

CODATA International Overview and Strategic Plan

Robert S. Chen
CODATA Secretary General

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CODATA National Members

- **Australia**
- Brazil
- Cameroon**
- Canada
- Chinese Academy of Sciences
- Academy located in Taipei
- Czech Republic
- France
- Germany*
- Georgia
- India
- Indonesia
- Ireland
- Israel
- Japan
- Korea
- Nigeria**
- Poland
- Russia
- Senegal**
- South Africa
- Thailand
- Ukraine
- **United Kingdom**
- USA

* Associate National Membership status accepted at 25th General Assembly

** Membership suspended at 26th General Assembly



CODATA Union Members

- International Astronomical Union
- International Union of Pure and Applied Chemistry
- International Union of Pure and Applied Physics
- International Union of Biological Sciences
- International Geographical Union
- International Union of Crystallography
- International Union of Biochemistry and Molecular Biology
- **International Union of Geodesy and Geophysics**
- International Union of Geological Sciences
- International Union of Psychological Science
- International Union of Pure and Applied Biophysics
- International Union of Nutritional Sciences
- International Union of Pharmacology
- International Union of Immunological Societies
- International Union of Microbiological Societies
- International Union of Soil Scientists



Co-opted Organizations

- ICSU Panel on World Data Centers*
- Federation of Astronomical and Geophysical Services*
- International Council for Scientific and Technical Information
- World Federation for Culture Collections

* Currently being reconstituted by ICSU as the World Data System.



CODATA Conference 2008

- Held in Kyiv, Ukraine, 5-8 October
- About 400 attendees (about half foreign)
- Keynote speakers
 - Carol Goble, University of Manchester
 - Bohdan D. Hawrylyshyn, the Ukraine
 - Robert Jones, EGEE project (Enabling Grids for E-sciencE)
 - Mikhail Zgurovsky, National Technical University of Ukraine
- Numerous side events, meetings
 - Data Science & Materials Design Workshop
 - Symposium on Risk Models & Applications
 - Young scientists
- Session topics on GRID technologies, e-science collaboration, data policy, virtual observatories, geospatial/geoscience data, etc.
 - Problem of no-shows by Ukrainian/E. European scientists
- Presentations online at: <http://www.codata.org/08conf/index.html>



2008 CODATA Prize

- Dr. Liu Chuang, Institute of Geography & Natural Resources Research, Chinese Academy of Sciences
 - Recognized for her dedication to improved data access and capacity building in China and for the developing world as a whole
 - Significant contributions to opening up data policies in China, strengthening China World Data Centers, and developing land cover/land use data for China
 - Active in Committee on Earth Observing Systems and UN Global Alliance for ICT and Development (GAID)



KPI



Other CODATA Activities

- CODATA *Data Science Journal*
 - Online, open access journal
- CODATA Task Groups
 - Currently 10 groups on diverse topics, ranging from fundamental constants and materials data to biodiversity and anthropometry data to polar and other geophysical data
 - 2-year renewable terms
- CODATA Working Groups
 - Currently 2 groups (roads, disaster data)
 - Established mainly by CODATA EC for up to 2 years
- Collaborative projects, e.g.:
 - Participating in ICSTI Numeric Data Citation project
 - COMMUNIA project



CODATA Strategic Plan

Recommended by ICSU in its Priority Area Assessment on Data and Information (2005) and the ICSU Strategic Plan (2006)

Draft reviewed by 25th CODATA General Assembly and key initiatives and actions approved

Final plan reviewed by the CODATA Executive Committee in March 2007; sent to ICSU and others for review and feedback

Plan endorsed by 26th CODATA General Assembly; to be finalized at next Executive Committee meeting



New CODATA Mission Statement

The mission of CODATA is to strengthen international science for the benefit of society by promoting improved scientific and technical data management and use.

Adopted 25th CODATA General Assembly, Beijing, October 2006



Approved Cross-Cutting Initiatives

1. Global Information Commons for Science Initiative (GICSI)

- Launched by CODATA at WSIS in November 2005
- Primary focus is on scientific data, in coordination with other open access information initiatives
- Close collaboration with the Science Commons
- Main purpose: how can we jumpstart the creation of a sustainable global data and information commons?
- Envisioned as a network of nodes aimed at creating critical mass of open access initiatives and data
- CODATA part of EC COMMUNIA Project
- New Task Group for GICSI EU activities



Approved Cross-Cutting Initiatives

2. Scientific Data across the Digital Divide Program (SD³)

- Follows ICSU recommendation to address digital divide issue; ties in with ICSU strategic initiatives/interests
- Builds on linkages with GEOSS, IPY, eGY, UN GAID, UN, etc.
- Builds on CODATA Task Groups (e.g., Archiving, Biodiversity, Disasters)
- Link with WSIS e-science initiative and follow-up led by UNESCO

EDITORIAL

Science and the Digital Divide

At the launch of the World Summit on the Information Society (WSIS) in Geneva in December 2003, the world community strongly affirmed the central role of science in developing an information society and affirmed the principle of universal and equal access to information and knowledge. It also recognized the essential role of the public domain and public institutions such as libraries, archives, and museums in supporting the growth of the Information Society and providing free and equitable access to information.¹ The WSIS Plan of Action suggested mechanisms to support the principle of universal and equal access to information and communication technologies in support of sustainable development.²

The international scientific community succeeded in raising these issues at WSIS and securing widespread support from participating governments. Now, with the second phase of WSIS taking place in Tunis in November 2005, the scientific community needs to take the lead in demonstrating how science—and universities in particular—can contribute to the development and dissemination of knowledge and how this can be a critical difference in sustainable development and overcomes the digital divide.

The deadly South Asian tsunami in December 2004 and what many have called the “silent tsunami” of millions of unnecessary deaths and untold suffering from malnutrition, disease, and poverty remind us that science has far to go. Science must do more to provide the world with better development, health, education, and vaccines, but also to make science data and information much more accessible and useful for real-world decision making. These disasters underscore the need to better understand how societies can re-organize themselves to address pressing problems, particularly in the developing world, and to better distribute the knowledge and know-how. Scientists, the original developers of information and communication technologies, often take for granted their ready access to data and information, so how can they, as individuals, and their institutions, for billions of people, make the most of this opportunity? This is a major challenge.

How can the international scientific community help reduce the digital divide? Already, many scientists and scientific institutions are working to improve the reach and effectiveness of science through information and communication technologies. The International Council of Science (ICSU) and its Committee on Data for Science and Technology (CODATA) are collaborating with WSIS to develop and document such efforts (www.icsu.org/scientific_electronic_science.html). But more needs to be done.

Scientists can support distance education and training, improve the accessibility of information and communication technologies to disadvantaged, marginalized, and rural populations, and improve the reach of scientific knowledge to the public through open access to scientific data, archives, and other mechanisms to increase access to scientific information. We urge the scientific community to come up with more creative ideas and outcomes. Noteworthy examples on this front include the efforts of the Massachusetts Institute of Technology to provide electronic access to its course materials (<http://ocw.mit.edu/index.html>) and the Global Biodiversity Information Facility to make primary scientific data freely available (<http://www.gbif.org>). The scientific community should not be the only approach to open electronic access, such as the Science Commons (<http://sciencecommons.org>), that, among other things, addresses the complex issue of licensing structures.

Immediately after the South Asian tsunami, critical data on disaster mitigation, location, and damage could not be shared among the international scientific community. Even now, the 30-meter resolution data from the Shuttle Radar Topography Mission (SRTM) flown by NASA in the year 2000 is not publicly available, although it could potentially provide the best available elevation on information regarding most of the world's coasts. The pending decision by the U.S. National Geospatial Intelligence Agency to prohibit public access to various aeronautical products would be another step in the wrong direction. The scientific community needs to press governments to make their scientific data freely available to the public. Disaster preparedness planning, but also to establish a “good Samaritan” principle for the use of data and information in humanitarian emergencies.

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

Shuichi Iwata and Robert S. Chen

Shuichi Iwata (University of Tokyo) is president of ICSU's CODATA. Robert S. Chen (Columbia University) is secretary-general of CODATA. CODATA is based in Paris, France.

10.1126/science.111900

¹WSIS Declaration of Principles (document WSIS-D/WSIS/NA/DOC/4-E, 12 December 2003); WSIS Plan of Action (document WSIS-D/WSIS/NA/DOC/2-E, 12 December 2003).



Approved Cross-Cutting Initiatives

3. Advanced Data Methods and Information technologies for Research and Education (ADMIRE)

- Potential technology focus, building on past TG activities and collaborative projects and larger research community interested in data mining and integration
- Addresses need for expanded collaboration and innovation on data science & technology issues
- Relatively little progress to date – to be addressed at upcoming EC meeting



CODATA and the International Polar Year

- CODATA IPY Task Group approved--same membership as IPY Data Committee
 - Met at CODATA 2006 and 2008 conferences
- CODATA recently worked with TG to submit a proposal to ICSU for a Polar Information Commons
 - Coordinated effort to focus access and stewardship efforts for data generated by IPY on high priority shared polar data
 - Strong interest from SCAR, WMO, IASC, IUGG, World Data System, IPY International Program Office—may still proceed even without ICSU funding



Global Roads Data Working Group

- Target: global Roads Open Access Data Set (gROADS)
 - globally consistent, spatially accurate ~ 1:250,000
 - topologically integrated and well documented
 - focused on roads between settlements (not streets)
 - up-to-date and with the possibility of frequent updates
 - freely distributed (on attribute only basis)
 - useful for development, disaster response, health, conservation, etc.
- Combining remote sensing, GPS, GIS, & crowd sourcing
- International team with UN, NGOs, academics, industry
- Both funding and in-kind contributions
 - Pilot project for Ethiopia funded via Servir African node
 - Waiting to hear about “quick win” funding from Gates
 - Larger proposal being discussed with Google



Other Strategic Efforts

- Improve Membership
 - Revitalize existing members
 - Attract new members (Europe, Africa), working with ICSU
 - Active efforts to encourage membership from the Netherlands, Greece, Portugal, Finland
- Recruit Supporting Organizations
 - Focus on data centers, networks, research institutes
- Develop CODATA Associates Program
 - Build an international community of data scholars, specialists
- Explore establishment of CODATA Scientific Academy
- Encourage involvement of young scientists
- Establish endowment fund
- Participate in ICSU data planning activities
- Work with new World Data System



Issues for U.S.

- Support for strategic initiatives (GICSI, GEO, IPY, ADMIRE, etc.)
- Help in engaging UK and other national members through bilateral & multilateral activities
 - DCC in UK is representative organization; 3 year commitment
 - Possible new members from Latin America, Europe, Asia, Africa
- Support for task group/working group activities
- Assistance in defining interactions/relations between CODATA and SCCID and WDS-SC
- Help in rethinking strategy for *Data Science Journal* and search for new editor
- Engagement of new communities, disciplines, regions, sponsors

