

# Open Access: Delivering on the Promise

Heather Joseph Executive Director, SPARC North America 1<sup>st</sup> SPARC Japan Seminar Tokyo, Japan June 7, 2013



## **Our Mission:**

Expand the distribution of the results of research and scholarship in a way that leverages digital networked technology, reduces financial pressures on libraries, and creates a more open system of scholarly communication.

# What's Happening In Scientific Communication and What Does it Mean for You?

#### 1. New technology.



### The Internet.



## New Venues to Share Work.

### 2. Digital Deluge.

#### **Explosion in Scientific Discovery**



Manolio, Brooks, Collins, J Clin Invest 2008; 118:1590-625.

#### Submissions to Genbank



# We need to enable the power of networks.



## 3. Rising Costs, Shrinking Budgets

### **Price Barriers**



## Library budgets journal prices

MIT Libraries Materials Purchases vs. CPI % Increase 1986-2006



# "The annual revenues generated by STM journal publishing are estimated at \$9.4 billion U.S. in 2011..."

#### The STM Report,

http://www.stm-assoc.org/2012\_12\_11\_STM\_Report\_2012.pdf

#### What Does this Mean for You?

### We've all run into this:

Google	NIghttime hypoglycemia Continuous Glucose Monitoring System in pedia	Advanced
Search	About 4,880 results (0.30 seconds)	
Everything	Nocturnal hypoglycemia detected with the Continuous Glucose	
Images	by FR Kaufman - 2002 - Cited by 80 - Related articles	
and the second sec	Nocturnal hypoglycemia detected with the Continuous Glucose Monitoring	
Maps	System in pediatric patients with type 1 diabetes. Kaufman FR, Austin J, Neinstein	
Videos	A, You've visited this page 2 times. Last visit: 10/23/11	
News	Accuracy, utility and complications of continuous glucose monitoring	
Shopping	www.ncbi.nlm.nih.gov/pubmed/16106313 -1	
Suchen 9	by FF Maia - Cited by 11 - Related articles	
More	[Accuracy, utility and complications of continuous glucose monitoring system	
	Show more results from nih.gov	
San Francisco, CA	Nocturnal hypoglycemia detected with the Continuous Glucose Mo	
Change location	www.mendeley.com//nocturnal-hypoglycemia-detected-continuous	
10	(2002) Kaufman et al. The Journal of pediatrics. Read by researchers in: 100% Medicine, OB JECTIVE: To use the Continuous Clucose Monitoring System (CCMS)	
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	Continuous glucose monitoring reveals delayed nocturnal hypogly	
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	Nocturnal hypoglycemia detected with the Continuous Glucose Monitoring	

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McGill Nutrition Centre, Royal Victoria Hospital, McGill University, 687 Pine Avenue West, Montreal, Que., Canada H3A 1A1

Jean-François Yale 🍐 🏁





# Common Problem – So What Do You Do?

### **Sometimes Inter-Library Loan...**

# But more commonly: I ask the author for a copy....

# I get it from a colleague at an institution with a subscription.



#### We're Used to Workarounds...

# Need to Optimize the System for Scholars and the Academy.



"By open access, we mean the **free** availability of articles on the public internet, permitting any users to read, download, copy, distribute, print, search or link to the full text of these articles, crawl them for indexing, pass them as data to software or use them for any other lawful purpose..."

- The Budapest Open Access Initiative – February 14, 2002

#### **Open Access = Access + Reuse**

#### So How Are We Doing?

# 1. Infrastructure: Open Access Journals

#### More than 8,900 OA Journals



www.doaj.org



The rapid rise in open access. The graph (from Laasko and Bjork's paper – BMC Medicine 2012, 10:124) shows the numbers of papers published in three different types of online open access journals from 2000 to 2011. Courtesy The Guardian

#### Predicted 'Disruption Timeframe' of OA vs Subscription model



Source: "The Inevitability of Open Access", David Lewis http://crl.acrl.org/content/73/5/493.full.pdf+html (College and Research Libraries, Sep 2012

# Open Access Publishing has proven *profitability* – not just sustainability.

# Outsell estimates that Open Access journals generated \$172 million in revenue in 2012 – up 34% from 2011.

- The Economist, 2/28/2013
## 2. Infrastructure: Open Access Repositories



Hide information ba



US National Library of Medicine National Institutes of Health	MC (Control Lies	Journal List Limits Advanced			Search Help
		PMC Is a free full-text archive of biomedical and life sciences journal literature at the U.S. National Institutes of Health's National Library of Medicine (NIH/NLM).			PubReader A whole new way to read scientific literature at PubMed Central
Get Started		Participate		Keep Up to Date	
PMC Overview	Add a Journal to PMC			New in PMC	
Users' Guide		Participation Agreements		PMC News Mail List	
Journal List		File Submission Specification	1	PMC News RSS	
PMC FAQs		File Validation Tools			
PMC Copyright Notice					
Other Resources		0.0 1411 10		NIH Public Acces	S
PMC International		2.6 MILLION Articles are archived in PMC. Content provided in part by:		NIH Public Access and PMC	
Open Access Subset				NIH Manuscript Submission System	
E-utilities				My Bibliography	
NLM LitArch		1218 24	7 1989	PMCID/PMID/NIHMSI	D Converter
PMC Citation Search		Full Participation NIH Po Journals Journ	rtfolio <u>Selective Deposit</u> nals Journals		39



## **Open** Data



## 3. Infrastructure: Copyright and Licensing

## Despite transition to Internet, still largely using print based copyright constructs.



## Need the flexibility to operate within the current copyright environment to allow digital articles to be fully used and reused.

**Text Mining** Downloading **Bulk Downloading Data Mining Semantic Searching Computational Analysis Machine Reading** 

## **Growing Use of Open Licenses**





#### Attribution 3.0 Unported (CC BY 3.0)

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#### Growth in use of the CC-BY license



#### Data for the above chart can be downloaded here: OASPA Members CC-BY Growth

A total of 252,418 articles were published with the CC-BY license during the period shown above.

## 4. Infrastructure: Open Access Policies

## From University/Campus Based Open Access Policies...





### Office for Scholarly Communication

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#### **Open Access Policies**

"The goal of university research is the creation, dissemination, and preservation of knowledge. At Harvard, where so much of our research is of global significance, we have an essential responsibility to distribute the fruits of our scholarship as widely as possible."

> Steven E. Hyman Provost of Harvard University

By means of Harvard's Open Access Policy, faculty authors in <u>participating</u> <u>schools</u> grant the university a nonexclusive, irrevocable right to distribute their scholarly articles for <u>any non-commercial purpose</u>.

#### Programs

Programs Overview Open Access Policies DASH Repository Library Lab Compact for OA Publishing Equity HOPE Fund

SEARCH

#### **Policy Texts**

Harvard Business School Harvard Faculty of Arts & Sciences Harvard Graduate School of Education Harvard Kennedy School of Government

## To National/Funder Based Open Access Policies...

Governments would *boost innovation and get a better return on their investment* in publicly funded research by making research findings more widely available.... And by doing so, they would *maximize social returns on public investments*."

-- International Organization for Economic Cooperation and Development, Report on scientific publishing, 2005



#### **Commissioner Geoghegan-Quinn discusses Open Access with key stakeholders**

Brussels, 25 September 2012

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European Commissioner for Research, Innovation and Science Máire Geoghegan-Quinn yesterday met with a number of key stakeholder groups in the drive to improve access to scientific information produced in Europe. The Commissioner met separately with traditional scientific publishers, open access publishers, the open access community, and research funders and international organisations (see full list below).

Following the meetings, Commissioner Geoghegan-Quinn said:

"Open access is about giving European taxpayers a better return on their €87 billion annual public investment in research and development. Broader and more rapid access to scientific papers and data will make it easier for researchers and businesses to build on the findings of public-funded research. This will boost Europe's innovation capacity and give citizens quicker access to the benefits of scientific discoveries.

I appreciate the fact that various groups who have a stake in this have met with me today. We had a very positive exchange and I had a chance to hear from all these groups first hand, following the publication of our Commission strategy on open access in July. I explained that the European Commission is absolutely committed to this policy and that we need to work together in order to implement open access in Horizon 2020. A close partnership is indispensable for the long-term success of this idea."

The meetings come following the publication of a Commission communication on access to scientific information in July. The Commission has





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About AIMS

ome » Groups » Open Access				
Australian Research	Council	implements	a new Open	Access
Policy				

Username:\*

LOGIN >

Wed, 09/01/2013 - thembani.malapela

The Australian Research Council (ARC) has introduced, with effect from the 1st of January 2013, a new open access policy for all ARC funded research. This policy mandates that all funded research must be deposited into an open access institutional repository within the 12 months period from the date of publication.

Agricultural

Information Management

Standards



Password:\*

request new password

Australian Government

The Australian Research Council policy joins similar funder mandates such as Welcome Trust, Department of International Development-UK (DFID), and National Health Institutes; however, the ARC policy has been found weak in (i) enforcing compliancy and (ii) that it does not require grantees to retain the rights needed to authorise open access. Peter Suber, phrased this latter loophole with this cliché, "Make your work OA unless your publisher won't allow it."

Visit AIMS Open Access pages for a collection of different types OA mandates.



You are in: Home > Science Communication > Open access > News

NEWS

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#### Argentina takes steps towards open access law

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Cecilia Rosen 7 June 2012 | EN | ES

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[BUENOS AIRES] Argentina is a step closer to becoming the first country to pass legislation to make all publicly funded research available in open access repositories.

The Chamber of Deputies passed a new bill last month (23 May) stating that all national scientific institutions must provide open access (OA) archives of their research, allowing the public full access to journal articles, dissertation theses and technical reports, as well as data obtained by publicly funded projects, but excluding confidential data.



Argentina's law may mandate all of its research to be open access Shutterstock Wednesday, 27 February 2013

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#### Office of Science and Technology Policy Blog

#### Expanding Public Access to the Results of Federally Funded Research

Posted by Michael Stebbins on February 22, 2013 at 12:04 PM EST

The Obama Administration is committed to the proposition that citizens deserve easy access to the results of scientific research their tax dollars have paid for. That's why, in a policy memorandum released today, OSTP Director John Holdren has directed Federal agencies with more than \$100M in R&D expenditures to develop plans to make the published results of federally funded research freely available to the public within one year of publication and requiring researchers to better account for and manage the digital data resulting from federally funded scientific research. OSTP has been looking into this issue for some time, soliciting broad public input on multiple occasions and convening an interagency working group to develop a policy. The final policy reflects substantial inputs from scientists and scientific organizations, publishers, members of Congress, and other members of the public—over 65 thousand of whom recently signed a *We the People* petition asking for expanded public access to the results of taxpayer-funded research.

To see the new policy memorandum, please visit: http://www.whitehouse.gov/sites/default/files/microsites/ostp/ostp\_public\_access\_memo\_2013.pdf

To see Dr. Holdren's response to the We the People petition, please visit: https://petitions.whitehouse.gov/response/increasing-public-access-results-scientific-research

Michael Stebbins is Assistant Director for Biotechnology at OSTP



Create and Sign Petitions on WhiteHouse.gov

GET STARTED NOW >

### BLOGS

The White House Blog Middle Class Task Force Council of Economic Advisers

## **Open Access Policies**



## What Does all this Mean for Researchers and Scholars?

# Broader reach and wider audience for their work;

# Access to more, license to do more with work of others.

## Much Progress. But Challenges Remain.

## Ensuring Full Reuse Rights is Biggest Challenge.

SNCBI Resources How To





2.6 MI	LLION	Articles
an	e archived in Pl	NC.
Conte	int provided in p	oart by:
1218	247	1989
Full Participation	NIH Portfolio	Selective Deposit
Journals	Journals	Journals

NIH Public Access

NIH Public Access and PMC

NIH Manuscript Submission System

My Bibliography

PMCID/PMID/NIHMSID Converter

## 2.5 million articles... But only 500,000 carry CC-BY licenses.

## For Open Access to Succeed, We *Must* get the Rights Right.

## HowOpenIsIt?

#### **Open Access Spectrum (OAS)**



In 2002, the Budapest Open Access Initiative (BOAI) articulated the basic tenets of Open Access (OA) for the first time. Since then, thousands of journals have adopted policies that embrace some or all of the OA core components related to: readership; reuse; copyright; posting; and machine readability. It's time to move the conversation beyond the deceptively simple question of, "Is It Open Access?" toward a more productive evaluation of "HowOpenIsIt?".

PLOS, <u>SPARC</u> and <u>OASPA</u> have collaborated to create a <u>guide</u> that identifies the core components of OA and how they are implemented across the spectrum between "Open Access" and "Closed Access". The guide provides an easily understandable, comprehensive, and quantifiable resource to help authors make informed decisions on where to publish based on publisher policies. In addition, funders and other organizations will have a resource that indicates criteria for what level of OA is required for their policies and mandates.

This OA guide is aimed toward a wide audience of researchers, authors, and policy-makers. The goals of the guide are to:

- Move the conversation from "Is It Open Access?" to "HowOpenIsIt?"
- Clarify the definition of OA
- Standardize terminology
- Illustrate a continuum of "more open" versus "less open"
- Enable people to compare and contrast publications and policies
- Broaden the understanding of OA to a wider audience
- · Determine how open a publisher and/or publication is by using the grid

## Second Major Challenge: Culture Change.

## Need Better Answer to Scholars who ask: "Why Should I Care About Open Access?"

## Biggest Barrier to Open Access: Fear of Not Being Adequately Rewarded.

The Open Digital Environment Lets Us Collect Information on More than Just Citations.


PLOS: views PDF downloads XML downloads PMC: views PDF downloads

Citations

PubMed Central CrossRef Scopus Web of Science



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## **Article Level Metrics**

#### **RESEARCH ARTICLE**

#### Rivaling the World's Smallest Reptiles: Discovery of Miniaturized and Microendemic New Species of Leaf Chameleons (*Brookesia*) from Northern Madagascar

6 3 3 3 0	6
Article	Metrics

**Related Content** 

Comments: 2

#### Article Usage 🕕

Total Article Views		HTML Page Views	PDF Downloads	XML Downloads	Totals
45,362 Feb 14, 2012 (publication date) through Sep 24, 2012*	PLoS	42,181	2,923	79	45,183
	PMC	133	46	n.a.	179
	Totals	42,314	2,969	79	45,362



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#### Metrics (1)

O ACCESS

OPEN

Total Article Views: 45,362 Published on February 14, 2012

#### Citations

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More







#### Social Networks ()



Blogs and Media Coverage @

## ALMs let you Dig into the Aspect of Impact you Want to Explore...

### As a Researcher...

# (I wonder *who* is reading my work..)



The Lancet: In resource-limited settings, malaria control programmes should consider use of text messaging to... http://fb.me/Eakerale

5 Aug 11



PAHO/WHO Equity @eqpaho The effect of mobile phone text-message reminders on Kenyan health workers' adherence to malaria treatment guidelines http://t.co/BhbGRad

16 Aug 11





#### wellcome<sup>trust</sup>

### ...Or As a Funder....

# (Is this Research Having an Effect On....)

Outcomes	Key indicators of progress
Discoveries	<ol> <li>significant advances in the generation of new knowledge</li> <li>contribute to discoveries with tangible impacts on health</li> </ol>
Applications	<ul> <li>contribute to the development of enabling technologies,</li> <li>products and devices</li> <li>uptake of research into policy and practice</li> </ul>
Engagement	<ul> <li>enhanced level of informed debate in biomedicine</li> <li>significant engagement of key audiences &amp; increased reach</li> </ul>
Research leaders	<ul> <li>develop a cadre of research leaders</li> <li>evidence of significant career progression among those we support</li> </ul>
Research environment	<ul> <li>key contributions to the creation, development and maintenance of major research resources</li> <li>contributions to the growth of centres of excellence</li> </ul>
Influence	<ol> <li>significant impact on science funding &amp; policy developments</li> <li>significant impact on global research priorities and processes</li> </ol>

Wellcome Trust Outcome Measures – Kevin Dolby, OASPA Conference 201282

# (Has this work influenced research priorities or policy directions?)

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PLoS One. 2012; 7(8): e43549. Published online 2012 August 27. doi: 10.1371/journal.pone.0043549

#### Adoption of Rapid Diagnostic Tests for the Diagnosis of Malaria, a Preliminary Analysis of the Global Fund Program Data, 2005 to 2010

Jinkou Zhao,<sup>1,2,\*</sup> Marcel Lama,<sup>1</sup> Eline Korenromp,<sup>1,3</sup> Patrick Aylward,<sup>1</sup> Estifanos Shargie,<sup>1</sup> Scott Filler,<sup>1</sup> Ryuichi Komatsu,<sup>1</sup> and Rifat Atun<sup>4</sup>

Author information > Article notes > Copyright and License information >

#### Abstract

#### Introduction

The World Health Organization Guidelines for the Treatment of Malaria, in 2006 and 2010, recommend parasitological confirmation of malaria before commencing treatment. Although microscopy has been the mainstay of malaria diagnostics, the magnitude of diagnostic scale up required to follow the Guidelines suggests that rapid diagnostic tests (RDTs) will be a large component. This study analyzes the adoption of rapid diagnostic testing in malaria programs supported by the Global Fund to fight AIDS, Tuberculosis and Malaria (Global Fund), the leading international funder of malaria control globally.

#### Methods and Findings

We analyzed, for the period 2005 to 2010, Global Fund programmatic data for 81 countries on the quantity of RDTs planned; actual quantities of RDTs and artemisinin-based combination treatments (ACTs) procured in 2009 and 2010; RDT-related activities including RDTs distributed, RDTs used, total diagnostic tests including RDTs and microscopy performed, health facilities equipped with RDTs; personnel trained to perform rapid diagnostic malaria test; and grant budgets allocated to malaria diagnosis. In 2010, diagnosis accounted for 5.2% of malaria grant budget. From 2005 to 2010, the procurement plans include148 million RDTs through 96

Go to:



The Lancet: In resource-limited settings, malaria control programmes should consider use of text messaging to... http://fb.me/Eakerale

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PAHO/WHO Equity @eqpaho The effect of mobile phone text-message reminders on Kenyan health workers' adherence to malaria treatment guidelines http://t.co/BhbGRad

16 Aug 11



StompOutMalariaKen Texting health care workers in #Kenya improve treatment of #malaria: http://t.co ya /L5FGpZE7 @stompm\_kenya 4 Oct 11

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## Identity matters in impact.

# New ways to see who is using their work, and how they are using it

## To be successful, Article Level Metrics (ALMs) need to be proliferated....

### ....and they are.

D R R A San Francisco Declaration on Research Assessment

SIGN THE DECLARATION

#### EMAIL YOUR THOUGHTS ON DORA

The San Francisco Declaration on Research Assessment (DORA), initiated by the American Society for Cell Biology (ASCB) together with a group of editors and publishers of scholarly journals, recognizes the need to improve the ways in which the outputs of scientific research are evaluated. The group met in December 2012 during the ASCB Annual Meeting in San Francisco and subsequently circulated a draft declaration among various stakeholders. DORA as it now stands has benefited from input by many of the original signers listed below. It is a worldwide initiative covering all scholarly disciplines. We



#### **Declaration on Research Assessment**

encourage individuals and organizations who are concerned about the appropriate assessment of scientific research to sign DORA.

HOME

Download the Declaration (PDF)

Download the DORA Logo (ZIP)

# Article Level Metrics Have Strong Potential to Stimulate Culture Change.

## 10 Years into the Open Access Movement, Enormous Progress Has been Made....

# ...And the Challenges that Remain Are Clear.

- 1. Finish the job on establishing robust infrastructure.
- 2. Diversify business models.
- 3. Accelerate adoption of open licenses.
- 4. Encourage broader research evaluation metrics.

## SPARC's strategy of strong global partnerships and collective action remains vital to our continued success.



SPARC North America SPARC Japan

SPARC Europe

### Thank You.

Heather Joseph Executive Director, SPARC heather@arl.org www.arl.org/sparc