Digital Repositories

Terry M. Owen
DRUM Coordinator
6 December 2007
Researcher

Librarian

Publisher
Scholarly Communication Trends

- Journal titles proliferating
- Journal prices increasing
- Library budget cuts
UM Serials Expenditures

The graph shows the trend of UM Serials Expenditures from 1970 to 2010. The Y-axis represents ARL Statistics, and the X-axis represents the Year. The expenditures have shown a consistent increase over the years, with a significant rise in the early 2000s.
UM Serials Purchased

![Graph showing the number of ARL Statistics Serials Purchased from 1986 to 2006. The number of serials decreased significantly from 1986 to 2006.]
Periodicals Price Survey

- Increase for 2007 was just below 8% on average per title
- Highest average cost per title in 2007
  - Chemistry: $3,429
- Lowest average cost per title in 2007
  - Art and Architecture: $198
- Greatest price increase from 2003 to 2007
  - Library & Information Science: 57%
- Greatest price increase in 2007
  - Library & Information Science: 14%
Open Access Developments

- Budapest Open Access Initiative
- Proliferation of Open Access journals
  - Public Library of Science
- Directory of Open Access Journals
  - 2,900+ titles
  - 25% increase over last year
  - 200+ tracked by ISI for impact factor
- Development of Open Access policies
- Institutional repositories
What is an Institutional Repository?

SPARC definition:

“A digital collection capturing and preserving the intellectual output of a single or multi-university community.”

arXiv.org

- Physics e-prints/preprints
- Developed at Los Alamos National Laboratory
- Resides at Cornell University
- Expanded to include computer science and mathematics
- Free, publicly available journal article collections
DSpace at MIT

- MIT institutional repository developed in 2002
- Developed DSpace software in cooperation with HP
- DSpace - open source software
- More than 250 institutions currently using DSpace
ARL Statistics

Operational IR: 42%
Planning Stages: 36%
No Plans: 22%
Top Reasons for Starting an IR

- Increase global visibility of, preserve, and provide free access to the institution’s scholarship
- Desire to collect and organize the institution’s scholarship in a single system
- Responding to requests from faculty and students
- Change scholarly communication by demonstrating alternative mechanisms
DRUM Background

- Initial proposal to Provost from ULC May 2003
- Mission: store, index, distribute, and preserve the research works of UM faculty
- Developed using DSpace
  - open source
  - active user community
  - out-of-the-box implementation
- Launched in August 2004
  - 1,100 documents
  - 7,150+ documents as of November 2007
## DRUM Content

<p>| | |</p>
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<tr>
<td>3476</td>
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Welcome to the repository for University of Maryland research.

Any UM Faculty member can make digital works permanently accessible and available across the Internet with DRUM. Find out more about depositing your work.

Learn more:
- About DRUM
- About Institutional Repositories

The following communities of digital works are available:

Collections Organized by Department

A. James Clark School of Engineering
College of Agriculture & Natural Resources
College of Architecture, Planning, & Preservation
College of Arts & Humanities
College of Behavioral & Social Sciences
College of Chemical & Life Sciences
College of Computer, Mathematical & Physical Sciences
College of Education
College of Information Studies
Philip Merrill College of Journalism
Robert H. Smith School of Business
School of Public Health
School of Public Policy
University Libraries (faculty)

UM Community-managed Collections

Center for Food, Nutrition, and Agriculture Policy
Institute for Systems Research
Tech Reports in Computer Science and Engineering
Theses and Dissertations from UM
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- College of Computer, Mathematical & Physical Sciences
- College of Education
- College of Information Studies
- Philip Merrill College of Journalism
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In addition, read the Memo to Campus Faculty from Dean Charles Lowry discussing the new policy and outlining what funded researchers can do to prepare their works for deposit.

Thesis/Dissertation Deposit Timeline

New submissions to the thesis/dissertation collections are added automatically as they are received from the Graduate School. Currently, the Graduate School deposits all theses and dissertations from a given semester after the official graduation date. This means that there may be up to a 4 month delay in the appearance of a given thesis/dissertation in DRUM.
Shown below is a list of communities and the collections and sub-communities within them. Click on a name to view that community or collection home page.

**Collections Organized by Department**

- **A. James Clark School of Engineering**
  - Aerospace Engineering
    - Aerospace Engineering Research Works
    - Aerospace Engineering Theses and Dissertations
  - Chemical & Biomolecular Engineering
    - Chemical and Biomolecular Engineering Research Works
    - Chemical and Biomolecular Engineering Theses and Dissertations
  - Civil & Environmental Engineering
    - Civil & Environmental Engineering Research Works
    - Civil & Environmental Engineering Theses and Dissertations
  - Electrical & Computer Engineering
    - Electrical & Computer Engineering Research Works
    - Electrical & Computer Engineering Theses and Dissertations
  - Fire Protection Engineering
    - Fire Protection Engineering Research Works
    - Fire Protection Engineering Theses and Dissertations
  - Fischell Department of Bioengineering
    - Fischell Department of Bioengineering Research Works
    - Fischell Department of Bioengineering Theses and Dissertations
  - Materials Science & Engineering
    - Materials Science & Engineering Research Works
    - Materials Science & Engineering Theses and Dissertations
  - Mechanical Engineering
    - Mechanical Engineering Research Works
    - Mechanical Engineering Theses and Dissertations
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    - Chemical and Biomolecular Engineering Theses and Dissertations
  - **Civil & Environmental Engineering**
    - Civil & Environmental Engineering Research Works
    - Civil & Environmental Engineering Theses and Dissertations
  - **Electrical & Computer Engineering**
    - Electrical & Computer Engineering Research Works
    - Electrical & Computer Engineering Theses and Dissertations
  - **Fire Protection Engineering**
    - Fire Protection Engineering Research Works
    - Fire Protection Engineering Theses and Dissertations
  - **Fischell Department of Bioengineering**
    - Fischell Department of Bioengineering Research Works
    - Fischell Department of Bioengineering Theses and Dissertations
  - **Materials Science & Engineering**
    - Materials Science & Engineering Research Works
    - Materials Science & Engineering Theses and Dissertations
  - **Mechanical Engineering**
    - Mechanical Engineering Research Works
    - Mechanical Engineering Theses and Dissertations
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  - **Civil & Environmental Engineering**
    - Civil & Environmental Engineering Research Works
    - Civil & Environmental Engineering Theses and Dissertations
  - **Electrical & Computer Engineering**
    - Electrical & Computer Engineering Research Works
    - Electrical & Computer Engineering Theses and Dissertations
  - **Fire Protection Engineering**
    - Fire Protection Engineering Research Works
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Senators Cornyn (R-TX), Lieberman (D-CT) and Sessions (R-AL) have introduced legislation that would require federal agencies with research portfolios of $100 million or more to make resulting peer-reviewed articles publicly available online within 6 months of publication. Research results would need to be preserved and made available via a stable, open access digital repository like PubMed Central or DRUM. Read more about this legislation on the SPARC Resources website. The text and current status of the bill can be accessed through THOMAS at S.2695. Watch this space for further developments!

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Log In to DRUM

UM user

Please enter your campus directory id and password into the form below.

Directory ID: towen
Directory Password: ******

Log In

Non UM user

New user? Click here to register.

Please enter your e-mail address and password into the form below.

E-mail Address: 
Password: 

Log In

Have you forgotten your password?

DRUM is brought to you by the University of Maryland Libraries
University of Maryland, College Park, MD 20742-7011 (301)314-1328.
Privacy Policy
Please send us your comments.
All Contents
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DRUM Policies

- Depositor must be a UM faculty member
- Depositor must have the ability to assign needed rights to UM
- Deposits must be substantive works of scholarship
- Deposits must be complete and able to stand alone as a work or collection (no notes, etc.)
- No restrictions on file formats
How Does DRUM Work?

- UM faculty members deposit their work in DRUM
- Paper is uploaded and bibliographic record is created
- Full text of the submitted work is indexed via Google and other search engines
DRUM: Item 1903/3996
Title: ETDs and Digital Repositories--a Disciplinary Challenge to Open Access? ... DRUM is brought to you by the University of Maryland Libraries ...
https://drum.umd.edu/dspace/handle/1903/3996 - 11k - Cached - Similar pages

directory of ETDs currently in progress
Directory of ETDs Currently in Progress. All of the works listed below exist ... University of Maryland at College Park (Ph.D. dissertation). Salo, Merja. ...
etext.virginia.edu/ETD/directory/browse.html - 12k - Cached - Similar pages

Charles B. Lowry - Editorial: ETDs and Digital Repositories--a ...
ETDs and Digital Repositories—a Disciplinary Challenge to Open Access? Charles B. Lowry.
The University of Maryland Libraries have managed a repository ...
muse.jhu.edu/journals/portal_libraries_and_the_academy/v006/6.4lowry02.html - Similar pages

Yale Fineman - Electronic Theses and Dissertations - portal ...
This essay focuses on access and technology issues concerning ETDs: on the nature ... at the Michelle Smith Performing Arts Library, University of Maryland: ...
muse.jhu.edu/journals/portal_libraries_and_the_academy/v003/3.2fineman.html - Similar pages

The Graduate School - University of Maryland
Schedule of Training Sessions | Formatting Requirements for ETDs | Special Cases
Title: ETDs and Digital Repositories--a Disciplinary Challenge to Open Access?
Authors: Lowry, Charles B.
Type: Article
Keywords: Digital Repository at the University of Maryland
      ETD
      Theses
      Dissertations
      DSpace
      Intellectual Property
      University of Maryland
      Libraries
      Library
      Institutional Repository
Issue Date: Oct-2006
Publisher: Johns Hopkins University Press
Citation: Lowry, Charles B., "ETDs and Digital Repositories--a Disciplinary Challenge to Open Access?" portal: Libraries and the Academy vol.6, no.4 (2006): 387-393.
Abstract: The University of Maryland Libraries have managed a repository using D-Space software for over two years, providing faculty a service for posting their research work and a foundation for moving the labor intensive management of paper dissertations and theses to the digital environment. Close cooperation with the Graduate School has been an essential feature of moving to a uniform requirement that theses and dissertations be presented in PDF format and posted in the Digital Repository at University of Maryland (DRUM). At an early stage, intellectual property issues began to emerge as an important policy dimension of managing DRUM—as they have for virtually any institution that gets into the digital repository business.
URI: http://hdl.handle.net/1903/3996
Appears in Collections: Information Studies Research Works
Library Faculty Research Works
Files in This Item:

File | Description | Size | Format | No. of Downloads
---|---|---|---|---
Portal.6.4.pdf | | 194Kb | Adobe PDF | 10 | View/Open

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Please use this identifier to cite or link to this item: http://hdl.handle.net/1903/3996

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Charles B. Lowry

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I believe that these issues are indicative of some of the essential differences in the nature of information exchange among the disciplines and shape their reaction to open access.
Why Deposit in DRUM?

1) Research can be found, read, and used by a global audience
2) Greatly increases the chances of the research being cited
3) Access is maintained with a permanent URL
4) Able to link to the permanent URL from any web page; no need to maintain files or changing URLs on personal web sites
5) Easy to deposit works along with associated content
6) Allows any researcher to locate documents of interest quickly and easily from any computer at any location
7) Download statistics available for each record
DRUM Statistics

- Searches per month
  - avg 2025 per month in 2005
  - avg 6700+ per month in 2006
  - avg 8400+ per month this year
Author Rights

- DRUM only asks for **non-exclusive** rights to keep the work, preserve it, and make it available on the web.

- For works already published, consult the publisher agreement to see if you retained sufficient rights to deposit the work in DRUM.

- Even if you have given all rights to the publisher, contact them and request permission to deposit in DRUM.
DRUM Marketing Goals

- To educate UM faculty members about DRUM and open access issues
- To inspire UM faculty members to deposit their works in DRUM
- To increase awareness of DRUM
Faculty Needs and Desires

- Work with co-authors
- Keep track of different versions of the same document
- Work from different computers and locations
- Make their own work available to others
- Have easy access to other people’s work
- Keep up in their fields
- Organize their materials according to their own scheme

http://www.dlib.org/dlib/january05/foster/01foster.html
Faculty Needs and Desires (cont)

- Control ownership, security, and access
- Ensure that documents are persistently viewable or usable
- Have someone else take responsibility for servers & digital tools
- Be sure not to violate copyright issues
- Keep everything related to computers easy & flawless
- Reduce chaos or at least not add to it
- Not be any busier
Faculty Outreach

- New Faculty Orientation every August
- Letter and email campaign to UM faculty maintaining links to papers from personal web pages
  - Offer to deposit on their behalf
  - Check publisher permissions
  - 350 faculty members contacted
  - 54 responded
Outreach to Departments

- UM departments with collections of research papers
  - Computer Science and UMIACS technical reports
  - ISR (Institute for Systems Research)
  - CFNAP (Center for Food, Nutrition, and Agriculture Policy)
  - CISSM (Center for International Security Studies at Maryland)
  - CIRCLE (Center for Information & Research on Civic Learning & Engagement)
Communications / Collateral

- Faculty email messages
- Develop brochure or factsheet outlining benefits of DRUM
- Press release / articles in the media
- Postcard mailings
- Establish regular newsletter or email updates
- Advertise regular DRUM training workshops
Marketing Strategies

- Highlight and promote recent submissions
- Showcase the work of individual faculty members
- Publicize statistics (top 10 accessed, etc.) to confirm value
- Obtain testimonials (names featured in publicity & promotional materials)
- Find champions of the service and have them promote DRUM
- Utilize library subject specialists/faculty liaisons
ETDs – Electronic Theses and Dissertations

- Mandatory since September 2003
- Submitted via the Web in PDF form
- Students give UM non-exclusive rights
- Automatically deposited in DRUM
- Also available via ProQuest’s *Digital Dissertations*
ETD Concerns

- Will journal publishers still accept my article if it is available electronically?
- What if I want to submit a patent based on my research?
- What if I want to write a book related to my thesis of dissertation?
- Won’t it be easier for someone to plagiarize my research if it is freely available online?
ETD Embargo Options

- Restrict access for one year
- Restrict access for six years
- Restrict access indefinitely
  - Requires written approval by the Dean of the Graduate School
- Non-circulating copy still available in the Maryland Room at Hornbake
Why Embargo?

- **For 1-year embargoes**
  - Seek patent protection for material in the thesis or dissertation
  - Publish in a journal that has restrictions for depositing in an open access repository

- **For 6-year embargoes**
  - Publish a book based on your dissertation
quantum computing; superconducting qubit; Josephson junction; SQUID; decoherence

**Issue Date:** 17-Sep-2007

**Abstract:** I report measurements of energy relaxation and quantum coherence times in an aluminum dc SQUID phase qubit and a niobium dc SQUID phase qubit at 80 mK. In a dc SQUID phase qubit, the energy levels of one Josephson junction are used as qubit states and the rest of the SQUID forms an inductive network to isolate the qubit junction. Noise current from the SQUID’s current bias leads is filtered by the network, with the amount of filtering depending on the ratio of the loop inductance to the Josephson inductance of the isolation junction. The isolation junction inductance can be tuned by adjusting the current, and this allows the isolation to be varied in situ. I quantify the isolation by the isolation factor $r_1$ which is the ratio of the current noise power in the qubit junction to the total noise current power on its bias leads. I measured the energy relaxation time $T_1$, the spectroscopic coherence time $T_2^*$ and the decay time constant $T'$ of Rabi oscillations in the Al dc SQUID phase qubit $A$...

**URI:** http://hdl.handle.net/1903/7469

**Appears in Collections:** UM Theses and Dissertations

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Restricted Access

At the request of the author, this file is not available online until September 01, 2008. For more information on the availability of this file, please contact DRUM Help at drum-help@umd.edu or +1 301 314-1328.
# UM Embargo Statistics

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<th>Degrees Granted</th>
<th>1-year</th>
<th>6-year</th>
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<td>23</td>
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<td><strong>Spring 2007</strong></td>
<td>398</td>
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<td>46</td>
<td>125</td>
<td>31%</td>
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<tr>
<td><strong>Summer 2007</strong></td>
<td>291</td>
<td>53</td>
<td>26</td>
<td>79</td>
<td>27%</td>
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<tr>
<td><strong>TOTALS</strong></td>
<td>955</td>
<td>179</td>
<td>95</td>
<td>274</td>
<td>29%</td>
</tr>
</tbody>
</table>
## Embargoes by College

<table>
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<tr>
<th>College</th>
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<th>1-yr</th>
<th>6-yr</th>
<th>Total</th>
<th>Percent</th>
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<tbody>
<tr>
<td>Engineering</td>
<td>265</td>
<td>46</td>
<td>12</td>
<td>58</td>
<td>22%</td>
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<td>Ag &amp; Natural Res</td>
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<td>13%</td>
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<td>Arts &amp; Humanities</td>
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<td>35</td>
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Future Challenges

- Persuading faculty to deposit
- Versioning
- Open embargoes to UM campus
- Undergraduate research
- Preservation
Questions?

Terry Owen
DRUM Coordinator
towen@umd.edu