



# Open Access to Scholarly Communications: An Introduction

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Susan Veldsman

UNISA Institutional Repository Training

April 2008





# Overview of presentation

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- Background on eIFL
- Budapest Open Access Initiative
- Introduction to Open Access: Open Access Journals and Repositories
- International Support for Open Access
- eIFL Open Access Program in Developing/Transition Countries
- Institutional policies



- An independent foundation that strives to lead, negotiate, support and advocate for the wide availability of electronic resources by library users in transition and developing countries.
- Operates through a network of national library consortia in 55 countries.



# The eIFL.net team

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- Rima Kupryte - managing director
- Isabel Bernal - program assistant
- Iryna Kutchma - OA and IR (Ukraine)
- Susan Veldsman - e-resources (South Africa)
- Teresa Hackett - IP (Ireland)
- Randy Metcalfe + Tigran Zagaryan - FOSS (Canada and Armenia)
- Monika Segbert - consortium building, new countries (member of the management board, Germany)
- Andrius Krisciunas - webmaster (Lithuania)



# Funding

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- Funding for projects from foundations, agencies, private funders
  - Ford, McArthur, OSI foundations
  - EU-Tempus
  - UNESCO
  - Koha foundation
- Participation fee from each country
- Sponsorship of the GA by publishers
- In-country funding from ministries, consortia members - funding sources vary by country
- Budget about € 1m per year



# eIFL Open Access Program

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- Call for Interest among eIFL members:
  - Serbia, November 2003 & November 2005
  - South Africa, July 2004 & May 2005
  - Ukraine, February 2005
  - Lithuania, February 2005
  - China, June 2005
  - Southern Africa, August 2006
  - Poland, September 2006
  - Lesotho, Swaziland, 2007
  - Hong Kong, 2007
  - Ghana, 2007
  - SARUA, 2007
  - Carnegie, 2007
  - Nigeria, 2008





# Traditional publishing

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- journals are an effective way of sharing scientific research with other scientists, so content is extremely important
- No author is paid
- Copyright has been taken over by publishers
- Commercial publishers is making huge profit margins and their empires is growing
- Costs to publish is paid by patrons, libraries via subscriptions
- Expensive journals became the place to publish
- Research councils funded research more highly in this kind of journal, because everyone read them
- Library budgets became more and more strained
- Universities lost control of their own research
- The situation was accepted by academics because of their need to publish their research, and because there seemed to be no alternative



# Driving force behind open access

## – Dissatisfaction at all levels

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- Academics/Authors: their work is not seen by all their peers – do not receive the recognition they deserve
- Readers: cannot view all research literature they need – less effective
- Libraries: cannot satisfy information needs of their users
- Development of the Internet



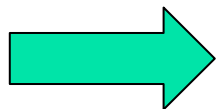


# Background of the BOAI

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December 2001, Budapest: OSI held a meeting of leaders exploring alternative publishing models. Concluded that “open access” was the goal and agreed on two main strategies for achieving it:

1. open access journals
2. institutional/subject-based repositories



Budapest Open Access Initiative



# Definition of open access

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In using the term 'open access', we mean the free availability of peer-reviewed literature on the public internet, permitting any user to read, download, copy, distribute, print, search, or link to the full texts of the articles.



# Open access journals

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A journal which is freely available online worldwide and does not rely upon the traditional subscription based business model to generate revenue.



# Open access journals

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- If they do not charge a subscription fee, how do they generate the funds necessary to publish the journal?
- Open access journals employ a combination of new business models, among them:



# Open access journals

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- Article processing fee: when a paper is accepted for publication in an open access journal, a fee is charged to the author's institution/research grant, which covers the cost of peer review, online publication, etc.



# Open access journals

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- Institutional membership:
  - Researchers from member institutions have the right to publish an unlimited number of research articles in the journal without paying the article processing fee.
  - BioMed Central pioneered this model: Harvard, Columbia, Czech Academy of Sciences, Debrecen University, & UK.



# Open access journals

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- Hybrid model (Walker/Prosser): for conversion of subscription-based journal to open access. Authors would be presented with two options:
  - To pay an article processing fee – the paper is then made open access on publication.
  - Not to pay an article processing fee – the paper is only available to subscribers.



# Business guides for open access journals

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- Guide to Business Planning for Converting a Subscription-based Journal to Open Access
- Guide to Business Planning for Launching a New Open Access Journal
- Model Business Plan: A Supplemental Guide for Open Access Journal Developers & Publishers



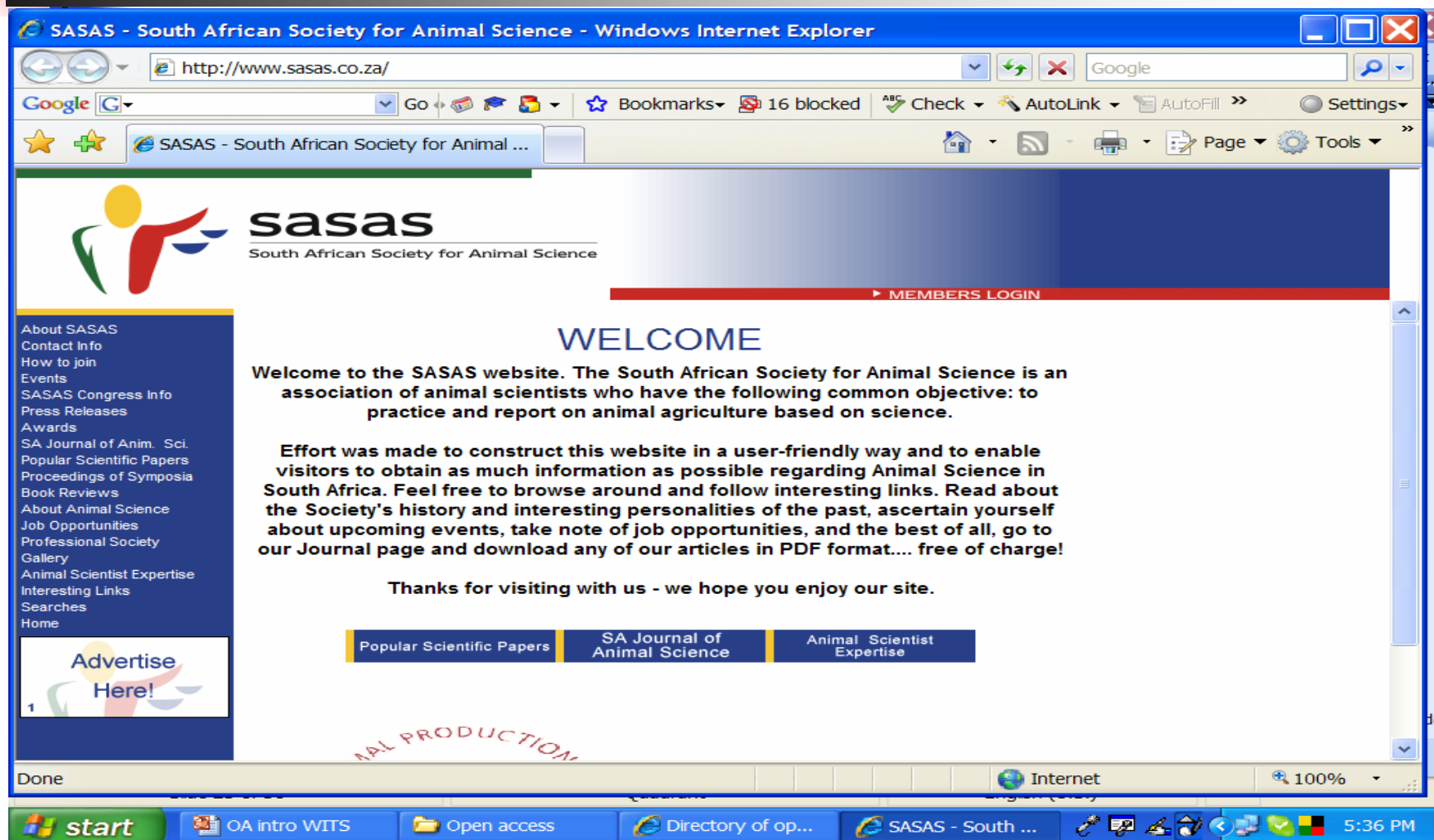
# Publishers convert to open access



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- Oxford University Press – Oxford Open  
*Journal of Nucleic Acids, Journal of Botany*
- Springer – Open Choice
- Blackwell – Online Open
- Elsevier – hybrid model for six Physics Journals
- National Academy of Sciences  
*Proceedings of the National Academy of Sciences*
- *Sage and Hindawi partnership*
- Taylor and Frances, Wiley, Cambridge....too many to mention!!!!

# Open Access Journals



The image shows a screenshot of a Windows Internet Explorer browser window displaying the website for the South African Society for Animal Science (SASAS). The browser's address bar shows the URL <http://www.sasas.co.za/>. The website's header features the SASAS logo, which consists of a stylized human figure in green and red, and the text "sasas South African Society for Animal Science". A red navigation bar contains a "MEMBERS LOGIN" link. The main content area is titled "WELCOME" and contains the following text:

**Welcome to the SASAS website. The South African Society for Animal Science is an association of animal scientists who have the following common objective: to practice and report on animal agriculture based on science.**

**Effort was made to construct this website in a user-friendly way and to enable visitors to obtain as much information as possible regarding Animal Science in South Africa. Feel free to browse around and follow interesting links. Read about the Society's history and interesting personalities of the past, ascertain yourself about upcoming events, take note of job opportunities, and the best of all, go to our Journal page and download any of our articles in PDF format.... free of charge!**

**Thanks for visiting with us - we hope you enjoy our site.**

Below the main text, there are three blue buttons with white text: "Popular Scientific Papers", "SA Journal of Animal Science", and "Animal Scientist Expertise". A vertical navigation menu on the left side of the page lists various links such as "About SASAS", "Contact Info", "How to join", "Events", "SASAS Congress Info", "Press Releases", "Awards", "SA Journal of Anim. Sci.", "Popular Scientific Papers", "Proceedings of Symposia", "Book Reviews", "About Animal Science", "Job Opportunities", "Professional Society", "Gallery", "Animal Scientist Expertise", "Interesting Links", "Searches", and "Home". At the bottom of the page, there is a red stamp that reads "ORIGINAL PRODUCTION". The browser's status bar at the bottom shows "Done" and "Internet". The Windows taskbar at the very bottom displays the "start" button, several open applications including "OA intro WITS", "Open access", "Directory of op...", and "SASAS - South ...", along with the system clock showing "5:36 PM".

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25 journals belonging to subject: **Analytical Chemistry**

**Open Access:** The content is available for free to all

**Hybrid journal:** If you pay the publisher your individual article will be freely available while other articles in the same issue can require subscription for access

[Analyst \(London, 1877\)](#) Hybrid journal

**ISSN:** 00032654

**EISSN:** 13645528

**Subject:** [Analytical Chemistry](#)

**Publisher:** The Royal Society of Chemistry

**Publication fee:** Yes --- [Further Information](#)

[Analytical chemistry](#) Hybrid journal

**ISSN:** 00032700

**EISSN:** 15206882

**Subject:** [Analytical Chemistry](#) --- [Chemical Technology](#)

Directory of open access journals - Windows Internet Explorer

http://www.doaj.org/doi?func=loadTempl&templ=authorsFAQ&hybrid=1

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16 blocked

Check

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### Authors FAQ

#### Publishing in Open Access scholarly journals: what are the options?

**Q.** What is an Open Access journal?  
**A.** An OA-journal uses a funding model that does not charge subscription fees for access. The content is freely available to all.

**Q.** Why should I publish in an OA journal?  
**A.** Making publications freely available electronically increases their use and the number of times they are cited. By making your publication freely available your impact will grow. See "The effect of open access and downloads ('hits') on citation impact: a bibliography of studies" for more information on this.  
<http://opcit.eprints.org/oacitation-biblio.html>

**Q.** What about the quality of OA journals?  
**A.** Scholarly OA journals use the same quality criteria as traditional subscription journals, i.e. external or internal peer-review.

**Q.** Where do I find OA journals?  
**A.** In the [Directory of Open Access Journals](#). The Directory aims to be comprehensive and cover all open access scientific and scholarly journals that use a quality control system to guarantee the content. A journal is included in the DOAJ only if submitted papers are quality controlled through an editor, editorial board and/or a peer-review system.

**Q.** What is the author pays model?

Internet 100%

start

Inbox - Microsoft Out...

Untitled Message

OA intro UNISA

OA intro WITS

Directory of open acc...

11:09 AM



# Institutional repositories

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Publicly accessible repository (archive) where all the work published by researchers/authors affiliated with the university/academy can be posted online. Contributes to the status of the institution by displaying the intellectual output of the institution.



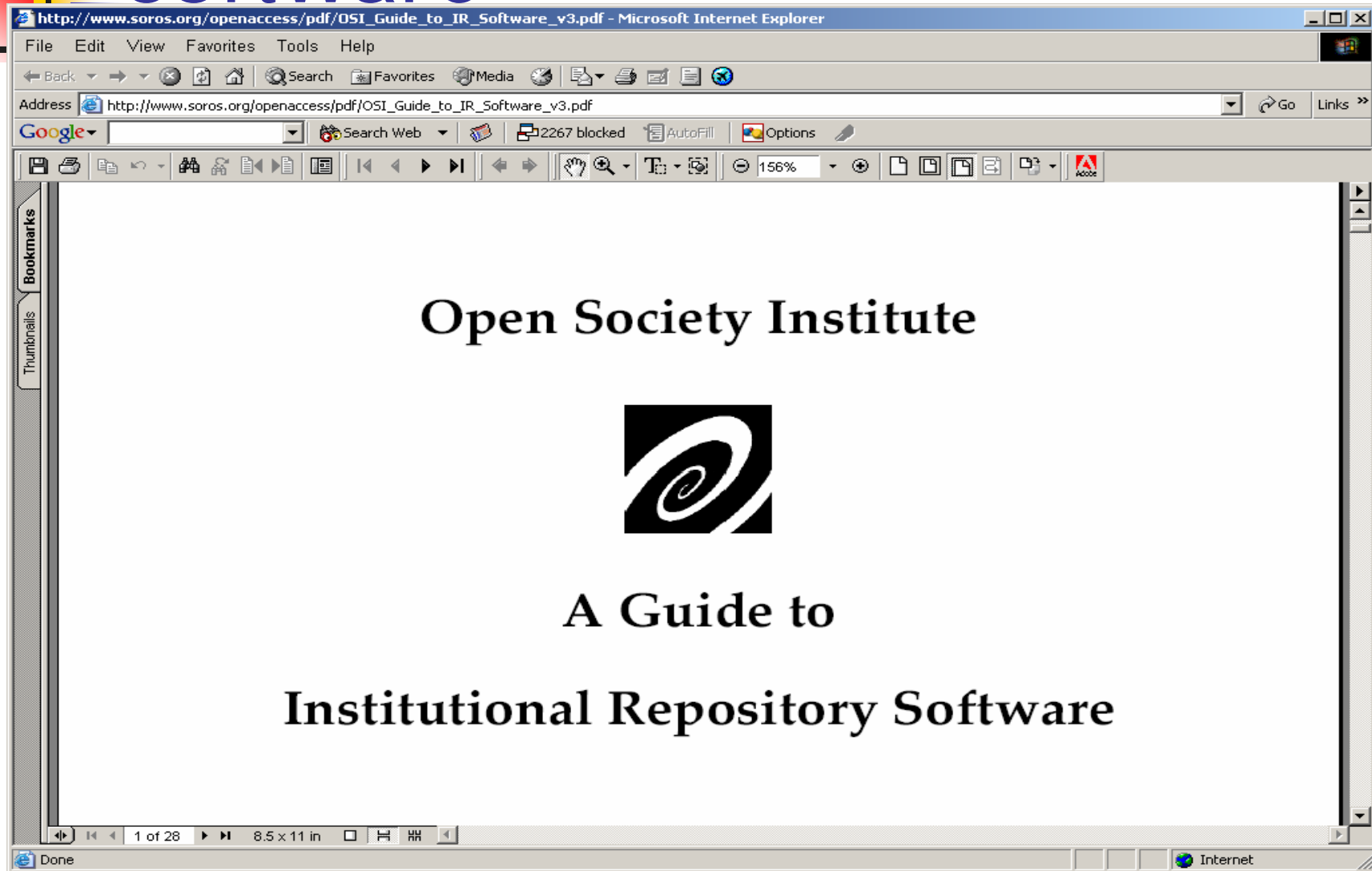
# Institutional repositories

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All work is deposited in the repository by using interoperable software, which allows the works in the repositories to be searched and harvested. Such software is called Open Archives Initiative (OAI) compliant. Examples of OAI compliant software are DSpace, E-Prints, CDSware, i-Tor, and MyCoRe.



# Institutional repository software





# Economic Research

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- Access to Science: Exploring New Markets for Digital Journals
  - Professors Mark McCabe & Christopher Snyder
  - Recent article in *Nature*: “The best business model for scholarly journals: an economist's perspective”

<http://www.nature.com/nature/focus/accessdebate/28.html>

# Economic Research

Nature web focus: Access to the literature: the debate continues - Windows Internet Explorer

http://www.nature.com/nature/focus/accessdebate/28.html

Google GUNTHERR EYSENBACH

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**The best business model for scholarly journals: an economist's perspective**

The answer to the question 'What is the best business model for scholarly journals?' depends on who is asking. In this article, we first characterize the views of some of the major players in the market (for-profit publishers, non-profit publishers, libraries) on which business model is best. We will consider the two commonly discussed business models, the traditional (or 'Reader Pays') model on the one hand and the Open Access (OA) ('Author Pays') model on the other.

UCSD nature thesignalinggateway  
Molecule Pages in Development  
Dickkopf 1

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# Citation analysis

**PLoS BIOLOGY**  
a peer-reviewed open-access journal published by the Public Library of Science

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**RESEARCH ARTICLE**

## Citation Advantage of Open Access Articles

**Gunther Eysenbach**<sup>1</sup>

**1** Centre for Global eHealth Innovation, University Health Network; and Department of Health Policy, Management and Evaluation, University of Toronto, Toronto, Ontario, Canada

Open access (OA) to the research literature has the potential to accelerate recognition and dissemination of research findings, but its actual effects are controversial. This was a longitudinal bibliometric analysis of a cohort of OA and non-OA articles published between June 8, 2004, and December 20, 2004, in the same journal (*PNAS: Proceedings of the National Academy of Sciences*). Article characteristics were extracted, and citation data were compared

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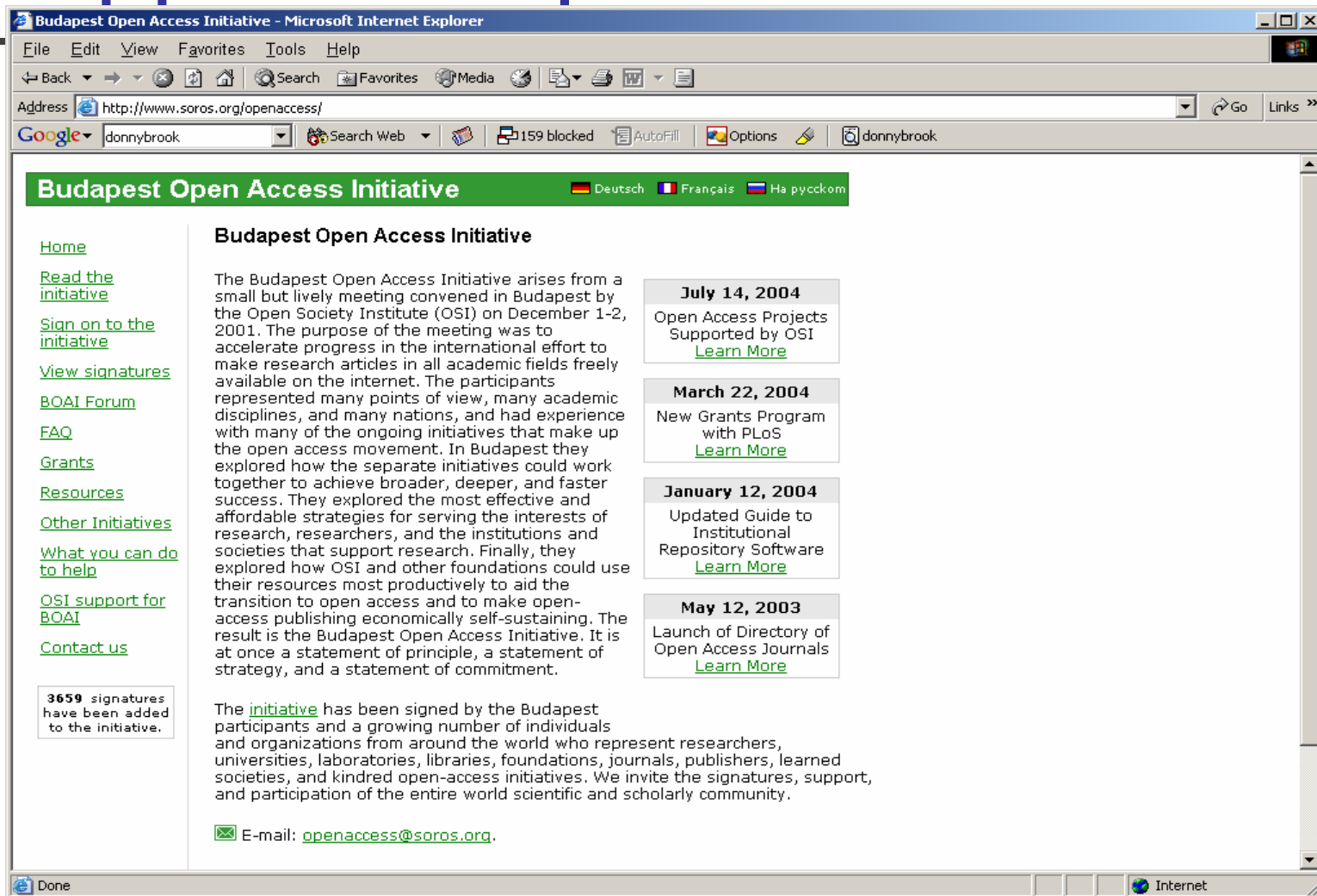
# International Support of Open Access

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- BOAI, February 2002
- Bethesda Statement, April 2003
- Berlin Declaration, October 2003 & May 2004, February 2005, March 2006
- Wellcome Trust, October 2003, May 2005, 2006
- UK Parliamentary Inquiry, 2004
- Ukrainian Cabinet of Ministers, 2005
- Research Councils UK, 2006
- Academy of Science of South Africa, 2006
- US Public Access to Federally Funded Research Act of 2006
- NIH 2007



# Support of Open Access



**Budapest Open Access Initiative** Deutsch Français На русском

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**Budapest Open Access Initiative**

The Budapest Open Access Initiative arises from a small but lively meeting convened in Budapest by the Open Society Institute (OSI) on December 1-2, 2001. The purpose of the meeting was to accelerate progress in the international effort to make research articles in all academic fields freely available on the internet. The participants represented many points of view, many academic disciplines, and many nations, and had experience with many of the ongoing initiatives that make up the open access movement. In Budapest they explored how the separate initiatives could work together to achieve broader, deeper, and faster success. They explored the most effective and affordable strategies for serving the interests of research, researchers, and the institutions and societies that support research. Finally, they explored how OSI and other foundations could use their resources most productively to aid the transition to open access and to make open-access publishing economically self-sustaining. The result is the Budapest Open Access Initiative. It is at once a statement of principle, a statement of strategy, and a statement of commitment.

The [initiative](#) has been signed by the Budapest participants and a growing number of individuals and organizations from around the world who represent researchers, universities, laboratories, libraries, foundations, journals, publishers, learned societies, and kindred open-access initiatives. We invite the signatures, support, and participation of the entire world scientific and scholarly community.

✉ E-mail: [openaccess@soros.org](mailto:openaccess@soros.org).

**July 14, 2004**  
Open Access Projects Supported by OSI  
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**March 22, 2004**  
New Grants Program with PLoS  
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**January 12, 2004**  
Updated Guide to Institutional Repository Software  
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**May 12, 2003**  
Launch of Directory of Open Access Journals  
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3659 signatures have been added to the initiative.

Done Internet



# Developments in South Africa

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- Cape Town Open Education Declaration
  
- Report on a Strategic Approach to Research Publishing in South Africa:2006

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# THE CAPE TOWN OPEN EDUCATION DECLARATION

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## The Cape Town Open Education Declaration

The Cape Town Open Education Declaration arises from a [small but lively meeting](#) convened in Cape Town in September 2007. The aim of this meeting was to accelerate efforts to promote open resources, technology and teaching practices in education.

Convened by the Open Society Institute and the Shuttleworth Foundation, the meeting gathered participants with many points of view from many nations. This group discussed ways to broaden and deepen their open education efforts by working together.

The first concrete outcome of this meeting is the [Cape Town Open Education Declaration](#). It is at once a statement of principle, a statement of strategy and a statement of commitment. It meant to spark dialogue, to inspire action and to help the open education movement grow.

Open education is a living idea. As the movement grows, this idea will continue to evolve. There will be other visions initiatives and declarations beyond Cape Town. This is exactly the point. The Cape Town signatories have committed to developing further strategies, especially around open technology and teaching practices.



The [Declaration](#) has already been signed by hundreds of learners, educators, trainers, authors, schools, colleges, universities, publishers, unions, professional societies, policymakers, governments, foundations and other kindred open education initiatives around the world. We encourage you to [join us](#).

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# Academy of Sciences of SA (1)

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- **Report on a Strategic Approach to Research Publishing in South Africa:2006**



# Academy of Sciences of SA(2)

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- **Recommendation No 6:**

that the Department of Science and Technology takes responsibility for ensuring that Open Access initiatives are promoted to enhance the visibility of all South African research articles and to make them accessible to the entire international research community.

Specifically:

- online, open access (“Gold route”) versions of South African research journals should be funded in significant part through a per-article charge system (linked in the case of higher education institutions to an agreed fraction of output publication subsidies, and in the case of other research-producing institutions to adapted budgeting practice), but publishers should still sell subscriptions to print copies and should maximise other sources of income to lower the article-charge burden;



## Academy of Sciences of SA (3)

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- a federation of institutional Open Access repositories, adhering to common standards, should be established (“Green route”), with resources made available to help institutions in the preliminary stage, this virtual repository to be augmented by a central repository for those institutions which are unable to run a sustainable repository;
- national harvesting of South African Open Access repositories should be undertaken as a matter of urgency, preferably by the NRF;
- and the importance of affordable bandwidth for research communications for this purpose be drawn to the attention of DST officials negotiating for better rates.

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1997-10 De Klerk, V.A.;  
The English lexicon has been found to reflect certain recognisable phonological preferences in relation to consonants, vowels, stress...  
Found in: South Africa, Rhodes University Library, Rhodes University, South Africa

**Design, synthesis and evaluation of silver-specific ligands**

2001 Daubinet, André;  
Several series of ligands, designed to chelate silver(I) specifically in the presence of base metals, have been synthesised. The ligands...  
Found in: South Africa, Rhodes University Library, Rhodes University, South Africa

**The use of a quartz crystal microbalance with dissipation for the measurement of protein-protein interactions: a qualitative and quantitative analysis of the interactions between molecular chaperones**

2004-11 Limson, J.;  
Biotechnology research and innovation depends on the ability to understand the molecular mechanisms of biological processes such as...  
Found in: South Africa, Rhodes University Library, Rhodes University, South Africa

**Ligand isotope vibrational spectroscopic and DFT studies of Pt(II) and Cu(I) complexes**

2005 Medina, Gerardo Juan;  
Ligand-isotope labelling studies were performed on Zeise's salt derivatives with pyridine N-oxide and quinoline N-oxide, their...  
Found in: South Africa, Rhodes University Library, Rhodes University, South Africa

**Studies towards the development of novel multidentate ligands**

2007 Magqi, N.;  
In this study, attention has been given to the design and synthesis of novel multidentate ligands for use in the construction of...  
Found in: South Africa, Rhodes University Library, Rhodes University, South Africa

**The growth of various buffer layer structures and their influence on the quality of (CdHg)Te epilayers**

2007-01-20 Gouws, GJ;  
The suitability of various buffer layer structures on (100) GaAs for (CdHg)Te growth by organometallic vapour phase epitaxy (OMVPE) was...  
Found in: South Africa, za\_co\_csir\_researchspace

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The growth of various buffer layer structures and their influence on the...; 2007-01-20T12:42:51Z

Gouws, GJ


Title	The growth of various buffer layer structures and their influence on the quality of (CdHg)Te epilayers
Author(s)	Gouws, GJ Muller, RJ Bowden, RS
Date	2007-01-20T12:42:51Z
Keyword(s)	(CdHg)Te epilayers ZnTe buffer, CdTe buffer, OMVPE, Organometallic vapour phase epitaxy, Buffer layers, Crystallography,
Summary	The suitability of various buffer layer structures on (100) GaAs for (CdHg)Te growth by organometallic vapour phase epitaxy (OMVPE) was investigated. The preferred epitaxial orientation of (100) GaAs/ (III) CdTe was found to be unsuitable due to the formation of electrically active defects in the material. An intermediate ZnTe layer was used to select the (100) orientation and (100) CdTe layers were then deposited on this ZnTe layer. The quality of the resultant CdTe buffer was found to critically depend on the thickness of this intermediate ZnTe buffer, with a ZnTe thickness of approximately 500 angstrom producing the best CdTe buffer. (CdHg)Te epilayers grown on these ZnTe/CdTe buffers had improved electrical properties, but still suffered from a poor surface morphology. This surface morphology could be improved by using a lattice matched Cd <sub>0.96</sub> Zn <sub>0.04</sub> Te alloy as the final buffer layer, but the surface pyramids typical of the (100) orientation could never be completely eliminated.
Link	Gouws, GJ, Muller, RN and Bowden, RS. 1993. The growth of various buffer layer structures and their influence on the quality of (CdHg)Te epilayers. Journal of Crystal Growth, vol. 130, 02 january, pp 209-216 0022-0248 <a href="http://hdl.handle.net/10204/1431">http://hdl.handle.net/10204/1431</a> <a href="http://hdl.handle.net/10204/1431">http://hdl.handle.net/10204/1431</a>
Type of Object	Article
Object format	3068044 bytes application/pdf
Language	en

Options X

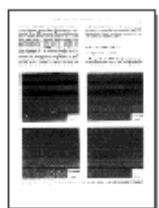
Pages



1



2



3

Attachments

Comments

Journal of Crystal Growth 131 (1993) 209–216  
North-Holland

CRYSTAL GROWTH

### The growth of various buffer layer structures and their influence on the quality of (CdHg)Te epilayers

G.J. Gouws, R.J. Muller and R.S. Bowden  
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The suitability of various buffer layer structures on (100) GaAs for (CdHg)Te growth by organometallic vapour phase epitaxy (OMVPE) was investigated. The preferred epitaxial orientation of (100)GaAs/(111)CdTe was found to be unsuitable due to the formation of electrically active defects in the material. An intermediate ZnTe layer was used to select the (100) orientation and (100) CdTe layers were then deposited on this ZnTe layer. The quality of the resultant CdTe buffer was found to critically depend on the thickness of this intermediate ZnTe buffer, with a ZnTe thickness of approximately 500 Å producing the best CdTe buffer. (CdHg)Te epilayers grown on these ZnTe/CdTe buffers had improved electrical properties, but still suffered from a poor surface morphology. This surface morphology could be improved by using a lattice matched  $Cd_{0.95}Zn_{0.05}Te$  alloy as the final buffer layer, but the surface pyramidal typical of the (100) orientation could never be completely eliminated.

#### 1. Introduction

CdTe would be the first choice as a substrate for (Hg)CdTe epitaxy, as it has a small mismatch with  $Cd_{0.95}Hg_{0.05}Te$  and it is physically and optically very compatible. However, CdTe has the disadvantage that these substrates are often of relatively poor crystalline quality, not available in large areas and expensive. This has stimulated a search for an alternate hybrid substrate [1]. GaAs has become the most popular substrate material and device quality (CdHg)Te epilayers have been grown on these substrates [2,3]. However, the growth of a suitable buffer layer between the GaAs substrate and the (CdHg)Te epilayer is essential in order to take up the large lattice mismatch between the epilayer and substrate as well as to prevent the diffusion of any unwanted impurities from the substrate to the epilayer. Such a buffer should conform to the following requirements:

- (i) It should be a good quality single crystal of the desired orientation.
- (ii) It should prevent any impurities from diffusing from the substrate into the epilayer.
- (iii) It should have a high electrical resistivity (semi-insulating) so as not to influence the conduction in the epilayer.
- (iv) It should have a very smooth surface morphology.
- (v) It should have a good lattice match with the epilayer to prevent the introduction of misfit dislocations into the epilayer.

The most commonly used substrate/buffer layer combination is a semi-insulating GaAs substrate of the (100) orientation together with a CdTe buffer layer of approximately 3 μm thick. This buffer is found adequate to accommodate the lattice mismatch and prevent Ga diffusion from the substrate.

This study will now attempt to evaluate the suitability of different buffer layers for (CdHg)Te epitaxy on (100) GaAs by OMVPE. The following buffer layer structures, schematically illustrated in fig. 1, were used:

- (a) Buffer A: CdTe of (111) orientation
- (b) Buffer B: ZnTe/CdTe combinations of (100) orientation
- (c) Buffer C: ZnTe to CdTe graded layers of (100) orientation

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