



# THE CEIC (2003-2006)

## Report to the 15<sup>th</sup> General Assembly





# What is the CEIC

- "Committee on Electronic Information and Communication"
- Standing committee of the IMU Executive Committee
- Started in 1998 (approved each 4 yrs)





# What has it done?

- Review developments in e-scholarship  
(especially effects on developing world)
- Encourage creation of new tools
- “Sponsor” software, repositories, etc.
- Coordinate collaboration of stakeholders
- Report & provide advice to EC

key activity





# Some things worked – other did not (so well)...

- “Encourage new tools” part:
  - Math-Net
  - Personal homepages
  - Institutional (secondary) homepages
  - Electronic World Directory of Mathematics
- All depend on volunteer efforts!
- Other tools supplanted (Google)



# Math-Net Navigator

▶ World

## Browse Math-Net: ▶ World

- ▶ International Mathematical Union (IMU)
- ▶ Committee on Electronic Information Communication (CEIC)



- Africa [8]
  - +--- Botswana (1)
  - +--- Kenya (1)
  - +--- Mauritius (1)
  - +--- Namibia (1)
  - +--- Nigeria (1)
  - +--- South Africa (1)
  - +--- Swaziland (1)
  - +--- Zimbabwe (1)
- America [12]
  - +--- Argentina (1)
  - +--- Barbados (1)

Go



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Technische Universität Berlin  
Institut für Mathematik

## General Information

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- ▶ [Awards & Distinctions](#)
- ▶ [Curriculum Vitae](#)

## Collaborations & Cooperations

▶ Other

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- ▶ [Students](#)
- ▶ [Co-Authors and Collaborators](#)
- ▶ [Industrial Cooperation](#)

## News and Miscellaneous

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- ▶ [Congress and Workshop Organization](#)
- ▶ [Other Services, Duties, and Functions](#)





# Center for Mathematical Sciences Munich University of Technology (TUM)



Local Contact  Local Search  Homepage Univ. Homepage

- International Services
- Sigma
- Navigator
- MPRESS
- Persona Math
- MathLinks
- eJournals
- Contact

- Services of Math-Net.de
- Regional Services
- Software
- Newsletter
- Contact
- Help

About the Math-Net Page

## General

- About us
- Organization of the Department
- Information for Prospective Students
- Community Outreach
- Information for Visitors

## People

- Faculty / Staff
- Students

## News

- Schedule of Events
- Information for Dept. Members
- Positions Available

## Research

- Research Groups
- Preprints / Publications
- Projects
- Software Development

## Teaching

- Academic Programs / Curricula
- Class Schedules
- Course Information and Materials

## Information Services

- Computing Services
- Libraries
- Journals
- Bibliographic Databases



Standard Math-Net Page



# World Directory of Mathematicians

Professional Homepage Maker Version 0.1

[Help](#)

Please choose:

- Creation of a new Professional Homepage
- Edit of an existing Professional Homepage

Please note: An editing is only possible for such pages generated with the MPH tool.

## Comment

**This tool creates only the front page of your Web site. You are requested below to add links to already existing Web pages.**

**If you want to create other Web pages conforming with the standardized design, here is a [link to an empty template](#).**

**After downloading the Web page, you have to insert the texts and the links into the template. For this purpose you can choose an HTML editor of your choice.**

Comments and Questions are welcome! Please send an email to [Math-Net](#).





## But some things did work...

1. Continue to organize or sponsor international meetings or forums
2. Continue to suggest standards ( ` best practices ` ) on issues related to e-publication
3. Continue the development of Federated World Directory of Mathematicians (FWDM)
4. Facilitate and encourage the development of a Digital Mathematics Library (WDML)





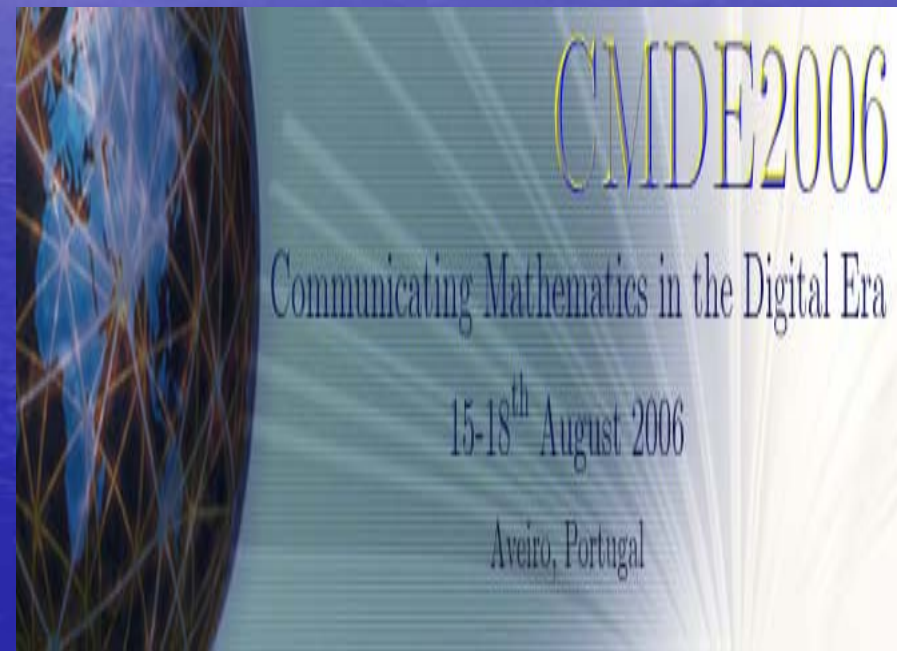
# 1. Forums and Meetings

- CEIC meets once each year
- Often combined with a public forum
  - Berlin (1998, 2003, 2006)
  - Berkeley (1999)
  - Vienna (2000)
  - Princeton (2001)
  - Vancouver (2002)
  - Durham (2004)
  - Grenoble (2005)





- Encourage other workshops
  - Beijing (2002)
  - ICIAM, Sydney (2003)
  - Stockholm (2004)
  - Mainz (2005)
  - Aveiro (2006)





## 2. Best Practices

- ▶ CEIC Copyright Recommendations  
“What do You Want from Your Publisher?”
- ▶ Best Current Practice documents
  - ▶ Format, linking, versions, preprints, copyright, access, archiving, bundling ... and effects on mathematicians in developing world
  - ▶ 2002, updated 2005
- ▶ Standards for Retrodigitization





## ... and IMU on the Web (2004-2006)

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- Columns from CEIC (Alf van der Poorten)
  - in each IMU-Net newsletter since IMU- Net 4
- For example:
  - How is a small academic journal to survive?
  - Personal Collected Works
  - Citation Indices
  - The WDML and the Reference Web
  - Best Practice for Retrodigitisation
  - Advice to Referees of Submissions to High Primes and Misdemeanours
  - What can you do about Journal Prices?





## 3. FWDM

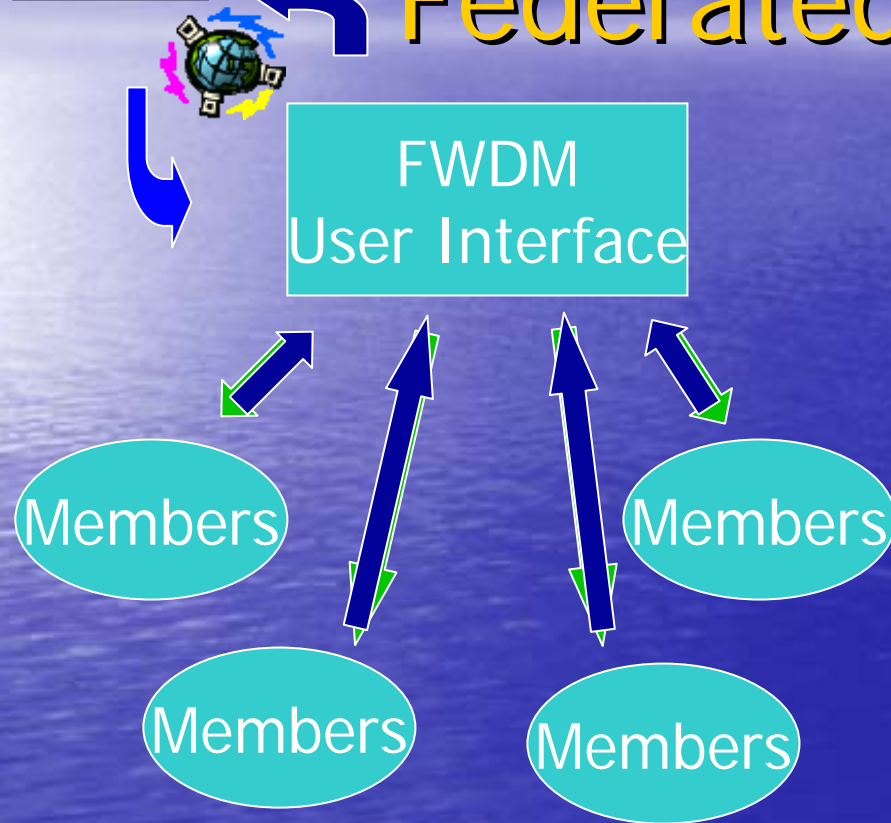
- Paper World Directory expensive
- Not as useful as electronic tool
- (Quickly out of date)
- 1998: EC asked CEIC to make recommendations
  - NEW IDEA





User

# Federated Searching



- User requests information
- FWDM sends requests to search engines
- FWDM merges responses into single set of results
- Returns merged results
- No centralized database!





# Federated World Directory of Mathematicians

An Initiative of the Committee on Electronic Information and Communication of the International Mathematical Union

[International Mathematical Union](#) | [IMU on the Web](#) | [WDML](#) | [EWDM](#) | [FWDM](#) | [Contact](#)

[D-Drive Home](#) > [FWDM](#) > [Query Form](#)

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[News and Alerts](#)

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[Further Info](#)

Partners:



*Federated World Directory of Mathematicians*

*Standard Query Form*

[To Basic Search](#)   [To Advanced Search](#)

Search

Last Name

First Name

Employer/University

Country



Institution



Home

(Checkbox options for CML only)

Search

[Guide to Using the FWDM Query Form](#)

*Description*

- **Will be two versions:** simple & advanced
- **Membership lists** for: Austria, Australia, Canada, France, Germany, Portugal, US

[www.fwdm.math.ca](http://www.fwdm.math.ca)





National Committee for Mathematics World Directory of Mathematicians - 12th



Directory of Latin American and Caribbean Mathematicians

English

Aust

Fields to be shown: (Hold down the Ctrl (Windows) or Shift (Macintosh) key for Multiple Selections)

- Professional Name
- Complete Name
- Birth Country

Sorted by: Professional Name Order  Descending

The Executive Committee of the IMU commissioned the American Mathematical Society to collect material for the 12th editio...

- Abrahamson, Brian, Prof., Dept. Inf. 5042, Australia
- Achuthan, N. R., Dr., Sch. Maths. and Stats., Curtin Univ. of Tech., PO Box U 1987, Perth, WA 6845, Australia [archi@cs.curtin.edu.au]
- Achuthan, Nirmala, Dr., Sch. Maths. and Stats., Curtin Univ. of Tech., PO Box U 1987, Perth, WA 6845, Australia [nmirmala@cs.curtin.edu.au]
- Adams, David, Dr., Dept. Pure Maths., Univ. of Adelaide, Adelaide, SA 5005, Australia [dadams@maths.adelaide.edu.au]
- Adams, Pe [pa@maths]
- Addie, Ro 4350, Aust
- Ahlp, Rel 1797, Penrith South DC, NSW 1717, Australia [raahlp@uws.edu.au]
- Aitchison, Iain R., Dr., Dept. Maths. and Stats., Univ. Melbourne, Parkville, VIC 3052, Australia [iain@ms.unimelb.edu.au]
- Alder, Michael D., Dr., Dept. Maths., Univ. of Western Australia, Nedlands, WA 6907,

Achuthan, N. R., ba, QLD, ed Bag

Age bracket: -- ≤ Age ≤ --

Institution which granted degree: (Hold down the Ctrl (Windows) or Shift (Macintosh) key for Multiple Selections)

- Argentina - INST. ARGENTINO DE MATEMATICA
- Argentina - UNIV. DE BUENOS AIRES
- Argentina - UNIV. NACIONAL DE LA PLATA
- Argentina - UNIV. NACIONAL DE ROSARIO
- Argentina - UNIV. NACIONAL DE SUR
- Argentina - UNIV. NACIONAL DE TUCUMAN

Country of Permanent institution: --

- Must add other lists, around the world!
- Key: First and Last Name searchable and separable





And to supplement the other lists ...

The screenshot shows the IMU website interface for the Electronic World Directory of Mathematicians (EWDM). On the left is a blue sidebar with the IMU logo and a menu with options: Memberlist, Join, Leave, Search (highlighted with a mouse cursor), and About. The main content area has a blue header with the title "Electronic World Directory of Mathematicians (EWDM)". Below the header is a search interface consisting of a white text input field and a "Search EWDM" button. At the bottom of the page, there is a footer with the timestamp "EWDM/2006-08-01 12:45:09", the IMU copyright symbol, and the URL "http://www.mathunion.org/ewdm/".





## 4. WDML

- ◆ **Goal:** Digitize ALL past mathematical literature, link it to present literature, and make it available online.
- ◆ **CEIC role:** Encourage, coordinate, and recommend.





- Created WDML website
- Formulated clear vision
- Promoted standards
- Supported REGISTRY

<http://www.ceic.math.ca/Publications/>





**WDML**  
world digital mathematics library

[www.wdml.org](http://www.wdml.org)

International Mathematical Union | Committee on Electronic Information and Communication | Math-Net

[WDML Home](#) > [About WDML](#)

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### ***About WDML***

For the past several years, mathematicians have contemplated a coordinated effort to digitize the past mathematical literature in order to make it available online. The aim is to make as much of the past literature available as possible, linked to the present literature in suitable ways.

The Committee on Electronic Information and Communication (CEIC) of the International mathematical Union has made a commitment to coordinate further efforts to achieve a world-wide digital library. This site will contain information about the World Digital Mathematics Library project and will be updated as the effort continues.

Hosted by Computer Science at Dalhousie University

©CEIC · [www.wdml.org](http://www.wdml.org)





## Digital Mathematics Library: A Vision for the Future

The *Committee on Electronic Information and Communication* (CEIC) of the *International Mathematical Union* endorses this vision of a distributed collection of past mathematical scholarship that serves the needs of all science, and encourages mathematicians and publishers of mathematics to join together in implementing this vision.

The Digital Mathematics Library should include a substantial part of the past literature, ...

[www.ceic.math.ca/Publication/dml\\_vision.pdf](http://www.ceic.math.ca/Publication/dml_vision.pdf)





# Some Best Practices for Retrodigitization

CEIC

29 June 2005

Mathematical research has been revolutionized by the availability of much literature on the internet. It is now commonplace to find papers published within the last decade as digital images that may be read or printed using an ordinary web browser. Older papers that were born in print are harder to obtain, but they may be made available by creating digital images from the printed pages.

This process of retrodigitization can potentially make the entire printed history of mathematics available to anyone with an internet connection.

Having a scanned images ...

[http://www.ceic.math.ca/Publications/retro\\_bestpractices.pdf](http://www.ceic.math.ca/Publications/retro_bestpractices.pdf)





# The Registry

- Built on work of Ulf Rehmann
- Two purposes:
  - Provide complete list of (retro) digitized journals – with links!
  - Give scholars a way to “register” new projects
- Now lists 179 journals from 24 projects!





# Digital Mathematics Registry

Update Date: August 06, 2006

- Main
- Journal List
- Source List
- Downloads
- Submission Form
- Contact Us

## Journal List

Journal Title: [A](#) [B](#) [C](#) [D](#) [E](#) [F](#) [G](#) [H](#) [I](#) [J](#) [K](#) [L](#) [M](#) [N](#) [O](#) [P](#) [Q](#) [R](#) [S](#) [T](#) [U](#) [V](#) [W](#) [X](#) [Y](#) [Z](#)

All Journals: [Sort by Title](#) [Sort by Source](#)

Total Journal Count : 179

Source	Journal Title	Years	MR Coverage
GDZ	<a href="#">Abhandlungen der Gesellschaft der Wissenschaften in Göttingen, Mathematisch-Physikalische Klasse</a>	1900-1939	
GDZ	<a href="#">Abhandlungen der Königlichen Gesellschaft der Wissenschaften in Göttingen</a>	1843-1892	
Hindawi	<a href="#">Abstract and Applied Analysis</a>	1996-present	<a href="#">1996-Present</a>
JSTOR	<a href="#">Abstracts of the Papers Communicated to the Royal Society of London</a>	1843-1854	
JSTOR	<a href="#">Abstracts of the Papers Printed in the Philosophical Transactions of the Royal Society of London</a>	1800-1843	
icm	<a href="#">Acta Arithmetica</a>	1935-1988	<a href="#">1958-Present</a>
GDZ	<a href="#">Acta Facultatis Rerum Naturalium Universitatis Comenianae</a>	1956-1980	<a href="#">1975-Present</a>
IM-L	<a href="#">Acta Mathematica</a>	1882-2005	<a href="#">1939-Present</a>
Gallica	<a href="#">Acta eruditorum</a>	1691-1741	
GDZ	<a href="#">Acta mathematica Universitatis Comenianae</a>	1980-1990	<a href="#">1982-Present</a>
Gallica	<a href="#">Actorum eruditorum quae Lipsiae publicantur supplementa</a>	1711,1717,1729,1734	
Gallica	<a href="#">Ad nova acta eruditorum quae Lipsiae publicantur supplementa</a>	1745, 1754, 1757	
JSTOR	<a href="#">Advances in Applied Probability</a>	1969-2002	<a href="#">1969-Present</a>



# Ongoing effort...

- Registry online at CEIC website
  - Updated daily
  - (Can install on your own computer)
- **In the public domain!**
- **ESPECIALLY** important for mathematicians in the developing world

<http://www.ceic.math.ca/WDML/registry>

[Local copy](#)





# Currently...

- CEIC has made a proposal to the EC about its long-term structure
  - Membership
  - Finances
  - Operations
  - Sustainability
  - NEW PROJECTS
    - (“research metrics”)

future?





# The Long-term Future ...

- Mathematicians should be optimistic!
  - New world of digital scholarship changes everything
  - IMU can play a key role in guiding that change.
- **Committee Members (2002-2006)**
  - Pierre Bérard, France
  - Jonathan M. Borwein, Canada
  - John Ewing, USA
  - Martin Grötschel, Germany
  - Rolf Jeltsch, Switzerland
  - Alejandro Jofre, Chile
  - Peter W. Michor, Austria
  - David Morrison, USA
  - David Mumford, USA
  - Alf van der Poorten, Australia

