

CODATA

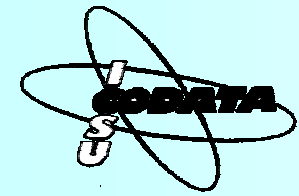
Shaping the Information Revolution for 21st Science and Technology



John Rumble, President

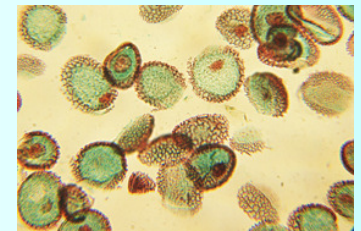
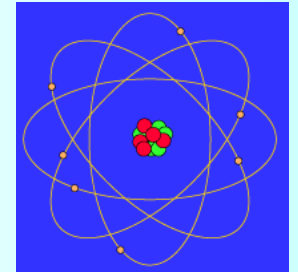
CODATA

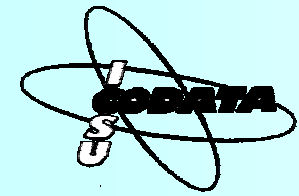
CODATA Africa Workshop July 2000



21st Century Science

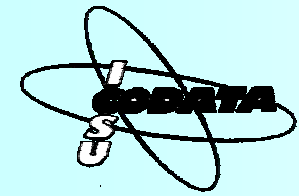
- ❖ Complex
- ❖ Multi-disciplinary
- ❖ Model-based
- ❖ Virtual as well as physical
- ❖ *Access to large amounts of quality data becomes critical*





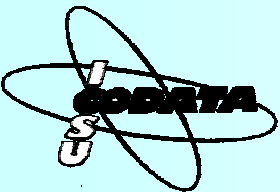
CODATA Exists

To improve the *quality, reliability, management* and *accessibility* of data of importance in *all* fields of science and technology



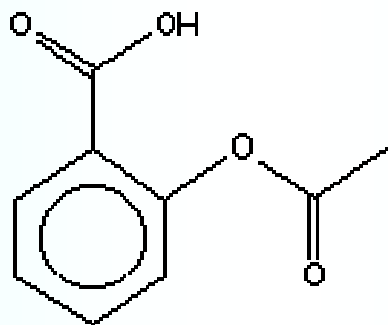
CODATA Is

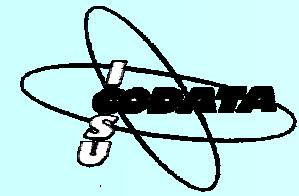
- ❖ An *interdisciplinary* scientific committee (1966) of the International Council of Science (ICSU)
- ❖ The central focus within ICSU on organization, management, quality control and dissemination of data from all scientific and technical disciplines
- ❖ 22 National Members
- ❖ 15 Task Groups, Working Groups and Commissions



CODATA Emphasizes

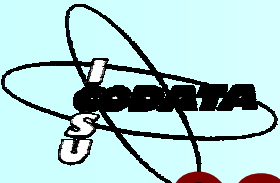
- ❖ Data management problems *common to different scientific disciplines*
- ❖ Data *used outside the field in which they were generated*





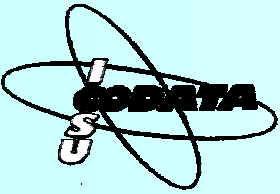
CODATA Works To

- ❖ Improve *data quality and accessibility* as well as the methods for acquiring, managing and analyzing data
- ❖ Facilitate *international cooperation* among those collecting, organizing, and using data
- ❖ Promote *increased awareness* in the scientific and technical community of the importance of data activities



CODATA Makes Quality Data Possible

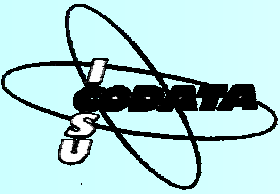
- ❖ *Key data sets* for consistent international use
- ❖ *Data science* - management, analysis, dissemination, visualization, the Internet
- ❖ *Format standards* to promote compatibility and interoperability of databases
- ❖ Guidelines for *data presentation* in the primary literature
- ❖ *Data quality* and how to determine it



The Information Revolution

- ❖ Computer at every desk
- ❖ The Internet/WWW explosion
- ❖ Database tools on every computer
- ❖ Databases as a source of new research
- ❖ Model and simulation-based R&D
- ❖ Virtual libraries
- ❖ Electronic publications
- ❖ Virtual laboratories

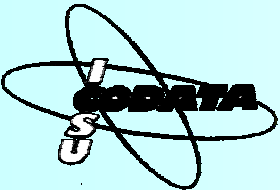




The Information Revolution

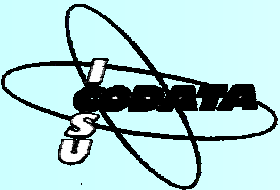
- ❖ Much easier to do “data” work
- ❖ Data work integrated more fully into R&D
- ❖ Discipline-based informatics (e.g., bioinformatics)
- ❖ *Data will only become more important*

As data and information become more important, CODATA is changing to serve 21st century science and technology



CODATA's Role in the Information Revolution

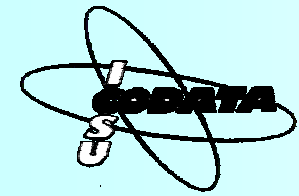
- ❖ New members: Cameroon, Nigeria, Thailand
- ❖ More considering
- ❖ Have unique data needs
- ❖ Need training in modern data technology
- ❖ Workshops held in Thailand and Africa
- ❖ CODATA Task Group on Asian-Oceanic Region is model
- ❖ *CODATA is specially placed to provide real help*



CODATA's Role in the Information Revolution

- ❖ Data access issues
- ❖ Data quality in the Internet era
- ❖ Data archiving
- ❖ Interoperability of Web data resources
- ❖ New key data sets
- ❖ Resources for the average scientist
- ❖ Data science
- ❖ *This Workshop explores how African member countries can work together*





CODATA and the Future

- ❖ Data will help drive 21st century science and technology
- ❖ CODATA involves data experts, leaders, and innovators from around the world
- ❖ *CODATA welcomes this opportunity to work with its African members to address the unique data needs of African science*