

Open Access and the Public Domain in Digital Data and Information for Science

CODATA, in collaboration with UNESCO, the International Council for Science (ICSU), the US National Academies and the International Council for Scientific and Technical Information (ICSTI) organized an "International Symposium on Open Access and the Public Domain in Digital Data and Information for Science." It was held at UNESCO Headquarters on 10-11 March 2003.

April 2003 Highlights

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Professor Charles Benjamin Alcock

<http://www.codata.org>

The Committee on Data for Science and Technology (CODATA) was established in 1966 by the International Council for Science (ICSU). Working on an interdisciplinary basis, CODATA seeks to improve the quality, reliability, management and accessibility of data of importance in all fields of science and technology.

At the opening ceremony, the Director-General of UNESCO, Mr. Koïchiro Matsuura, outlined UNESCO policy and priorities regarding access to information in the digital era, *"The new economic and technological environment is raising concerns about the erosion of access to certain information and knowledge whose free sharing*



Mr. Koïchiro Matsuura

facilitated scientific research and education in past decades", stated Mr. Matsuura. He went on to say that "most developing countries have so far been unable to take full advantage of the advances offered by new information and communication technologies in terms of access to scientific and technological information and learning opportunities," and he called for international frameworks to help Member States formulate national policies that facilitate access for all to essential information.

The symposium brought together some 140 leading experts and managers involved in the creation, dissemination, and use of data and information in public research. The participants came from government and academic sectors and from both developed and developing countries. They sought to describe the role, value, and limits of public domain and open access to digital data and information in the context of international research. Legal, economic, and technological pressures involved were reviewed as well the ways to preserve and promote public domain and open access to science and technology data and information on a global basis, with particular attention to the needs of developing countries.

The proceedings will be published in a few months. A webcast of the meeting can be accessed through the CODATA website <http://www.codata.org>.

CODATA would like to take this opportunity to sincerely thank ICSU, UNESCO, the US National Academies, the John D. and Catherine T. MacArthur Foundation and the US National Weather Station for the funding contributions it directly or indirectly received in support of this meeting. ❖



Interview with the New CODATA President, Professor Shuichi Iwata

Q: Congratulations on your election as President at the 23rd CODATA General Assembly in Montreal in October 2002. How did you first get involved in CODATA?

A: *Thank you very much indeed. I am very happy to have a chance to work for CODATA intensively and to work closely with all my CODATA colleagues.*

I learned about CODATA's activities from Prof. Kotani and Prof. Shimanouchi in 1970 when I was a graduate student with a dream to use databases for materials discovery.

Ten years later at the 7th CODATA Conference, held in Kyoto, I became acquainted with many excellent data scientists and "data braves" connected to CODATA, and I have been committing to the organization more and more since then.

Q: What do you perceive as the strengths of CODATA and what does it have to offer the scientific community it serves?

A: *CODATA has been proactive in data activities for science and technology since its foundation in the 1960's, and now forms the strongest team in data activities, on an international, interdisciplinary, multi-disciplinary, neutral, open and innovative level.*

The CODATA team continues to lead data activities internationally with respect to scientific contents, qualities, values and services by taking advantage of CODATA's scientific expertise and commitment to science.

Q: What challenges does the future hold for CODATA and how do you see CODATA meeting these challenges?

A: *Adding new values to "The CODATA Brand." "The CODATA Brand" was created in basic fields of science and technology by devoted contributions and services of a great number of excellent scientists. However, there are some unexplored fields in data activities, especially concerning complex and dynamic phenomena and systems, data on environments, living things and highly advanced artificial systems of complex hardware and software reflecting features of both raw data and data processing models.*

Their quality and uncertainty have not been examined systematically as a "data science" in spite of the importance of such data for solving social issues such as safety, security and other issues of our society. It is a very weighty issue, but I think, one of imperative importance for the future of CODATA.

Articulation on data activities and speedy follow-up actions become key issues, which, I believe, requires in essence exploratory challenges, rather than purely analytical and deterministic works.

To take an example: data products are now everywhere on the web and the user's needs and wants change increasingly quickly. Data products are more diverse and available in more formats that prior to the introduction to the web.

It is difficult to get an accurate understanding of user needs. CODATA needs to have "lead users of data" who extract values from data and show examples of data

activities coupled with important applications for the world. The "lead user" is a great deal ahead of global trends and has needs that go far beyond those of the average user. To keep such a status, we need to maintain a close and stimulating interaction between the lead users and scientists through data activities, by continuously producing excellent examples, for instance, discoveries in science, smart design in technology, perfect maintenance of artifacts and the environment, proactive decision makings in society, all by data.

Q: As you commence your term as President what are your objectives for CODATA?

A: *Drawing on a sport analogy, whenever I receive a pass, I try to use the pass to make the game better. Our Past-President Dr. John Rumble, Jr., passed us a good "ball" for data activities with the exceptionally improved condition of CODATA with features including Data Science Journal, CODATA Prize and by his exceptional leadership and performance. I would like to take advantage of this outstanding opportunity and together with CODATA colleagues build for better games with more audience appreciation and more excellent players for the future of CODATA.*

Q: In one sentence, what would you like most to be remembered for when your term of Presidency ends?

A: *This is an extremely difficult question, however, when my term of office ends, my wish is that my colleagues look at the time I served as CODATA President as a time we enjoyed working intensively for society and for our dreams – together. ❖*



Professor Shuichi Iwata



18th International CODATA Conference

The 18th International CODATA Conference (CODATA 2002) — “Frontiers of Scientific and Technical Data” — took place in Montreal, Canada, from 29 September to 3 October 2002.

The four-day conference was hosted by the Canadian and US National Committees for CODATA. The sponsors of the conference were the National Research Council Canada; the Ministry of Science and Technology, Quebec; The National Academies US; National Institute of Standards and Technology, USA; and UNESCO.



The CODATA 2002 Conference banquet revealed many hidden talents! On the right is Dr Rainer POERSCHKE, Springer Verlag, Germany

The conference attracted approximately 250 participants from thirty-seven countries.

Prof. Harlan Onsrud (USA) and Dr. Gordon Wood (Canada) served as co-chairmen of the conference.

CODATA 2002 continued the 36-year tradition of serving international science by holding open and exciting conferences on the latest advances in scientific and technical data. The Conference featured six keynote plenary lectures by some of the world's most renowned scientists and data experts, addressing several cross-cutting themes.

- Emerging tools and techniques for data handling
- Interoperability and data integration
- Data archiving
- Legal issues in the use of scientific and technical data
- Information economics for scientific and technological data
- Ethics in the use of scientific and technological data

CODATA 2002 involved twenty-four invited speakers from different scientific disciplines expanding on a multitude of interesting themes.

Proceedings on the conference can be found on <http://www.codata.org> ❖

Task Groups Approved at the 23rd CODATA General Assembly

The following eight Task Groups were approved at the meeting in Montreal in October 2002. More detailed information on each of them can be found on the CODATA website <http://www.codata.org>

FUNDAMENTAL CONSTANTS

This Task Group provides the scientific and technological communities with a self-consistent set of internationally recommended values of the basic constants and conversion factors of physics and chemistry based on all of the relevant data available at a given point in time. In calendar year 1999, the Task Group completed the production of a new set of constants based on information compiled over the previous few years. This set of constants is designated as the 1998 CODATA recommended set, as they are based on the information available up to the end of that year.

The Group anticipates carrying out a new evaluation of the constants based on data available through the end of calendar year 2002.

For more information, contact:

Chair: Peter Mohr (US) Peter.Mohr@nist.gov

DATA SOURCES IN ASIAN-OCEANIC COUNTRIES (DSAO)

This Task Group provides data experts in Asian-Oceanic countries with an organisation that encourages and facilitates regional knowledge sharing and co-operation in many areas of scientific and technical data. One area of particular emphasis is the promotion and development of reliable databases in this region.

For more information, contact:

Chair: Mu-Shik JHON (Korea) aasa@kast.or.kr

VIRTUAL LABORATORIES IN EARTH PHYSICS AND ENVIRONMENTAL SCIENCES

New measurement technologies have greatly increased the volume of global data, such as geo-dynamical, seismological, biological, satellite and linguistic data. This volume, as well as the interdisciplinary nature of many studies, requires new data handling and knowledge extraction techniques. This Task Group addresses these issues.

For more information, contact:

Co-Chairs: Herbert Kroehl (US) hkroehl@ngdc.noaa.gov
Jean Bonnin (France) bonnin@selene.u-strasbourg.fr

DATA ON NATURAL GAS HYDRATES

The Group's objective is the development of the concept of a comprehensive information system of all aspects of natural gas hydrates. It will formulate requirements on the type of data needed in the system and their quality sufficient for considering both basic problems of origin and transformation of gas hydrates in natural conditions and ways of exploitation of resources of natural gas hydrates.

For more information, contact:

Chair: Fedor Kuznetsov (Russia) fk@che.nsk.su

GLOBAL SPECIES DATA NETWORKS

The names of organisms are the key to biodiversity communications and as such, provide access to the accumulated knowledge of all life on earth. However, despite the obvious value of a catalogue, no comprehensive indexing system yet exists for the 1.75 million animals, plants, fungi and micro organisms named by science. This lack of a widely accessible index, with inbuilt mechanisms for maintenance



and updating, is a significant constraint on all nations wishing to fulfill their obligations under the Convention on Biological Diversity. The goal of the group is to provide a uniform and validated quality index of names of all known species for use as a practical tool.

For more information, contact:

Co-Chairs: Frank Bisby (UK) F.A.Bisby@sp2000.org

Karen L. Wilson (Australia) K.L.Wilson@sp2000.org

DATA INFORMATION AND VISUALISATION

Large-scale data collections open new avenues for research based on the completeness and quality of the collections. New Web-based and PC-based technologies have revolutionised the management of scientific and technical data and information. This CODATA Task Group brings to data workers throughout the world the latest data technologies through workshops and other mechanisms. The Task Group is interested in working with any group interested in expanding their knowledge of the latest data technology.

For more information, contact:

Chair: Nahum Gershon (US) Gershon@mitre.org

BIOLOGICAL COLLECTION DATA ACCESS

The objective of this group is to foster accessibility of existing and emerging biological collection data banks at the international level by developing and coordinating proposals for data and metadata standards and standard protocols.

For more information, contact:

Co-Chairs:

Walter G. Berendsohn w.berendsohn@bgbm.org

Stanley Blum wgb@zedat.fu-berlin.de

PRESERVATION AND ARCHIVING OF SCIENTIFIC AND TECHNICAL DATA IN DEVELOPING COUNTRIES

This Task Group aims to:

- Promote a deeper understanding of the needs of developing countries with regard to long-term preservation, archiving and access to scientific and technological (S&T) data.
- Advance the development and adoption of improved archiving procedures, technologies, standards and policies.
- Provide an interdisciplinary forum and mechanisms for exchanging information about S&T data archiving requirements and activities with particular focus on the concerns and needs of developing countries.
- Publish and disseminate broadly the results of these efforts

For more information, contact:

Co-Chairs: William L. Anderson (US) band@acm.org

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OBITUARY

In Remembrance...

Professor Charles Benjamin Alcock

PhD, DSc, FRSC,

1923 – 2001

The following tribute to the professor Emeritus Charles Benjamin Alcock, who passed away on December 22nd, 2001, was delivered at the February Council Meeting of the Faculty of Applied Sciences and Engineering by Professor D.D. Perovic, Chair of the Department of Materials Science and Engineering, University of Toronto. This tribute was based on a memorable testimonial given by a former Chair of the department, Professor Emeritus J.M. Togart, at a gathering that was held in Hart House on February 1, 2002, to celebrate Ben's life.

Professor Alcock was always an excellent experimentalist as well as a theorist. He developed a number of innovative techniques such as coulometric titration and other methods to measure vapor pressures and gas-condensed phase equilibria. After almost 25 years at Imperial College, first as a Nuffield investigator, then Lecturer, Reader, and Professor of Metallurgical Chemistry, he joined the University of Toronto as Chairman of the Department of Metallurgy and Materials Science in 1969. Ben continued his work at Toronto largely based on the techniques he had developed at Imperial College. His other activities included microgravity research in the NASA space program and the development of plasma furnaces for the production of metals and recycling hazardous materials. He was awarded several patents in the areas of Electrochemical Sensors and Plasma Furnace applications

Ben was a man of many interests. He loved music, played the piano, wrote poetry, was a connoisseur of wine and spoke many languages. He plunged into every new idea and experience with vivacity and joy. He was a man for all seasons and to the end of his days he was continually searching for new areas to explore. A bright light has been snuffed out and we shall miss him very much. It is fitting to close with Ben's own words taken from the preface of his last book... "to all of those who remember having worked with me over the last 50 years, I would like to extend my thanks for friendship coupled with instruction." ❖