

DOI CrossRef

KAMJE

1. What is DOI?
2. What is CrossRef?
3. Why DOI & CrossRef? ()
4. What to prepare for CrossRef linking?
5. How to participate? (KAMJE ,)



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Vol. 315, no. 5819, pp. 1659 - 1661
DOI: 10.1126/science.315.5819.1659



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NEWS FOCUS

TOXICOLOGY:

A Sluggish Response to Humanity's Biggest Mass Poisoning

Yudhijit Bhattacharjee

Arsenic-laced water has sickened thousands in South Asia. After delays and false starts, India is addressing the problem with a \$500 million safe-water initiative

CHANDALATHI, INDIA--Until the mid-1990s, the biggest foe of Gouchan and Renubala Ari and their extended family was poverty. Then a more insidious menace began to stalk the Ari home in Chandalathi, a cluster of mud huts on the edge of a yellow mustard field some 60 kilometers north of Kolkata. The first signs of trouble were brown spots on their hands and feet that, as the months passed, developed into thick calluses and lesions. It was several years later that doctors visiting the area recognized the hallmark symptoms of arsenic poisoning.

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References

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REFERENCES

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- ▲ Discussion
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1. What is DOI?

- Digital Object Identifier
- A unique alphanumeric string assigned to a digital object
- <http://www.doi.org>



The DOI® System

Developed by **The International DOI Foundation (IDF)**

Site Search

GO

Learn About DOI Names

- Overviews
- Frequently Asked Questions
- Factsheets
- DOI® Handbook

International DOI Foundation

- Welcome Message
- Membership
- Information Kit
- IDF Staff

Activities

- News/Events
- Mailing Lists/Working Groups
- Reviews

Resources

- Registration Agencies
- White Papers
- Demonstrations
- Tools
- Proxy Server
- ISO Data Dictionary

Home

Welcome to the DOI® System

The DOI System is for identifying content objects in the digital environment. DOI® names are assigned to any entity for use on digital networks. They are used to provide current information, including where they (or information about them) can be found on the Internet. Information about a digital object may change over time, including where to find it, but its DOI name will not change.

The DOI System provides a framework for persistent identification, managing intellectual content, managing metadata, linking customers with content suppliers, facilitating electronic commerce, and enabling automated management of media. DOI names can be used for any form of management of any data, whether commercial or non-commercial.

The system is managed by the [International DOI Foundation](#), an open membership consortium including both commercial and non-commercial partners, and has recently been accepted for standardisation within ISO. Over 25 million DOI names have been assigned by DOI System [Registration Agencies](#) in the US, Australasia, and Europe.

Using DOI names as identifiers makes managing intellectual property in a networked environment much easier and more convenient, and allows the construction of automated services and transactions.

To learn more about DOI names, see the [Overviews](#), and begin with the Introductory Overview and Introductory Slide Presentation. The [Factsheets](#) discuss key topics about the system. For the most complete description of all aspects of DOI System technology and policy, consult the [DOI® Handbook](#).

In the News

[Chinese DOI Agency launched](#)

[DOI Foundation participating in licensing standard activities](#)

[IDF meetings to be held in June](#)

- Digital Object:

a piece of intellectual property in an online environment

- an electronic journal article

- a book chapter

- parts of articles

figures, graphs, supplementary materials

DOI

- Uniquely identifies the content item
- Provides a persistent link to its location on the internet

Print, PDF, and HTML
versions of the same article
will all share the same DOI
(work vs. manifestation)

DOI

10.1006/jmbi.1995.0238

prefix

suffix

“Prefix” + “/” + “Suffix”

- Prefix International DOI Foundation (IDF)
- Suffix publisher가

DOI Suffix

- Must be unique within a prefix
- Has a very flexible syntax
 - any alphanumeric string
 - bibliographic information can be used
 - a single node or multiple nodes
 - periods, colons, pipes as a node delimiters
 - case insensitive
 - $10.1006/abc = 10.1006/ABC$
- Should be extensible

Sample DOIs

- Academic Press

10.1006/jmbi.1998.2354

four letter code for journal
year of acceptance
a sequential number

- American Institute of Physics

10.1063/1.125173

production center
a sequential number

- American Physical Society

10.1103/PhysRevLett.88.088302

journal abbreviation

volume number

article code

(The APS has replaced page numbers with an article code that can be assigned on acceptance of an article.)

- Nature Publishing Group

10.1038/26989

journal title
a sequential number

- UChicago Press

10.1086/301055

a sequential number

- American Chemical Society
[10.1021/cm960127g](https://doi.org/10.1021/cm960127g)
- American Mathematical Society
[10.1090/S0002-9939-00-05422-8](https://doi.org/10.1090/S0002-9939-00-05422-8)
- Blackwell Publishers
[10.1046/j.1432-327.2001.02263.x](https://doi.org/10.1046/j.1432-327.2001.02263.x)
- CSHL Press
[10.1101/gr.10.12.1841](https://doi.org/10.1101/gr.10.12.1841)
- Geological Society of America
[10.1130/0091-7613\(2001\)](https://doi.org/10.1130/0091-7613(2001))
- IEEE
[10.1109/16.8842](https://doi.org/10.1109/16.8842)

- Kluwer
[10.1023/A:1003629312096](https://doi.org/10.1023/A:1003629312096)
- MIT Press
[10.1162/003355300554872](https://doi.org/10.1162/003355300554872)
- Oxford University Press
[10.1093/ageing/29.1.57](https://doi.org/10.1093/ageing/29.1.57)
- AAAS/Science
[10.1126/science.286.5445.1679e](https://doi.org/10.1126/science.286.5445.1679e)
- The Royal Society
[10.1098/rspa.2001.0787](https://doi.org/10.1098/rspa.2001.0787)

2. What is CrossRef?

- An independent membership association, founded and directed by publishers
John Wiley & Sons, Academic Press, etc.
- Official DOI link registration agency for scholarly and professional publications
- Operates a cross-publisher citation linking system
Click on a reference citation on one publisher's platform and link directly to the cited content on another publisher's platform

Meetings & News

- CrossRef Extends Web Services
- DOI links for books
- CrossRef Web Services
- Multiple Resolution Pilot
- DOI link ownership transfer
- New members this week
- CrossRef Indicators

Technical Resources

- How to query
- How to deposit
- Web deposit form
- Forward linking information
- Simple Text Query
- XML Validator
- FAQ
- User and Publisher Guidelines
- Browsable title list



25696063
registered CrossRef DOI links
millions of links

Welcome.

CrossRef is an independent membership association, founded and directed by publishers. CrossRef's mandate is to connect users to primary research content, by enabling publishers to work collectively. CrossRef is also the official DOI® link registration agency for scholarly and professional publications. It operates a cross-publisher citation linking system that allows a researcher to click on a reference citation on one publisher's platform and link directly to the cited content on another publisher's platform, subject to the target publisher's access control practices. Our citation-linking network today covers millions of articles and other content items from several hundred scholarly and professional publishers.

DOI Resolver

If you encounter a DOI string (e.g., 10.1037/0003-066X.59.1.29) that is not hyperlinked, you can enter it in the box below:

TIP: You can turn a DOI string into a URL by appending the DOI string to <http://www.crossref.org>

FEATURING...

CROSSREF BLOG
For the latest information on all things CrossRef.

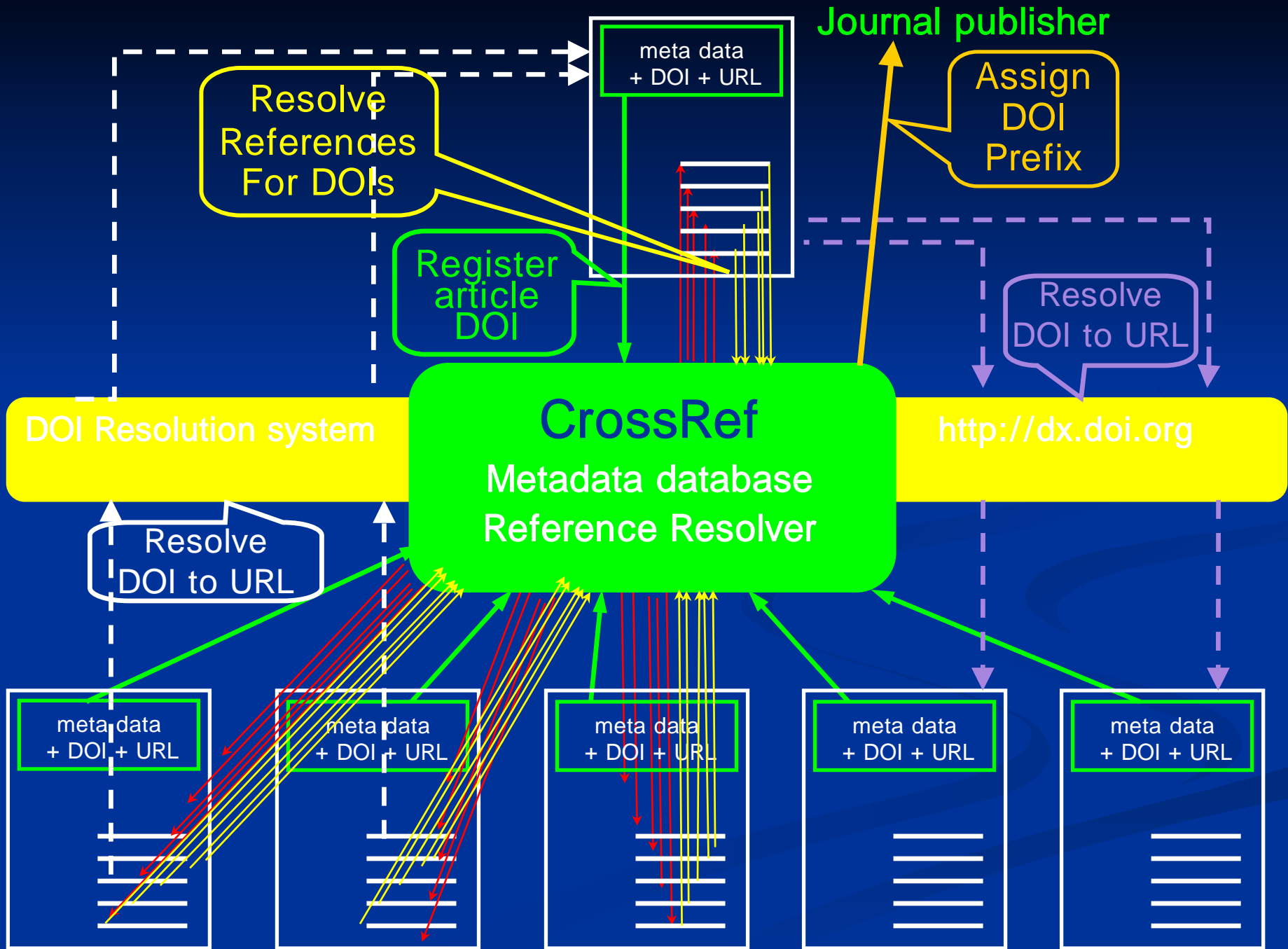
NEW MEMBERS THIS WEEK
03/15/07 5:05 pm
SUBSCRIBE TO FEED
Page 1/15

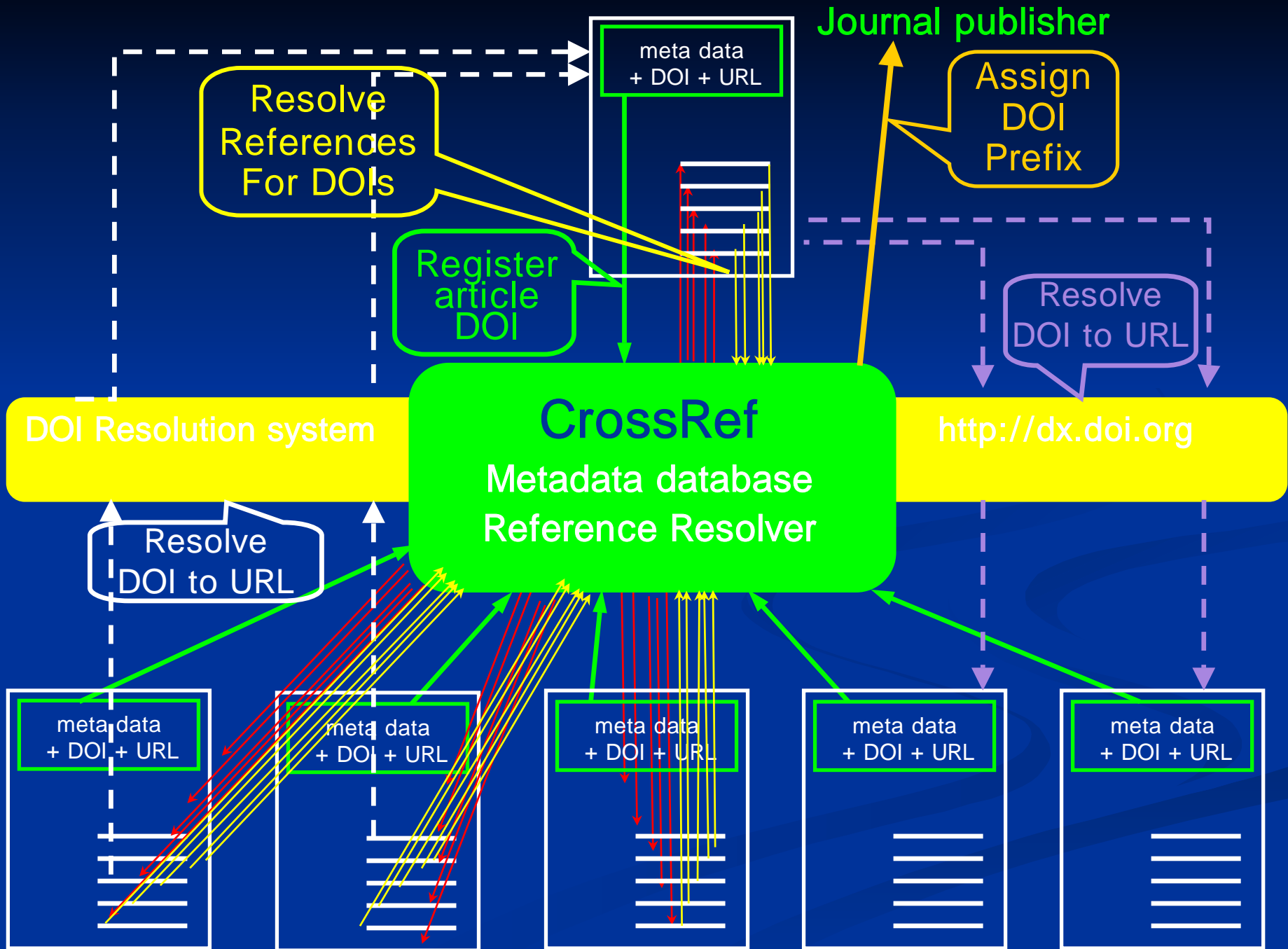
CROSSTECH BLOG
CrossRef's common forum for discussing new publishing technologies.

NEW LOOK WEB FEEDS FROM NATURE
03/15/07 2:35 pm
SUBSCRIBE TO FEED
Page 1/15

CrossRef is an IDF Registration Agency (RA) for scholarly publishers

- Assign DOI prefixes
- Accepts DOI deposits for journals, conference proceedings and books
- Holds the metadata associated with DOIs and URLs in the central DOI system
- Provides a retrieval system for the DOIs it registers





crossref.org : system de

crossref - Microsoft Internet Explorer

파일(E) 편집(E) 보기(V) ...

뒤로 -

주소(0) http://www.crossref.org

crossref

DOI: FOR R

ABOUT CROSS

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For a brief

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be shown to
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crossref

So make sure the journals you publish in are CrossRef-enabled, and join the vast community of scholars whose work is interlinked.

crossref

THE CITATION LINKING BACKBONE

QUOTE: 'Hell is the place where nothing connects' - T.S. Eliot

CrossRef

- An infrastructure (backbone) for linking citations (references) across publishers
- CrossRef is not an article database
 - does not aggregate full-text content
 - a system of “distributed aggregation”
 - full-text content is linked through a database consisting of minimal publisher metadata

- The only full-scale implementation of the DOI System to date

Covers millions of articles and other content items from several hundred scholarly and professional publishers

DOI - based citation links

- In the CrossRef system, each DOI is associated with a set of basic metadata and a URL pointer to the full text

“DOI” + “metadata” + “URL”

- DOI uniquely identifies the content item and provides a persistent link to its location on the internet

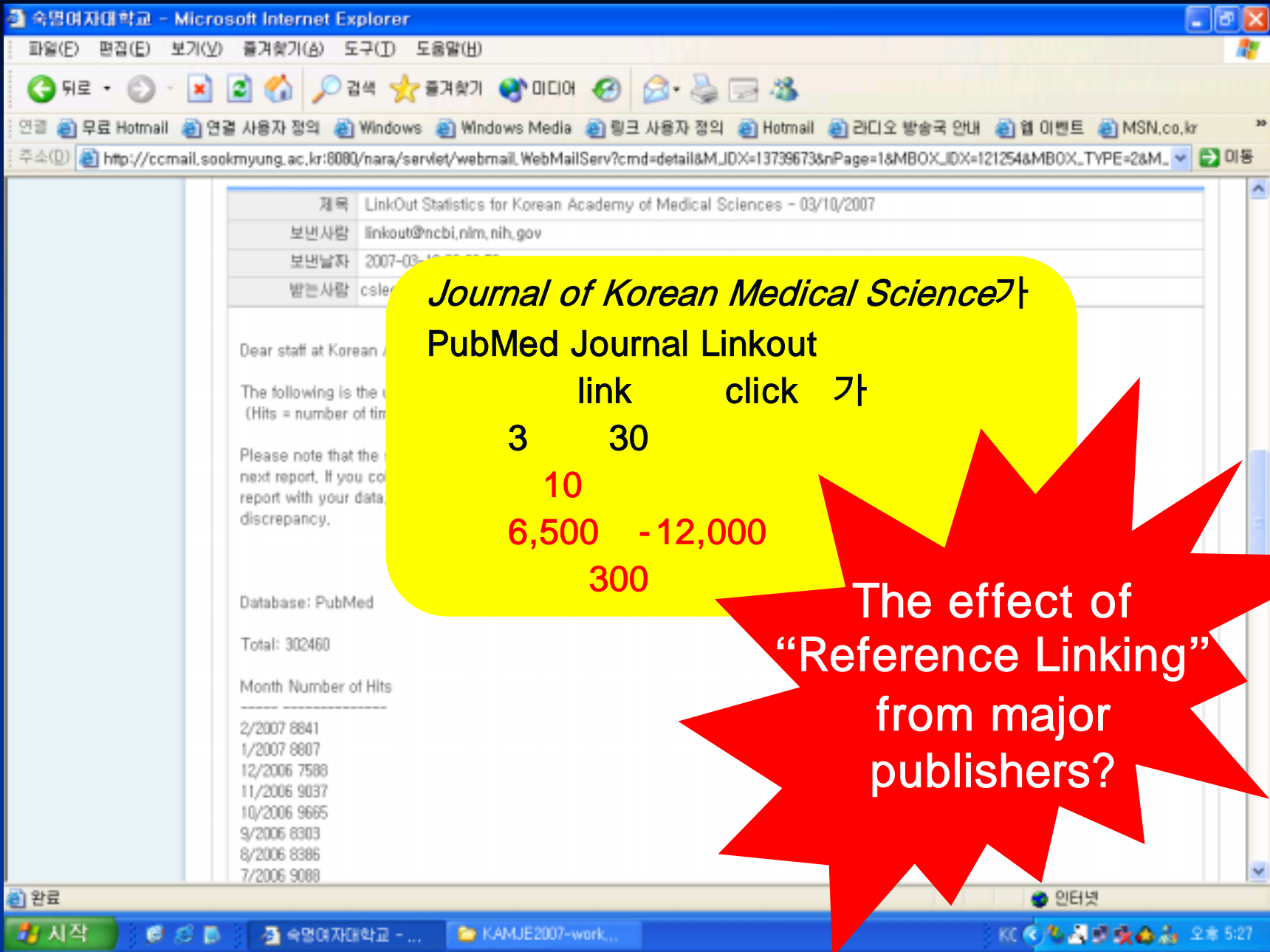
3. Why DOI & CrossRef?

- A means of lowering barriers to content discovery and access for the researcher
 - Readers have come to expect online material to contain outbound links to cited sources
 - Augment the accessibility of the journal content through inbound links

- Reference Linking
 - Seamless Searching & Access
 - , higher visibility
 - 가
 - 가 가

PubMed LinkOut monthly usage statistics of *Journal of Korean Medical Science*

Month	2004	2005	2006	2007
1		8,019	9,507	8,807
2		7,839	9,586	8,841
3		9,475	11,196	
4	7,543	8,612	12,045	
5	6,967	8,392	10,978	
6	6,775	8,487	10,610	
7	6,672	7,639	9,088	
8	7,311	8,919	8,386	
9	7,465	8,512	8,303	
10	8,005	10,218	9,665	
11	7,972	9,432	9,037	
12	6,649	7,920	7,588	



제목	LinkOut Statistics for Korean Academy of Medical Sciences - 03/10/2007
보낸사람	linkout@ncbi.nlm.nih.gov
보낸날짜	2007-03-10 09:00:00
받는사람	csle...

Dear staff at Korean Academy of Medical Sciences

The following is the LinkOut statistics for your journal for the month of March 2007.
(Hits = number of times the link was clicked)

Please note that the LinkOut statistics are based on the data from the LinkOut service. If you notice a discrepancy, please contact the LinkOut support team.

Database: PubMed

Total: 302460

Month Number of Hits

2/2007 8841
 1/2007 6807
 12/2006 7588
 11/2006 9037
 10/2006 9665
 9/2006 8303
 8/2006 8386
 7/2006 9088

*Journal of Korean Medical Science*가
 PubMed Journal Linkout
 link click 가
 3 30
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 6,500 -12,000
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The effect of
 "Reference Linking"
 from major
 publishers?

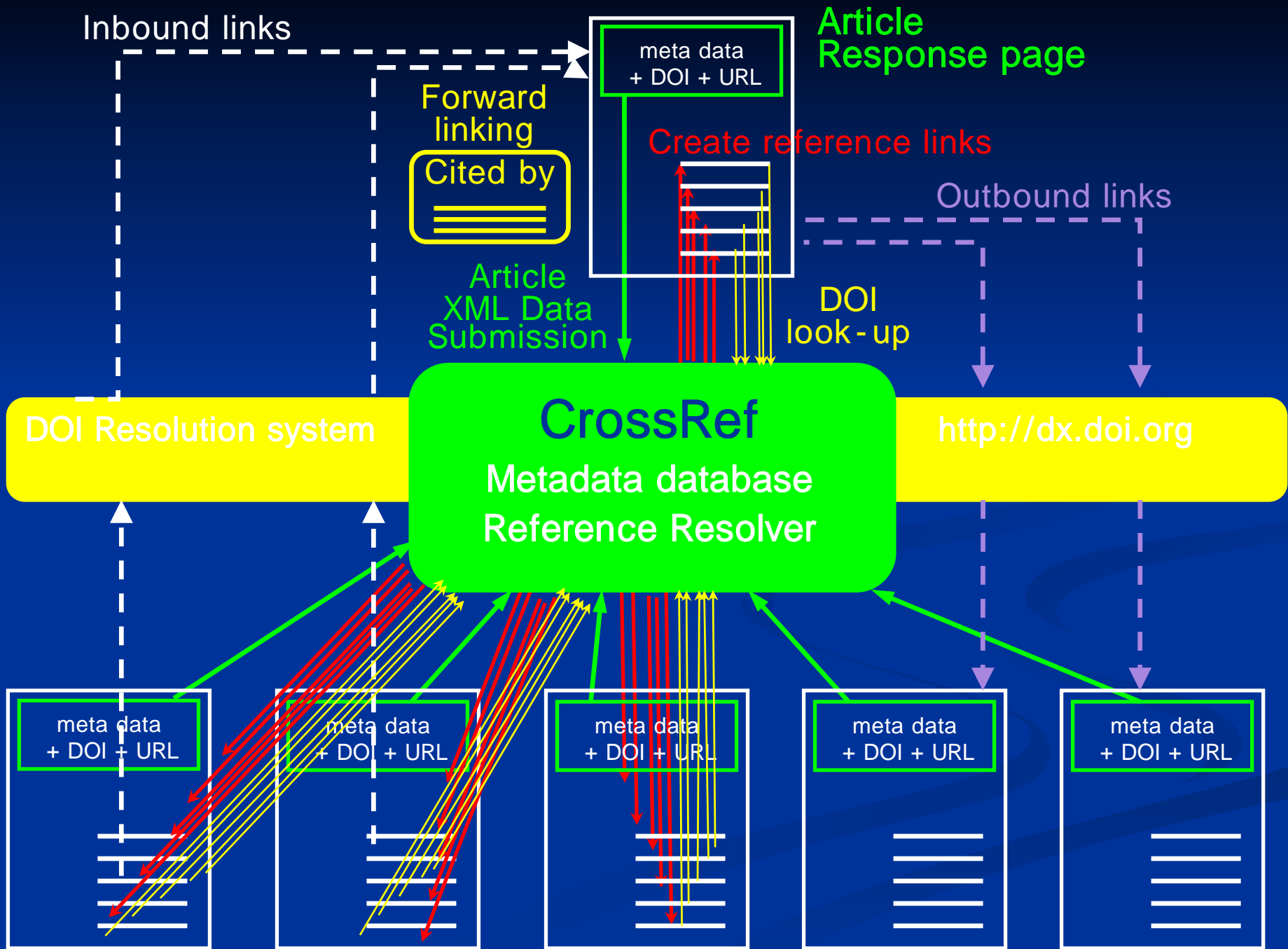
Other benefits of DOI & CrossRef

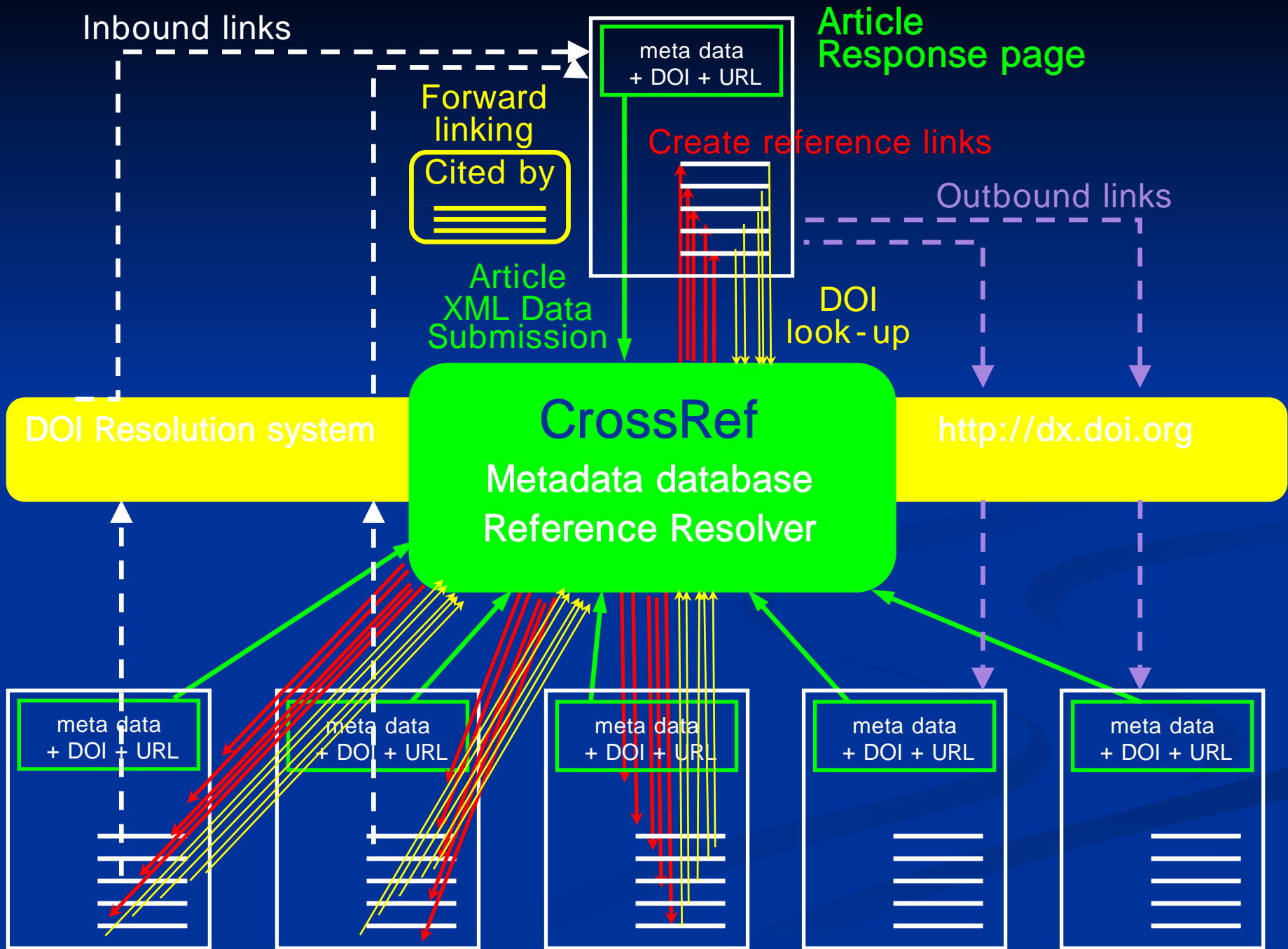
- A DOI link is a persistent link
- A single agreement with CrossRef serves as a linking agreement with all participating publishers

4. What to prepare for CrossRef linking?

- Join CrossRef
- Get a DOI Prefix
- Assign DOIs to journal articles
- Print/display DOIs on journal articles
- Submits the record to the CrossRef in a strict XML-based DTD format
- Provide active Response Pages in the Internet (i.e. Journal Website)

- Query and look-up DOIs for references
 - Submits the citations contained in each deposited article to the Reference Resolver
- Create Reference links
- Maintain the accuracy of DOIs and URLs in the DOI resolution system
- Maintain the accuracy of the metadata in CrossRef's metadata database





Article Data Submission (register DOI) inbound link

- in a defined format
 - XML DTD and XML Data Rules
- Each record is a triplet
 - {metadata + URL+DOI}
- Metadata about each article
 - journal title, ISSN, first author, year, volume, issue, page numbers
 - may submit additional metadata at its option

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Reference Data Submission (DOI look-up) outbound link

- XML Queries

 - Metadata about each reference

 - ISSN, journal title, first author, volume, issue,
first page, (citing) Year, Type, Unique key, DOI

- Text Query

- Pipe form

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Response page

The image displays three overlapping screenshots of the Wiley InterScience website interface, illustrating different ways to access content:

- Top Left:** Shows the 'Abstract' page for 'The Journal of Gene Medicine'. It includes a 'What is DOI?' section, publication details (Volume 5, Issue 5, October 2003), and options to 'Save This to My Profile' or 'Send E-Mail Alert'.
- Top Middle:** Shows the 'References' page for the same article. It lists seven references, with the first one being 'Ohtsman MM, Pastan I. Biochemistry 42: 360-427. Links'. A red arrow points from the 'Citation Tracking' section below to the 'Links' text in the first reference.
- Top Right:** Shows the 'Forward Linking' page, which provides a URL: <http://www3.interscience.wiley.com/forwardLinking?aid=10252602>. It also features a 'Citation Tracking' section and a 'Send E-Mail Alert' option.

Navigation and search elements are visible across all screenshots, including 'Home', 'Life Sciences', 'Genetics', and 'SEARCH' options.

Forward Linking

Citation & abstract

References

5. How to participate?

- CrossRef 가
 - Membership type
 - Membership fee
- - XML
 - Response page
 - Budget

Membership type

■ Publishers

■ CrossRef Membership Fee

DOI Prefix fee is included

No need to pay a separate fee to the IDF

■ Transaction Fee

■ Sponsoring publishers

Organizations who act as publishers by operating multi-publisher online journal collections

(1) A "Sponsoring Member" (henceforth SM) will undertake all membership activities and obligations on behalf of a Sponsored Publisher (SP). The SM must deposit, in a timely fashion, all the content from SPs or all the content in the relevant online collection, and administer payment of all CrossRef fees on behalf of SPs.

(2) SPs will not be required to become CrossRef members in their own right unless they choose to register content not hosted by an SM, but CrossRef membership is always an option for them.

(3) The SM's annual membership fee to CrossRef will be based on the aggregate gross publishing revenue of the SPs, or the gross publishing revenue of the collection where the SPs' content is sold/licensed as a package by the SM.

■ Affiliates

- secondary publishers, aggregators, abstracting and indexing services
- use CrossRef for DOI retrieval to link their own records to the location of primary publisher content
- Annual Administrative Fee
- DOI retrieval fees

■ Libraries

- article-level linking to local holdings of digital collection

CrossRef Annual Membership Fee

- based on the Total Publishing Revenue

Total Publishing Revenue	Annual Fee
<\$1 million	\$ 250
\$1 million - \$5 million	\$ 500
\$5 million - \$10 million	\$1,500
\$10 million - \$25 million	\$3,500
\$25 million - \$50 million	\$7,500
\$50 million - \$100 million	\$12,500
\$100 million - \$200 million	\$20,000
>\$200 million	\$30,000

Transaction Fee (deposit fee)

■ for each DOI deposit

Record Type	deposit fee
All Current records (2005 - 2007)	\$ 1.00
Backfile (all content types)	\$ 0.17
Components and Data Elements (current and backfile)	\$ 0.06
Book Chapters and Titles	\$ 0.17
Journal Titles	free

Non-Linking Fee

- If not linking after 18 months of joining CrossRef
 - a charge of 22 cents per article
 - non-refundable and will not be offset against future retrieval fees
- In order for the CrossRef system to function efficiently and fairly
 - Deposit online content ← Inbound
(to allow other members to link to them)
 - Link journal references
(to link to other members) → outbound

CrossRef Members

- Have an obligation to link references using DOIs
- Adhere to the requirements of the DOI system
- may "cache" retrieved DOIs (i.e. store them in their local systems)
- may appoint Agents
 - to act on their behalf with CrossRef (registering metadata, looking up DOIs)
 - An Agent can represent any number of members

CrossRef 가

- 가 가
- 가 가
KAMJE agent
- KAMJE가 Sponsoring publisher 가
- KAMJE가 Affiliate 가

- - Deposit fee + (Annual fee)
 - XML
- Display DOIs
- - Article XML records
 - Response pages
 - i.e. Journal full-text website
 - Reference XML records

Deposit fee (estimation)

- 4 times/year, 15 papers/issue, 2005 -
 - 2005 - 2007
 $60 \text{ papers} \times \$1 \times 3 \text{ yrs} = \180
 - 2008 -
 $60 \text{ papers} \times \$1 = \$60$
- 6 times/year, 35 papers/issue, 1986 -
 - 1986 - 2004
 $1,700 \text{ papers} \times \$0.17 = \$289$
 - 2005 - 2007
 $210 \text{ papers} \times \$1 \times 3 \text{ yrs} = \630
 - 2008 -
 $210 \text{ papers} \times \$1 = \$210$

“Article” & “Reference” XML records

- submission ,
deposit
- PubMed Central XML
 - PubMed Central submission
 - CrossRef “automatic submission”
가 PubMed Central
PubMed

Submitting Citations to PubMed and CrossRef

<http://www.pubmedcentral.nih.gov/about/pubinfo.html>

- If a publisher wishes, PMC will submit citations to PubMed and/or CrossRef on behalf of a journal.
- In either case, a citation will be sent automatically on the day that an article becomes available on the PMC web site. Citations usually appear in PubMed the day after they are submitted.
- For CrossRef, the publisher must have a CrossRef account that PMC can use for submission. PMC does not have its own CrossRef account.

Response pages

- website linking 가 HTML full-text HTML

bibliographic information (citation)

Abstract

main text

references

- PubMed Central full-text

- PubMed Central XML

HTML

website

JKMS

JHEEP

Abstract

Full-text **HTML** XML PDF

J Korean Med Sci. 2006 Feb;21(1):1-4

Increased Expression of Sodium Transporters in Rats Chronically Inhibited of Nitric Oxide Synthesis

Joon Sik Kim, Ki Chul Cho

Departments of Physiological Science, Gwangju, Korea.

The present study was to investigate the role in the regulation of sodium transporters in rats chronically inhibited of nitric oxide (NO) synthesis for 4 weeks. Control rats were treated with NG-nitro-L-arginine methyl ester (L-NAME), a nitric oxide synthase (NOS) inhibitor, and thiazide-sensitive Na⁺/K-ATPase, type 3 Na/H exchanger (NHE3), and thiazide-sensitive Na⁺/K-ATPase, type 1 Na/H exchanger (NHE1) by Western blot analysis. The treatment with L-NAME increased the blood pressure. Total and fractional creatinine clearance remained unchanged. Creatinine concentration was significantly increased. The activity of Na⁺/K-ATPase, NHE3, and NHE1 was also increased. L-NAME treatment exerts a tonic inhibition on sodium transporters including Na⁺/K-ATPase, NHE3, and NHE1.



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Korean Med Sci: Vol. 21 Issue 1 p. 001 - Microsoft Internet Explorer

http://jkms.org/abstract/html/jkms21091h.html

(33%), and arthralgia/arthritis (30%). However, the prevalence of tubercular pain or tenderness was higher (24%) than reported previously and only three (11.5%) had HbA1c positively with active enzyme elevation. Nine patients (33%) had a higher factor score (FFS) of 2. Fourteen patients (52%) responded to treatment, 2 patients relapsed and 4 died within 1 yr of diagnosis. During a median follow-up of 55.5 months, three of the four PANI-related deaths had an initial FFS of 2. The clinical features of PANI were not significantly different from those reported previously. However, tubercular pain or tenderness was more frequent and patients with a high FFS tended to have a poorer prognosis.

INTRODUCTION

Polyarteritis nodosa (PAN) is an uncommon systemic necrotizing vasculitis and is characterized by the presence of inflammatory reactions of medium or small-sized blood vessel with multiorgan involvements including skin, kidney, peripheral nerve, muscle, gastrointestinal tract and others (1, 2). PAN was first described by Knorr and Meier in 1866 and many reports have been issued on its clinical features. In Korea, dozens of case reports and two papers on cutaneous PAN have been published (3, 4). Although the prevalence of hepatitis B is high in Korea and the association between PAN and hepatitis B is well known, no study about clinical features of systemic PAN has been conducted. Thus we analyzed the clinical features of classic PAN in Korea.

MATERIALS AND METHODS

Subjects

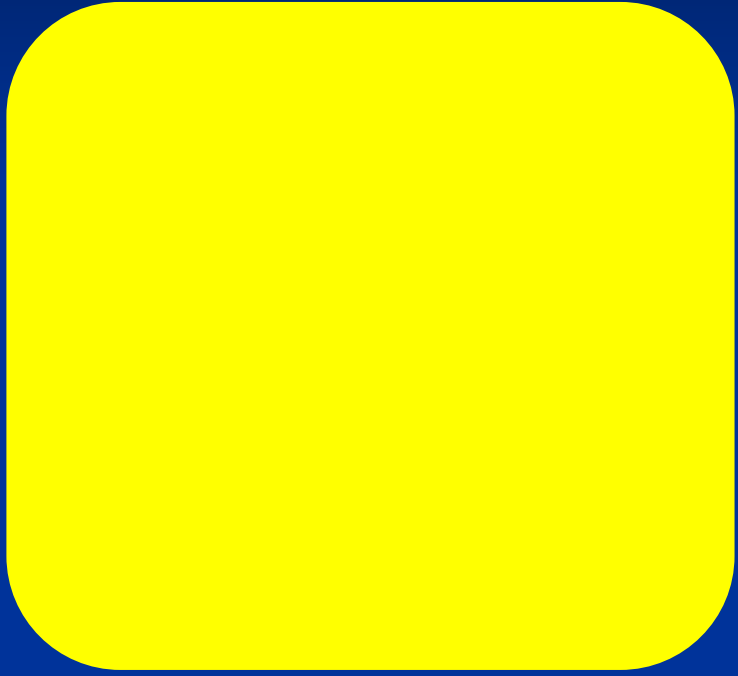
We searched the database of Seoul National University Hospital for adult PAN patients (age ≥16 yr old) between January 1990 and July 2003. Thirty six patients were first suspected of having PAN and 27 of these satisfied the American College of Rheumatology (ACR) 1990 criteria for the classification of PAN. Thus, 9 patients were excluded, 4 had a limited form of PAN and five had a cutaneous form. All limited and cutaneous PAN patients showed no evidence of other organ involvement or of a saccular aneurysm by angiography. The male-to-female ratio was 1.7:1, mean age of onset was 47.4±20 yr and the median follow up period was 55.5 months (range 0.6-162 months).

Methods

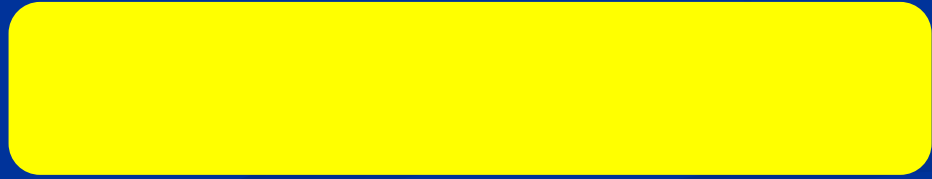
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XML

- PubMed Central XML
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 - 5 /article
- “Article” & “Reference” XML
 - PubMed Central XML 2/3
 - 3 /article
- Response page
 - Citation + Abstract+ References
 - References DOI



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CrossRef

■ *Journal of Korean Medical Science*

■ 1986 - 2004 (1,700)

DOI \$300 (30)

XML 1,700 x 5 = 8,500

■ 2005 - 2007 (210)

DOI \$630 (60)

XML 630 x 5 = 3,150

■ 2007 (210): **1,100**

DOI \$210 (20)

XML 210 x 5 = 1,050

- 4 times/year, 15 papers/issue

- 2005 - 2007 (60)

- DOI \$180 (18)

- XML 60 x 5 = 900

- 2007 (60): **300**

- DOI \$60 (6)

- XML 60 x 5 = 300

Display DOIs

■ In bibliographic headers

- Online and Print
- doi:10.1006/jmbi.1998.2354
available via <http://dx.doi.org/10.1006/jmbi.1998.2354>

■ In a citation

- Add DOI at the end
- Kornack, D. Rakic, P. (2001). Cell Proliferation Without Neurogenesis in Adult Primate Neocortex. *Science*. 294 (5549), 2127-2130, doi:[10.1126/science.1065467](https://doi.org/10.1126/science.1065467).

■ As a Reference link

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- Behind the display text of "CrossRef" is the URL http://www.sciencemag.org/cgi/external_ref?access_num=10.1038/35016083&link_type=DOI

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lentivector corrects the oxidase defect in NOD/SCID mobilized CD34+ cells from patients with X-linked (13) : 4381-4390, 2002.

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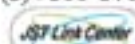
31) Ott MG, Schmidt M, Schwarzwaelder K, et al. disease by gene therapy, augmented by insertional SETBP1. *Nat Med.* 12(4) : 401-409, 2006.

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32) [No authors listed] One of three successfully therapy trial died due to his underlying disease : a Gene Therapy (ESGT). *J Gene Med.* 8(12) : 1435

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33) Sugimoto Y, Tsukahara S, Sato S, et al : Drug gp91 in vivo from an MDR1-bicistronic retrovirus (5) : 366-376, 2003.

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34) Hara T, Kume A, Hanazono Y, et al : Expansion granulomatous disease mice by cotransferring a Gene Ther. 11(18) : 1370-1377, 2004.

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Japanese / English

Sugimoto Y, Tsukahara S, Sato S, et al. *Journal of Gene Medicine* vol 5 issue: page 366-376 year 2003
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Pharmaceutical Research, 2007,
Yoshioka, Sho; Katayama, Kazuhiro; Okawa, Chikako; Takahashi, Sachiko; Tsukahara, Satomi; Mitsuhashi, Junko; Sugimoto, Yoshikazu

Gene therapy with drug resistance genes

Cancer Gene Therapy, Volume 13, Issue 4, 2006, First Page 335
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