

Biomedical Publishing in the Internet age

Iain Hrynaszkiewicz
Managing Editor
BioMed Central

We will be covering

- Online publishing and open access
- Metrics of success in era of online publishing
- Information overload
- Beyond the journal article
- The future of scholarly communication

Technology changes business models



The publisher as a service provider

- Help maximise research impact and pace
- Preservation and (rapid) dissemination
- Development of innovative content and tools
- Collaboration with the scientific community

Traditional research publishing

- The research community transfers its rights to the research to the publisher
- The publisher covers its costs by selling access to the content back to the research community

Open access research publishing

- There are no barriers to access
- The publisher generally does not acquire any exclusive rights
- Typically the publisher is paid for the service of publication

About BioMed Central

- Largest publisher of peer-reviewed open access journals
- Launched first open access journal in 2000
- Now publishes >200 OA titles
- >52,000 peer reviewed OA articles published
- All research articles published under Creative Commons license
- Costs covered by 'article processing charge' (APC)

Open access publishing then and now...

2000

2010



Libertas Academica

SCIENTIFIC JOURNALS
INTERNATIONAL

Springer Open Choice

Blackwell Publishing
Online Open



OXFORD OPEN EXiS Open Choice



And more...



Where is OA in 2010?

- 9.6% of all STM journals are now published under an OA model
- There are over 800 open access medical journals in the DOAJ publishing over 3200 articles per year
- Around 32% of these articles are indexed by Thomson Reuters ISI
- Submissions to open access journals grew by over 44% between 2008 and 2009
- Open access to research is now mandatory at over 80 institutions and 40 funders. Many more have signed open access initiatives.

Why choose open access?

The screenshot shows the IngentaConnect website interface. At the top, the logo 'ingentaconnect' is on the left, and navigation links for 'Home', 'About Ingenta', 'Ingenta Labs', 'Ingenta Blog', and 'Help' are in the center. On the right, there are dropdown menus for 'For Librarians', 'For Researchers', and 'For Publishers'. Below the navigation is a banner for 'Visit the BJP at the The Digital Photo and Imaging Show' and 'Full-body MOT Ultimate health Check-Up including MRI scanning in 6-star surroundings', with an 'Ads by Google' logo. The main article title is 'Impediments to promoting access to global knowledge in sub-Saharan Africa'. The author is 'Ezra Ondari-Okemwa', the source is 'Library Management, Volume 25, Numbers 8-9, 2004, pp. 361-375(15)', and the publisher is 'Emerald Group Publishing Limited'. There are navigation links for '< previous article | next article > | view search results'. Below the article title is a 'mark item' section with a key: 'Free Content', 'New Content', 'Subscribed Content', and 'Free Trial Content'. The abstract follows, discussing knowledge-based societies and their competitive advantage. Below the abstract are 'Keywords', 'Document Type', and 'DOI'. A purchase section indicates the full text is available for purchase at '\$35.50 plus tax' and offers 'Buy now' (with radio buttons for 'Credit/debit card' and 'Institutional payment account') or 'Add to cart' (with a 'Purchase later' link). On the right side, there is a sidebar with a 'Click here for Page Help' link, a 'Browse' section, a 'Search' box with a 'GO' button, and a list of search options: 'Electronic content', 'Fax/Ariel content', and 'Journal or book title'. Below the search is 'Advanced search' and 'Search history'. Further down is a 'Shopping cart' section, followed by 'Tools' including 'Print', 'Article access options', 'Subscription options', 'Export options', 'Linking options', 'Alerting options', and 'Bookmarking options'. At the bottom of the sidebar is a 'Sign in' link. At the very bottom of the page, there is a 'Text size' section with four 'A' icons of increasing size. On the far right, there is a vertical banner for 'Coca-Cola zero' with the text 'CLICK HERE FOR YOUR CHANCE TO WIN'.

ingentaconnect

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Ads by Google

Impediments to promoting access to global knowledge in sub-Saharan Africa

Author: Ezra Ondari-Okemwa
Source: Library Management, Volume 25, Numbers 8-9, 2004 , pp. 361-375(15)
Publisher: Emerald Group Publishing Limited

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Key: - Free Content - New Content - Subscribed Content - Free Trial Content

Abstract:

Knowledge-based societies have come to be identified with the advanced economies. Knowledge is now looked on as a new source of competitive advantage. Those economies where knowledge is created and used in large quantities may be said to enjoy a competitive advantage over those that do not create and use knowledge in large quantities. Sub-Saharan Africa is one region which needs to have access to global knowledge for its economic development. However, there are several impediments to promoting access to global knowledge in sub-Saharan Africa. The impediments are identified in the study and solutions to the impediments proposed. Research methods used are highlighted.

Keywords: Knowledge Management; Knowledge Organizations; Information Exchange; Human Capital; Competitive Advantage; Africa
Document Type: Research article
DOI: 10.1108/01435120410562853

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Visibility

1. **Research article** [Open Access](#) [Highly accessed](#)

Accesses **The first metazoa living in permanently anoxic conditions**
13110 **Roberto Danovaro, Antonio Dell'Anno, Antonio Pusceddu, Cristina Gambi, Iben Heiner, Reinhardt Møbjerg Kristensen**
evaluated on **BMC Biology** 2010, **8**:30 (6 April 2010)
 [\[Abstract\]](#) [\[Full text\]](#) [\[PDF\]](#) [\[PubMed\]](#) [\[Related articles\]](#) [\[F1000 Biology\]](#) [\[Cited on BioMed Central\]](#)

2. **Review** [Open Access](#) [Highly accessed](#)

Accesses **Childhood obesity, prevalence and prevention**
9919 **Mahshid Dehghan, Noori Akhtar-Danesh, Anwar T Merchant**
Nutrition Journal 2005, **4**:24 (2 September 2005)
[\[Abstract\]](#) [\[Full Text\]](#) [\[PDF\]](#) [\[PubMed\]](#) [\[Related articles\]](#) [\[Cited on BioMed Central\]](#) [\[2 comments\]](#)

3. **Research** [Open Access](#) [Highly accessed](#)

Accesses **Stochastic nonlinear dynamics pattern formation and growth models**
8918 **Leonid P Yaroslavsky**
Nonlinear Biomedical Physics 2007, **1**:4 (5 July 2007)
[\[Abstract\]](#) [\[Full Text\]](#) [\[PDF\]](#) [\[PubMed\]](#) [\[Related articles\]](#)

4. **Research** [Open Access](#) [Highly accessed](#)

Accesses **The effect of carbon dioxide on near-death experiences in out-of-hospital cardiac arrest survivors: a prospective observational study**
7865 **Zalika Klemenc-Ketis, Janko Kersnik, Stefek Grmec**
Critical Care 2010, **14**:R56 (8 April 2010)
[\[Abstract\]](#) [\[Full text\]](#) [\[PDF\]](#) [\[PubMed\]](#) [\[Related articles\]](#) [\[1 comment\]](#)

5. **Research** [Open Access](#) [Highly accessed](#)

Accesses **Association between infant feeding patterns and diarrhoeal and respiratory illness: A cohort study in Chittagong, Bangladesh**
7435 **Seema Miharshahi, Wendy H Oddy, Jennifer K Peat, Iqbal Kabir**
International Breastfeeding Journal 2008, **3**:28 (24 November 2008)
[\[Abstract\]](#) [\[Full Text\]](#) [\[PDF\]](#) [\[PubMed\]](#) [\[Related articles\]](#)

Visibility on BioMed Central

- Over 1 million registrants
- Almost 8 million unique users each month
- 500,000 BioMed Central email update recipients
- 27 million page views per month

No limitations

- Tables
- Colour figures
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- Data sets
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- Transparently reported, reproducible research

Publishing trial results

- *“Honest reporting begins with revealing the existence of all clinical studies, even those that reflect unfavorably on a research sponsor’s product.....*
- *[unpublished] studies cannot influence the thinking of patients, clinicians, other researchers and experts who write practice guidelines or decide on insurance coverage policies”*

Clinical Trial Registration: A statement from the International Committee of Medical Editors (2004)

Improving quality and quantity

The screenshot shows the EQUATOR Network website. At the top left is the EQUATOR Network logo, a green globe with the text 'equator network' below it. To the right is a search bar with a 'Go' button. Below the logo is the tagline 'Enhancing the QUALITY and Transparency Of health Research'. A navigation menu includes 'Home', 'About EQUATOR', 'Resource Centre', 'Courses Events', 'Research Projects', 'Contact', 'News', and 'Forum'. The main content area features a large heading: 'Welcome to the EQUATOR Network website – the resource centre for good reporting of health research studies'. Below this is a globe image and a paragraph stating that good research evidence is often undermined by poor quality reporting. A 'Highlights' section includes 'Seeking funding and support' and 'Promote good reporting'. On the right side, there are three boxes: 'Reporting guidelines' with a link to 'Library for Health Research Reporting', 'Authors' with a link to 'Information for authors of research reports', and 'Editors' with a link to 'Resources for journal editors and peer reviewers'. A 'Developers' section is partially visible at the bottom right. A 'Latest news' sidebar on the left shows a recent update: 'CONSORT 2010 Statement published' with a link to 'more news'.

equator network Search: Go

Enhancing the QUALITY and Transparency Of health Research

Home About EQUATOR Resource Centre Courses Events Research Projects Contact News Forum

Welcome to the EQUATOR Network website – the resource centre for good reporting of health research studies

Too often, good research evidence is undermined by poor quality reporting.

The EQUATOR Network is an international initiative that seeks to improve reliability and value of medical research literature by promoting transparent and accurate reporting of research studies.

Highlights

Seeking funding and support
We appeal to research funders, publishers and other organisations to support responsible research reporting. Find out [how](#)

Promote good reporting

Reporting guidelines
[Library for Health Research Reporting](#)

Authors
[Information for authors of research reports](#)

Editors
[Resources for journal editors and peer reviewers](#)

Developers

Latest news [more news](#)

CONSORT 2010 Statement published
New guidance to improve the

<http://www.equator-network.org/>

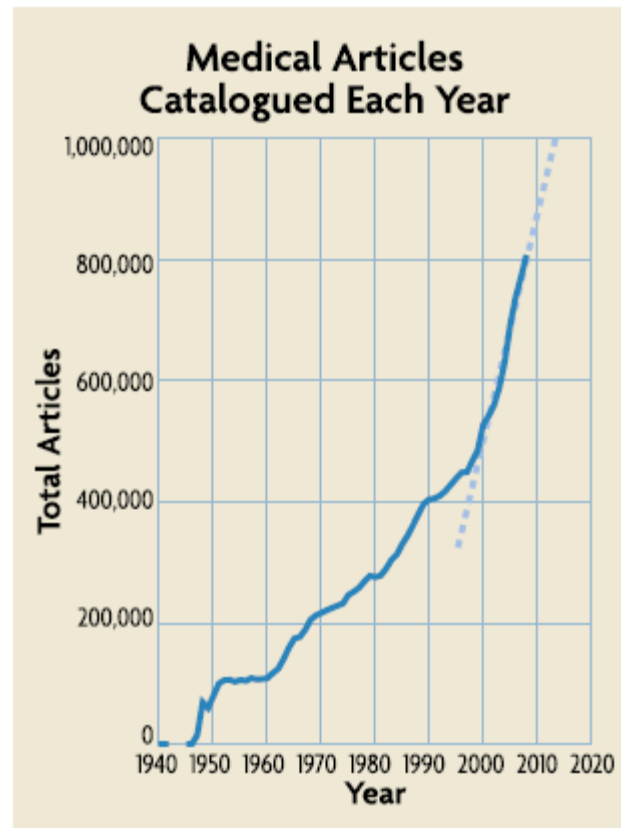
Improving quality and quantity

"[BioMed Central journal] supports initiatives aimed at improving the reporting of biomedical research. Checklists have been developed for a number of study designs, including randomized controlled trials (CONSORT), systematic reviews (PRISMA), meta-analyses of observational studies (MOOSE), diagnostic accuracy studies (STARD) and qualitative studies (RATS). We recommend authors refer to the EQUATOR network website for further information on the available reporting guidelines for health research, and the MIBBI Portal for prescriptive checklists for reporting biological and biomedical research where applicable. Authors are requested to make use of these when drafting their manuscript and peer reviewers will also be asked to refer to these checklists when evaluating these studies."

How does OA facilitate this?

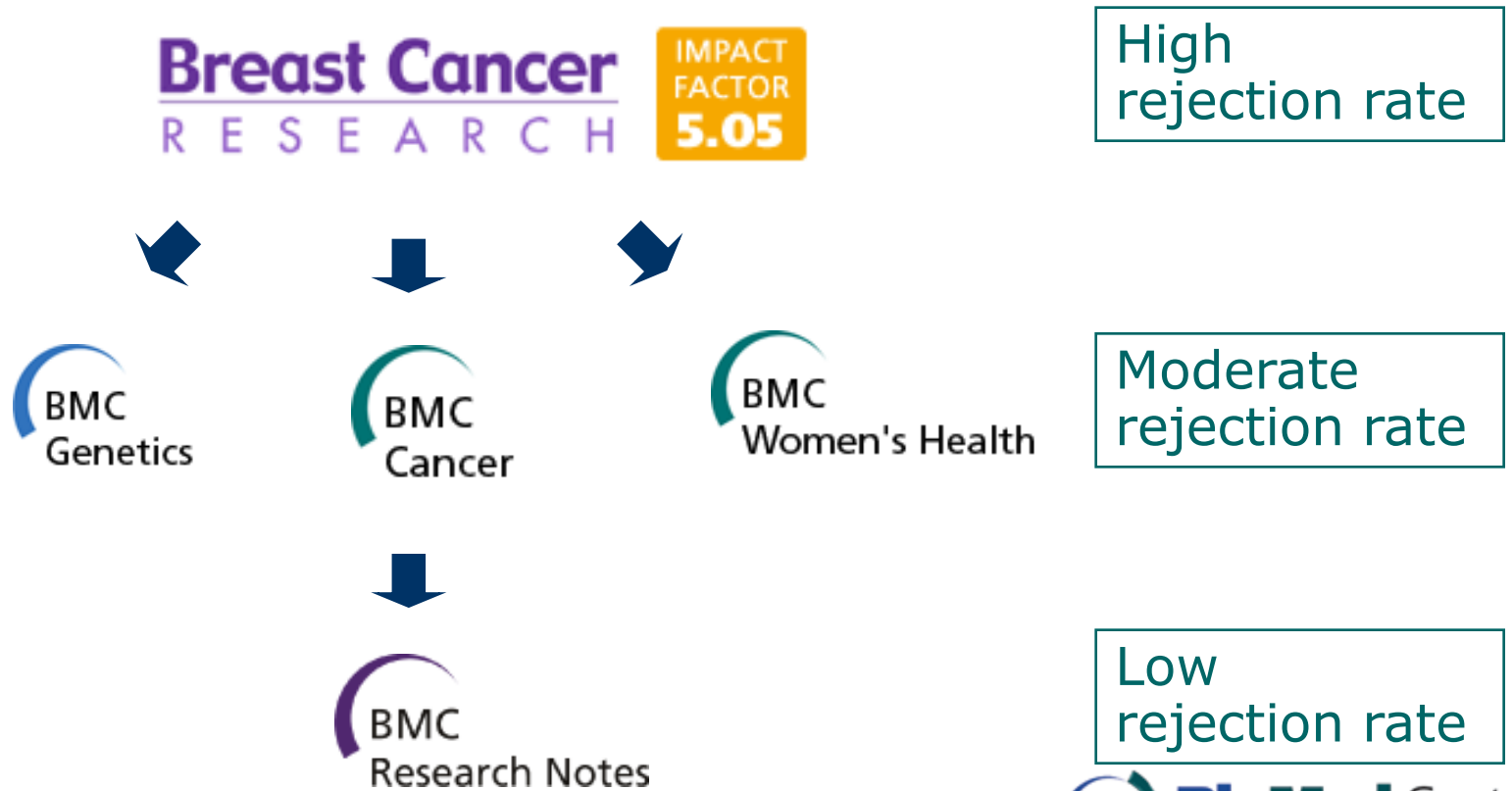
- Removes the limitations of paper-based subscription journals
 - Publication can be linked through trial registration to original protocol
 - Protocols can be linked to updates if the trial is modified
 - Removal of space limitations enables ALL results to be published whatever the outcome
 - Open access journals committed to dissemination of ALL scientifically sound research including secondary analyses, longer-term follow-ups and extended reports

Information overload?



Gillam *et al*: The Healthcare Singularity and the Age of Semantic Medicine. In *The Fourth Paradigm* (2009)

Peer review cascade



Advantages of this approach

- Avoids delays for authors
- Avoids saddling academics with repeated peer review of less interesting papers
- Separates question of soundness from level of interest
 - Soundness determines whether to publish
 - Interest determines where to publish
- For the publisher, high-prestige, high rejection rate titles are magnets for research articles

This approach is becoming increasingly prevalent

- PLoS
- Nature
- Cell
- Neuroscience Peer Review Consortium



- Home
- NPRC overview
- Journals
- Authors
- Reviewers
- Editors
- Publishers
- Joining
- About

Welcome to the Neuroscience Peer Review Consortium – an innovation in science publishing.

The Neuroscience Peer Review Consortium is an alliance of neuroscience journals that have agreed to accept manuscript reviews from other members of the Consortium. Its goals are to support efficient and thorough peer review of original research in neuroscience, speed the publication of research reports, and reduce the burden on peer reviewers.

The Consortium has been operating on a trial basis since **January 1, 2008**. All journals that agree to join the Consortium will be required to abide by the rules of the Consortium until December 31, 2008 when the program will be evaluated. If the Task Force determines that the program is useful and is achieving its goals, the program may be extended indefinitely, and journals will be given an opportunity to continue as a Consortium member, but may withdraw at any time with 30 days notice to the Task Force.

The Consortium extends an invitation to all MEDLINE-indexed journals that publish peer-reviewed original research in the broad field of neuroscience to join.

The Consortium extends an invitation to all MEDLINE-indexed journals that publish peer-reviewed original research in the broad field of neuroscience to join.

Information for

- **Authors**
- **Reviewers**
- **Editors**
- **Publishers**

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How can you find what you want to read?

- <http://mekentosj.com/papers/>
- <http://f1000.com/>
- <http://www.mendeley.com/>
- Science Watch 'Hot Papers'



Metrics of success in the internet age

Citations and downloads

- “Senior authors believe downloads to be more credible measure of the usefulness of research than traditional citations.”
 - http://www.ucl.ac.uk/ciber/ciber_2005_survey_final.pdf
- “Open access articles receive 50% more full-text accesses and PDF downloads than subscription-access articles.”
 - Kenneth R. Fulton, PNAS Publisher

Metrics of success in the internet age

- If a journal has no circulation numbers and authors are interested in downloads more than citations, should we be using impact factors and circulation numbers to judge a journal's success?
- And why should metrics of success focus on the *journal*, anyway?

New ways of judging quality

- New journal and article-level metrics
 - Citations
 - Downloads
 - Comments
 - Social media postings
- Author-level metrics
 - H index/Scopus

Alternative journal metrics

- Scopus, from Elsevier, makes available citation data for a much more comprehensive set of journals
- SCImago Journal Rank (SJR), based on Scopus data
- Uses algorithm similar to Google's PageRank
- Can measure the quality of a broader range of journals than those with Impact Factors

	Title	SJR	H index
1	Arthritis and Rheumatism	Q1 1,045	167
2	Arthritis research & therapy	Q1 0,629	55
3	Annals of the rheumatic diseases	Q1 0,546	92
4	Rheumatology	Q1 0,445	83
5	Seminars in Arthritis and Rheumatism	Q1 0,417	56
6	Arthritis Care and Research	Q1 0,323	56
7	Rheumatic Disease Clinics of North America	Q1 0,302	52
8	Current rheumatology reports	Q1 0,204	28
9	Clinical and Experimental Rheumatology	Q1 0,203	46
10	Rheumatology International	Q2 0,148	32

Traditional journal metrics

Rank	Abbreviated Journal Title <i>(linked to journal information)</i>	ISSN		
			Total Cites	Impact Factor
1	ANN RHEUM DIS	0003-4967	17807	7.188
2	ARTH RHEUM/AR C RES	0004-3591	44251	6.787
3	NAT CLIN PRACT RHEUM	1745-8382	813	5.677
4	CURR OPIN RHEUMATOL	1040-8711	3007	4.689
5	ARTHRITIS RES THER	1478-6362	4709	4.485
6	SEMIN ARTHRITIS RHEU	0049-0172	2718	4.379
7	RHEUMATOLOGY	1462-0324	8682	4.136
8	OSTEOARTH R CARTILAGE	1063-4584	5238	4.082
9	J RHEUMATOL	0315-162X	19320	3.282
10	BEST PRACT RES CL RH	1521-6942	1329	3.066

Featured in [PLoS Hub for Clinical Trials](#)

Efficacy of Short-Course AZT Plus 3TC to Reduce Nevirapine Resistance in the Prevention of Mother-to-Child HIV Transmission: A Randomized Clinical Trial

Article

Metrics

Related Content

Comments: 0

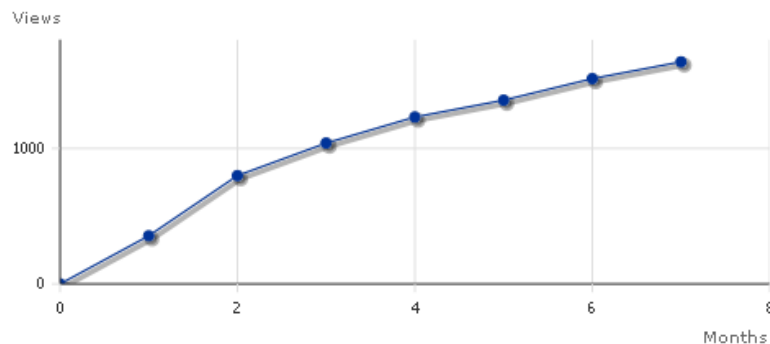
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Total Article Views: **1638** from Oct 27, 2009 (publication date) - Apr 28, 2010*

Breakdown by View Type

HTML Page Views: **1332**PDF Downloads: **278**XML Downloads: **28**

Cumulative Views from Oct 27, 2009 (publication date) - Apr 28, 2010*



*Data refer to views from the *PLoS Medicine* Web site only.

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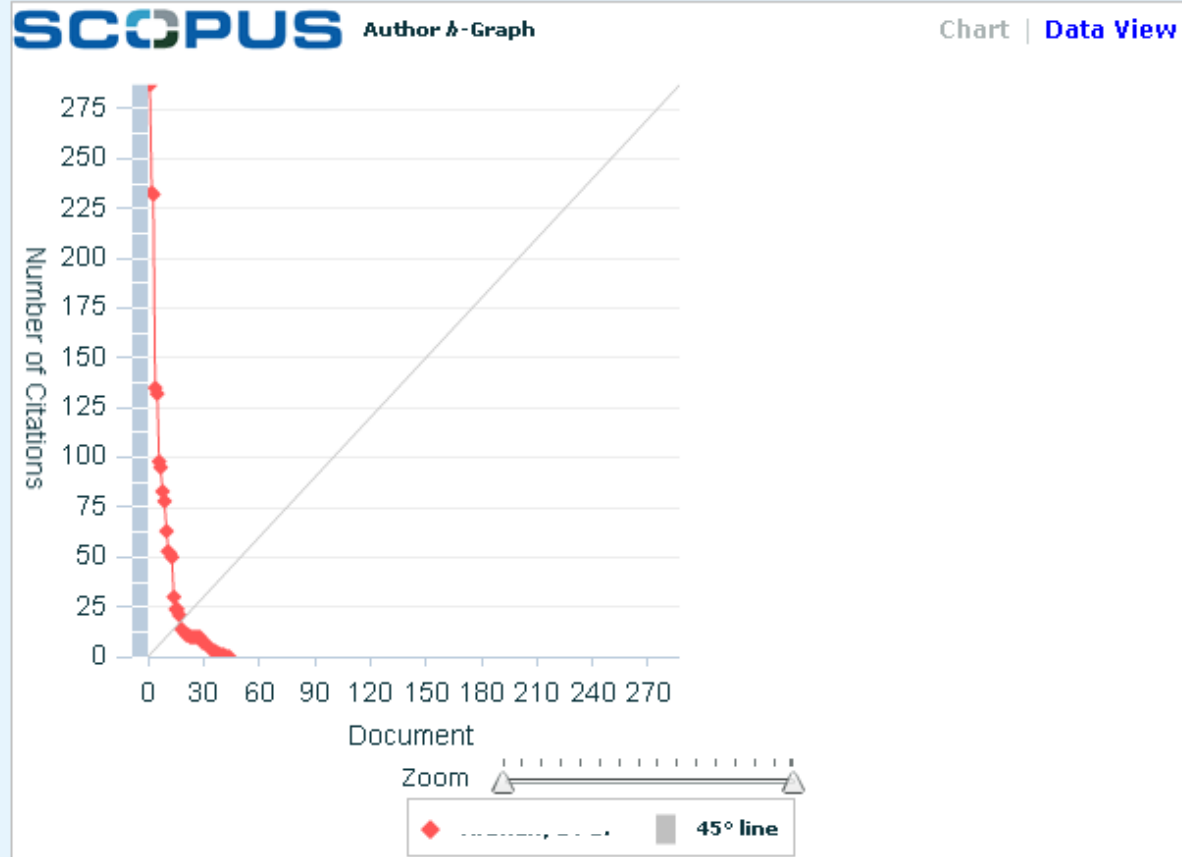
Articles Published

Citations

Only consider documents published from: 1996 to 2010

h index = 17 (of the 44 documents considered for the h-Index, 17 have been cited at least 17 times.)

Note: The h Index considers Scopus documents published after 1995. [More Information](#)



Beyond the journal article

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- Graphical abstracts
- Cell's 'article of the future'
- Author sound bites

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OPEN ACCESS

GATA Transcription Factor Required for Immunity to Bacterial and Fungal Pathogens

Samantha Kerry[#], Michael TeKippe[#], Nathan C. Gaddis, Alejandro Aballay^{*}

Department of Molecular Genetics and Microbiology, Duke University Medical Center, Durham, North Carolina, United States of America

In the past decade, *Caenorhabditis elegans* has been used to dissect several genetic pathways involved in immunity; however, little is known about transcription factors that regulate the expression of immune effectors. *C. elegans* does not appear to have a functional homolog of the key immune transcription factor NF- κ B. Here we show that the intestinal GATA transcription factor ELT-2 is required for both immunity to *Salmonella enterica* and expression of a C-type lectin gene, *clec-67*,

which is expressed in the intestine. We also found that ELT-2 is required for immunity to *Cryptococcus neoformans*. Lack of immunity to *C. neoformans* is rescued by expression of the transcription factor DAF-16, rescues the phenotype of *C. elegans*. Our results indicate that ELT-2 is required for immunity independently of the DAF-16 pathway.

Funding: S.E.K. is funded by The Whitehead Scholars Program.
Competing interests:

As their name suggests *Salmonella enterica* are involved in causing diseases of the intestines (enteric means pertaining to the intestine). The three main serovars of *Salmonella enterica* are Typhimurium, Enteritidis, and Typhi. Each of these is discussed further...

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3

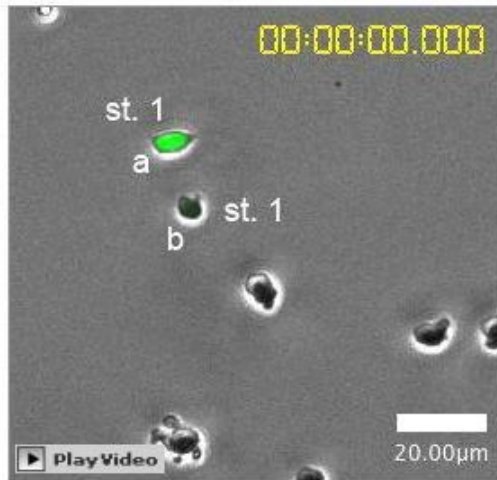
Posted by **Alejandro** on 22 Dec 2006 at 06:19 GMT

CLOSE

We also found that ELT-2 is required for immunity to *Cryptococcus neoformans*. Our results indicate that ELT-2 is required for immunity independently of the DAF-16 pathway. S.E.K. is funded by The Whitehead Scholars Program.

Embedded video

Additional files



Additional file 1:

A Quick Time video file showing *ath5:gfp*-positive RGCs differentiating *in vitro*. a and b are two GFP-expressing cells that undergo the initial stages of differentiation in culture. Fluorescence is shown only at the beginning and the end of the movie. Time is shown in hours:minutes:seconds.

Format: MOV Size: 1.7MB [Download file](#)

Playing the movie within this page requires QuickTime and JavaScript. [Read more](#)

[http://www.neuraldevelopment.com/content/1/1/2/additional/
Neural Development 2006, **1**:2](http://www.neuraldevelopment.com/content/1/1/2/additional/Neural_Development_2006_1:2)

Mini-websites

Discussion

One of the features new to JSpecView is the ability to load and display multiple spectra simultaneously, when viewing JCAMP-DX Block files with similar X-axis ranges. This can be used to display kinetic runs or a series of related spectra. The display options include showing the spectra superimposed, tiled or as separate tabbed pages (see additional file [1](#) and Figures [1](#), [2](#)). A routine for generating Block files from individual NMR spectra has been developed from the project code [[12](#)].

Additional file 1. Introduction to the JSpecView Applet. Interactive examples of JSpecView in use.

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Figure 1. Screen dump showing the simultaneous display of multiple spectra in the Java application.

Mini-websites

Discussion

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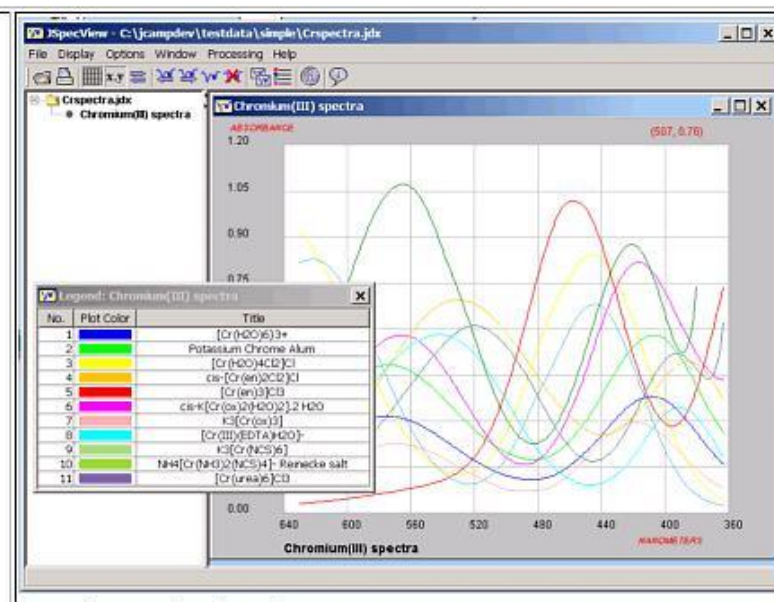
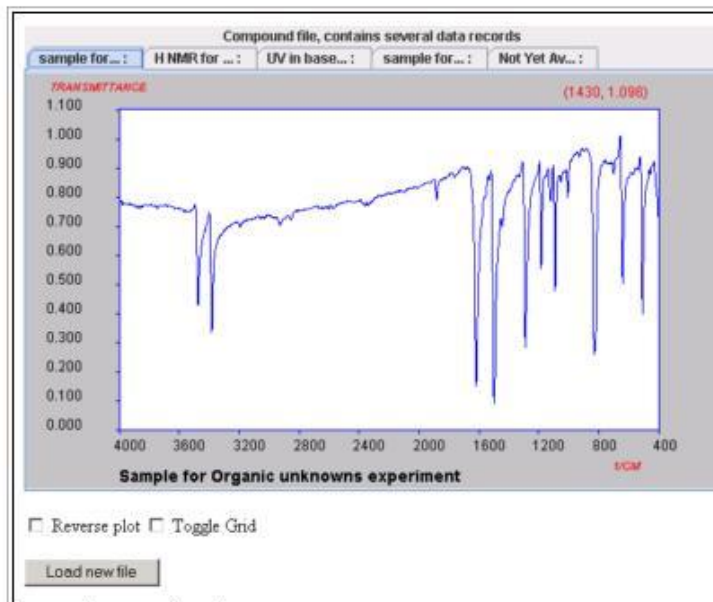


Figure 1. Screen dump showing the simultaneous display of multiple spectra in the Java application.

∴ Introduction to the JSpecView Applet

∴ Description

JSpecView is a viewer for spectral data in the JCAMP-DX format. The program was developed at the Department of Chemistry of the University of the Indies, Mona, Jamaica, WI and is being released via [SOURCEFORGE.NET](http://sourceforge.net) under the GNU Lesser General Public License. It is written in JAVA and requires at least 1.5, although development is currently with 1.6. The code is available under version control (subversion - svn) at <http://jspecview.svn.sourceforge.net/viewvc/jspecview/dev/>



<http://journal.chemistrycentral.com/content/supplementary/1752-153x-1-31-s1/index.html>

3-D structures

Additional File 1:



1st model of the HEN1 CTD (aa 694–911) in the Protein Data Bank format. A representative of the largest cluster of decoys obtained after re-folding the insertion (aa 829–859) using ROSETTA.

Format: PDB Size: 126KB [Download file](#)

BMC Evolutionary Biology 2006, **6**:6
<http://www.biomedcentral.com/1471-2148/6/6/additional/>

Graphical abstracts

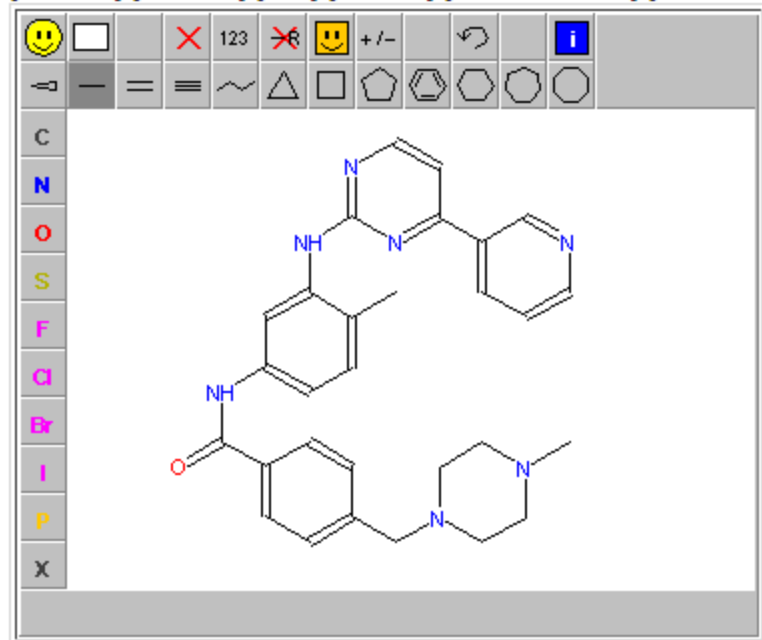
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Molecular structure input on the web

Peter Ertl

Journal of Cheminformatics 2010, **2**:1 (2 February 2010)

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Cell's 'article of the future'

Article

Article PDF (2294 KB) Extended Article PDF (4547 KB)

Cell, Volume 140, Issue 1, 49-61, 8 January 2010 | Copyright © 2010 Elsevier Inc. All rights reserved. | 10.1016/j.cell.2009.11.027

Monoacylglycerol Lipase Regulates a Fatty Acid Network that Promotes Cancer Pathogenesis

Daniel K. Nomura, Jonathan Z. Long, Sherry Niessen, Heather S. Hoover, Shu-Wing Ng, Benjamin F. Cravatt [See Affiliations](#)

Summary

Introduction

Results

Discussion

Exp. Proc.

Data

References

Supp. Info.

Related Info.

Comments (1)

Highlights

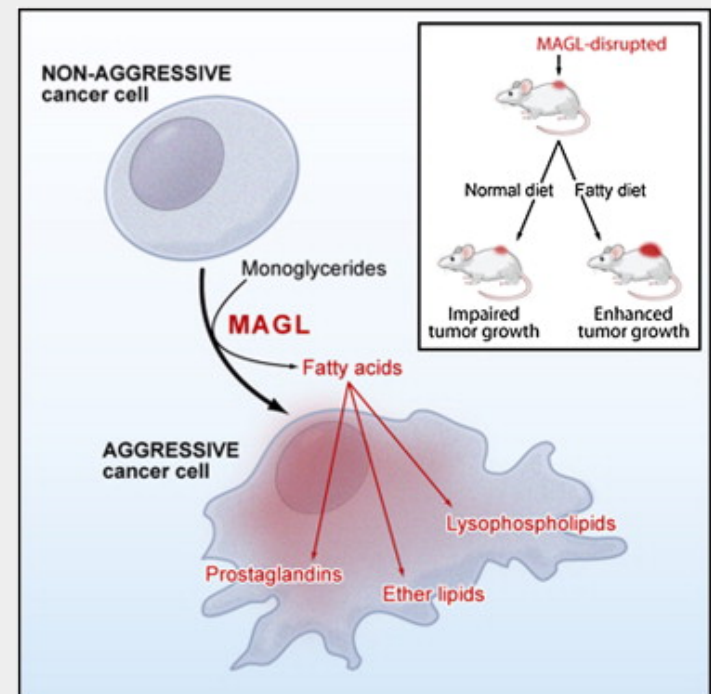
- Monoacylglycerol lipase (MAGL) is elevated in aggressive human cancer cells
- Loss of MAGL lowers fatty acid levels in cancer cells and impairs pathogenicity
- MAGL controls a signaling network enriched in protumorigenic lipids
- A high-fat diet can restore the growth of tumors lacking MAGL in vivo

Summary

Tumor cells display progressive changes in metabolism that correlate with malignancy, including development of a lipogenic phenotype. How stored fats are liberated and remodeled to support cancer pathogenesis, however, remains unknown. Here, we show that the enzyme monoacylglycerol lipase (MAGL) is highly expressed in aggressive human cancer cells and primary tumors, where it regulates a fatty acid network enriched in oncogenic signaling lipids that promotes migration, invasion, survival, and in vivo tumor growth. Overexpression of MAGL in nonaggressive cancer cells recapitulates this fatty acid network and increases their pathogenicity—phenotypes that are reversed by an MAGL inhibitor. Impairments in MAGL-dependent tumor growth are rescued by a high-fat diet, indicating that exogenous sources of fatty acids can contribute to malignancy in cancers lacking MAGL activity. Together, these findings reveal how cancer cells can co-opt a lipolytic enzyme to translate their lipogenic state into an array of protumorigenic signals.

Graphical abstract

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place

protein

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Introduction

At present, one billion of the world's population resides in [slum settlements](#) [1]. This number is expected to double in the next 25 years [1]. The growth of large urban populations which are marginalized from basic services has created a new set of global health challenges [2],[3]. As part of the Millennium Development Goals [4], a major priority has been to address the underlying poor sanitation and environmental degradation in slum communities which, in turn, are the cause of a spectrum of neglected diseases which affect these populations [2],[3],[5].

[Leptospirosis](#) is a paradigm for an urban health problem that has emerged due to recent growth of [slums](#) [6],[7]. The disease, caused by the [Leptospira spirochete](#), produces life-threatening manifestations, such as [Weil's disease](#) and severe [pulmonary hemorrhage syndrome](#) for which fatality is more than 10% and 50%, respectively [7]–[9]. [Leptospirosis](#) is transmitted during direct contact with animal reservoirs or water and soil contaminated with their urine [8],[9]. Changes in the urban environment due to expanding slum communities has produced conditions for rodent-borne transmission [6],[10]. Urban epidemics of [leptospirosis](#) now occur in [cities](#) throughout the developing world during seasonal heavy rainfall and flooding [6],[11]–[18]. There is scarce data on the burden of specific diseases that affect slum populations [2], however [leptospirosis](#) appears to have become a major infectious disease problem in this population. In [Brazil](#) alone, more than 10,000 cases of severe [leptospirosis](#) are reported each year due to outbreaks in [urban centers](#) [19], whereas roughly 3,000, 8,000 and 1,500 cases are reported annually for [meningococcal disease](#), [visceral leishmaniasis](#) and [dengue hemorrhagic fever](#), respectively, which are other infectious diseases associated with urban poverty [20]–[22]. Case fatality (10%) from [leptospirosis](#) [19] is comparable to that observed for [meningococcal disease](#), [visceral leishmaniasis](#) and [dengue hemorrhagic fever](#) (20%, 8% and 10%, respectively) in this setting [20],[23],[24]. Furthermore, [leptospirosis](#) is associated with extreme weather events, as exemplified by the El Niño-associated outbreak in [Guayaquil](#) in 1998 [25]. [Leptospirosis](#) is therefore expected to become an increasingly important slum health problem as predicted global climate change [26],[27] and growth of the world's slum population [1] evolves.

Urban [leptospirosis](#) is a disease of poor environments since it disproportionately affects communities that lack adequate sewage systems and refuse collection services [6],[10],[11]. In this setting, outbreaks are often due to transmission of a single serovar, [L. interrogans serovar Copenhageni](#), which is associated with the [Rattus norvegicus](#) reservoir [6], [28]–[30]. Elucidation of the specific determinants of poverty which have led to the emergence of urban [leptospirosis](#) is essential in guiding community-based interventions which, to date, have been uniformly unsuccessful. Herein, we report the findings of a large seroprevalence survey performed in a Brazilian slum community (*favela*). Geographical Information System (GIS) methods were used to identify sources for [Leptospira](#) transmission in the [slum environment](#). Furthermore, we evaluated whether relative differences in socioeconomic status among slum residents contributed to the risk of [Leptospira infection](#), in addition to the attributes of the environment in which they reside.

What are we interested in?

DATA!

Wider dissemination of raw data

- Why share data?
 - Replication of findings
 - Comparison with independent datasets
 - Testing of additional hypotheses
 - Patient safety
 - Teaching
 - Text mining, etc.
- Online publishing allows virtually unlimited supplementary files, and easy linking to data repositories

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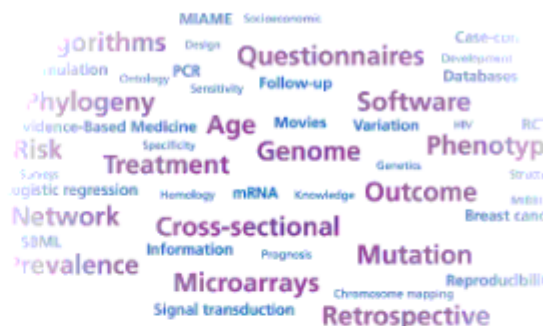
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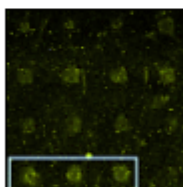
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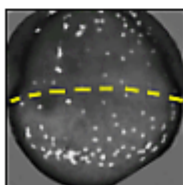
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Improved quality of diagnostic microarray data

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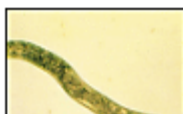
Use of per-spot hybridization control probes and a novel computing normalization technique improves the signal to noise ratio and reduces artefacts of diagnostic microarrays, so increasing the statistical significance of the data generated.



aplnra is essential for normal epiboly in zebrafish

BMC Research Notes 2009, **2**:231

The apelin receptor-a gene, *aplnra*, has a pivotal role in epiboly and gastrulation in zebrafish, as observed after blocking its translation with morpholino oligonucleotides.



The extraordinary mitochondrial genome of a parasitic nematode

BMC Research Notes 2009, **2**:192

Analysis of the mitochondrial DNA of *Radopholus similis*, a parasitic nematode which ravages citrus, banana and ginger plantations, reveals several idiosyncrasies, including a

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Jack Chen, Arthas Flabouris, Rinaldo Bellomo, Ken Hillman, Simon Finfer, MERIT investigators for the Simpson Centre and the ANZICS Clinical Trial Group

Trials 2009, **10**:117 (19 December 2009)

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Nicolas Rasmussen, Kirby Lee, Lisa Bero

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Developing and agreeing best practice

- Make allowances for data sharing in study protocols and obtain informed consent
- Include statement about consent for sharing in manuscript
- Preserve anonymity (especially in an OA world)
 - Risk assessment recommended in some cases
 - Presentation of data to preserve anonymity
 - Retrospective data publication with no consent must ensure anonymity
- Data should be clean and well annotated data
- Publishers should not require copyright to underlying data
- Recognise some access to data may be restricted or embargoed

Hrynaszkiewicz *et al*: **Preparing raw clinical data for publication: Guidance for journal editors, authors and peer reviewers.**

BMJ 2010;340:c181/ *Trials* 2010 11:9.

<http://www.trialsjournal.com/content/11/1/9>

Developing and agreeing standards

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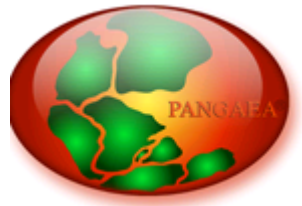
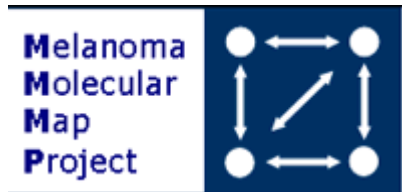
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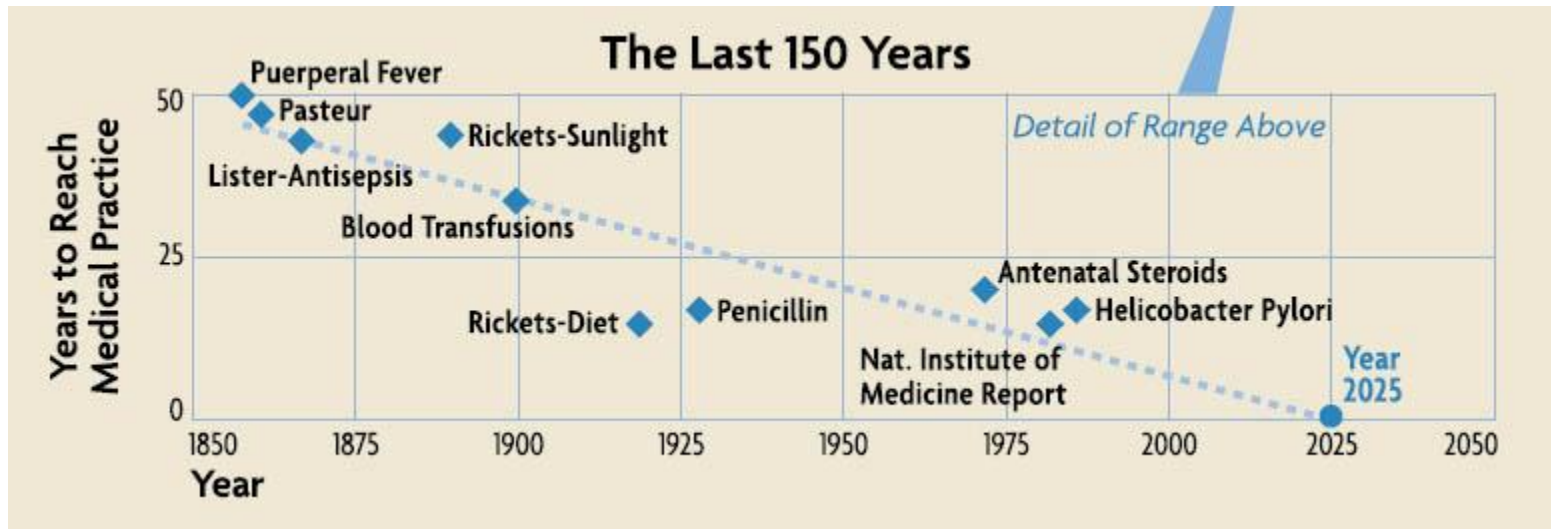


Data repositories



And many more...

The future of scholarly communication



Gillam *et al*: The Healthcare Singularity and the Age of Semantic Medicine. In *The Fourth Paradigm* (2009)

The new scientific record?

- Data-intensive research and rapid knowledge translation
- Text, data and computational tools integral to the literature
- Enhanced knowledge discovery
- This kind of data and knowledge liquidity already in development...

Lynch C: Jim Gray's Fourth Paradigm and the Construction of the Scientific Record. In *The Fourth Paradigm* (2009)

Google

<https://www.google.com/health/html/tour/index.html>

Microsoft

<http://www.healthvault.com/>

So what does this all mean for publishers and medical writers?

- Re-usable data has tremendous value
- And end in sight for the traditional article?

So what does this all mean for publishers and medical writers?

- Re-usable data has tremendous value
- And end in sight for the traditional article?
- Development of tools for interpretation of data needs publishers and collaborators
- Value-added content and context adapted for the audience will always need writers

Summary

- The internet has fundamentally changed the business of publishing
- Internet publishing now allows readers to interact with the scientific literature
- The metrics of success for journals, articles, and authors are evolving
- Data and software are more integral to the scientific record but writers and publishers will help put data into context

Questions?

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