



Workshop on Big Data for International Scientific Programmes: Challenges and Opportunities

Sunday and Monday, 8-9 June 2014, Beijing, China



To provide a better understanding of the opportunities and challenges of 'Big Data' for international collaborative science programmes, CODATA (the ICSU Committee on Data for Science and Technology), with a number of international partners, will convene a high-level scientific meeting to discuss the big data for science discovery and innovation, and to promote international and cross-disciplinary collaboration, in the age of Big Data.

- Sponsor: The ICSU Committee on Data for Science and Technology (CODATA)
- Co-Sponsors: ICSU World Data System (WDS)
Future Earth (FE)
Integrated Research on Disaster Risk (IRDR)
Research Data Alliance (RDA)
Group on Earth Observations (GEO)
International Society for Digital Earth (ISDE)
Institute of Remote Sensing and Digital Earth (RADI), Chinese Academy of Sciences (CAS)
- Organizer: Institute of Remote Sensing and Digital Earth , CAS
- Attendance: Approximately 60 people
- Venue: No. 308 Conference Room, Beijing International Convention Center (BICC)
<http://www.bicc.com.cn/english/index.html>
- Recommended Hotel:* Beijing North Star Continental Grand Hotel *near the Olympic Park.*
Address: No. 8 Beichen East Rd., Chaoyang District, Beijing, China
<http://yd.bcghotel.com/English/>

Day One: Using Big Data to Advance International Scientific Programmes

Sunday, June 8, 2014

Registration	08.30-08.50	The 3 rd Floor of BICC
Opening Ceremony	09.00-10.00	<p>Chair: Sara Graves, <i>Secretary-General of CODATA</i></p> <p>Remarks:</p> <ul style="list-style-type: none"> • Huadong GUO, <i>President of CODATA</i> • Wen GAO, <i>Vice President of National Natural Science Foundation of China (NSFC)</i> • Krishan Lal, <i>Immediate Past President of Indian National Science Academy (INSA)</i> • Barbara Ryan, <i>Secretariat Director of GEO</i> • Mark Stafford Smith, <i>Chair of Future Earth Scientific Committee</i> • Milan Konecny, <i>Vice President of ISDE</i> • David Johnston, <i>Chair of IRDR Scientific Committee</i> • Mustapha Mokrane, <i>Executive Director of WDS IPO</i> • Guanhua XU, <i>Former Minister of Ministry of Science and Technology of China (MOST)</i>
Keynotes Session: Setting the Scene, Big Data and International Science	10.00-11.00	<p>Chair: Sara Graves, <i>Secretary-General of CODATA</i></p> <p>Opening Keynotes:</p> <ol style="list-style-type: none"> 1. Huadong GUO, <i>President of CODATA</i> Topic: Scientific Big Data for Knowledge Discovery 2. Peter Fox, <i>Chair of Tetherless World Constellation (TWC) at Rensselaer Polytechnic Institute (RPI)</i> Topic: Environmental Informatics: Leveraging BIG Data to Solve BIG Problems
Group Photo	11.00-11.30	The 3 rd Floor of BICC
Break		
Keynotes Session: Setting the Scene, Big Data and International Science	11.30-12.30	<p>Chair: Krishan Lal, <i>Former President of CODATA</i></p> <p>Opening Keynotes:</p> <ol style="list-style-type: none"> 3. Barbara Ryan, <i>Secretariat Director of GEO</i> Topic: The Group on Earth Observations (GEO) through 2025 4. Mark Stafford Smith, <i>Chair of Future Earth Scientific Committee</i> Topic: Future Earth – an agenda needing use-oriented data

Lunch	12.30-13.30	The 2nd Floor of BICC
Session A <i>Big Data Challenges for International Collaborations</i>	13.30-15.00	<p>Chair: John Rumble, <i>Former President of CODATA</i></p> <p>1. Deliang Chen, <i>August Chair at University of Gothenburg; Former Executive Director of ICSU</i></p> <p>Topic: A Climate Scientist's Reflection on Big Data</p> <p>2. Jakob Rhyner, <i>United Nations University Vice Rector in Europe; Director of the Institute for Environment and Human Security at United Nations University</i></p> <p>Topic: Big Data in Climate Change Adaptation</p> <p>3. Juncai MA, <i>Director of WFCC-MIRCEN World Data Center of Microorganisms (WDCM)</i></p> <p>Topic: Toward Global Cooperation on Microbial Big Data</p> <p>4. Shiuchi Iwata, <i>Professor at Graduate School of Project Design of Tokyo University; Editor-in-Chief of Data Science Journal (DSJ)</i></p> <p>Topic: Big Data and Big Ideas</p>
Break	15.00-15.30	The 3rd Floor of BICC
Session B <i>Big Data Today: Lessons and Challenges from Science Initiative and the Commercial World</i>	15.30-17.30	<p>Chair: Shuichi Iwata, <i>Former President of CODATA</i></p> <p>1. Huanming YANG, <i>President of BGI-China</i></p> <p>Topic: Genomics: Big Data, Big Science, Big Sharing</p> <p>2. Eric Chang, <i>Senior Director of Technology Strategy at Microsoft Research Asia (MSRA)</i></p> <p>Topic: Datafication of the World: People, Community, and Physical Space</p> <p>3. John Rumble, <i>President of R&R Data Services in Gaithersburg MD</i></p> <p>Topic: Chemical, Material, and Physical Property Big Data: Balancing Scientific and Commercial Interests</p> <p>4. Frans Berkhout, <i>Interim Director of Future Earth</i></p> <p>Topic: The observations and data revolution and Future Earth</p> <p>5. Paul Uhlir, <i>Director of the Board on Research Data and Information (BRDI) at the U.S. National Academies</i></p> <p>Topic: Policy Issues in Big Data</p>
Welcome Banquet	18.30	Restaurant
Day Two: Building International Cooperation and Collaboration on Big Data for International Science Monday, June 9, 2014		

<p>Session C</p> <p>Invited Talks and Discussion</p> <p>Big Data Opportunities: How to Make Progress</p>	<p>09.00-10.30</p>	<p>Chair: Robert Chen, <i>Former Secretary-General of CODATA</i></p> <ol style="list-style-type: none"> 1. Wo Chang, <i>NIST Data Coordinator; Digital Data Advisor for the NIST Information Technology Laboratory (ITL)</i> <p>Topic: NIST Big Data Public Working Group & Standardization Activities</p> <ol style="list-style-type: none"> 2. Sara Graves, <i>Secretary-General of CODATA</i> <p>Topic: Using Big Data Analytics for Knowledge Extraction and Collaboration</p> <ol style="list-style-type: none"> 3. Pit Pichappan, <i>Senior Scientist at the Digital Information Research Foundation (India & U.K.)</i> <p>Topic: Big Data Infrastructure and Analysis: How to make progress?</p> <ol style="list-style-type: none"> 4. Lizhe WANG, <i>Professor at RADJ, CAS</i> <p>Topic: Data-Intensive Scientific Discovery in Digital Earth</p>
<p>Break</p>	<p>10.30-11.00</p>	<p>The 3rd Floor of BICC</p>
<p>Session D</p> <p>Opportunities for Collaboration on Big Data for International Science</p>	<p>11.00-12.30</p>	<p>Chair: Paul Uhler, <i>U.S. National Committee for CODATA</i></p> <ol style="list-style-type: none"> 1. Robert Chen, <i>Director of Center for International Earth Science Information Network (CIESIN) at Earth Institute of Columbia University</i> <p>Topic: From TerraPop to Teraflops: The Challenge of Integrating Big Social and Natural Science Data</p> <ol style="list-style-type: none"> 2. Myron Gutmann, <i>Research Professor of the Institute for Social Research at the University of Michigan</i> <p>Topic: Data for Research That Connects Population, Agriculture and Environment: Opportunities and Challenges</p> <ol style="list-style-type: none"> 3. A.R.D. Prasad, <i>Head of Documentation Research and Training Centre (DRTC) at Indian Statistical Institute (ISI)</i> <p>Topic: Big Data: Issues in Organizing and Retrieval</p> <ol style="list-style-type: none"> 4. Guoqing LI, <i>Professor at RADJ, CAS</i> <p>Topic: Can We Recommend the Best Data for Researching a Certain Disaster Event? - Multidisciplinary Data Correlation Analysis as Example</p>
<p>Lunch</p>	<p>12.30-13.30</p>	<p>The 2nd Floor of BICC</p>

<p>Session E</p> <p>Opportunities for Collaboration on Big Data for International Science</p>	<p>13.30-15.00</p>	<p>Chair: Simon Hodson, <i>Executive Director of CODATA</i></p> <ol style="list-style-type: none"> 1. Chris Hunter, <i>Lead Bio-Curator for GigaDB at GigaScience</i> Topic: GigaDB: Open Data for the Big Data Era 2. Jan-Ming Ho, <i>Research Fellow at Institute of Information Science, Academia Sinica</i> Topic: Efficiency of Knowledge Extraction on the Big Data Framework 3. Tim Foresman, <i>SIBA Chair for Spatial Information at Queensland University of Technology</i> Topic: Force Multiplier for Science through Crowd Source Validation and Visualization 4. Chuang LIU, <i>Professor at Institute of Geographic Sciences and Natural Resources Research (IGSNRR), CAS</i> Topic: Global Change Research Data Publishing and Repository in China
<p>Break</p>	<p>15.00-15.30</p>	<p>The 3rd Floor of BICC</p>
<p>Closing Session</p>	<p>15.30-17.00</p>	<p>Panel Discussion: An Agenda for Big Data and International Science</p> <p>Chair: Huadong GUO & Robert Chen</p> <p>Short statements. Panel to comprise</p> <ul style="list-style-type: none"> • Sara Graves, <i>Secretary-General of CODATA.</i> • Peter Fox, <i>Chair of Tetherless World Constellation (TWC) at Rensselaer Polytechnic Institute (RPI)</i> • Barbara Ryan, <i>Secretariat Director of GEO</i> • Huanming YANG, <i>President of BGI-China</i> • Wo Chang, <i>Co-chair of RDA Big Data Infrastructure Working Group</i> • A.R.D. Prasad, <i>Head of Documentation Research and Training Centre (DRTC) at Indian Statistical Institute (ISI)</i> • Guoqing LI, <i>Member of WDS Scientific Committee</i> <p>Closing Remarks:</p> <p>Huadong GUO, <i>President of CODATA</i></p>