

# **CODATA-Recent Period: Contributions, Challenges and Opportunities**

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# Outline

- ▶ **My entry in the CODATA community**
  - ➔ *Activities in the Asia-Pacific Region (DSAO)*
  
- ▶ **Evolving Pattern of CODATA meetings**
  - ➔ *CODATA International Conference and General Assembly, New Delhi, November 1998*
  
- P ▶ **ICSU Priority Area Assessment of**
  
- ▶ **Active Participation in activities related to WSIS**
  - Collaboration with ICSU, INASP, IAP, UNESCO, TWAS and others and launchng of Global Information Commons for Science*
  
- ▶ **Major projects, e.g. Gas Hydrates**

# Entry into CODATA

- **I had the privilege of joining CODATA fraternity in early 1990s through the Task Group on Data Sources in Asia-Oceania (DSAO), after first invitation from its Chairperson Prof. Tsumi.**
- **Through this association, we were exposed to the contributions of scientists like Prof. Kotani and Prof. Osugi.**
- **I had the background of working in multi-disciplinary fields: crystallography and materials science. However, the range and extent of fields covered under CODATA is too vast and awe-inspiring.**

# Expansion of Activities of DSAO

- ▶ 1990s saw an expansion in the activities of DSAO
- ▶ Initially its membership was limited to Japan, S. Korea, China but soon it included a majority of countries in the region with good scientific base.
- ▶ Several important areas of life sciences including bio-diversity, materials science, geo-sciences and others were covered.

# Expansion of Activities of DSAO

- ▶ **Proceedings of most of DSAO meetings were published by CODATA through dedicated efforts of Edgar Westrum and Yaru Hu.**
- ▶ **This helped in deepening the roots of CODATA in Asia-pacific region.**
- ▶ **Biennial CODATA International Conferences had been organized by China, Japan and India.**

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# CODATA BULLETIN

DATA ACTIVITIES AND  
DATABASE DEVELOPMENTS IN  
EAST-ASIAN COUNTRIES



ISSN 0366-757X  
CODBA4 22(3), 1-177 (1990)

Volume 22 Number 3  
July-September 1990



THE CODATA DIRECTORY  
OF DATA SOURCES FOR  
SCIENCE AND TECHNOLOGY IN  
ASIAN-OCEANIC COUNTRIES

*CODATA Task Group on Data Sources  
in Asian-Oceanic Countries*

*Yaruo Hu and Edgar F. Westrum, Jr.*  
Editors

the 20<sup>th</sup> International CODATA Conference  
第二十届国际科技数据委员会学术会议



21 15:16



# Changing faces of CODATA Conferences

*16<sup>th</sup> International CODATA Conference and 21<sup>st</sup>  
General Assembly at New Delhi*

# Opening of the Conference



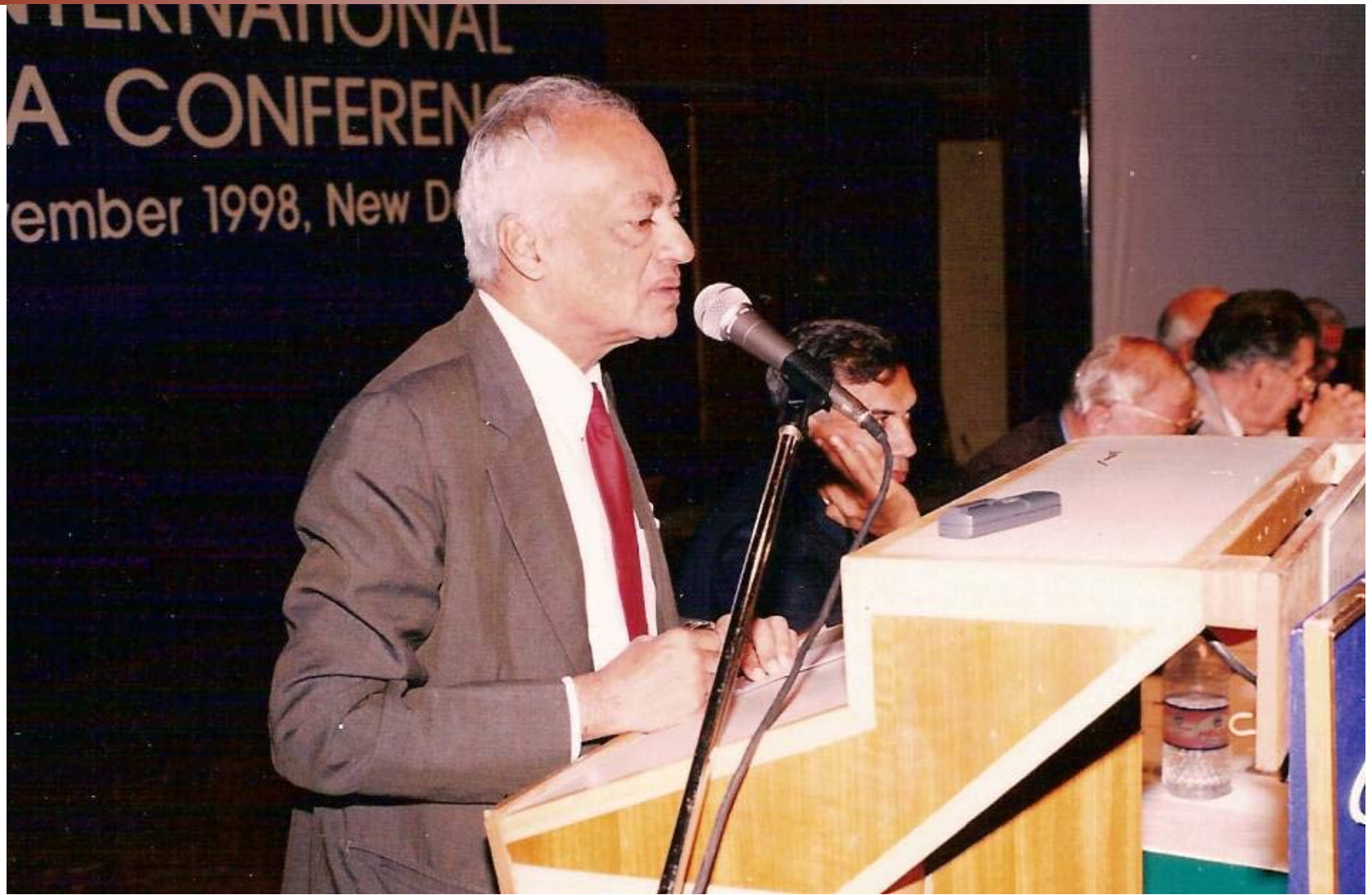
## Prof. M. G. K. Menon inaugurated the Conference



# Inaugural Function



# Inaugural Function



# Inaugural Function



# CODATA Delegates and Guests



# CODATA Delegates and Guests





# CODATA Delegates and Guests



## Conference Deliberations



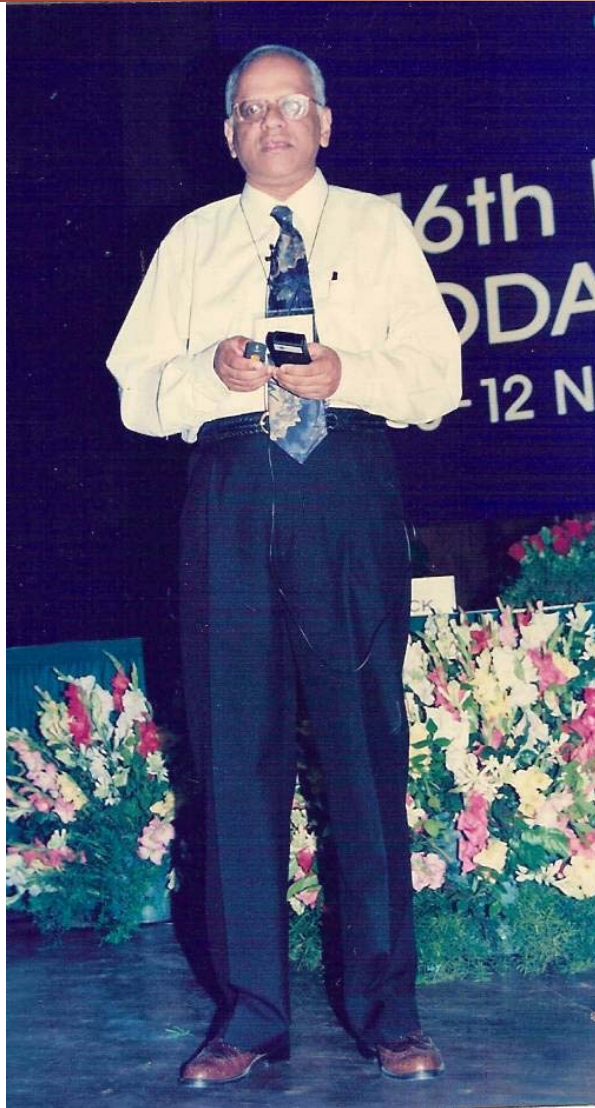
# Conference Deliberations



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# Conference Deliberations



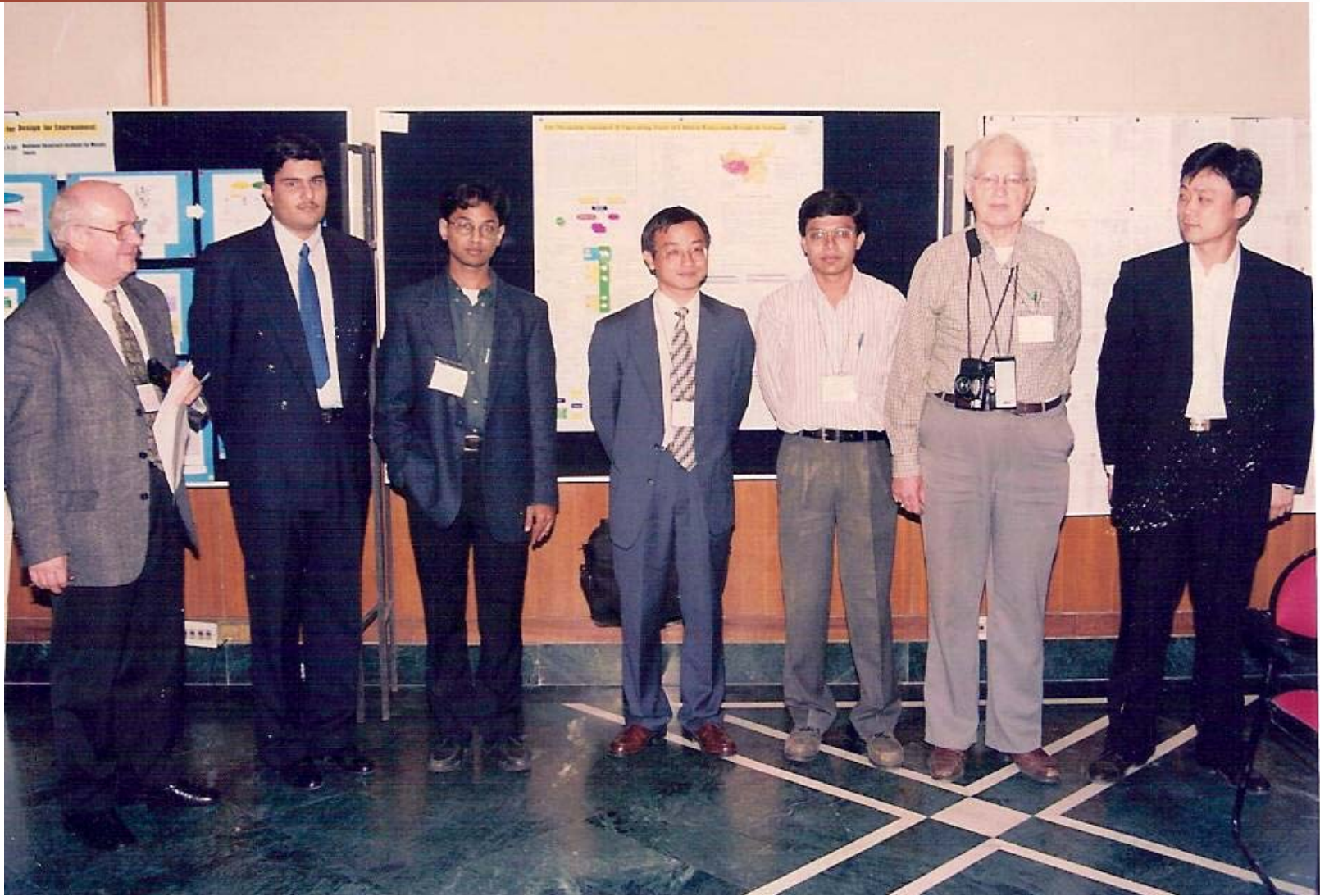
# Conference Deliberations



# Around the Registration Desk



# Informal Get-Together

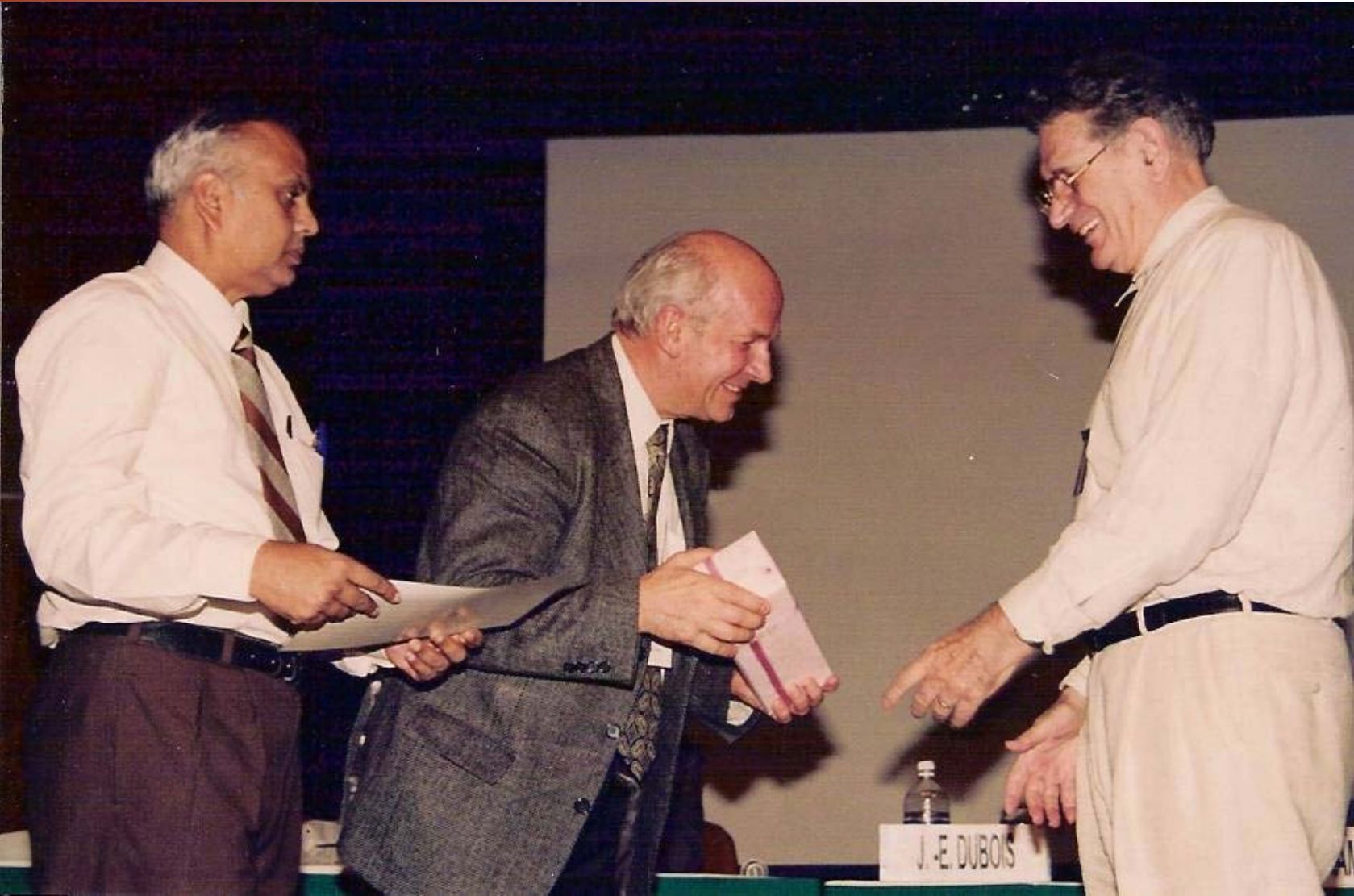




# Poster Session



# Happy Occasion



# Informal Get-Together



# Lunch Break



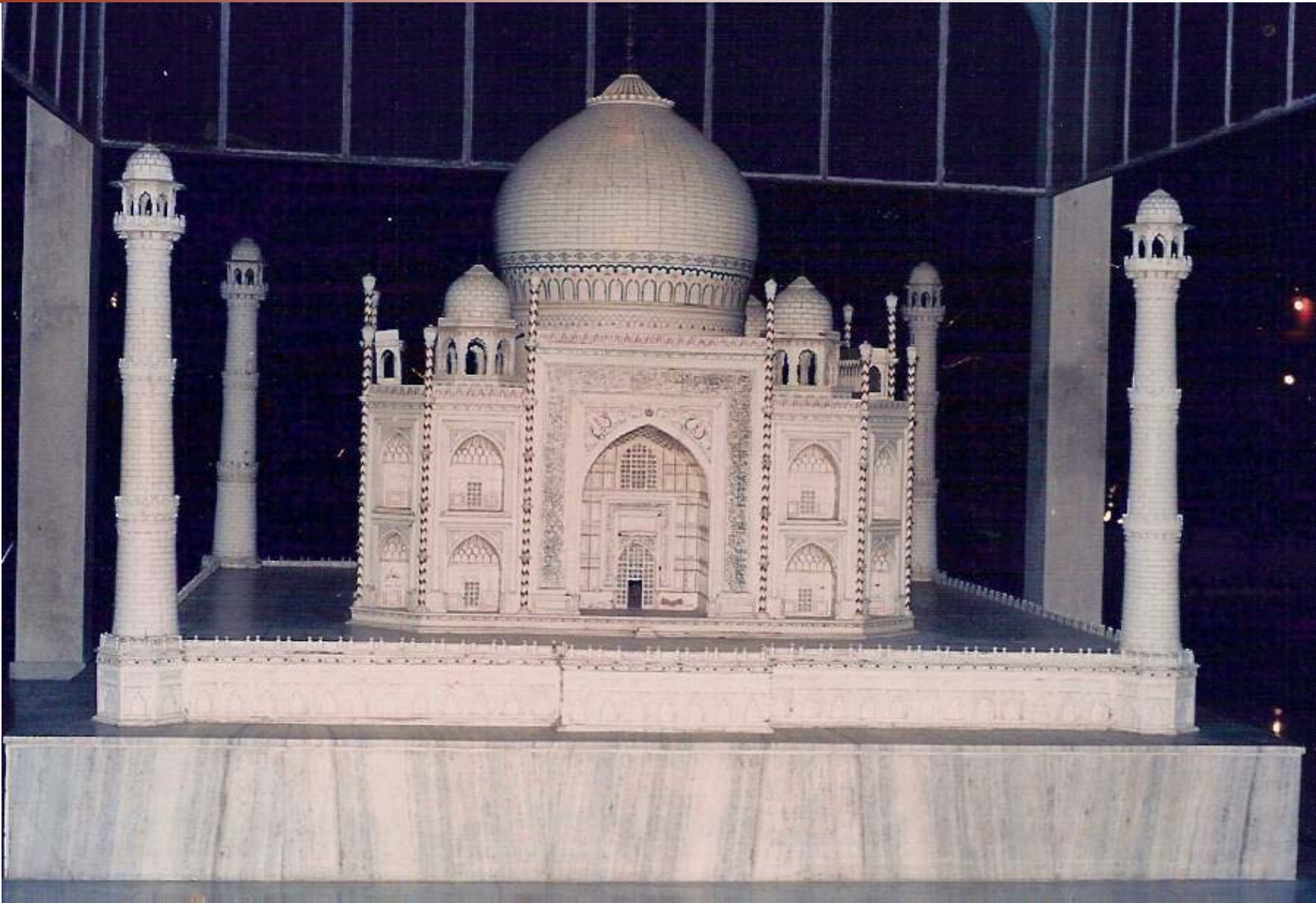
# Lunch Break



# Cultural Outing



# Cultural Outing



# Cultural Glimpses





# Fun Time



# Cultural Outing



# Cultural Outing



# Cultural Outing



# Cultural Outing



# Cultural Outing



# Organizing Committee



# A Cultural Glimpse





# A Cultural Glimpse



# A Cultural Glimpse



# Cultural Glimpse





# 21st CODATA GENERAL ASSEMBLY

13-14 November 1998, New Delhi.



# 21<sup>st</sup> General Assembly



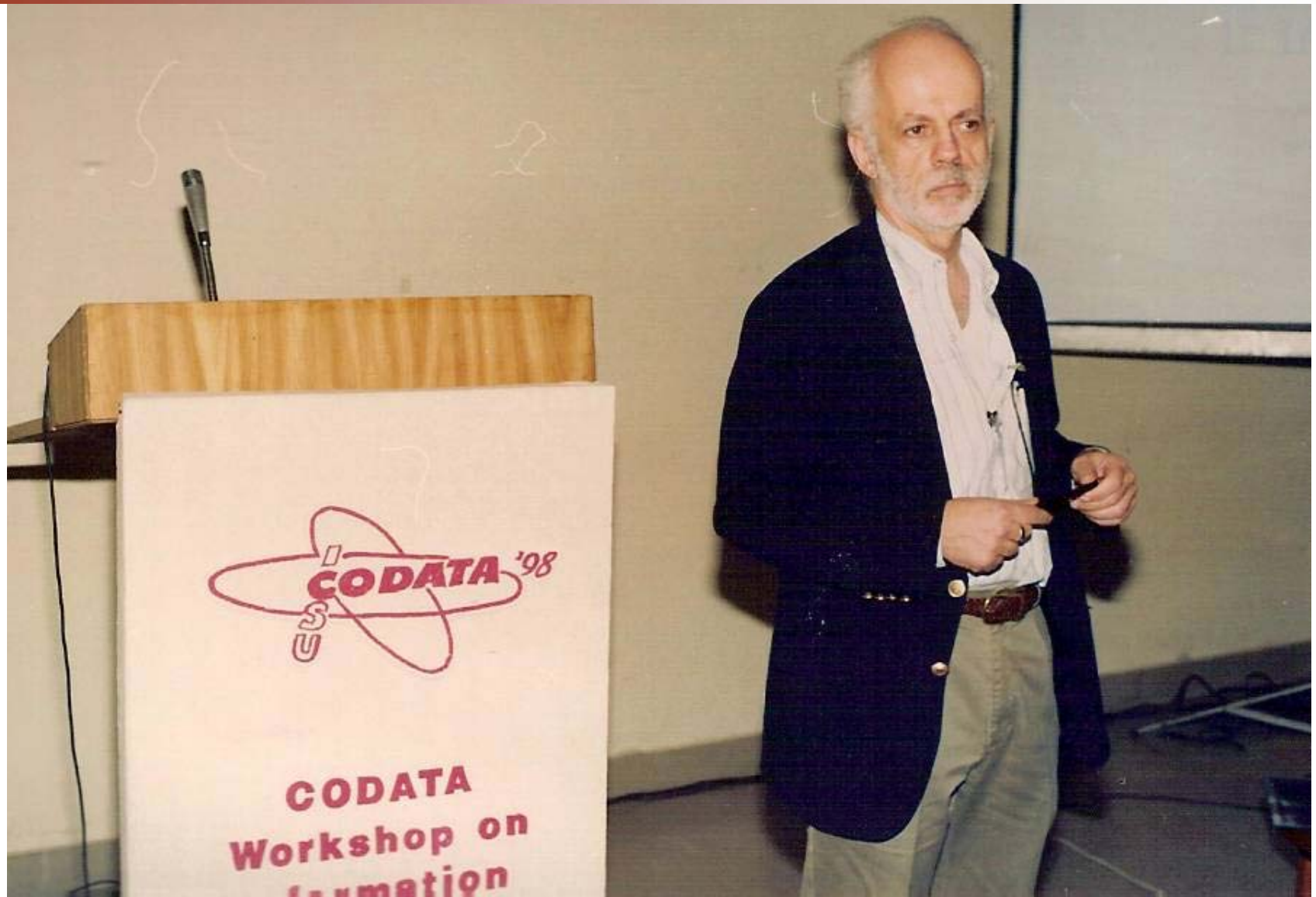
# 21<sup>st</sup> General Assembly



# 21<sup>st</sup> General Assembly



# A Satellite Workshop















**CODATA '98**

**CODATA  
Workshop on  
Information  
and  
Visualization**

**7 November 1998**



ICSU CSPR Assessment Panel on  
Scientific Data and Information  
*Priority Area Assessment of  
CODATA*

# Terms of Reference of Priority Area Assessment Panel

*To examine current activities, identify gaps, overlaps, and synergies of existing activities and propose coordination and responsibilities for specific bodies, now and in the future.*



# **ICSU bodies that specialize in Scientific Data and Information Issues**

- Committee on Dissemination of Scientific Information (CDSI),
- The International Network on the Availability of Scientific Publications (INASP), and
- Committee on Data for Science and Technology (CODATA)

# Composition of Assessment Panel

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## ***Chair:***

**Roberta Balstad,**

*Director,*

*Center for International Earth Science Information Network (CIESIN), Columbia University, USA . Also, Chair of the U.S. National Committee on Science and Technology Data (CODATA).*

## ***Members***

**Jean Bonnin**

*Professor,*

*Solid Earth Geophysics, Institut de Physique du Globe, Louis Pasteur University, Strasbourg, France.*

**Marc H. Brodsky**

*Executive Director and CEO,*

*American Institute of Physics (AIP).*

## **Liu Chuang**

*Professor and Director,  
Global Change Information and Research Center, Institute of  
Geography and Natural Resources, Chinese Academy of  
Sciences, Beijing, China.*

## **Carlos A. Correa**

*Professor of Economics and Law and Director of the Masters  
Program on Science and Technology Policy and Management,  
and of the Postgraduate Courses on Intellectual Property,  
University of Buenos Aires, Brazil*

## **Norihisa Doi**

*Professor,  
Faculty of Science and Engineering, Chuo University, and also  
Professor emeritus of Keio University, Japan. Also, a member  
of the Council for Science and Technology and the Council for  
Information and Communication,*

## ***Members Contd***

### **Ray Harris**

*Professor, Remote Sensing and Dean of the Faculty of Social and Historical Sciences,  
University College London.*

### **Andrew M. Kaniki,**

*Executive Director of Knowledge Management and Strategy,  
National Research Foundation (NRF), RSA*

### **Vitaly A. Nechitailenko,**

*Head, Information Processing and Electronic Publishing,  
Geophysical Center RAS, Russia*

## ***Members Contd***

### **Pierre L.-J. Ritchie**

Professor,  
*School of Psychology,*  
*University of Ottawa, Canada*

### **T.B. Rajashekar**

*Principal Research Scientist and Associate Chairman*  
*National Centre for Science Information (NCSI),*  
*Indian Institute of Science (IISc),*  
*Bangalore, India.*

# Issues to be addressed by CODATA

- **Summarize current activities of CODATA. Please highlight activities related to scientific data and information in the last five years as well as projects already adopted for implementation in the foreseeable future.**
- **Identify gaps, overlaps and synergies of existing activities of CODATA related to scientific data and information as well as in the activities of other bodies in and outside the ICSU family.**
- **Propose changes, if any, either in the future direction or operations of CODATA related to scientific data and information including relationships with other bodies / organizations.**

# ICSU Terms of Reference for CODATA

- **Define an overarching "mission" and role for ICSU in the area of “*Scientific Data and Information*”, taking into account relevant activities outside of ICSU;**
- **Propose a strategic framework for ICSU to take this area forward for the next 5-10 years;**
- **Examine current activities within the ICSU family; identify gaps, overlaps and synergies of existing activities, and; propose responsibilities for individual bodies;**

# ICSU Terms of Reference for CODATA

- **Propose modalities for promoting collaboration and co-ordination within the ICSU family when necessary and propose potential partnerships with bodies outside ICSU;**
- **Examine and propose, if appropriate, changes either in the future direction of individual bodies or the way they operate including relationships with other bodies/organisations.**
- **To consider the ethical issues related to scientific data and information and, where necessary, propose how ICSU might develop policies in response to these issues.**



# **ICSU Terms of Reference for CODATA**

- To identify policy issues of particular importance to science and society, which should be highlighted in the World Summit on the Information**

# Recommendations of the Assessment Panel--*Four*

1. CODATA should develop a clear long-term strategy that focuses on key international data management and policy issues, giving special attention to the needs of developing countries.
2. The lines of communication between CODATA and ICSU need to be improved. CODATA should continue to develop a closer working relationship with ICSU bodies such as INASP and ICSTI in areas where there are complementarities and clear added

# Recommendations of the Assessment Panel--*Four*

3. CODATA needs a more inclusive worldwide membership. ICSU should encourage those of its members who are not currently affiliated to CODATA to reconsider this position.
4. While developing its long-term strategy, a short-term CODATA focus on implementation of relevant aspects of the Science in the Information Society Agenda for Action and preparation for the World Summit on the Information Society II is both appropriate and

The Report of the Panel was approved  
at  
ICSU General Assembly, Suzhou, Oct  
2005

# **Actions taken by CODATA on PAA Panel Report**

- A Document, “Response to the ICSU Priority Area Assessment on Scientific Data and Information” prepared by Ray Norris, Brian McMahon, and Krishan Lal in October 2004 was approved by the Last CODATA General Assembly at Berlin in November 2004.
- A Strategic Planning Committee has been constituted with Bob Chen as Chair to prepare a Strategic plan with a Mission Statement and give recommendations keeping in view the ICSU PAA Panel report



**world summit  
on the information society**  
Geneva 2003 - Tunis 2005

# World Summit on the Information Society [WSIS]

# Two Phases of WSIS

- Preparatory Phase: Geneva, Dec 2003
- Final Phase: Tunis, November 2005

# WSIS First Phase:

*Geneva, December 2003*

*Declaration of Principles and Plan of Action*

*Adopted by 175 countries*

Paragraph 7:

**“Science has a central role in the development of the Information Society.”**

*Article 10 of the Agenda for Action: **Emphasis on “Access to Information and Knowledge,”** and*

Article 23 recognizes the **important role of “e-Science.”**



# Major CODATA activities between Geneva (2003) and Tunis (2005)

- Special Session at *19<sup>th</sup> International Conference of CODATA, Nov 2004, Berlin*
- International Workshop on “Creating the Information Commons for e-Science: Toward Institutional Policies and Guidelines for Action”  
*Paris, 1-2 Sep 2005*

# Major CODATA activities between Geneva (2003) and Tunis (2005)

- Three Sessions at the World Summit on Information Society, Tunis, November 2005

# **Special Session on WSIS**

## **19<sup>th</sup> International Conference of CODATA,**

### **10 Nov 2004, Berlin**

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#### *Partners*

- National Academies, USA
- French Academy of Sciences
- Third World Academy of Sciences (TWAS)
- The International Council for Scientific and Technical Information (ICSTI)
- The International Network for the Availability of Scientific Publications (INASP)
- The International Union of Psychological Science (IUPsyS)

# The Berlin Session aimed to:

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- Motivate discussion amongst the scientific community on the important role of scientists within the information society
- Commence highlighting initiatives currently under way within in the scientific community that compliment the Agenda for Action items relating to science that came out of the 1<sup>st</sup> phase of WSIS, Geneva Summit, 2003.
- Commence discussions on how the scientific community can constructively contribute to the second phase of WSIS in Tunis 2005.

# Berlin Session Speakers:

## Opening Talk

His Excellency Adama Samassekou

*President of the WSIS Preparatory Committee for the Geneva Phase: Stressed on open access for all*

## Speakers

*Representatives of*

ICSU, the International Council for Science,

UNESCO

WSIS online net <http://www.wsis-online.net>, a community platform to connect all actors addressing the issues of the WSIS

# Berlin Session on WSIS, *contd.*

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## Speakers

Peter Schröder

*Ministry of Education and Science, Netherlands,*  
spoke about “Cherishing the Memory of Science:  
Towards International Guidelines for Access to Research  
Data from Public Funding.”

Wesley Shrum

spoke about the science event planned round Tunis in  
2005

# Berlin Session on WSIS, *contd.*

## Part II: Round Table Discussion

### Focus

- **What do you see as the major challenges facing your institution regarding scientific data management and access?**
- **What issues and accomplishments do you think are the most important to highlight at WSIS in Tunis?**
- **What activities are currently taking place within your Institution that directly or indirectly relate to the implementation of the Agenda for Action that has come out of Geneva? *E. g. The International Polar Year of 2007-2008; The World Data Centres; A project to create a 1:1,000,000 digital map of the entire world, with eight layers of sustainable development.***

# Berlin Session on WSIS, *contd.*

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## Part II: Round Table Discussion

### Focus

- What specific outcome do you think CODATA and its partners – ICSTI, INASP, IUPSyS, US NAS, TWAS and the French Academy of Sciences – should aim to achieve in Tunis

## Participants

Approximately 90 people attended the Special Session on 10<sup>th</sup> November 2004.



**International Workshop on “Creating the  
Information Commons for e-Science: Toward  
Institutional Policies and Guidelines for  
Action.”**

*Paris, 1-2 September 2005*

# Partners

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ICSU,  
ICSTI,  
INASP,  
UNESCO, and  
TWAS,  
in collaboration of the OECD

# Participants

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More than 100 persons from more than 25 countries with very diverse backgrounds ranging from legal experts to hard core scientists and economics specialists

# Objective

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- To help in forming the technological and institutional conditions conducive to the global advancement of reliable knowledge and human well-being through scientific research.
- To help in creating an ambiance for mobilizing public and private resources, and focusing them on activities related to e-Science in the developing and as well as the developed countries.
- To stimulate experiments with new modes of production, dissemination, and cooperative uses of scientific data and information.

# **A Significant Achievement**

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Helped in firming up the new initiative on Global Information Commons for Science after discussions from legal, economic and other perspectives



# **World Summit on the Information Society,** *November 2005 , Tunis*

# WSIS at Tunis

- It was a historic occasion for political consensus to manage the tools of modern technology like Internet.
- The Summit underlined the potential of electronic technology as a powerful tool for efficient societal development, particularly in the less endowed countries.
- The need for optimization for the research and development sector and technology utilization was emphasized.
- Conflicting interests between free flow of information and IPR protection and commercial sector

**CODATA, together with its partners had been at the forefront in consolidating the point of view of an important stakeholder namely the scientific community for the WSIS.**

# *Satellite Meetings*

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## *World Summit on the Information Society (WSIS)*

### *Past, Present and Future of Research in the Information Society*

*13-15 November 2005, Corinthia Khamsa  
Hotel, Tunis*



# **CODATA Session 1:**

## **Access to Scientific Data and Information: Benefits to Society**

14 November 2005

**Chair: Krishan Lal, Vice President CODATA**

### **Opening Remarks**

*Shuichi Iwata*, President CODATA

### **Global Spatial Data**

*Harlan Onsrud*, University of Maine, USA

### **Access to Scientific Information in the Research and Academic Network in Ukraine**

*Mikhail Zugrovsky*, National Technical University, Ukraine

### **A Case Study of the Utilization of Archived Data:**

### **Methodology of Data Integrating and Mining for 1:1 M Land Type Mapping of China**

*LIU Chuang*, Chinese Academy of Sciences

### **The SNPS Consortium (TSC): A Model for Private Public Partnerships**

*Michael Morgan*

# **CODATA Session 2: The need to develop a “Global Information Commons for Science Initiative”**

## Roundtable Discussion:

### **Chairs:**

**Paul A. David, Professor of Economics, *Oxford University and Stanford University and***

**Paul F. Uhlir, Director, *Office of International Scientific and Technical Information Programs, National Academies, US***

### **Panel members**

- **Carthage Smith, ICSU;**
- **John Dryden, OECD;**
- **Hans Falk Hoffmann, CERN;**
- **Elizabeth Longworth, UNESCO;**
- **Carol Priestley, INASP;**
- **Danny Schaffer, TWAS**
- **John Wilbanks, Science Commons;**
- **Krishan Lal, CODATA and Indian National Science Academy Chairs:**

# CODATA Third Session, 17 Nov 2005

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Challenges in Enhancing Access to Scientific Information

*Speakers reviewed status and shared information in their spheres*

President, CODATA, Professor Shuichi Iwata, reported in the Main Plenary Session of the Summit:

Launching of a new initiative to create the **Global Information Commons for Science**

# Professor Shuichi, President CODATA addressing the **Eighth Plenary Session of the World Summit on the Information Society, 18 November 2005 , Tunis**



# **Eighth Plenary Session of the World Summit on the Information Society, 18 November 2005 , Tunis**



**“Science helped to create the Information Society—it can now help extend that society to all.”**

*Iwata, S., and R.S. Chen. 2005. Science and the Digital Divide (editorial). Science 310 (5747, 21 October): 405.*

# **Publications**



# Publications

- A large number of Monographs and other documents have been published.
- Currently the Data Science Journal is being published electronically.

# Undertaking Major Projects

## *Gas Hydrates*



# Recognition of Outstanding Contributions

- Outstanding contributions in data science are being recognized by the biennial CODATA Prize.
- Canadian CODATA National Committee has shown exemplary initiative to sponsor young researchers to CODATA International Conferences.

# Efforts of Executive Committees

- Each of the CODATA Executive Committees has tried to reinvent CODATA keeping in view the developments in different areas of science at that particular point of time and the opportunities available to contribute in an effective manner.
- The leadership, particularly the Presidents had been making a lot of efforts.
- I had the privilege of working with Prof. J-E. Dubois, Dr. John Rumble and Prof. Shuichi Iwata. Their leadership has imparted fresh vision, dynamism and energy.

# Challenges Facing CODATA

- Finalization of a Strategic Plan
- Issue of Membership
- Policies to tackle Digital Divide
- Linkage with Major Global Initiatives
- Need for Major Projects

# Challenges Facing CODATA

- CODATA has the potential to serve with other organizations as a vehicle of development in the least developed regions, particularly in increasing the quality and spread of education.
- There is a great scope in integrating traditional knowledge base with the main stream in a transparent and ethical manner.

# Summary

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1. DSAO and its activities
2. 16th International CODATA Conference, November 1998, New Delhi
3. Priority Area Assessment of CODATA
4. CODATA, has attempted to consolidate the point of view of an important stakeholder, the scientific community for the World Summit for Information Society
5. Challenges and Opportunities



धन्यवाद

*Dhanyavad*



*Thank You*