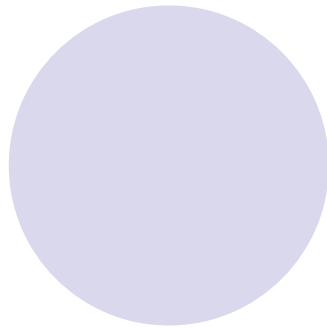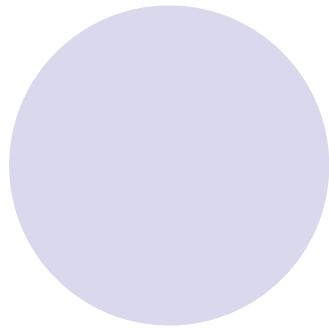# International initiatives in data sharing: OECD, CODATA and GICSI

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Padova 21 September 2007

OECD Recommendation with Principles and Guidelines on Access to Research Data from Public Funding

- Response to 2004 mandate: "to develop a set of OECD guidelines based on commonly agreed principles to facilitate optimal cost-effective access to digital research data from public funding…" ;

- Launched a project including survey of current practices, expert workshop, stakeholder consultation…

- Drafting by an expert group, finalisation by CSTP;

- Adopted by OECD Council in December 2006.

OECD project – Why?

- Enabling environment resulting from advances in ICT for data access and sharing – recognised through preceding work that examined the impact of ICT on research.

- Governments, research funding agencies and research institutions recognise positive impacts of increasing access to research data;
  - Through efficiency gains and cost savings;
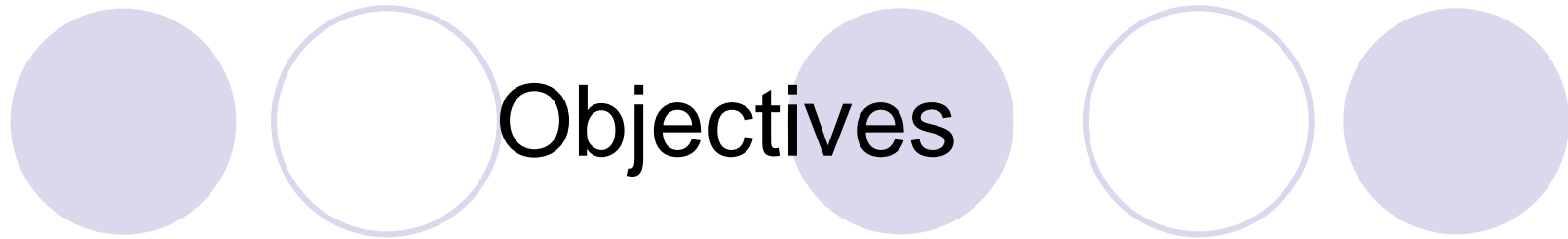 - Higher returns to investments in research;

Insights from the project

- Institutional frameworks to facilitate access still lacking;
- Policies and practices currently adopted vary considerably;
- Improved access would benefit:
  - Cross-disciplinary research co-operation
  - Boost quality of research
- Stakeholders considered international guidelines would be useful:
  - In giving guidance to institutions in need of policies;
  - Facilitate international co-operation in research.

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OECD Recommendation with Principles and Guidelines

- Legal instrument, but not legally binding – a "soft law"; that set out collective standards or objectives to be implemented by Member governments;

- Expression of strong political commitment on the part of Member governments;

- Recommendation: "member countries take into consideration the principles and guidelines on access to research data from public funding which are set out in the Annex…and apply them, as appropriate for each Member country, to develop policies and good practices related to the accessibility, use and management of research data"

Objectives

- Promote culture of openness and data sharing;
- Raise awareness about potential costs and benefits;
- Highlight the need to consider data access and sharing regulations and practices in science policy;
- Provide a framework of operational principles and good practices;
- Offer broad policy recommendations to improve international data access and sharing.

Principles and guidelines (1)

- **Openness**: access to research data for the international research community at the lowest possible cost;

- **Flexibility**: take into account characteristics of different research fields, legal systems, cultures and regulatory regimes;

- **Transparency**: information on data be made available through the Internet;

- **Legal conformity**: conform to the national legal requirements on national security, privacy, intellectual property rights;

Principles and Guidelines (2)

- **Formal responsibility**: promoting formal institutional practices pertaining to authorship, usage restrictions, financial arrangements, ethical rules, licensing terms, liability and sustainable archiving;

- **Professionalism**: observe relevant professional standards embodied in the codes of conduct of the scientific communities involved;

- **Interoperability**: pay due attention to relevant international data documentation standards;

- **Quality**: adopt good practices for methods, techniques and instruments employed in the collection and archiving of data;

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Principles and Guidelines (3)

- **Security**: pay attention to the use of techniques and instruments to guarantee the integrity and security of research data;
- **Efficiency**: improving overall efficiency of scientific research by avoiding duplication of data collection efforts;
- **Accountability**: evaluation of access arrangements by user groups, responsible institutions and funding agencies;
- **Sustainability**: taking measures to guarantee long term access to data

http://webdomino1.oecd.org/horizontal/oecdacts.nsf

http://www.oecd.org

CODATA – Committee on Data for Science and Technology

- An interdisciplinary Scientific Committee of the International Council for Science (ICSU), established in 1966 to promote and encourage compilation, evaluation and dissemination of reliable numerical data of importance to science and technology.

- Objectives:
  - Improve quality and accessibility of data, especially for developing countries;
  - Facilitate international co-operation of data experts and researchers
  - Promote increased awareness of the importance of data sharing
  - Consider data access and IP issues

CODATA: activities

- Biennial CODATA International Conference of data specialists from around the world;

- Data experts meetings to address issues specific to a discipline or a topic;

- CODATA *Data Science Journal*. A free peer- reviewed electronic journal: http://www.datasciencejournal.org

- International Task Groups and Working Groups to address relevant data issues.

http://www.codata.org

GICSI
Global Information Commons for Science Initiative

- Multi-stakeholder initiative. The idea was conceived at an international meeting organized by CODATA in 2005, co-sponsored by UNESCO, ICSU, TWAS, and ICSTI in collaboration with the OECD.
  http://www.codataweb.org/UNESCOmtg/index.html

- Officially launched at the World Summit on the Information Society (WSIS) in Tunis 2005
  http://www.itu.int/wsis/tunis/statements/docs/pe-codata/1.doc

- In 2006, meetings on GICSI took place in Dublin, Brussels, the United States, and Beijing.

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GICSI: why?

- Potential of digital networks to enhance access and use of data, but existence of economic, legal and technological barriers;

- Open online availability of data results in "network effect", facilitating scientific research, allows for diversity in inquiry and analysis, stimulates new research;

- Eliminates duplication of research, inefficiencies, cost in information transfer;

- Promotes interdisciplinarity, international cooperation, integration of developing world research community;

- Enhances scientific progress and innovation.

GICSI: objectives and general activities

- Improve understanding and increase awareness of the costs and benefits of data access through research and analysis of good practices in data access and sharing in the existing initiatives;

- Identify and promote the adoption of successful policies and institutional and legal models for providing open availability on a sustainable basis;

- Encourage and co-ordinate efforts of the stakeholders in the world's diverse scientific community, particularly through creation of "information commons" by defining conditions of "common use" licensing approaches.

CODATA's current activities that are in keeping with GICSI concept

- CODATA Task Group on the International Polar Year Data Policy and Management.
  - Define data policy, strategy, and overall management approach for the International Polar Year (IPY), 2007-2008;
  - Facilitate international cooperation for open data access among the IPY projects while preserving intellectual property rights:

    http://www.codata.org/taskgroups/TGpolaryear/index.html

- Developing proposed implementation guidelines for the GEOSS Data Sharing Principles: http://www.codata.org/GEOSS/index.html.

  - CODATA has drafted a White Paper, currently under review by the GEO community. It will be presented at the GEO Summit in South Africa in November this year.

- CODATA is working with the Global Biodiversity Information Facility (GBIF) and Science Commons to explore the possibilities of creating common use licensing of scientific data products. A meeting of these three organizations will take place in Paris next week.

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What is happening in the development of the GICSI structure?

Creation of a number of regional nodes for GICSI activities:

Europe

United States

Asia

US GICSI Activities

The development of the Initiative in the US is being
led by:

Robert Chen, CODATA Secretary General and Director
of the Center for International Earth Science Information
Network, CIESIN, at Columbia University, New York

Paul F. Uhlir, Director, US National CODATA Committee

EU GICSI Activities

- CODATA has created a special EU GICSI Working Group, led by Paul A. David, with members from Belgium, Italy and France;

- The first official meeting of the Group took place in Brussels last week;

- CODATA, through this Working Group, and in association with the Catholic University of Louvain, is now working with COMMUNIA, the European Thematic Network on the Public Domain in the Digital Age. COMMUNIA activities will commence in Turin, next week.

Asia GICSI Activities

- **International Workshop on Designing Global Information Commons for Innovation in Frontier Sciences**

  - To be held 8-10 November 2007 at University of Tokyo;

  - Collaboration between University of Tokyo and US National CODATA Committee, with support from the Japan Society for the Promotion of Science and the U.S. National Science Foundation;

  - Address information commons issues for materials science, biology, and sustainability science.

To summarise GICSI in the immediate term:

- Overall structure is currently being put in place.

- GICSI-related activities have commenced and or will commence over the next few weeks.

- Long-term objective?
  - Functional secretariats in Europe, US, and Asia, in order to initiate and coordinate regional activities.

International initiatives - benefits

- Raise awareness of benefits and costs of data sharing internationally;

- Enable developing and sharing of common principles;

- Facilitate knowledge sharing about good practices and policies;

- Provide forum for discussing and overcoming barriers and challenges.

International initiatives - challenges

- Differences in level of awareness and adoption of "data sharing culture" and policies between countries, different research communities;
- Diversity in positions regarding IP, privacy and security;
- Real costs of data sharing, such as human resource costs, often not clear;
- Long-term sustainability of data sharing arrangements not adequately addressed;
- Addressing issues unique to developing countries.

Thank you

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