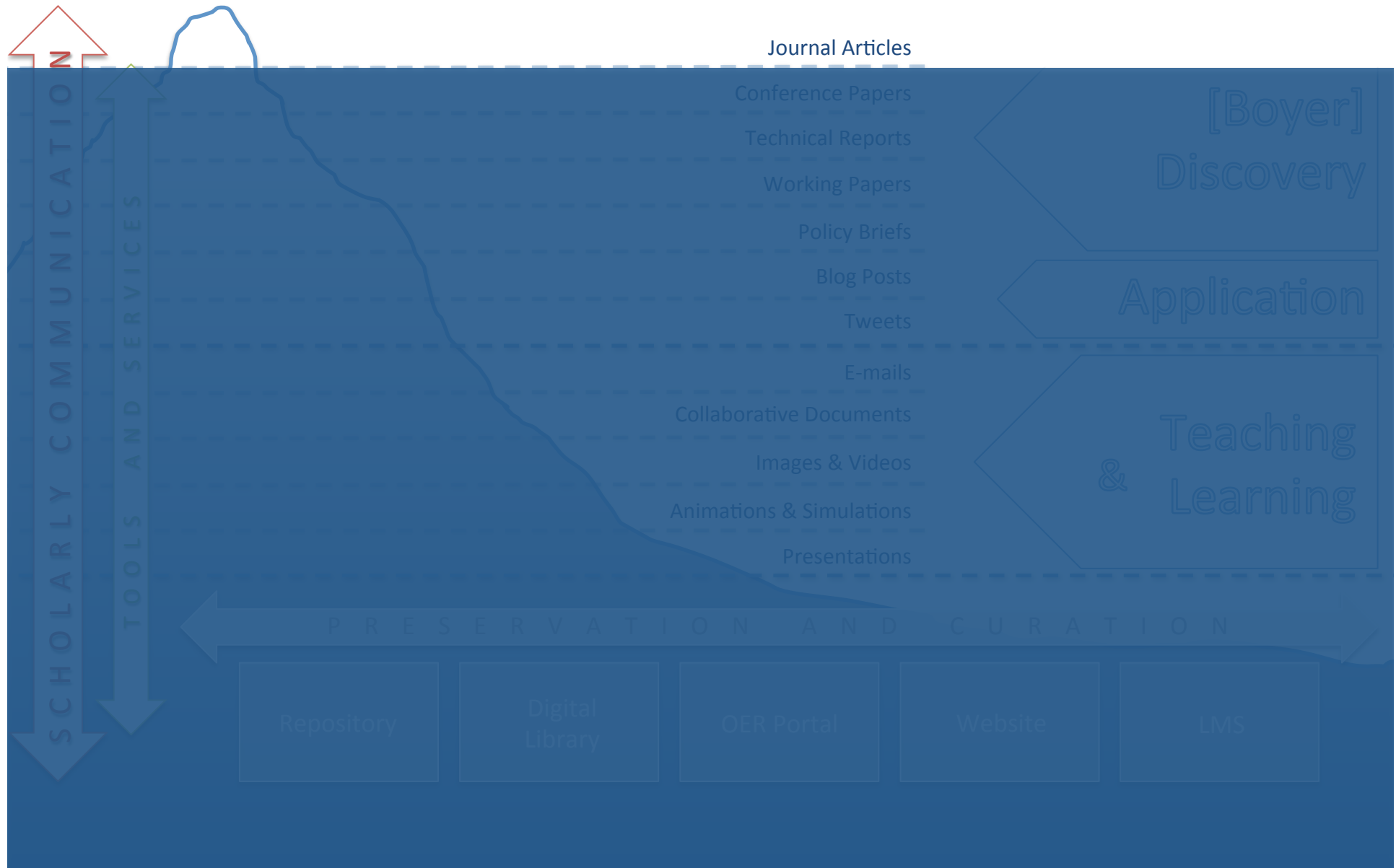
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**WHAT DOES A
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ACTIVITY SYSTEM
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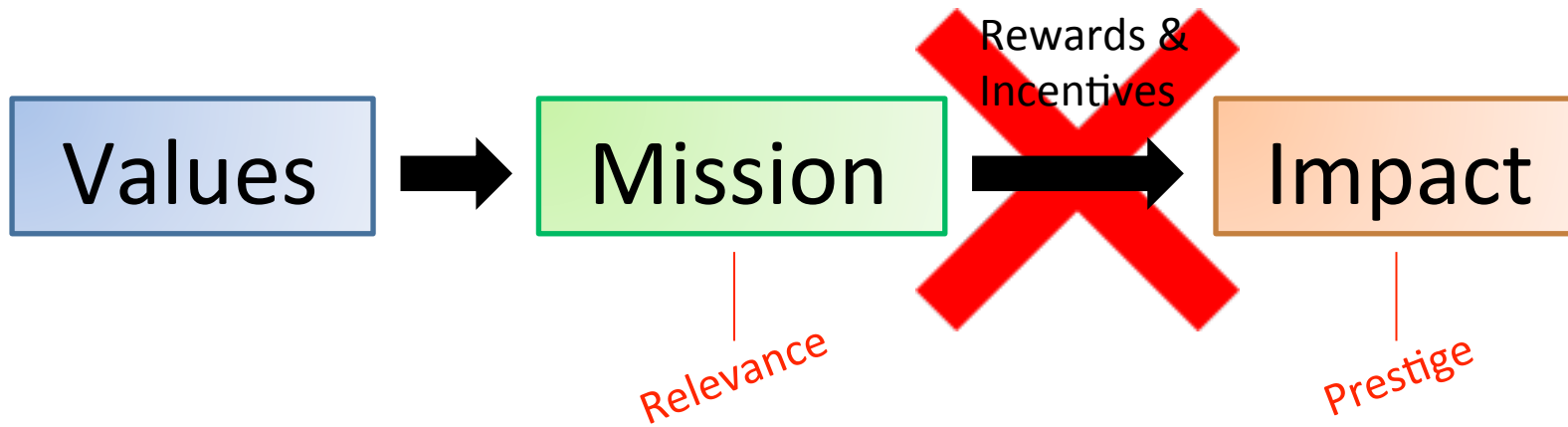
We tend to treat the holistic system like an iceberg...



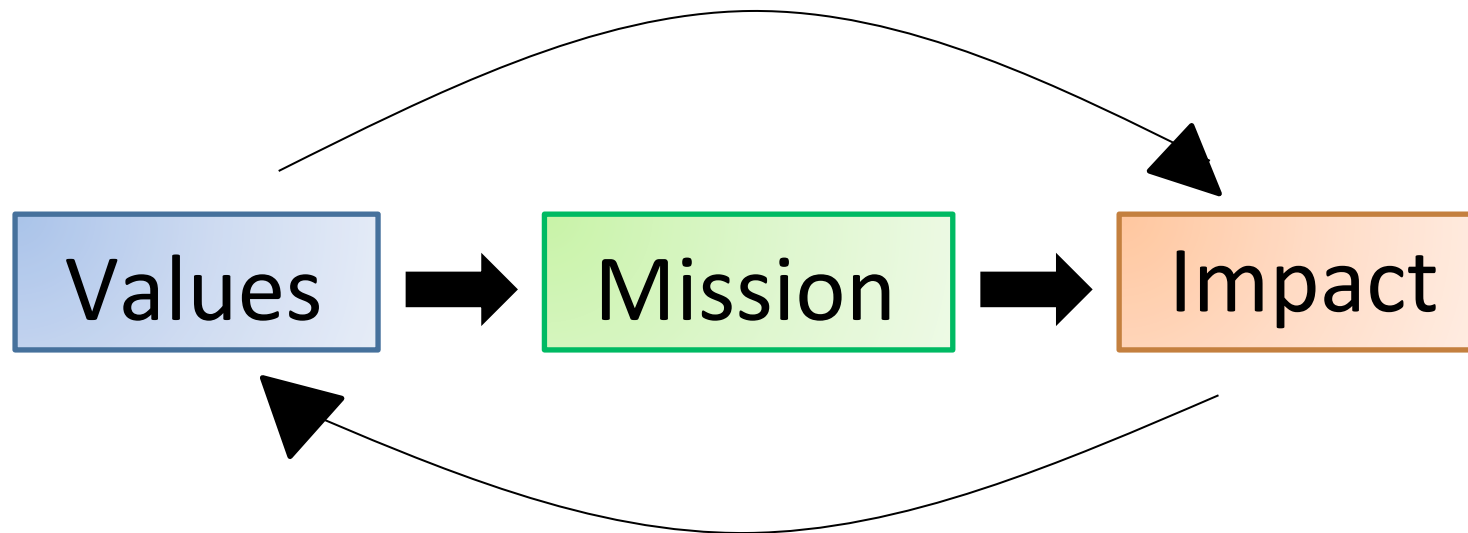
How does this serve the development agenda?



**HOW DOES THIS
INFLUENCE WHAT WE
WANT TO TRACK AND
REWARD?**



IMPACT IS RELATIVE



“Just as scientists would not accept the findings in a scientific paper without seeing the primary data, so should they not rely on Thomson Scientific’s impact factor, which is based on hidden data.” (Rossner, Van Epps & Hill 2007)

“Our results indicate that the notion of scientific impact is a multi-dimensional construct that cannot be adequately measured by any single indicator, although some measures are more suitable than others.” (Bollen et al. 2009)

**WHAT TOOLS/
METHODS DO WE
HAVE?**

1. BIBLIOMETRICS



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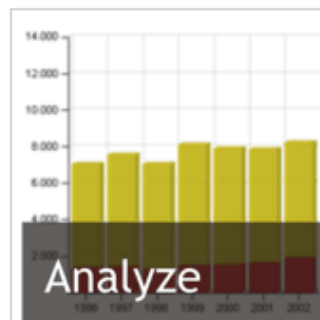
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The **SCImago Journal & Country Rank** is a portal that includes the journals and country scientific indicators developed from the information contained in the **Scopus®** database (Elsevier B.V.). These indicators can be used to assess and analyze scientific domains.

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Title	SJR	H Index	Total Docs. (2006)	Docs. (3 years)
1 Annual Review of Immunology	22,439	147	25	84
2 Annual Review of Biochemistry	16,100	133	30	86
3 Cell	15,224	254	552	1,1
4 Annual Review of Cell and Developmental Biology	14,192	96	28	
5 Journal of Biological Chemistry	12,484	131	234	
6 Molecular Biology and Evolution	12,240	114	179	



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SJR is developed by:

SCIMAGO

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"WHAT DOES IT MEAN TO BE NEGLECTED?"

~1 Billion Afflicted



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<input type="checkbox"/> Cape of Storms or Cape of Good Hope? Educational technology in a changing environment L Czerniewicz British journal of educational technology 35 (2), 145-158	26	2004
<input type="checkbox"/> Trends in student use of ICTs in higher education in South Africa C Brown, L Czerniewicz 10th Annual Conference of WWW Applications, Cape Town	22	2008
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Co-authors

No co-authors

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PREDOMINANT ALGORITHMS UTILISED FOR CALCULATING BIBLIOMETRIC IMPACT

Impact Factor (Eugene Garfield 1955)

A = the number of times articles published in 2009 and 2010 cited by indexed journals during 2011.

B = the total number of "citable items" published by that journal in 2009 and 2010. ("Citable items" are usually articles, reviews, proceedings, or notes; not editorials or letters to the editor.)

2011 impact factor = A/B .

h-Index (Jorge E Hirsch)

A scientist has index h if h of his/her N_p papers have at least h citations each, and the other $(N_p - h)$ papers have no more than h citations each.

(i.e. Scholar with an index of h has published h papers each of which has been cited in other papers at least h times)

2. ALTMETRICS

Bibliometrics mined impact on the first scholarly Web.
Altmetrics mines impact on the next.

(Priem 2012)

Impact



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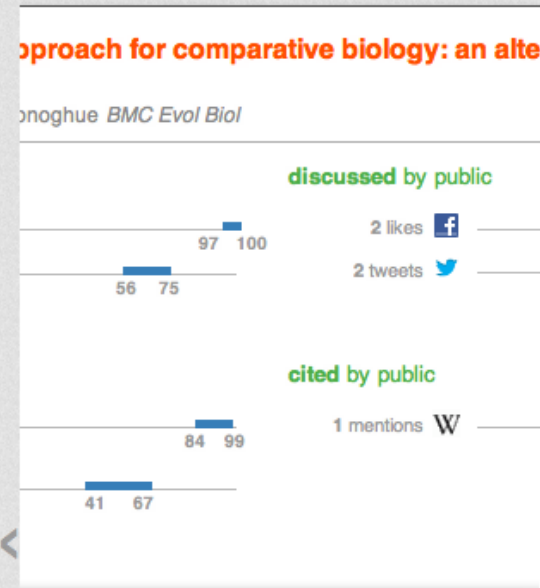
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across the Web:





Feminist in SA
@FeministsSA

RT @lizleloots: The Relationship between Intimate Partner Violence, Rape and HIV amongst South African Men: A Cross-Sectional Study. <http://t.co/LqwFBzBc>



lizle loots
@lizleloots

Th
Afr



Sonke

@SonkeTogether Cape Town

Work with men and boys to promote gender transformation. Tweets mostly by Londi.

<http://genderjustice.org.za>

Oct 11

th

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Sonke
@SonkeTogether

#PLoS: The Relationship between Intimate Partner Violence, Rape & HIV amongst South A



Shukumisa

@Shukumisa South Africa

Shaking up social attitudes to sexual violence & treatment of survivors by the criminal justice system

<http://www.shukumisa.org>

@lizleloot



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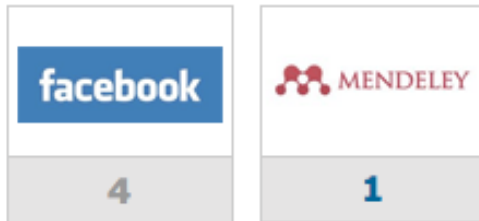
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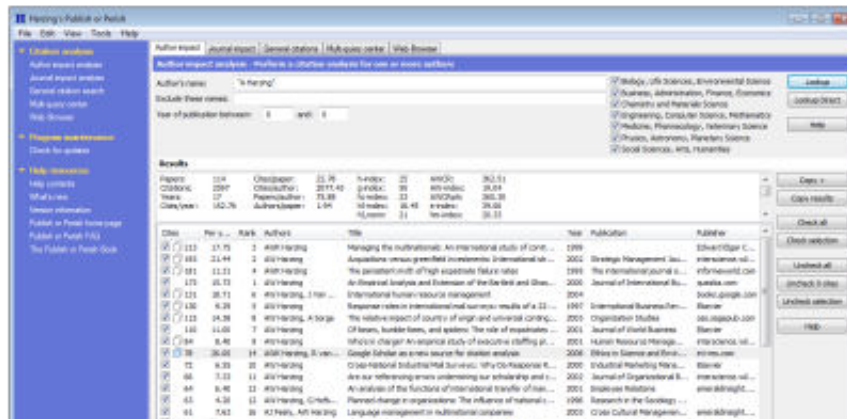
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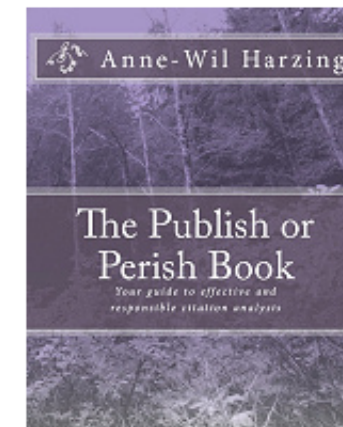
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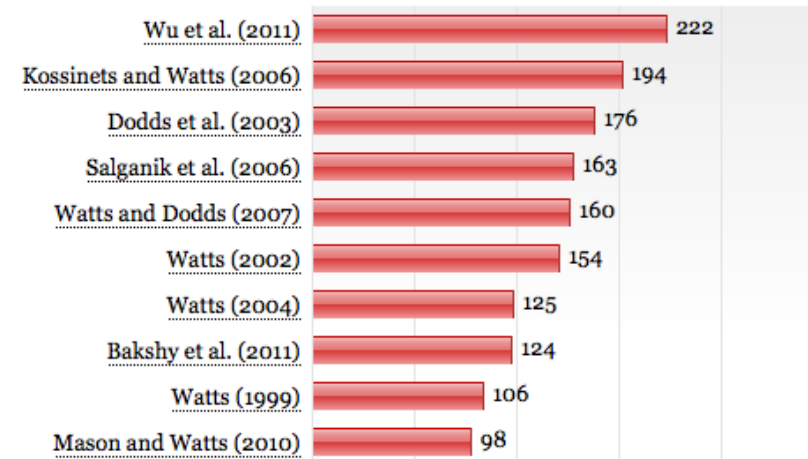
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Duncan J Watts's coauthors

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[Peter Sheridan DODDS](#) [Michael FRUMIN](#) [Sharad GOEL](#) [Daniel G GOLDSTEIN](#)

A FEW OTHER THINGS TO THINK ABOUT WHEN THINKING ABOUT IMPACT

“... the impacts of projects/programmes cannot be understood separate from an understanding of the capacity of users to absorb and utilise findings; and any assessment of research use amongst user communities has to pay attention to the availability (or otherwise) of usable research findings.”

(Davies, Nutley & Walter 2005)

IMPACT DOES NOT EQUAL WORTH (HERB 2010)

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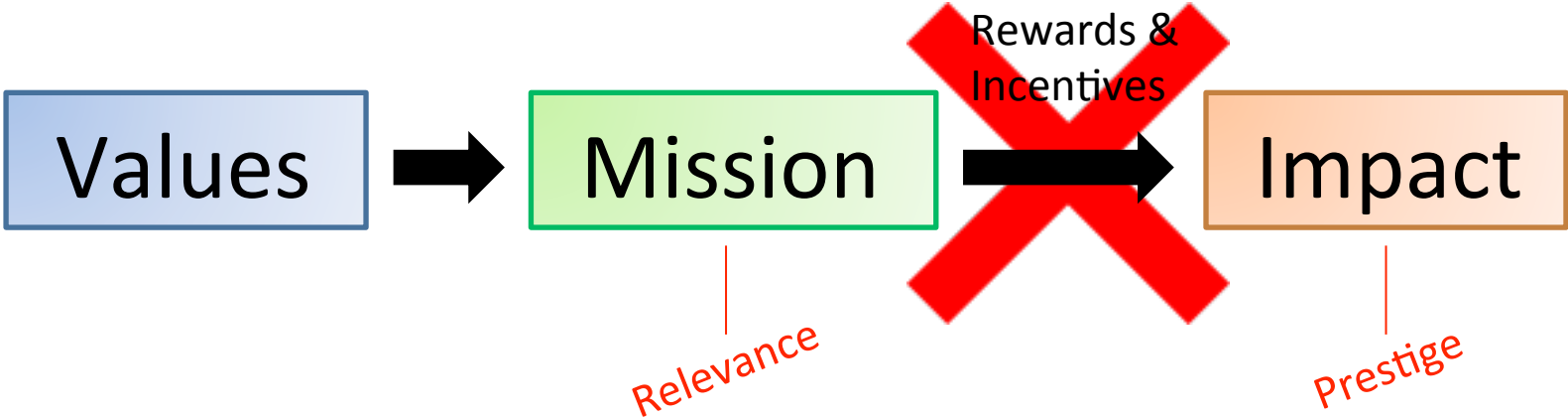
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Dyslexic day: correction

The band in the 2nd (Lyc) lane of the IL-8 panel in figure 1B has straight, vertical ends. The stippling inside the bands in the in the 1st, 2nd and 4th lanes of the IL-8 panel is the same. Does this have biological significance?

No competing interests declared.

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WHAT ARE THE DRIVERS FOR UNDERSTANDING THE SPREAD, USE AND INFLUENCE OF RESEARCH FINDINGS?

- Political imperatives to move beyond ideological assertion to pragmatic considerations of 'evidence' and 'what works'.
- Need for research advocates, funding bodies, research providers and others to make the case for resources.
- Greater demand for **rigour** in the prioritisation of research efforts. (Davies et al. 2005)
- Demonstration of return on investment to funders and government/ taxpayers > **accountability**.

WHAT KINDS OF IMPACT COULD (SHOULD) WE EXPECT FROM RESEARCH? (Davies et al. 2005)

- Knowledge production (e.g. peer-reviewed papers)
- Research capacity building (postgraduate training and career development)
- Policy or product development (incl. input into official guidelines or protocols)
- Sector benefits (impacts on scientific client groups)
- Societal benefits (**economic > health > productivity**)

REFERENCES

Davies H, Nutley S & Walter I (2005) Approaches to assessing the non-academic impact of social science research. Report of the ESRC Symposium on assessing the non-academic impact of research, 12-13 May 2005

Thorin SE (2003) Global changes in scholarly communication. In SC Hsianghoo, PWT Poon and C McNaught (eds) *eLearning and Digital Publishing*. Dordrecht: Springer. Available at <http://www.springerlink.com/content/w873x131171x2421>

Rossner M, Van Epps H & Hill E (2008) Irreproducible results: a response to Thomson Scientific. *The Journal of Experimental Medicine* 205(2): 260-261. Available at <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2213571/>

Priem J (2012) Toward a Second Revolution: altmetrics, total-impact, and the decoupled journal. Presented at Purdue University, 14 February 2012. https://docs.google.com/present/view?id=ddfg787c_362f465q2g5



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