



A discovery tool using federated search

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NISO Discovery Tools Forum
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What is scitopia.org?

- Free federated “vertical” search portal to digital libraries of 18 leading worldwide science and technology societies
- Open to the general public, but designed for researchers
- Full text available via publisher’s digital products; no new subscriptions to purchase
- Focused on the fields of technology, including engineering, physics, mathematics and computer science

Scitopia.org is a partnership

- All partners pay a contribution fee to help fund the project
- Partners participate in project management
 - Steering committee
 - Business team
 - Technology team
- Using new (and old) tools to communicate
 - Wiki for all documentation
 - Weekly teleconferences to make decisions

Scitopia.org is an experiment with goals

- Invite additional partners
 - ACM, AES, BSI
 - IET and ACS continue to sit on the fence
- Measures of success include driving more traffic to partners' digital library
 - Focus on not-for-profit society publishers
- Attract more new users from the corporate sector
- Ongoing support of scitopia.org depends on growth in user traffic
 - Project continues through 2008

IEEE leads industry initiative scitopia.org

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scitopia.org

Who is collaborating?

- Acoustical Society of America
 - American Geophysical Union (AGU)
 - American Institute of Aeronautics and Astronautics (AIAA)
 - American Institute of Physics
 - American Physical Society (APS)
 - American Society of Civil Engineers (ASCE)
 - American Society of Mechanical Engineers (ASME)
 - AVS
 - ECS
 - IEEE
 - Institute of Physics Publishing
 - Optical Society of America (OSA)
 - Society of Automotive Engineers (SAE)
 - Society for Industrial and Applied Mathematics (SIAM)
 - SPIE
 - 50 million worldwide patents
 - USPTO
 - Japan Patent Office
 - European Patent Office
 - US Dept of Energy
 - InfoBridge Database
- Newest partners join**

 - Audio Engineering Society
 - IMechE
 - Royal Society
 - Royal Society of Chemistry
 - International Union of Crystallography

Additional interest from

 - Materials Research Society
 - Society for Information Display
 - French Physical Society
 - French Chemistry Society
 - Society of Applied and Industrial Mathematics
 - British Standards International
 - Netherlands Standards

Why?

- Improve services and skills across societies.
 - Add value to subscriptions
- Expand reach into other disciplines.
- Broader corporate and academic users
- Improve discovery of all content types

Isn't Google the Ultimate Search?

- Breadth of content on the Internet is overwhelming
- Now try to conduct a relevant search of scientific content?
 - Google Scholar
 - MSN Academic Live Search
 - CrossRef search experiments
 - Individual publisher sites
- Too much information!

Why Vertical Searches Make Sense in Today's Research Environment

- **... vertical search provides comprehensive and focused niche content from multiple sources that is organized to ensure relevance to a specific community of users.**
- **It is not consumer focused and it's not just local search.**

Source: Outsell I-Market Hot Topic: Vertical Search Delivers What Big Search Engines Miss; copyright 2006

Users Tell Us What They Want and Need

- A single point of access for quicker and more effective results that support their research needs
 - IEEE Library User Groups
 - IEEE Library Advisory Council
 - Yes, users use Google, Google Scholar and MSN Academic Live
 - But, lots of “noise” and no focus on quality
- Independent research shows importance of vertical searches
 - Outsell: *Vertical Search Delivers What Big Search Engines Miss*
- It makes business sense
 - Users are more cross-disciplinary
 - New opportunities to collaborate across disciplines
 - Develop better penetration into the corporate sector
 - Societies are competing on the same playing field as large commercial entities, i.e. Google, commercial publishers, etc.

Scitopia.org's development history

- 2 February 2007 meeting in NY
- Selected DWT search technology
- Selected Digital Pulp design
- Selected PR help
- Launched and conducted market research
- 21 May 2007 meeting in NY
- Beta-launch 4 June 2007 at SLA with 15 partners
- Further development
- Launched 16 October 2007
- Signed 5 new partners by 31 December 2007
- New partners available March 2008
- First functional development release April 2008

Challenges

- Varied society cultures: technical & marketing
- Skills and resources
- Time zone constraints
- Financial commitment from partners
- Time commitments
- Search sophistication varies across partner sites
 - Most limited metadata limits service
 - + 5 Partners on AIP Scitation
- Competition – Single Site Search Engine
 - Google Scholar, Scopus, etc.
 - Rank results on more than what is returned – ie: links or citations

Challenges

- Agreement on interface and functionality.
- Beta Test until August 1, 2007
 - Response time, author searching, date range searching
- Is the product technically rich enough?
- Diverse content sets – standards, patents – may require specialized search to compete
 - Standards numbers
 - Patent classifications
- Span of society coverage?
- Continued support from library community
 - Primary marketing thrust

Scitopia.org gets good buzz

- Coverage in the library press since launch
 - 120 blogs
 - *Information Today, eContent, Online, American Libraries, Library Journal, Academic Newswire, Advanced Technology/Libraries, Outsell, Information World Review, Photonics, KnowledgeSpeak and forbes.com*
- Librarians see scitopia.org as providing a unique service
 - Competition to Google and other commercial paid services
 - Need additional features to be really effective, however
- Reviewers acknowledge
 - Breadth of coverage among first 15 society partners
 - Elimination of internet “noise”
 - Timeliness and currency of results

Not just another search engine

scitopia.org gets researchers to the good stuff faster

- Powerful, focused aggregation – eliminates internet “noise” for serious researchers
- Access to the highest quality scientific research available on the web today
- The most direct route to the very latest research

... no lag time from web crawling and indexing

scitopia.org

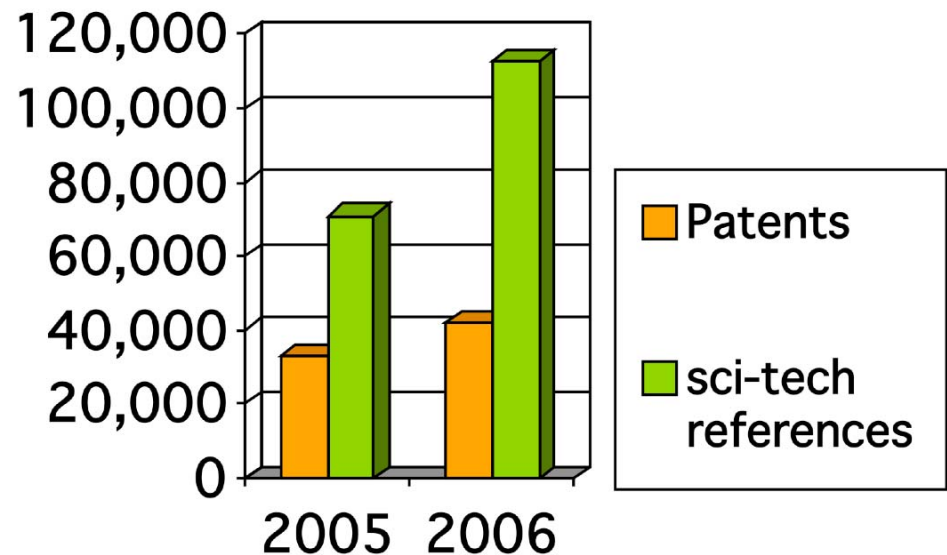
Targeted, Authoritative Content

- Enhances discovery and insight through multidisciplinary breadth of content
 - Major disciplines of science and technology in a single search*
- Provides in-depth historical perspective
 - 340 years of research allows users to view the evolution of thought*
- More than 3.5 million *peer-reviewed* articles, conference proceedings, and standards
 - The content most often cited in patents and scholarly works*
- 50 million worldwide patents
 - USPTO
 - Japan Patent Office
 - European Patent Office

Content researchers need

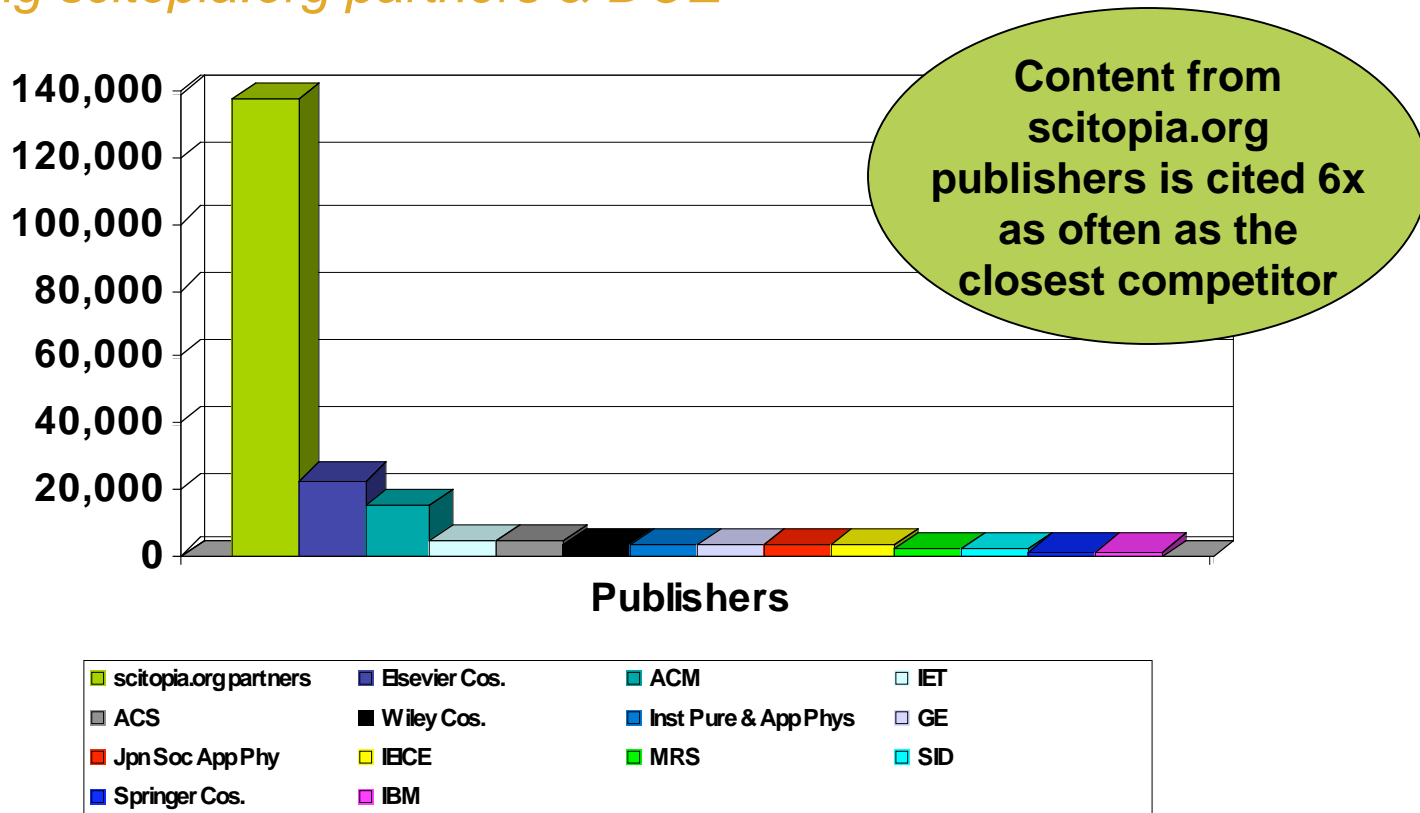
Importance of sci-tech literature (including standards) to patent process is growing

- USPTO patents up 27% over prior year
- Sci-tech references up 59% over prior year
- ❖ Based on top 25 patenting organizations USPTO patents in 2005 - 2006



Content researchers need

Patent citations from top 25 companies to top 20 publishers including scitopia.org partners & DOE



Reliable Technology

- Powered by Deep Web Technologies
 - Federated search experts
- Extensive experience with scientific information and applications
- Developed multiple DOE projects
 - EnergyFiles
 - E-Print Network
 - WorldWideScience.org
- Technological expertise that will keep up with scitopia.org's future growth

How does scitopia.org work?

scitopia.org

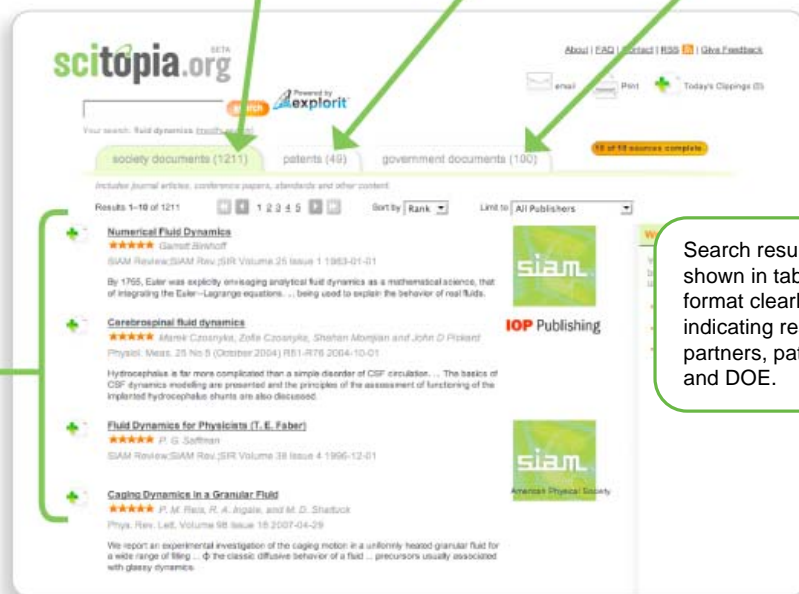


User conducts a search from scitopia.org Home



Partner's digital library access to full-text document determined by individual partner.

User accesses full-text based on subscription rights with that partner. Abstract records will be visible from within scitopia.org.



Search results are shown in tabbed format clearly indicating results from partners, patent offices and DOE.

Designed *by* researchers *for* researchers

- Search topics scan each digital collection – provides effectively organized results
- New generation content process -- no “screen scraping”
- XML gateways ensure data integrity, relevant results
- Normalized search fields ensure consistent, comprehensive data retrieval
- Author and author affiliation searching, with standardized syntax for cross-publisher search
- Full record search uses publisher indexing and other metadata

scitopia.org functions

- Searchable fields that include title, author, abstract, affiliation, date range and full record
- Search results = article title, authors and source information.
- Once content is selected, user is directed to the publisher's site for full text
- Mark articles and email in html with “my articles” function

simple advanced

Clear all Help with advanced search

Full Record [Sensors or "Sensor Networks"]

Title [Protocols or "Active Protocols"]

Author [Lazaro or Lazaro, A]

Abstract

Affiliat
Date Ran
Publish

Powered by

Your search: fluid dynamics (modify search)

society documents (1211) patents (49) government documents (100) 18 of 18 sources complete.

Includes journal articles, conference papers, standards and other content.

Results 1-10 of 1211 Sort by Rank Limit to All Publishers

- Numerical Fluid Dynamics**
 ★★★★★ Garrett Birkhoff
 SIAM Review,SIAM Rev.,SIR Volume 25 Issue 1 1983-01-01
 By 1755, Euler was explicitly envisaging analytical fluid dynamics as a mathematical science, that of integrating the Euler-Lagrange equations. ... being used to explain the behavior of real fluids.
- Cerebrospinal fluid dynamics**
 ★★★★★ Marek Czosnyka, Zofia Czosnyka, Shahan Momjian and John D Pickard
 Physiol. Meas. 25 No 5 (October 2004) R51-R76 2004-10-01
 Hydrocephalus is far more complicated than a simple disorder of CSF circulation. ... The basics of CSF dynamics modelling are presented and the principles of the assessment of functioning of the implanted hydrocephalus shunts are also discussed.
- Fluid Dynamics for Physicists (T. E. Faber)**
 ★★★★★ P. G. Saffman
 SIAM Review,SIAM Rev.,SIR Volume 38 Issue 4 1996-12-01



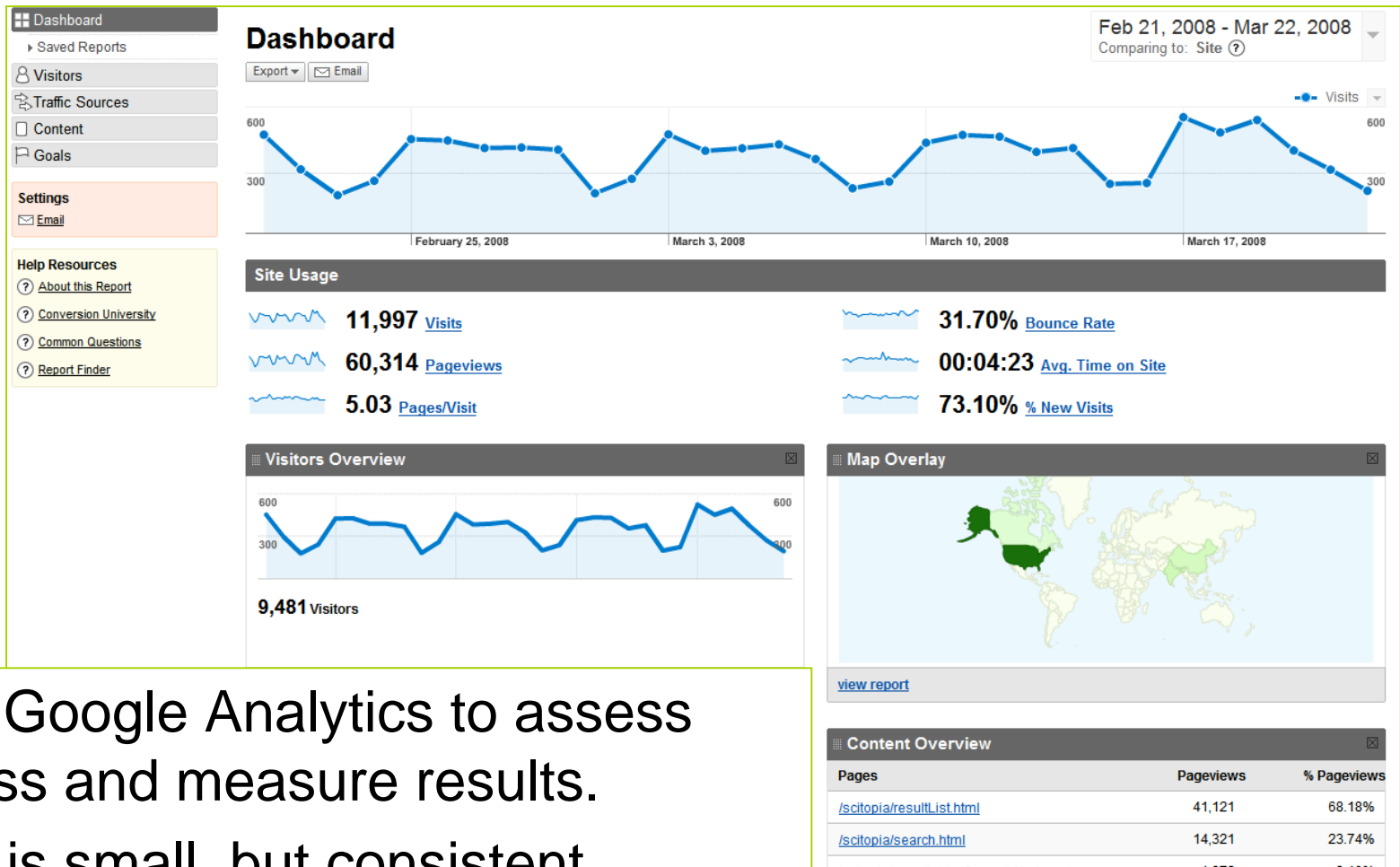
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Using Google Analytics to assess progress and measure results.

Usage is small, but consistent.

Studying analytics, like search terms, geographic location of users, inbound referrals to determine next steps.

2008 is defining year for scitopia.org

- **Development plans**
 - Clustering tool – part of original plan – due 4 April
 - Alerting service (RSS or other method)
 - Bibliographic download capability
 - OpenURL source
 - Standards break-out tab
- **Promotion plans**
 - Partners promoting scitopia on websites, in print, at technical conferences
 - SEM – buying search terms from Google and other search engines
 - Viral marketing efforts – integration in Facebook, iGoogle, etc.
- **Organizational plans**
 - Mark measures of success
 - Within top 10 of referrals to partner sites
 - Shows 10% of referring sites
 - Determine future organizational structure

Next steps...

- Continuing development
- Consistent growth of content
 - Societies added as service develops
- Evolving functionality
 - Clustering
 - Aggregated RSS
- Want to join?
 - Contact partners@scitopia.org
- Questions?
 - Contact k.hawkins@ieee.org