



New journal models and publishing perspectives in the evolving digital environment

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Traditional **scholarly journals** functions

- Registration
- Certification
- Awareness
- Archiving (Roosendaal and Geurts, 1997)
 - Rewarding



Scholarly publishing **is fast changing**

- A set of “disruptive forces” drives the change:
 - Technological
 - Economic
 - Distributional
 - Geographic
 - Interdisciplinary
 - Social forces... (Cope, Kalantzis, 2009)
... and above all
- The critical mass of **open access** content



The growth of Open Access movement

- In July 2009:
 - **OpenDOAR** listed 1432 repositories = **28%** growth in 2008
 - **ROAR** listed 1418 repositories = **28%** growth in 2008
 - **11,3%** of usable copies of scientific articles can be found on the web (Bjoerk, Roos and Lauri, 2009)
 - Publishers offering open choice has grown from 9% in 2005 to 30% in 2008

As open content grows...

- **Researchers' attention is all concentrated on article level**
 - ❖ from discoverability to research evaluation
- **New journal models are evolving**
- **Publishers' role is challenged**

Article level: ArXiv

arXiv.org e-Print archive - Windows Internet Explorer

http://arxiv.org/

File Modifica Visualizza Preferiti Strumenti ?

arXiv.org e-Print archive

Cornell University Library

Search Library Search Cornell

arXiv.org

Search or Article-id (Help | Advanced search)

All papers Go!

Open access to 551,360 e-prints in Physics, Mathematics, Computer Science, Quantitative Biology, Quantitative Finance and Statistics

Subject search and browse: **Physics** Search Form Interface Catchup

8 Apr 2009: Added [public author identifiers](#), [Facebook interaction](#), [myarticles](#) widget, and [personal Atom feeds](#)
31 Mar 2009: [Quantum Gases \(cond-mat.quant-gas\)](#) subject area added
See cumulative "What's New" pages.
Robots Beware: indiscriminate automated downloads from this site are *not* permitted.

Physics

- **Astrophysics (astro-ph new, recent, find)**
includes: [Cosmology and Extragalactic Astrophysics](#); [Earth and Planetary Astrophysics](#); [Galaxy Astrophysics](#); [High Energy Astrophysical Phenomena](#); [Instrumentation and Methods for Astrophysics](#); [Solar and Stellar Astrophysics](#)
- **Condensed Matter (cond-mat new, recent, find)**
includes: [Disordered Systems and Neural Networks](#); [Materials Science](#); [Mesoscale and Nanoscale Physics](#); [Other Condensed Matter](#); [Quantum Gases](#); [Soft Condensed Matter](#); [Statistical Mechanics](#); [Strongly Correlated Electrons](#); [Superconductivity](#)
- **General Relativity and Quantum Cosmology (gr-qc new, recent, find)**
- **High Energy Physics - Experiment (hep-ex new, recent, find)**
- **High Energy Physics - Lattice (hep-lat new, recent, find)**
- **High Energy Physics - Phenomenology (hep-ph new, recent, find)**
- **High Energy Physics - Theory (hep-th new, recent, find)**
- **Mathematical Physics (math-ph new, recent, find)**

Internet 100%

Article level: Article level metrics

The screenshot shows a Windows Internet Explorer browser window displaying a PLoS ONE article. The article title is "High-Throughput Sequencing of *Arabidopsis* microRNAs: Evidence for Frequent Birth and Death of *MIRNA* Genes". The page is marked as "OPEN ACCESS".

Key features and metrics visible on the page include:

- Download options:** PDF, Citation, XML, and Print article.
- Average Rating:** 0 User Ratings.
- Related Content:** Related subject categories include Computational Biology, Evolutionary Biology, Plant Biology, Genetics and Genomics.
- Share this Article:** Options for Bookmark, Email, and social media sharing.
- Related Articles on the Web:** Links to Google Scholar and PubMed.
- Cited in:** Scopus (91) and PubMed Central (55).
- Bookmarked in:** Connotea (2) and CiteULike (6).
- Related Blog Posts:** Postgenomic (2).
- Trackbacks:** A URL provided for trackbacking.

A red circle highlights the "Related Articles on the Web" section, which includes links to Google Scholar and PubMed.

Article level: Article of future

Cell Beta - Article Prototype #1 - Windows Internet Explorer

http://beta.cell.com/erickson/

Cell Beta - Article Prototype #1

Cell Article Prototype #1 View Prototype #2 Tell Us What You Think Share / Save

May 2, 2008 - Volume 133, Issue 3, pp. 462-474 PDF (1,758 KB)

A Dynamic Pathway for Calcium-Independent Activation of CaMKII by Methionine Oxidation

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Abstract Introduction Results Discussion Experimental Procedures Figures (8+) References (51) Authors Comments (3) Acknowledgements

Article Highlights

- Oxidation of methionine residues activates CaMKII
- Angiotensin II induces CaMKII oxidation leading to cardiomyocyte death
- CaMKII methionine oxidation is reversed by MsrA
- Elevated CaMKII oxidation impairs heart function and worsens ischemic injury

Author Interview

Abstract

Calcium/calmodulin (Ca²⁺/CaM)-dependent protein kinase II (CaMKII) couples increases in cellular Ca²⁺ to fundamental responses in excitable cells. CaMKII was identified over 20 years ago by activation dependence on Ca²⁺/CaM, but recent evidence shows that CaMKII activity is also enhanced by pro-oxidant conditions. Here we show that oxidation of paired regulatory domains...

The diagram shows a flowchart of the signaling pathway. At the top, 'AngII' and 'Myocardial infarction' lead to 'H₂O₂'. 'H₂O₂' leads to 'Methionine oxidation' (specifically M281 and M282 residues on CaMKII). This causes 'CaMKII activation', which leads to 'Cardiomyocyte apoptosis' and 'Impaired' heart function. 'MsrA' is shown as a green oval that reverses the methionine oxidation, leading to 'CaMKII reversed autoactivation'.



New journal models

- Overlay journals
- Interjournals
- Different level journals



Overlay journal: definitions

- The notion was first expressed by Paul Ginsparg
- “An open access journal that takes submissions from the preprints deposited at an archive and subjects them to peer review [...] Because an overlay journal doesn't have its own apparatus for disseminating accepted papers, [...] **it is a minimalist journal that only performs peer review**” (Peter Suber, 2003)
- “**A quality-assured journal** whose content is deposited to and resides in one or more open access repositories” (Panayiota Polydoratou, Martin Moyle, 2008)



Overlay journal: functions

- **Certification** – quality is a great concern for researchers
 - Value-added functions
 - Increased visibility
 - Branding
 - Marketing
 - Preservation



Overlay journal: some examples

■ In **Physics**

- Physical Review D
- **Naboj** is a post-filter service on preprint deposited in ArXiv

■ In **Medicine**

- **Lund Virtual Medical Journal** (Oezek, 2005)

■ In **Mathematics**

- **Symmetry, Integrability and Geometry: Methods and Applications (SIGMA)**

Naboj Dynamical Peer Review (alpha)

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Welcome.

Naboj is a dynamical website that lets you review online scientific articles. Right now the only articles that are available for review are those that have been posted at [Los Alamos arXiv](#). You can either [browse](#) for those articles and their reviews, or if you know the code (preprint number) of a particular article you can enter it below. For instance, if the code (preprint number) for the article that you are looking for is gr-qc/0401001, then you should select gr-qc as your section and 0401001 as the number.

Please select the article:

Select section: Number:

Sections

Physics

The RIOJA Project

- **Repository Interface for Overlaid Journal Archives**
 - Funded by JISC (UK)
 - **Date:** March 2007 - June 2008
 - **Led by:** University College London in collaboration with Imperial College, Univ. of Glasgow, Cambridge and Cornell University
 - **Project goals:**
 - To develop an Application Programming Interface to foster automated interaction between the journal software (**OJS**) and the digital repositories (**ArXiv**)
 - To investigate the feasibility of overlay journal models

Interjournals

- Interdisciplinarity is a strong need for researchers
- New journals explore interdisciplinary forms
- **InterJournal**
 - Publication of New England Complex Systems Institute
 - A journal covering topics on **science and engineering**
 - Papers are immediately published and later reviewed and assigned to **3 category parallel journals**
 - **Each category has its own editor**
 - Each article links to
 - **color figures and pictures, computer programs, raw data, video and audio**
- **Philica** is an interdisciplinary journal accepting papers on any subject



InterJo

A publication of the [New England Complex Systems Institute](#)

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A short history of Philica

Philica is an online academic journal accepting publications on any subject. **Philica** takes a completely revolutionary approach to the publishing and reviewing of academic research.

Philica was conceived by two British psychologists who had grown dissatisfied with traditional academic journal publishing. This makes profits from researchers' efforts through strong copyright restrictions which greatly limit the free exchange of information, both between research groups and between researchers and the public. **Philica** gives control back to researchers, and provides an open and transparent forum where knowledge and thought can live and grow.

Crucially, **Philica** still provides a process of academic peer review, allowing proper critical examination of ideas and findings. However, for the very first time this process is both transparent and dynamic. It is transparent as reviews can be seen publicly; it is dynamic because opinions can change over time, and this is reflected in the review process.

To learn more, read our [short guide to using Philica](#).

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Christian publishing
Traditional Publisher Seeks New Authors, Fast Decisions



A new role for publishers?

- Publishers may lose the last function they hold: **certification**
- Certification could be performed and controlled by:
 - Scholarly communities
 - Professional society
 - Scientific social networks
 - OAI-compliant peer review services (Rodriguez et al., 2005)



Value-added services for publishers

- Publishers should concentrate on value-added services:
 - **Navigational** services
 - **Semantic** discovery services
 - **Translation** services
 - Archiving and **preservation** services
 - **Evaluation** services:
 - Nature Precedings
 - Faculty of 1000 Biology
 - Faculty of 1000 Medicine
 - Living Reviews

natureprecedings

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