



South Africa & OA

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Berlin 4 Open Access - from Promise to Practice
30 March 2006

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Overview

- Scientific context
- OA in SA update
- Cautionary tale



SA scientific context

Key Indicators

INDICATOR	VALUE	
	2001/02	2003/04
Gross domestic expenditure on R&D – GERD (millions Rands)	7 488.1	10 082.6
GERD as a percentage of GDP ^a	0.76	0.81
Total R&D personnel (FTE) ^{b,c}	21 195	25 185
Total researchers (FTE) ^{b,c}	14 182	14 129
Total researchers per 1000 total employed (FTE) ^{b,c,d}	3.1	2.2
Total R&D personnel per 1000 total employed (FTE) ^{b,c,d}	4.6	3.9
Estimated civil GERD as a percentage of GDP	0.71	0.72
Total researchers (headcount) ^c	26 913	30 703
Women researchers as a percentage of total researchers ^c	36.0%	38.0%
^a The 0.76% for 2001/02 is as reported in the 2001/02 R&D Survey Report and is not based on revised GDP figures. ^b FTE – Full Time Equivalent ^c Following OECD practice, doctoral students are included as researchers. ^d Changes in the methodology used by Statistics South Africa in the Survey of Employment and Earnings have resulted in a 39% increase in the total number of employees reported for the formal non-agricultural sectors between March 2002 and March 2004.		

Source: Research & Experimental Development Survey 2003/2004
www.hsrc.ac.za/RnDSurvey/ (April 2005)

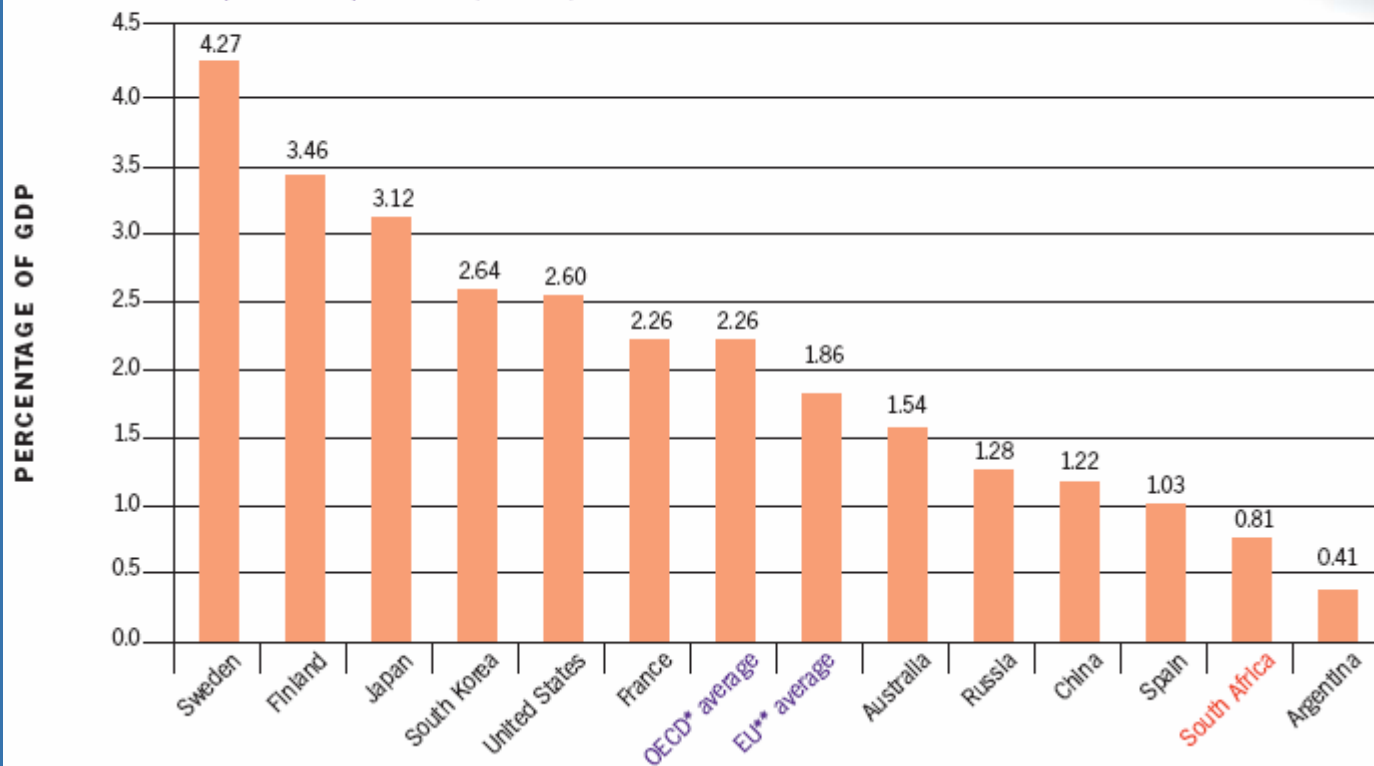
GERD / GDP (int'l)

Gross expenditure on R&D as a percentage of GDP 2003* (International Comparisons)

* or latest year available

* Organisation for Economic Cooperation and Development

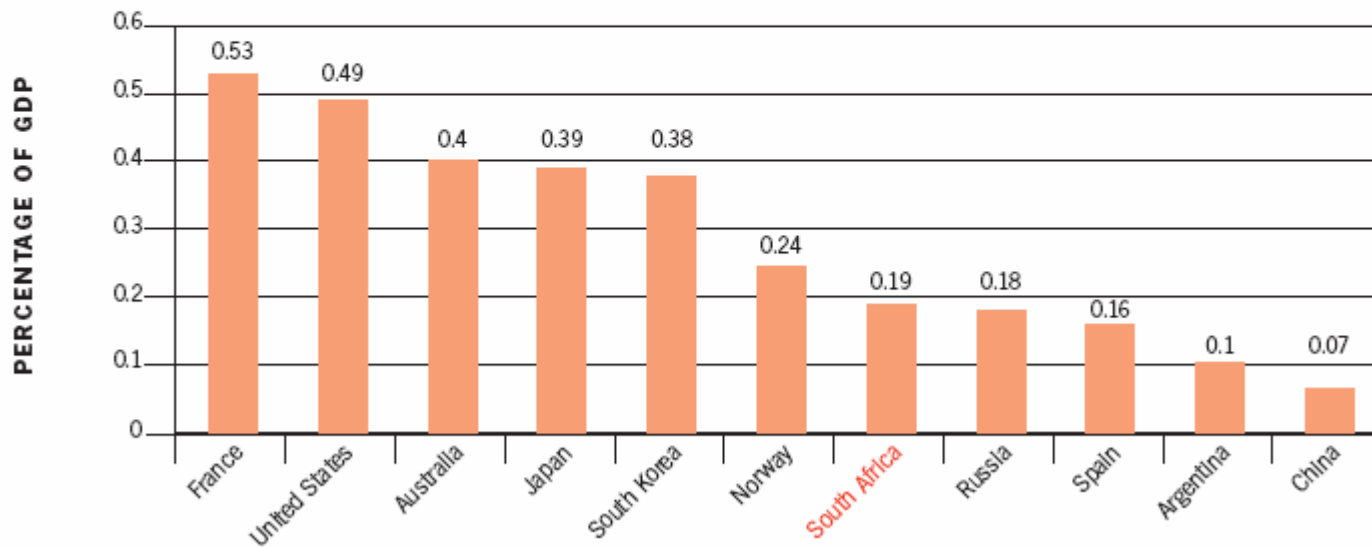
** Expanded European Union (25 states)



Basic research / GDP (int'l) (responsiveness to new knowledge)

Basic research as a percentage of GDP 2003* (International Comparisons)

*or latest year available



FTE researchers (int'l)

Number of Full Time Equivalent (FTE) researchers per 1000 total employed In 2003* (International Comparisons)
*or latest year available

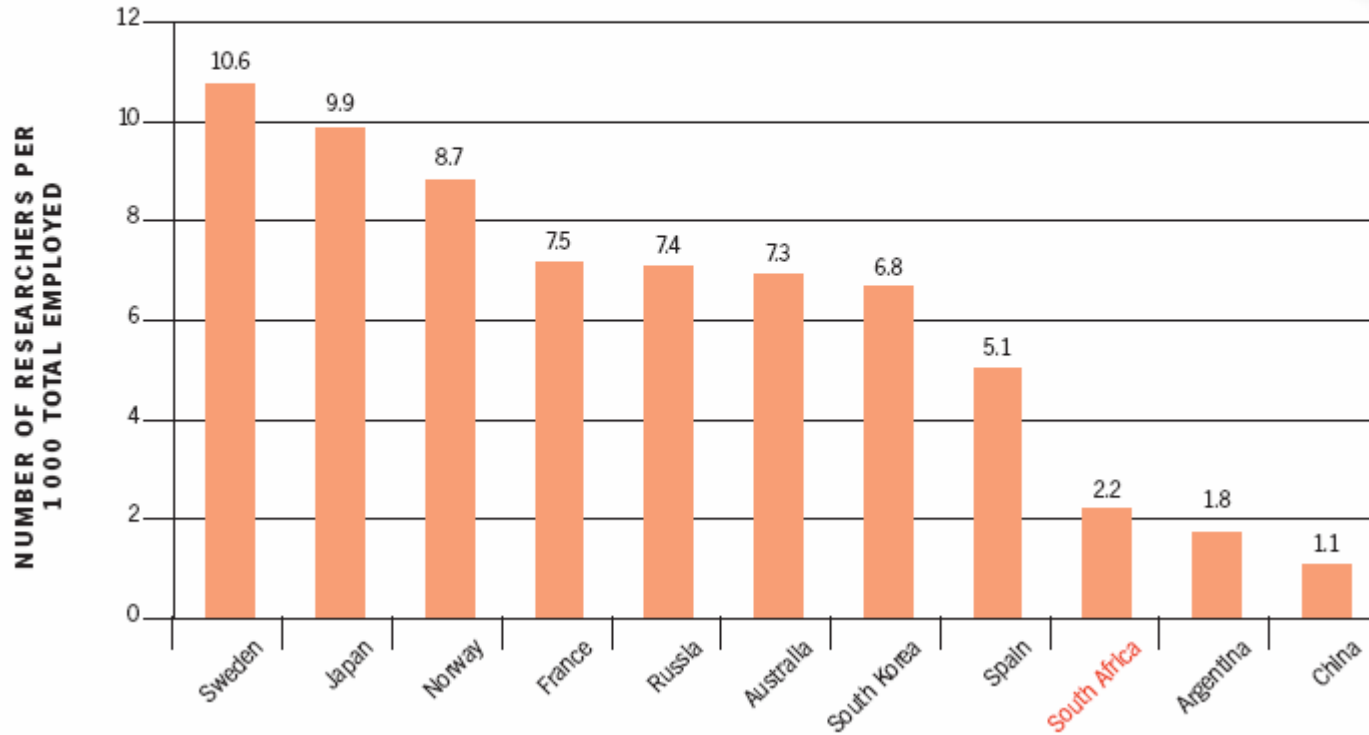


Table 2 Number of JCR indexed journals published in selected countries*

Country	Journal in SCI	GERD/GDP
USA	2257	2.74
UK	1236	1.89
Netherlands	565	1.89
Germany	431	2.51
France	150	2.20
Switzerland	950	2.63
Canada	74	1.82
Italy	67	1.07
Australia	64	1.55
Denmark	59	2.39
Spain	26	0.96
Hungary	18	1.01
Ireland	18	1.17
SA	17	0.76
Sweden	17	4.27
Belgium	13	2.17
Finland	11	3.42
Romania	5	0.38
Greece	4	0.64
Portugal	0	0.93
Luxembourg	0	1.71

2001/02
figure

* a) ISI Journal Citation Reports: <http://www.jcr4.isi.knowledge.com>

b) OECD Main Science & Technology Indicators 2003/2

Science actors

- Science councils (eight)
- National facilities (e.g. iThemba Labs (former National Accelerator Centre))
- Universities (35 => 22)
- Government departments
- Public corporations
- Private enterprise (largest funder of R&D; gov. 2nd largest funder)

SA research output

- 0.5% of world publications (ISI)
 - 50% of African publications (ISI);
- 0.1% of world patents;
 - 98% of African patents (USPTO)
- Growth absolute # of publications
- declining rate of publication (cf. global)
- SAKnowledgebase: 99,000 articles indexed (1990-2004)
- Government incentivised scholarly publication system (akin to Australia, Spain)



OA sc initiatives in South Africa

OA activity

- ca. 2004
- SIVULILE est.
- 4 OA journals; 2 gov. accredited (DOAJ)
- 7 IRs (5 OA)
- 1 (of 8) science council (HSRC) has adopted OA publication model
- To date high-level gov. OA endorsement of access to
 - data OECD - Jan 2004;
- De Beer, JA.
<http://eprints.rclis.org/archive/00003922/>
- ca. 2005/06
- 5 OA journals; 2 gov. accredited (DOAJ)
- 6 IRs (4 OA)
- CSIR going OA...
- To date high-level (NRF) tacit OA endorsement of access to
 - data & information - SA NRF & ICSU/CODATA - Sept 2005 & March 2006
 - ...+ IPR publicly-funded research (Bayh-Dole (USA) type of legislation))
- Möller, A.
<http://eprints.rclis.org/archive/00005815/>

Earliest study

- Jennifer A. De Beer, 2005.
Open Access scholarly
communication in South
Africa: current status,
significance, and the role for
National Information Policy in
the National System of
Innovation. Thesis.

<http://eprints.rclis.org/archive/00003922/>

sivulile



open access
south africa

SIVULILE ("we are open" – isiXhosa)



Hussein, Susan, Jennifer, Dale

- Informal OA working group
 - Hussein Suleman
hussein@cs.uct.ac.za
 - Susan Veldsman
sasli@cosalc.ac.za
 - Jennifer De Beer
 - Dale Peters
petersd@ukzn.ac.za
 - Dynal Patel
dpatel@cs.uct.ac.za

SIVULILE timeline

- July 2004 - first SA OA conference (OSI / SASLI)
- November 2004 - SIVULILE 1st planning meeting
- May 2005 - 1st IR workshop on DSpace (OSI eIFL / SASLI)
- December 2005 - 2nd workshop: building DLs with Greenstone (UNESCO / SASLI)
- Q3 + Q4 2006 - ETDs: measure to manage (CHELSA + NRF)

DSpace training workshop (a.k.a. how to build your own IR) - May 2005



Self-archiving (1)

- ROAR & OpenDOAR
 - Univ of Johannesburg (inc. RAU)
<http://etd.rau.ac.za>
 - Rhodes University
<http://eprints.ru.ac.za>
 - University of Cape Town CS
<http://pubs.cs.uct.ac.za>
 - Univ of Pretoria
<http://upetd.up.ac.za>



Universities

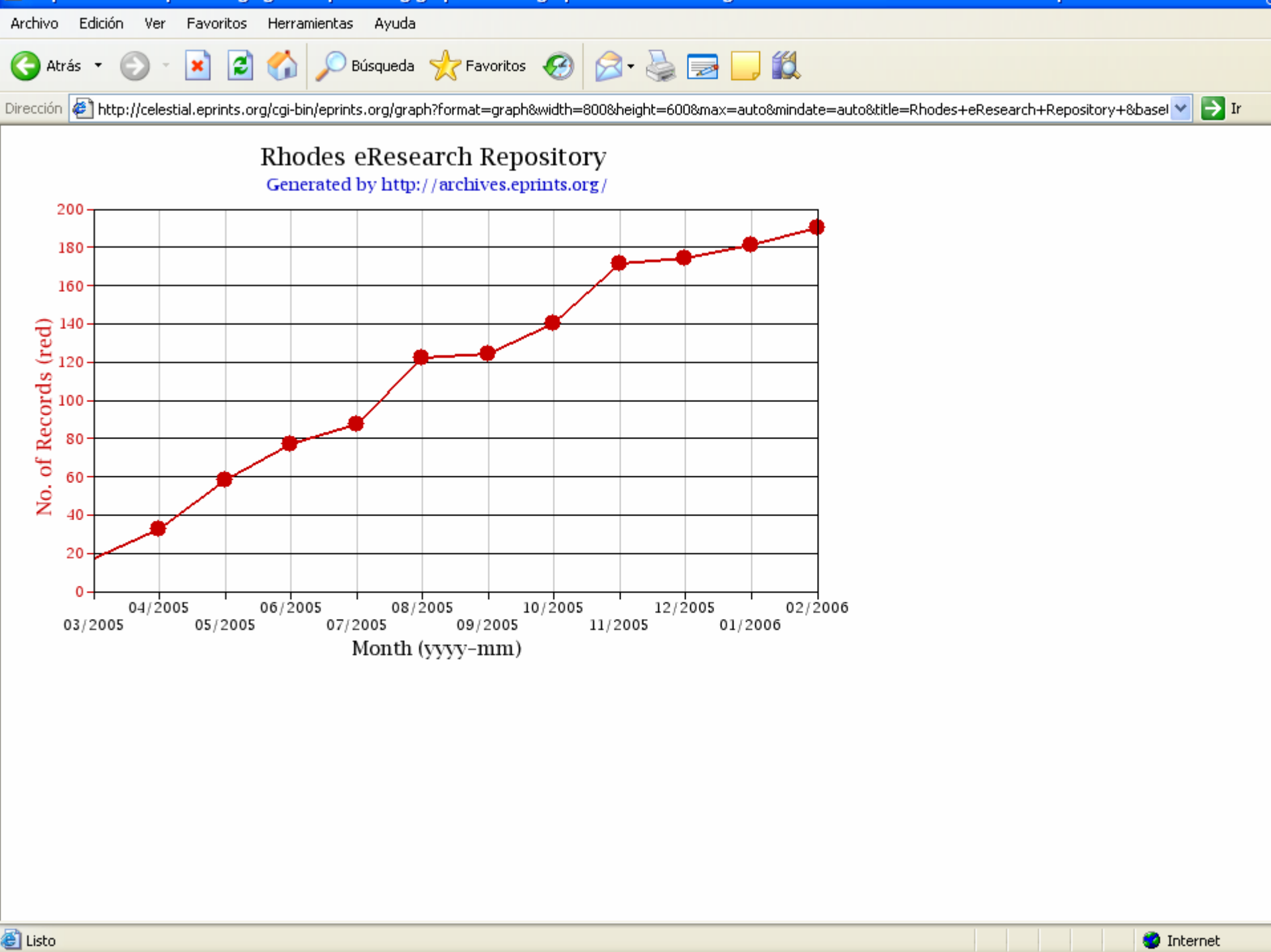
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Universities of Technology

- | |
|--|
| 4 Durban Institute of Technology (Managosutho Technikon to join DIT) |
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| 12 Cape Technikon and Peninsula Technikon will merge (Cape Peninsula University of Technology from January 2005) |
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| 21 Tswane University of Technology |
| 22 Vaal University of Technology |

Self-archiving (2)

- Rhodes eResearch Repository
 - First IR (cf. ETD) in South Africa
 - Launched officially 2 Feb 2006
 - All content Open Access - policy decision taken in 2005
 - Possible embargo period (1 - 5 years) for theses
 - 15,010 abstract views => 120 distinct countries;
 - 15,831 document downloads => 139 distinct countries
 - Eprints Community founder member



Usage Statistics for Rhodes eResearch Repository




























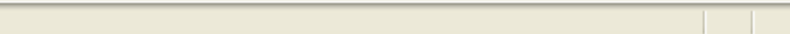
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Repository-wide statistics: [\[by Year/month\]](#) [\[by Country\]](#)

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 United States	7017	6948	
 South Africa	966	1733	
 Mauritius	1788	1132	
 United Kingdom	476	825	
 India	144	539	
 Rhodes University	1304	491	
 Japan	406	267	
 Germany	81	215	
 Canada	128	204	
 Australia	104	196	
 China	59	188	
 Sweden	302	179	
 Spain	122	169	
 Rhodes University	1304	491	

OA Publishing

- HSRC (www.hsrcpress.ac.za)
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- Expansion into/across Africa



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Glenda Kruss; Gilton Klerck; Andrew Paterson; Shane Godfrey

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Multinationals on the periphery: DaimlerChrysler South Africa, human capital upgrading and regional economic development
Jo Lorentzen

Higher education and work: Setting a new research agenda
Charlton Koen

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Latest study

- Allison Möller, 2006. The case for open access publishing, with special reference to open access journals and their prospects in South Africa. Thesis.

<http://eprints.rclis.org/archive/00005815/>

SA NRF/ICSU/CODATA

- CODATA Workshop on Strategies for Permanent Access to Scientific Information in Southern Africa

<http://stardata.nrf.ac.za/html/workshopCodata.html>

- Exec Summary

<http://stardata.nrf.ac.za/html/ExecSummaryFinal.doc>

Exec summary excerpt

- Scientific and technical (S&T) data and information policy (p5)
- o CODATA outputs should include examples of **national policies** that establish the record-keeping policies of various nations such as the USA, United Kingdom and Australia. This could help inform the South African National Archives Act, which currently makes no mention of the **mandatory** collection and preservation of S&T data and information, but refers only to public administrative records.
- And further regarding STM journals (p8):
- The following kinds of actions should be taken with regard to scientific, technical and medical (STM) journals:
 - Establish and implement **policy interventions by research funders** (including governments and institutions) that:
 - o **Mandate** that scholars make pre-prints and e-prints of their research available via an open access medium.
- [My emphasis in bold]

Two arguments circulating

- Bandwidth before OA

(i.e. wait for bandwidth, OA initiatives in and for the developing world can come later)

- rather

- Bandwidth for OA

(I believe that the case for cheaper bandwidth can be strengthened by making arguments about the *benefits* of OA for the developing world, hence let's have cheaper bandwidth now rather than later, and in the meantime let's not wait on our OA initiatives anyway, because we need to...)

Question assumptions

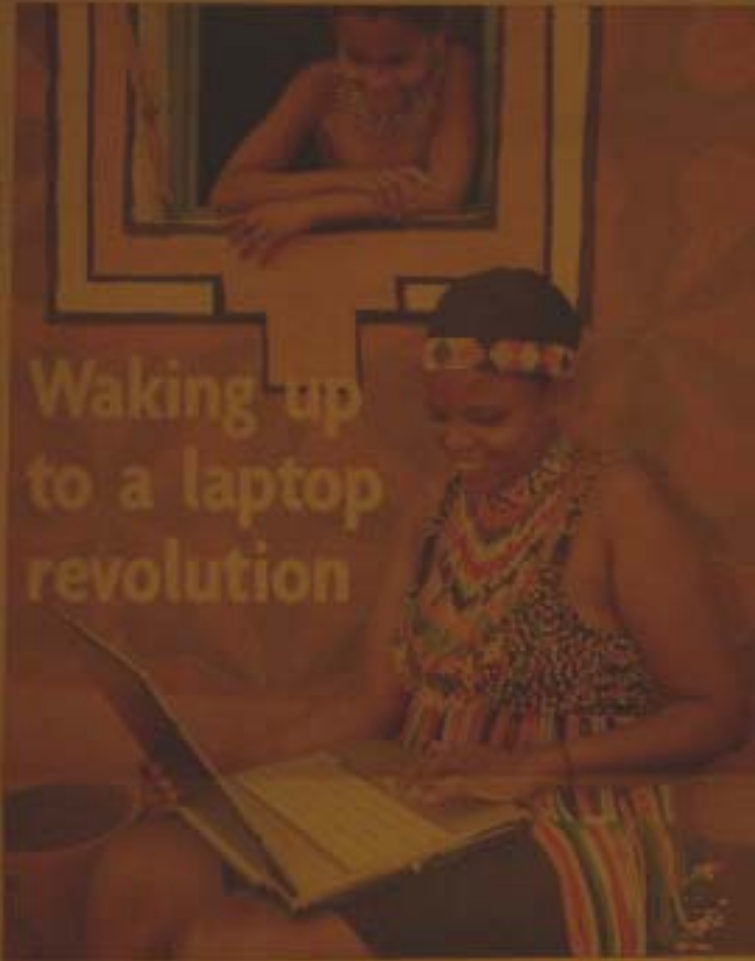
- Development?
- Digital divide?
- Flat world (Friedman)
- Nodes/hubs (Castells)
- We speak of a “flat world” but forget that image and its effects as soon as we speak of the “digital divide”

A bit of history

- 2004 study into OA in SA
- “study is (i.a.) premature... we don't have b/width in Africa” (May 2004)
- “Africa needs bandwidth before we can promote OA” (Feb 2006)

FTDigital Business

Waking up to a laptop revolution



- We should check our notion of “digital divide”
- “Digital divide” usually equates with “basic access” of the sort illustrated in the picture; it automatically implies a trajectory of coming from “no connectivity” to “connectivity”
- But there are those in the developing world who are already connected...

...as characterises those living in cities in the developing world; are we meeting their information & research needs?



Photo is illustrative of that of which I speak; the already-connected, in a lab of 200+ computers in a faculty at *an university* in a developing country





- We speak of the “digital divide” as if an undifferentiated whole
- In doing so, we frequently forget of the already-connected in the developing world
 - who have information needs (obviously)
 - who (may) already benefit from open access
- The danger is that we halt work on OA initiatives (which I think goes some way to explaining sometimes the lack of OA progress in the developing world), whilst waiting for “the miracle of greater/cheaper bandwidth” and so inadvertently retard access to content for the already-connected
- It is said that there is still a “Berlin wall in the head” for some here
- We should check whether we really don’t have the infrastructure, or whether we aren’t simply dealing with a “digital divide in the head” sometimes



For interest/information

Gloss

- CHELSA - Committee for Higher Education Libraries in South Africa
- CODATA - Committee on Data for Science and Technology
- COSALC - Coalition of South African Library Consortia
- CSIR - Council for Scientific and Industrial Research
- HSRC - Human Sciences Research Council
- ICSU - Int'l Council of Scientific Unions /Int'l Council for Science
- NRF - National Research Foundation (SA)
- SASLI - South African Site Licensing Initiative
- OSI - Open Society Institute
- SIVULILE - not acronym



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| 5 Mangosuthu Technikon | 14 Technikon North West | 23 University of Natal | 32 University of the Witwatersrand |
| 6 MEDUNSA | 15 Technikon Pretoria | 24 University of the North | 33 University of Zululand |
| 7 Peninsula Technikon | 16 Technikon South Africa | 25 University of the North West | 34 Vaal Triangle Technikon |
| 8 Port Elizabeth Technikon | 17 Technikon Witwatersrand | 26 University of Port Elizabeth | 35 Vista University |
| 9 Potchefstroom University | 18 UNISA | 27 University of Pretoria | |



HE institutions: post-2005

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Thank you

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