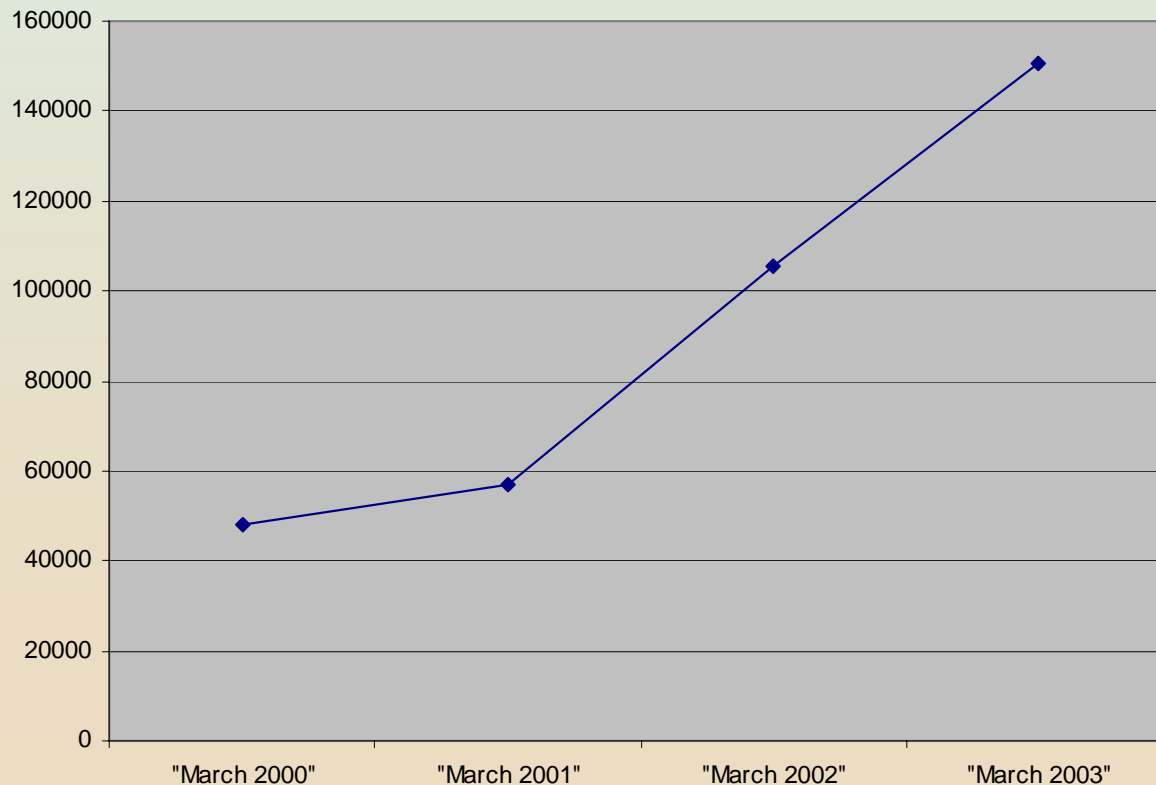


# Explosive Growth of Electronic Content


- At SAIT
  - 7,500 full-text electronic journals
- At University of Calgary
  - more than one-third of book budget for electronic products
  - 175 electronic indexes/abstracts
    - 70 different vendors and search interfaces
  - 17,000 full-text electronic journals
  - increasing rapidly

# Explosive Growth of Electronic Content

- At University of Calgary
  - monthly accesses to electronic products



## Explosive Growth of Electronic Content

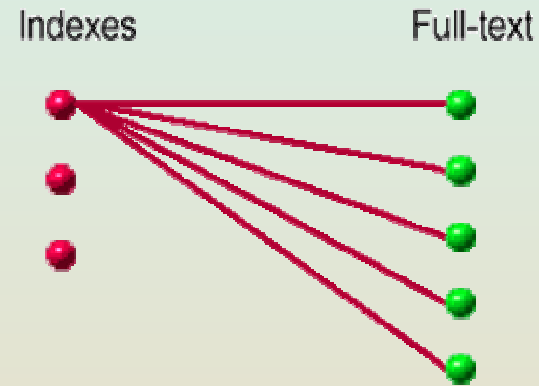
- Users frustrated with multiplicity of unconnected electronic resources
  - the difficulty of searching different interfaces
  - the difficulty of moving from one resource to another
- Users want the ease of searching that is provided by 

## The Need for Linking

- Top priority – to connect from citations in electronic indexes/abstracts:
  1. to electronic full-text sources that **your** library subscribes to
  2. to **your** library catalogue to check for print copies
  3. to **your** document order form when your library does not hold the item

# Unsatisfactory Ways of Linking

1. Database vendor builds links direct to each e-journal
  - no recognition of your library subscriptions



You

# Unsatisfactory Ways of Linking

2. Database vendor mounts full-text into an integrated search package
  - no means of linking to another such package

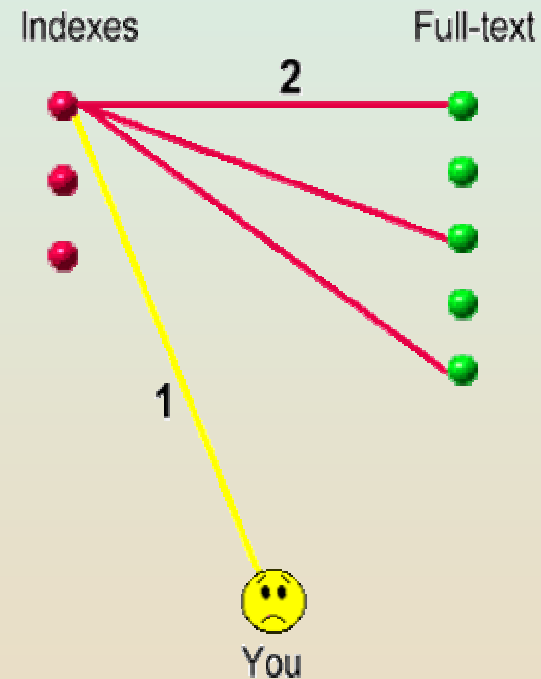


You

# Unsatisfactory Ways of Linking

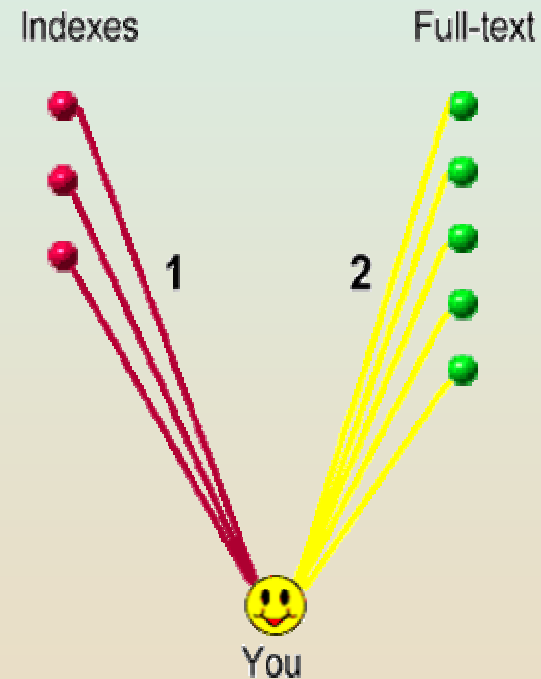
3. Database vendor loads your holdings and shows links for those you subscribe to

- holdings get out-of-date
- too many vendors and formats rule out uploading holdings



# Linking – What is Needed

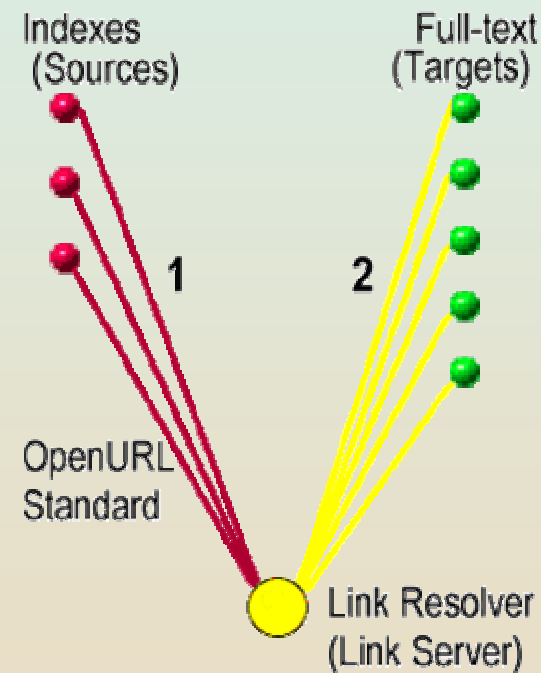
- Link from databases to a system with your library's current holdings
- Build links to full-text and other sources based on knowledge of holdings





# Linking – How It Works

1. Vendors of indexes send citation metadata using OpenURL standard to your library's link resolver (link server)
  - sent in standard way by all vendors



# OpenURL – What Is It?

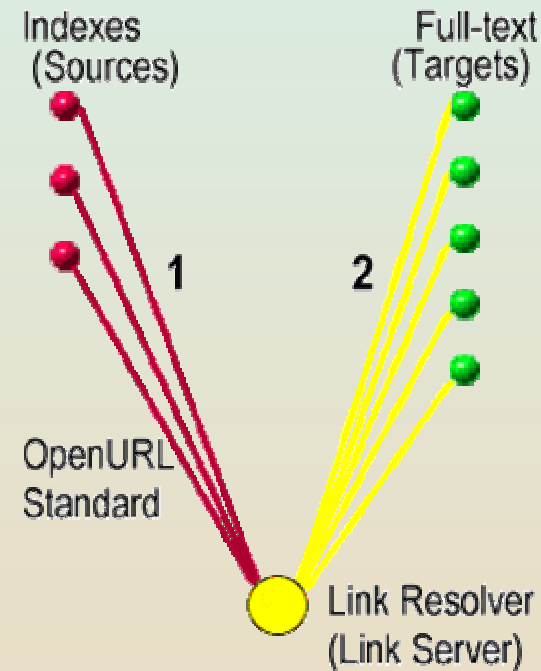
- An example from the University of Calgary

<http://sfx.exlibrisgroup.com:9003/calgary?genre=article&ISSN=00222844&titleJournal%20of%20Molecular%20Evolution&volume=58&issue=2&date=20040201&atitle=Do%20Avian%20Mitochondria%20Recombine%3F&spage=163&sid=EBSCO:aph>

- Domain (red) gives the URL for your library's link resolver
- Rest of OpenURL consists of metadata giving the elements of the citation

## Linking – How It Works

2. Link resolver  
knowledgebase  
knows your  
library's holdings  
information and  
how to link to full-  
text targets
  - it builds  
appropriate links  
based on this  
knowledgebase



# Link Resolver KnowledgeBase

- Link resolver vendor provides:
  - how to link to e-journal and other targets
  - up-to-date contents of e-journal packages
- Your library provides:
  - your electronic holdings
    - e-journal packages and parts of packages, individual e-journals and other subscriptions
  - logic to be used in linking
  - library customization of menu screens

# From User's Perspective

1. User clicks on link resolver button beside a citation in a database

◀ 1 to 10 (of 6117) ▶ Pages: 1 2 3 4 5 ▶ Sort by :

See: All Results  [Scholarly Journals](#)  [Magazines](#)  [Newspapers](#)  [Monographs/Reference Books](#)

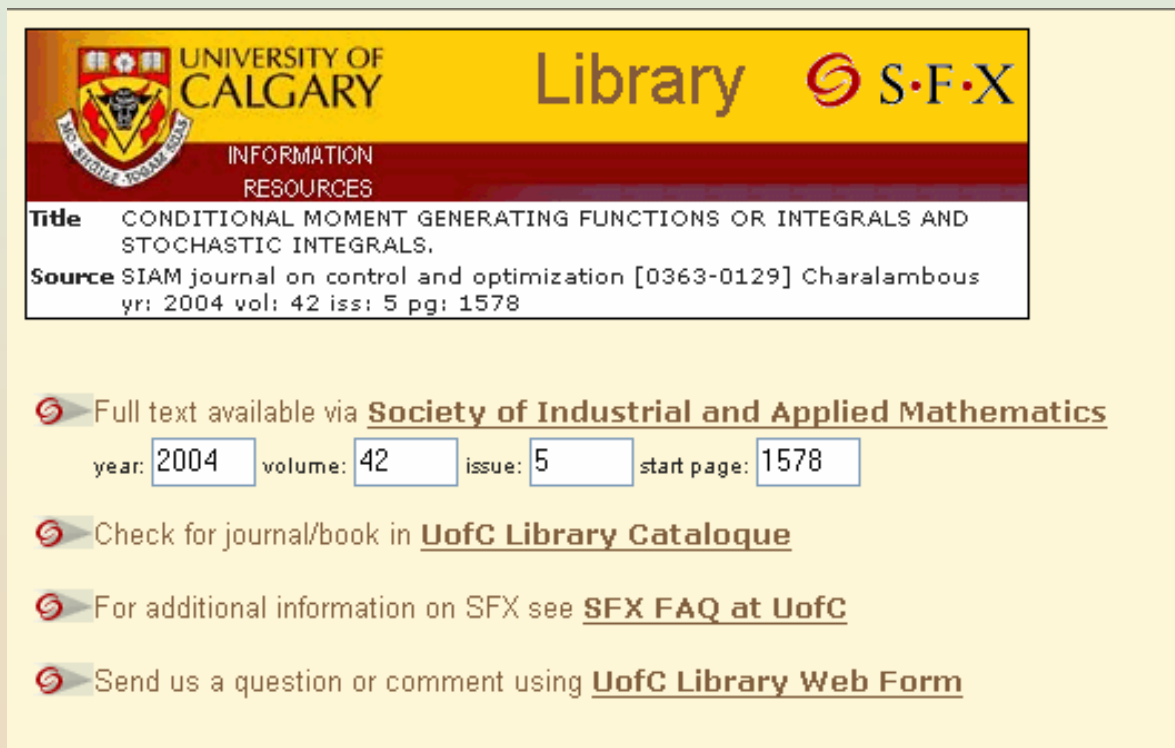
1. [CONDITIONAL MOMENT GENERATING FUNCTIONS OR INTEGRALS AND STOCHASTIC INTEGRALS.](#)  
By: Charalambous, C. D.; Elliott, R. J.; Krishnamurthy, V.. SIAM Journal on Control & Optimization, Sep2004, Vol. 42 Issue 5, p1578, 26p; DOI: S0363011299833327X; (AN 12190377)  


2. [Knock in spark ignition hydrogen engines.](#) By: Li, Hailin; Karim, Ghazi A.. International Journal of Hydrogen Energy, Jul2004, Vol. 29 Issue 8, p859, 7p; DOI: 10.1016/j.ijhydene.2003.09.013; (AN 12559562)  


3. [Lymphatic smooth muscle: the motor unit of lymph drainage.](#) By: von der Weid, Pierre-Yves; Zawieja, David C.. International Journal of Biochemistry & Cell Biology, Jul2004, Vol. 36 Issue 7, p1147, 7p; DOI: 10.1016/j.biocel.2003.12.008; (AN 12896294)  


## From User's Perspective

2. User is connected to menu of choices generated by link resolver


A screenshot of a library search results page. The header includes the University of Calgary logo and name, the word "Library", and the SFX logo. Below the header is a navigation menu with "INFORMATION" and "RESOURCES". The main content area displays search results for a journal article, including the title, source information, and a list of links for full text availability, library catalogue search, additional information, and a web form.


 UNIVERSITY OF CALGARY


Library 


INFORMATION  
RESOURCES

**Title** CONDITIONAL MOMENT GENERATING FUNCTIONS OR INTEGRALS AND STOCHASTIC INTEGRALS.  
**Source** SIAM journal on control and optimization [0363-0129] Charalambous  
yr: 2004 vol: 42 iss: 5 pg: 1578

 Full text available via [Society of Industrial and Applied Mathematics](#)  
year:  volume:  issue:  start page:

 Check for journal/book in [UofC Library Catalogue](#)

 For additional information on SFX see [SFX FAQ at UofC](#)

 Send us a question or comment using [UofC Library Web Form](#)

# From User's Perspective

## 3. User clicks on full-text choice and is connected to the article

[SIAM Journal on Control and Optimization](#)

[Volume 42, Number 5](#)

pp. 1578-1603

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### **Conditional Moment Generating Functions for Integrals and Stochastic Integrals**

**C. D. Charalambous, R. J. Elliott, V. Krishnamurthy**

**Abstract.** In this paper we present two methods for computing filtered estimates for moments of integrals and stochastic integrals of continuous-time nonlinear systems. The first method utilizes recursive stochastic partial differential equations. The second method utilizes conditional moment generating functions. An application of these methods leads to the discovery of new classes of finite-dimensional filters. For the case of Gaussian systems the recursive computations involve integrations with respect to Gaussian densities, while the moment generating functions involve differentiations of parameter dependent ordinary stochastic differential equations. These filters can be used in Volterra or Wiener chaos expansions and the expectation-maximization algorithm. The latter yields maximum-likelihood estimates for identifying parameters in state space models.

**Key words.** moment generating functions, finite-dimensional, filters, recursions, expectation-maximization

# Types of Links

- Primary Links
  1. to your electronic full-text sources
  2. to your library catalogue
  3. to your document delivery order form



## Types of Links

- Other links
  1. to web search engines (e.g., *Google*)
  2. to import citations into bibliographic software packages (e.g., *EndNote*)
  3. to link back into databases to search an author's name or cited reference
  4. to FAQ page or to send a help request

## Other Applications of Link Resolver

- Use link resolver as a means of checking a citation against the library's range of holdings
- Use OpenURL as a persistent URL for an article in a database

## Other Uses of KnowledgeBase

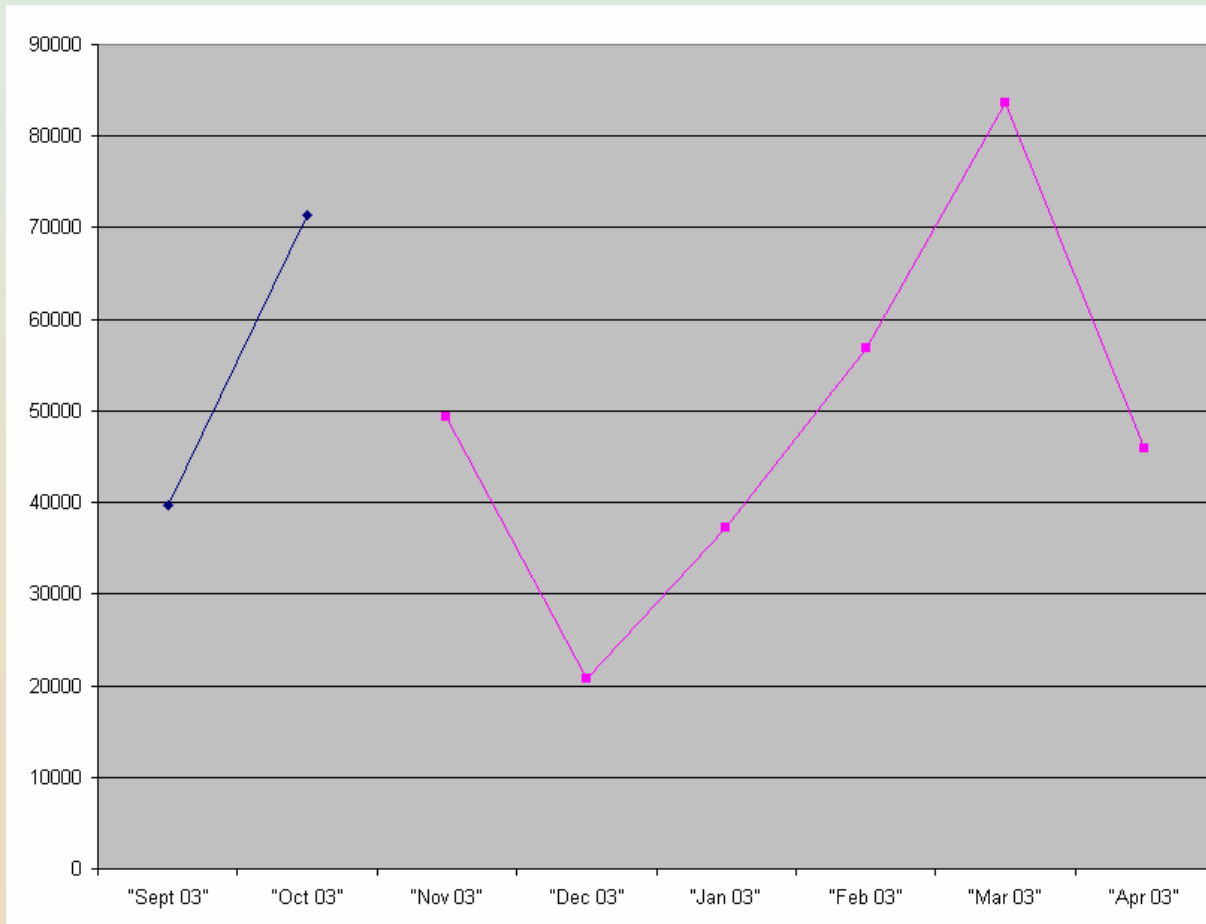
- Most link resolvers can generate A-Z list of electronic journals that the library subscribes to
- Some link resolver vendors (e.g., Serials Solutions) can generate MARC records for electronic journals that can be loaded into your catalogue

## Live Demonstrations

- SAIT
  - using *ArticleLinker* from Serials Solutions
  - <http://learnat.sait.ab.ca/library/>
- University of Calgary
  - using *SFX* from ExLibris
  - <http://www.ucalgary.ca/library/>

# Popularity of Link Resolver

- Number of clicks to *SFX* each month at University of Calgary



# TAL Linking Project

- To determine
  - what link resolvers are available
  - what features they offer
  - how they work in a consortial setting
  - what they cost
- Involves sending out RFI's to the link resolver vendors

# TAL Linking Project

- To ascertain whether post-secondary libraries want to address this linking question
- To see whether TAL could meet that need on some type of consortial basis
- To recommend how TAL should proceed in this matter
- **Involves consultation and visitation with post-secondary libraries**

# TAL Linking Project

- Timelines

- visitations - May, June, maybe September
- send out RFI's - early August
- receipt of responses - mid-September
- testing of preferred products - November
- final report and recommendations -  
February 2005





## TAL Linking Project

- Funding provided by **Alberta Learning** through Medicine Hat College
- Some additional funding from APLEN
- Some public libraries may also participate in the linking project

# Link Resolver Implications

- Set-up and Maintenance
  - Library inputs its e-journal holdings information
    - the most time-consuming step
  - Customize appearance and logic of the menu screens
  - On completing these, notify database vendors to OpenURL-enable their databases for your link resolver

# Link Resolver Implications

- **Consortial Considerations**
  - Mount software locally, or remotely at vendor's site?
  - If locally, at one central site or at each participating library?
  - Can knowledgebase be maintained centrally, or does each library maintain a separate knowledgebase?

## Benefits of a Link Resolver

- **Benefits to library users**
  - Easier to move among electronic resources and services offered by library
  - More likely to follow through and obtain the final desired product
  - When combined with remote access, easier to work with these resources from off-campus on 24/7 basis

## Benefits of a Link Resolver

- Benefits to a **library**
  - Electronic resources are easier to use and hence more utilized
  - When combined with provision of remote access, electronic resources are easier to offer to distance education students
  - Print journals are more easily accessible from electronic databases

## Benefits of a Link Resolver

- Benefits to a **library** (continued)
  - Document ordering (ILL/document delivery) is more obvious and more utilized
  - Value probably increases with the number of databases, database vendors and full-text resources a library subscribes to
  - Value will probably increase with time as a library subscribes to an increasing number of electronic resources

## Costs/Benefits of a Link Resolver

- Benefits of a link resolver should be weighed against
  - Cost of a link resolver
  - Staff time needed for set-up and maintenance
  - Both would be influenced by whatever can be set up consortially

- This presentation is available at <http://www.ucalgary.ca/~tull/tal/ppt.ppt>
- Eric Tull
  - Linking project coordinator
  - The Alberta Library
  - (403) 220-6648
  - [etull@thealbertalibrary.ab.ca](mailto:etull@thealbertalibrary.ab.ca)