

***Current Thinking on Institutional
Repositories: Where Government and
Academia Could Meet
CENDI Presentation, May 13, 2009***

*David Shulenburger, Vice
President for Academic
Affairs, APLU*

APLU - Who Are We?

(We were NASULGC until March 30, 2009)

- Founded 1887 – the oldest U.S. Higher Education Association
- 217 Public Members in each of the 50 states including:
 - 76 Land-Grant Universities
 - 18 historically black universities
 - The “Flag-Ship” Public Universities in all 50 States
- 89% of Member Institution are classified by Carnegie as “Research” universities

APLU's Research Universities

- Approximately 4.7 million students attend member institutions, of those 3.5M are undergraduate and 1.2M are graduate students.
- 58% of all Doctoral Degrees in the U.S. are awarded by APLU members
- 60% of total R&D at U.S. universities is done at APLU member universities (NSF data)

Commission on Future of Higher Education

“Lack of useful data and accountability hinder policymakers and the public from making informed decisions and prevents higher education from demonstrating its contribution to the public good.”

The present passive role of the University in publishing.

- Publication is the responsibility of the faculty member.
- The incentives to publish are scholarly motive pride, merit salary increases, promotion, tenure, and sometimes even money.
- Publication Venues: Scholarly Journals, Academic Press Monographs, Trade and Commercial Publishers.

Distribution of high quality research to portions of targeted audiences

- Scholarly Journal and University Press Monographs have limited distribution and, in most cases, the distribution of both is steadily diminishing.
- The audiences tend to be limited by ability to pay of the reader or of the organization to which the reader belongs.

But scholarly journals and university presses do provide . . .

- High quality refereeing and review provide much assistance in sorting through the mass of research literature.
- We also rely on them in our evaluation processes



What would be gained if universities could distribute research to all who wanted access to it without damaging scholarly journals or presses?

Imagine that each of these were on-line and freely accessible on each university's web site:

- All faculty referred publications
- All grant final reports
- All federally funded data sets
- All dissertations
- All masters theses and senior honors papers
- All Centers and Institutes related publications
- All. . .

Imagine further

- That all this was available through a web portal and readily identifiable with your University. That is the scholarly material produced by your university carried your university's "brand".

What Would be Different?

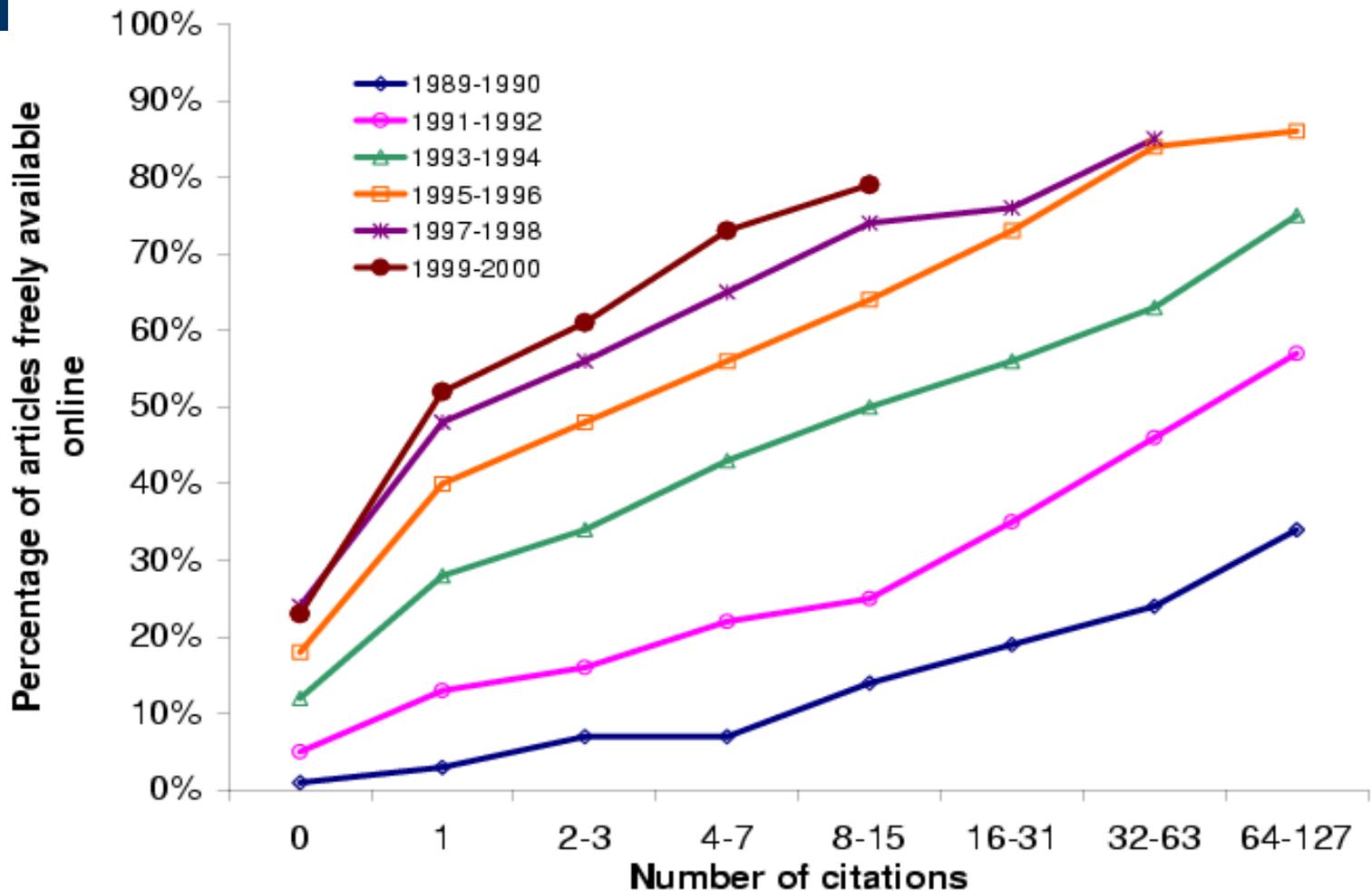
- For individual authors?
- For scholarship?
- For the University?

Different For Authors?

- More Visibility for the University's Faculty's Works
- More Citations of the University's Faculty's Works
- Therefore, more fame and fortune for faculty members and for the University.

On Line or Invisible

Steve Lawrence, Nature 2001, Vol. 411p.253



Gunther Eysenbach, “Citation Advantage of Open Access Articles”,

PLoS Biology 2006;4(5)e8

- More citations
- Article cited sooner
- Citations continue at a significant rate for a longer period of time

Where to Place Your Work to Win a Fields Medal: arXiv.org

- **3. math.DG/0307245** [[abs](#), [ps](#), [pdf](#), [other](#)] :
 - Title: **Finite extinction time for the solutions to the Ricci flow on certain three-manifolds**
Authors: **Grisha Perelman**
Comments: 7 pages
Subj-class: Differential Geometry
MSC-class: 53C
- **4. math.DG/0303109** [[abs](#), [ps](#), [pdf](#), [other](#)] :
 - Title: **Ricci flow with surgery on three-manifolds**
Authors: **Grisha Perelman**
Comments: 22 pages
Subj-class: Differential Geometry
MSC-class: 53C
- **5. math.DG/0211159** [[abs](#), [ps](#), [pdf](#), [other](#)] :
 - Title: **The entropy formula for the Ricci flow and its geometric applications**
Authors: **Grisha Perelman**
Comments: 39 pages
Subj-class: Differential Geometry
MSC-class: 53C
 - *Perelman was awarded the Fields Medal in 2006 but declined it.*

Different for Scholarship (If all universities had comprehensive collections of faculty work)?

- Easier, More Complete Literature Review
- Reduced Probability of Reinventing the Wheel—
Less Wasted Time
- University Resources less Severely Restrict
Scholarship
 - US
 - Developing nations

More Rapid Development of Knowledge

But Isn't Everything On Line Now?

- Stephen A. Hansen American Association for the Advancement of Sciences
- Survey of 2,157 U.S. Scientist in March and April 2006 reported in Chronicle of Higher Education Daily News (January 17, 2007)
- Nearly one-third said their own research had been affected by difficulties in obtaining copyrighted scientific literature.

JSTOR

- Older Articles Rediscovered When Placed Online
- Citations to them increased



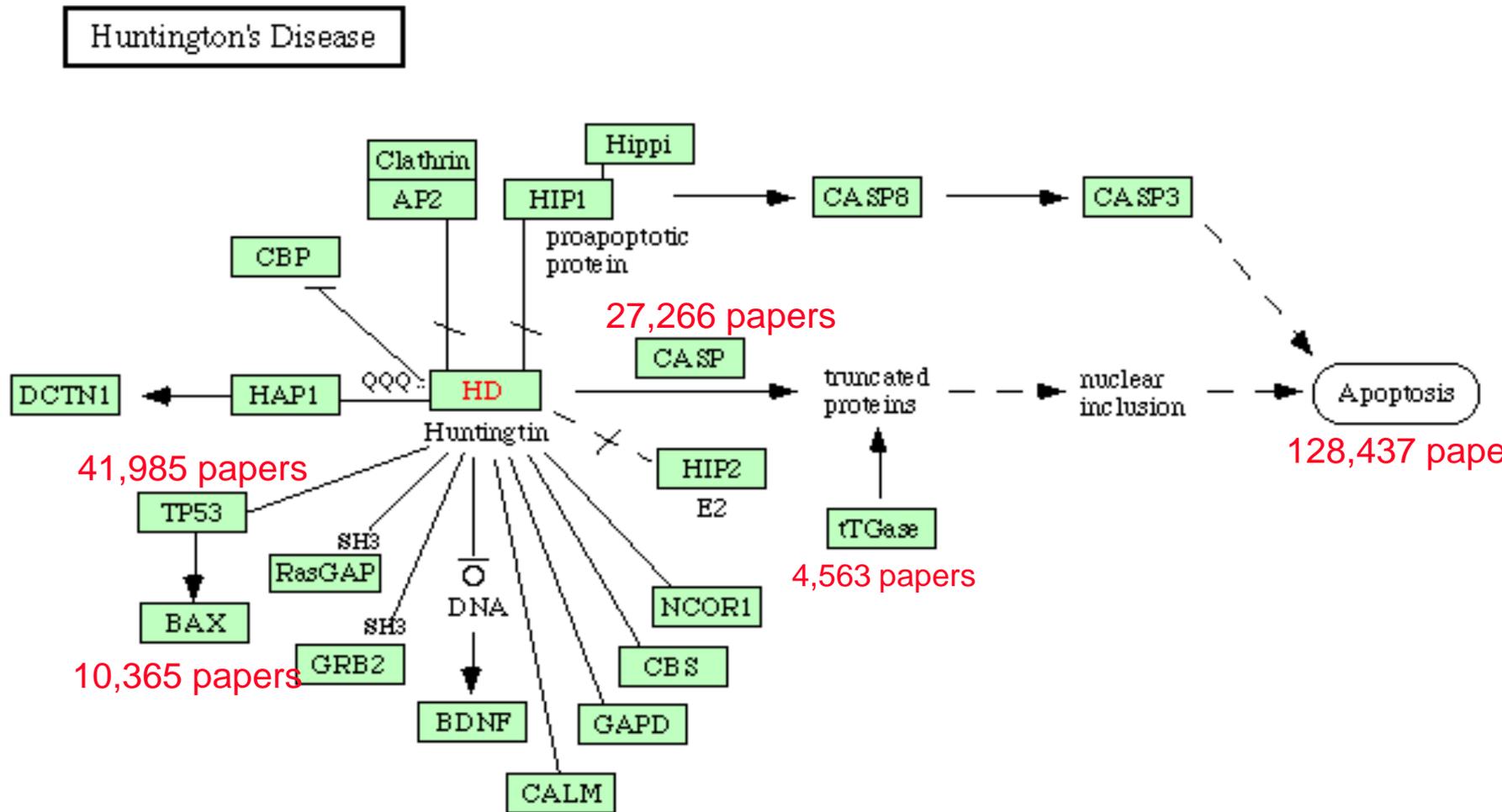
Elias Zerhouni's vision of the future of medical research involves having all research studies, all genome structures, all chemical information, etc. on-line so that connections that an individual scientist may never encounter by reading the literature become discoverable.



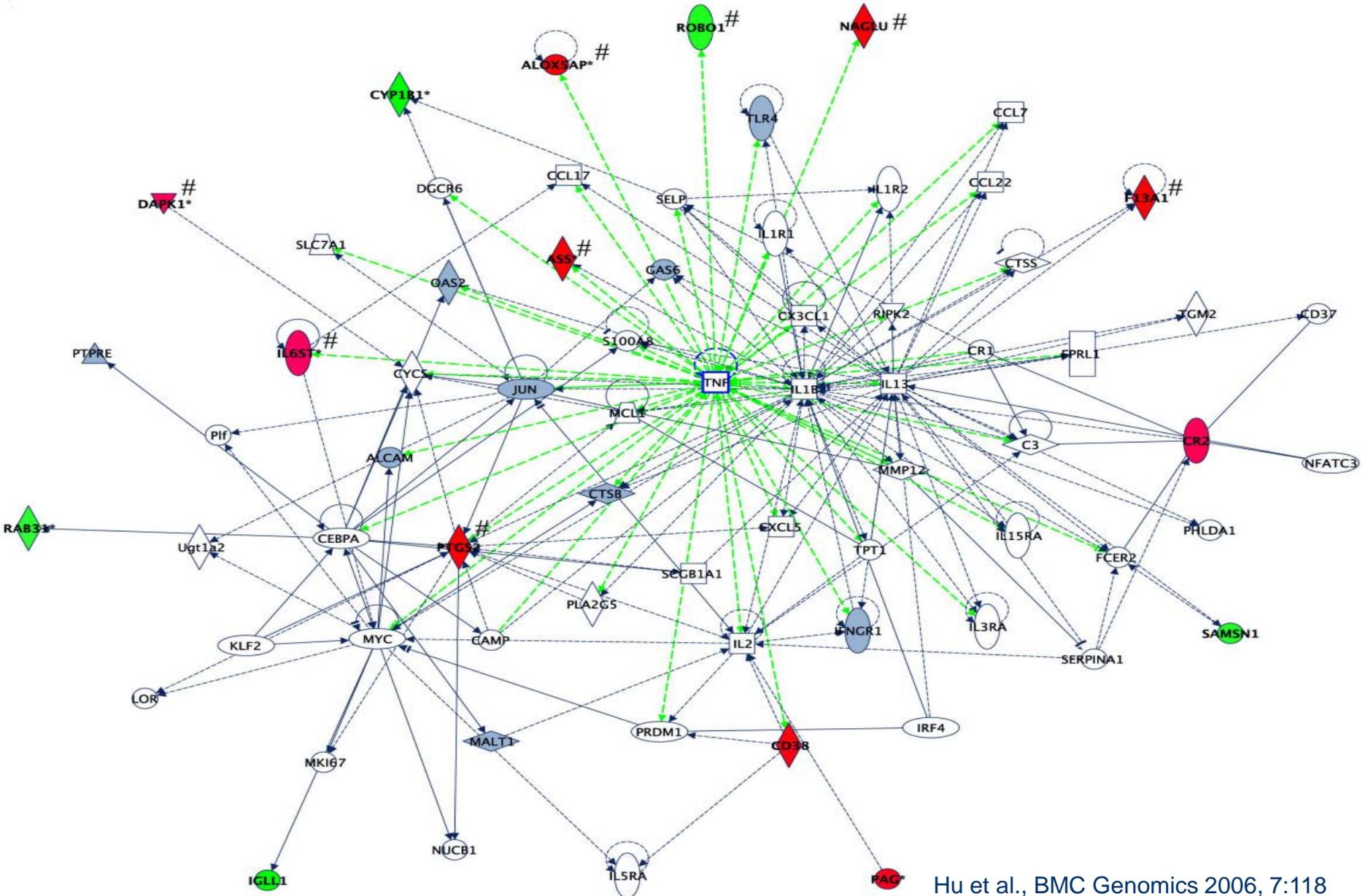
- "Perhaps no problem facing the individual scientist today is more defeating than the effort to cope with the flood of published scientific research, even within one's own narrow specialty."

- Robert K. Merton, "The Matthew Effect in Science," 159 *Science* 56-63 (**1968**).

For each gene or protein that may be associated with Huntington's Disease there are thousands or hundred of thousands of papers.



Or a representation of gene and cell interactions that may be implicated in autism

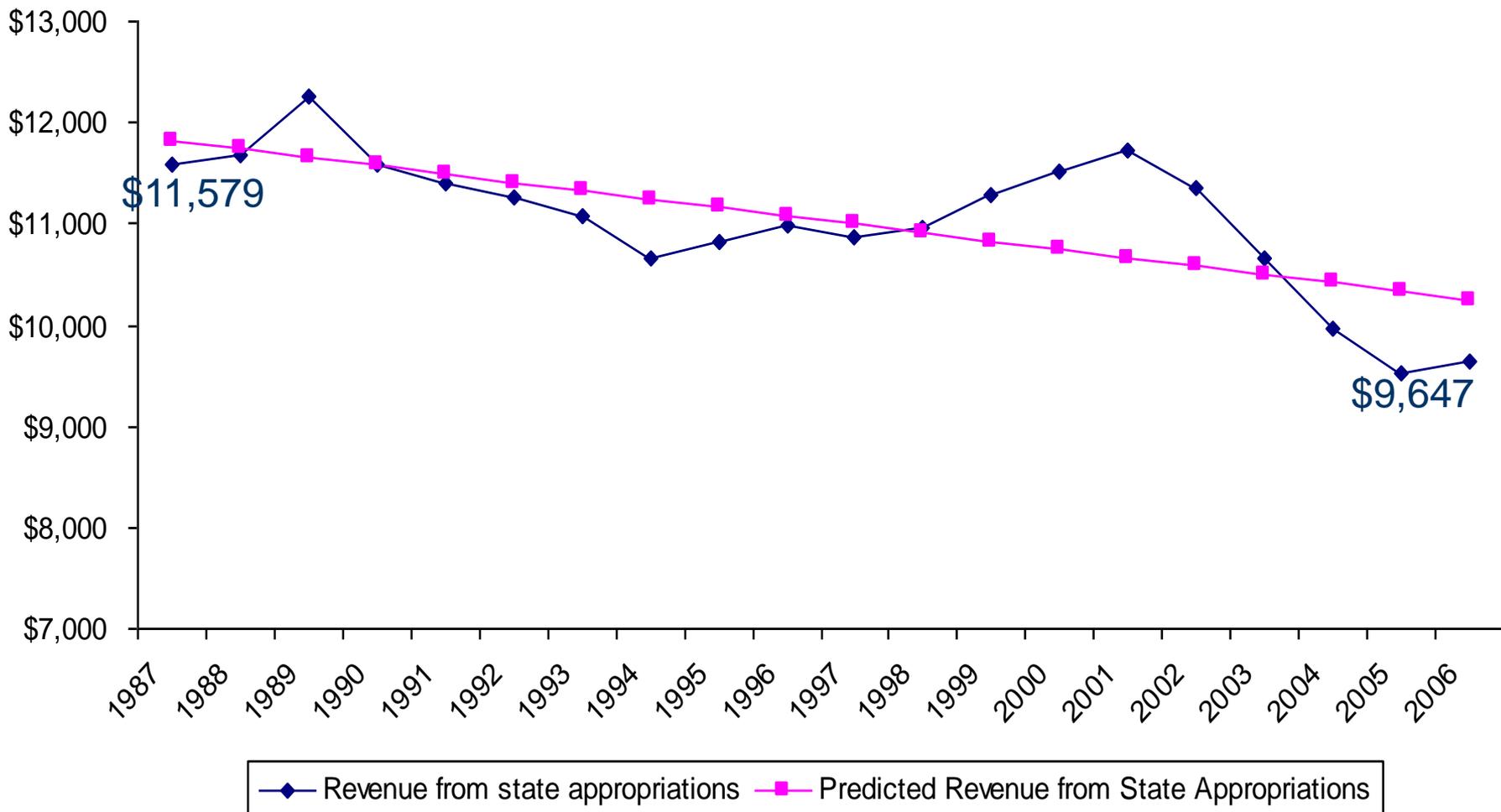


Different for the University?

- Visibility Increases
- Recognition of Value Increases
- Perhaps—Some of the Increased Value Becomes Tangible—More Funding
- Internal-A Little Less Paperwork & A Lot More Accuracy

Appropriations to Carnegie Very High Research Activity Public Universities

Actual and Predicted State Appropriations Revenue per FTE (2006\$)



It is not just academics who care.

- Pat Furlong Parent Project Muscular Dystrophy (focused on Duchenne MD)
- Two sons with MD
- One unnecessary medical tragedy

Search of the University of Nebraska Institutional Digital Repository the sort of things Nebraska citizens might be interested in

- **Colic 17**
- **Muskrats 135**
- **Milton 334**
- **Switch Grass 103**
- **Clean Coal 71**
- **Electoral College 34**
- **Swine Flu 32 (as of 5/8/09)**

So, What is Your Role?

- Place Your Stuff on the University of University Web
- Develop Systems at Departmental, College, Center & Institute to ensure that the depositing routinely happens
- Recreate the Historical File as possible/desirable

Role - Continued

Live by the Golden Rule

- Modify Copyright Requests so material can be placed on accessible web sites
- Publish in Open Access Journals when appropriate
- Make sure your scholarly society values supporting scholarship and uses journal revenues only to support its journal(s)
- Support Your Library's Hard Decisions

Role Continued

Insist that “Public Goods” Remain Public

- Support requirements that Scholarship produced with Public Funds remain available to the Public
- Especially support the spread of the NIH deposit requirement to other agencies

NIH “Public Access” Deposit Requirement

- Research funded by NIH
- That is published in a scholarly journals
- Manuscript must be deposited in PubMed Central upon acceptance for publication by a scholarly journal and be made publicly available no later than one year after publication in that journal.

Deposit in agency site is only an option

- Public access could be created by other funding agencies by requiring deposit **under agency specified conditions** in university, university system or disciplinary repositories or, perhaps, on publisher websites.
- Clearly deposit must be:
 - fully visible and accessible to users, web browsers, etc.
 - adequately backed up with a guarantee of permanent accessibility
 - With integrity guaranteed
 - Uniform system of identifiers for both funding agency and journal of publication must be used

Final Manuscript or Article in its Published Form?

- It would be helpful to users if the submissions were in the form in which they appear in the journal of publication, but this is an improvement and not a necessity.
- The purpose of a citation is to enable the reader to find the source. The blizzard of versions of some papers on the web makes this increasingly difficult.

Simplicity of Deposit is Key to Getting Complete Set of Manuscript/Article Deposit Made

- Best - if the Author does not have to be involved
 - Deposit by Journal of Publication
- Second Best - minimal involvement by the author
 - Librarian or other assistant takes the manuscript and makes the actual deposit
- Less likely to work if
 - Author has to deal with complex deposit requirement
 - Manuscript must be deposited in more than one place
 - Permissions must be sought before the article is deposited

Period of embargo is a key variable

- Zero to 12 months appears not to damage science journals
- 6 months is worth considering
- Clearly, the embargo period weighs the economic health of the journal against the right of the public to access reports of the research it funded

Harm to Journals?

- There are 4134 Journals registered with the Directory of Open Access Journals <http://www.doaj.org/>
- 71 publishers permit the published versions of all the journals they publish to be placed on repositories without fee and without an embargo period
- 5 with 6 months embargo
- 9 with 12 months embargo

<http://www.sherpa.ac.uk/romeo/PDFandIR.html>

- I know of no evidence that economic harm has been caused to any journal by having their journals publically available electronically after a 6 or 12 month embargo period

Are Universities Ready to Take On Expense of Building and Maintaining Electronic Institutional Archives? No Guarantees but . . .

- The movement to create such archives is well underway
- For a medium sized university the cost of such an archive can be as little as \$17K per year (with the software and unlimited storage provided by an outside vendor)
- Smaller institutions can share an archive while still providing the appearance of having one's own archive
- 276 Electronic institutional repositories have been inaugurated in in the United States of which 160 are classified as Research Institutional or Departmental and 23 more that are classified as Research, Cross-Institutional
(Registry of Open Access Institutional Repositories
<http://roar.eprints.org/>)

Campuses should initiate discussions involving administration and faculty about their current practices and/or intellectual property policies in order to promote and assure broad access to and dissemination of research and scholarly work produced by faculty.

Adopted by APLU CAA Executive Committee on 2/9/09 From APLU/AAU/ARL/CNI call for campus discussions.

Major Research University Associations will support the effort to create public access.

- Both APLU and AAU supported the addition of the Public Access Provision to the NIH Appropriations Language and worked to ensure that the administration of the NIH public access mandate was implemented with a minimum of disruption on campuses.
- I polled APLU provosts in late Fall '08 and found no administrative or faculty concern about implementation of mandated access.

Public Universities have a high obligation to make their work public and are likely to benefit from doing so.

Moving from a passive stance on faculty research distribution to an active one is under careful consideration across the academy.

Research funding agency open access policies promote research distribution. University cooperation with funding agencies may advantage both parties.