

CODATA Newsletter 81

Committee on Data for Science and Technology



July 2000

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<http://www.codata.org>



CODATA 2000

For the past 30 years, CODATA has been a key actor in producing new improvements in data quality, while simultaneously being an active promotor of ideas, methods, and technology that have shaped the Information Revolution. Modeling and new strategies for rapid exploitation of large amounts of new data require new insights into all fields ranging from biotechnologies and computer aided medical assistance to the vast problems of global change.

The 17th International CODATA Conference, 15-19 October 2000, Baveno, Italy, provides a forum whereby these new insights will be explored, discussed, and developed by the leading data experts in the scientific and technological fields.

The primary tasks of CODATA 2000 are to:

- Analyse the data and information factors in international scientific achievements
- Identify the variety of contributions of S&T data and information in the new mode of data management- i.e. Handling aggregation and interoperability needs for present and future world communications as well as rapid evaluation due to current high-tech innovations and sophisticated software
- Identify the needs of new and current data in all fields: social sciences, technology, economy, and evaluate formal and informal channels for interaction
- Identify the role of data quality and data needs in the present planning of various agencies in the fields of science, technology, and medicine

CODATA 2000 will endeavour to fulfil these tasks by providing an exciting Scientific Program, featuring over 40 thematic sessions. The sessions, each with five to eight speakers, bring state-of-the-art knowledge about the most important data fields today. The Program also includes Plenary lectures from the most important scientists and data experts in the world.

As we are now within three months of this special event, I invite you to read through this Newsletter to find out more about the : Plenary Speakers, Theme details and general conference information. This information can also be consulted on our website <http://www.codata.org>

CODATA 2000 will be exciting, larger, and more comprehensive than ever before. I look forward to your participation at this event in the beautiful setting of Baveno.

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, information and knowledge processing, management and accessibility of data of importance to science and technology

Jacques-Emile Dubois
Conference Chair



CODATA 2000 Scientific Program

Plenary Lectures

Peter Cochrane

Chief Technologist, British Telecom (UK)
Title: *Why Old Science Won't Work in the New Century*

René Deplanque

Managing Director, FIZ-Chemie (Germany)
Title: *Scientific Databases and Education: A Revolution About to Happen*

Jacques-Emile Dubois

Past President, CODATA (France)
Title: *50 Years of Expanding Knowledge: Complexity Control and New Frontiers*

John Enderby

Physical Secretary, The Royal Society (UK)
Title: *The Role of Data and Information in a Sustainable Society*

Oleg Favorsky

Member of Presidium, Russian Academy of Sciences (Russia)
Title: *The Impact of Aviation on the Atmosphere and Global Climate: The Role of Data and Modeling*

Usama Fayyad

Chief Executive Officer, CEO, digiMine (USA)
Title: *Exploiting Scientific Data in the 21st Century*

Quansheng Ge

Professor, Chinese Academy of Sciences (China)
Title: *Abrupt Climate Change: Evidence as Revealed from Historical Data*

Shuichi Iwata

Director, RACE Institute, University of Tokyo (Japan)
Title: *Databases and Design: Discovering New Ideas in Old Facts*

Philip Loftus

Vice President & Director, Glaxo Wellcome R&D (USA)
Title: *The Role of Data and Information in Modern Industrial Research*

David Snowden

Director (EMEA), Institute for Knowledge Management, IBM (UK)
Title: *The New Knowledge Paradigm: How Information is Changing Communication*

Mitchell Sogin

Director, Center for Comparative Molecular Biology and Evolution, Woods Hole (USA)
Title: *The Universal Tree of Life: Will Genomics Get to Its Roots*

Symposia

SYMPOSIUM I:

Data, Information and Knowledge: Principles, Methodologies, Systems and Policies

This symposium focuses on **Principles, Methodologies, Systems and Policies** of the use and dissemination of data and information. Sessions cover a broad range of data and information management, warehousing, visualization, validation and compression issues.

Organizer: Dr. N. Gershon (USA)*

Knowledge Management

Theme I-1: Uncertainty in Knowledge Interpretation and Fuzzy Data - Organizer: Dr. A. Gvishiani, (Russia)

Theme I-2: Management of Data, Information and Knowledge - Organizers: Dr. J. Gravalles (USA) and Dr. N. Gershon (USA)

Theme I-3: Integration of Heterogeneous Databases and Data Warehousing - Organizers: Prof. H. Bestougeff (France) and Dr. B. Thuraishingham (USA)

Theme I-4: Knowledge Discovery Session - (Organizer to be decided [TBD])

Visualization and Internet Activities

Theme I-5: Visualization of Information and Data: Where Are We and Where Do We Go From Here? - Organizer: Dr. N. Gershon (USA), Tiziana Catarci (It), Dr. Jean-Jacques Royer (Fr)

Theme I-6: Innovative Web Design and Applications - Organizers: Prof. O. Signore (Italy) and Prof. H. D. Flack (Switzerland)

Theme I-7: Data Compression Techniques and Computer Telecommunications: Satellite and Weather Databases - Organizer: Dr. H. Kroehl (NOAA, US)

Theme I-8: New Methods in Management of Information Flows and Information Industry - Organizers: Prof. K. Froitzheim (Germany) and Acad. Y. Arsky (Russia)

System Intelligence and Virtual Laboratories

Theme I-9: The Emergence of Virtual Laboratories: Towards New Policies and Strategies for Knowledge Handling - Organizer: Dr. J. Rose (UNESCO)

Theme I-10: Cooperative Data Activities, Data Sharing and

Virtual Telescopes in Modern Astronomy and Astrophysics
- Organizer: Dr. G. Oertl (USA)

Theme I-11: Intranet and Data Tools for Small and Medium Enterprises (SME) - Organizer: Prof. H. Dou (France)

Theme I-12: Information Tools and Strategic Context - Organizers: Prof. C. Paoli (France) and Prof. B. Dousset (France)

Intellectual and Industrial Property Issues

Theme I-13: Data and Patent Policy - Organizer: Dr. B. Marx (France)

Theme I-14: Access to Public Data [TBD]

Policy

Round Table Discussion I-A African Regional Data Issues in the Internet Era

Round Table Discussion I-B Data Access and Intellectual Property Rights, Policy in Natural History Collections

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SYMPOSIUM II:

Data, Information and Knowledge in Biodiversity and the Life and Medical Sciences

This symposium concentrates on **Biodiversity and the Life and Medical Sciences**. Sessions subjects range from biosafety and tropical medicine to museum informatics and bioinformatics.

Organizers: Ms. L. Blaine (USA), Prof A. Kolaskar (India/USA), Dr. M. Krichevsky (USA)*

Theme II-1: Data Issues in Tropical Medicine - Organizer: Prof. A. Kolaskar, (India/USA)

Theme II-2: Biodiversity Information Systems - Organizer: Ms. L. Blaine, (USA)

Theme II-3: Recent Trends in Bioinformatics - Organizer: Dr. S. Spengler, (USA)

Theme II-4: Quality Issues in Bioinformatics - Organizers: Dr. T.N. Bhat, (USA), Dr. J. Rumble Jr., (USA) and Dr. G. Gilliland, (USA)

Theme II-5: Biological Collections and Information Systems: Mobilizing Natural History Knowledge - Organizers: Dr. J. Beach (USA) and Prof. W. Berendson (Germany)

Theme II-6: Biosafety and Risk Assessment: Ethical Systems and Use of Data - Organizer: Dr. M. Krichevsky (USA)

Policy

Round Table Discussion II-A: Standards in Biological Information Systems

Round Table Discussion II-B: Impact of Machine Learning and Visualisation Tools on Bioinformatics and Medical Information

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SYMPOSIUM III:

Data, Information and Knowledge in the Earth and Physical Sciences, Engineering and Industry

This symposium concentrates on **Earth and Physical Sciences, Engineering and Industry**. The topics for this session include virtual astronomy, construction industries, flavour and food industry issues, industrial coatings, materials design and discovery, analytical chemistry systems, erosion and deposition sciences, seismological, volcanological and other geophysical data and environmental risk management and global climate change.

Organizer: Professor A. Gvishiani (Russia)*

Earth Sciences

Theme III-1: Geophysical Data Management and Studies - Organizers: Prof. C. Jaupart (IPG, Paris, France) and Prof. A. Gvishiani (UIPE RAS, Russia)

Theme III-2: Environmental Risk Management: Earthquakes, Floods and other Natural Calamities - Organizer: Prof. J. Bonnin (IPG, Strasbourg, France)

Theme III-3: Oceans: Marine Geology and Marine Geophysics Data Acquisition, Management and Processing - Organizer: Prof. J.O. Dubois (IPG, Paris, France)

Physical Sciences and Engineering

Theme III-4: Physico-Chemical Data Standards and Databases - Organizer: Dr. H.V. Kehiaian (France)

Theme III-5: Modern Materials Design: Databases, Combinatorial Design, Virtual Materials and Knowledge



Discovery - Organizers: Prof. S. Iwata (Japan) and Dr. K. Rajan (USA)

Theme III-6: Tools for Data Validation and Quality Control- Organizers: Dr. P. Mezey (Canada) and Dr. D. Lide (USA)

Theme III-7: Inter-Operability and Meta Data Standards - Organizers: Dr. J. Rumble Jr., (USA) and Dr. P. Murry Rust (UK)

Theme III-8: Databases and New Analytical Chemistry Systems - Organizers: Dr. G. Kramer (USA) and Dr. R. Schaefer (Germany)

Industry

Theme III-9: Industrial Coatings - Organizer: Prof. A. Revillon (France)

Theme III-10: Modern Construction Industries - Organizer: Dr. L. Kaetzel (USA)

Theme III-11: Flavor and Food Industry Issues :Analytical Tools and Public Expectation - Organizers: Prof. C. Bicchi (Italy), Prof. R. Fellous and Prof. P. Schreier (Germany)

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SYMPOSIUM IV:

Data, Information and Knowledge in the Environment and for Renewable Energy

This symposium concentrates on **Environment and Renewable Energy**. The topics for this session include water resources, atmospheric evolution and pollution monitoring, sustainable development, energy sources for the future and urban policy. It also deals with environment and energy management issues and industrial policies. This symposium is co-organized with ISPRA/European Commission, Environment Institute.

Organizers: Prof J.-M. Martin (EC), Prof J.-J. Royer (France)*

Natural and Ecological Disasters

Theme IV-1: Issues in Geo-Spatial Data for Major Natural Disasters - Organizers: Dr. A. Kiremidjian (USA) and Dr. F. Sabetta (Italy)

Theme IV-2: Environmental Risk Management and Sustainable Development - Organizer: Dr. N. Mitchison (JRC-ISIS EC)

Theme IV-3: Environmental Data Integration - Organizer: Dr. D. Stanners (European Environment Agency, Copenhagen, Denmark)

Theme IV-4: Water Resources - (Organizer to be decided [TBD])

Theme IV-5: Mathematical Methods of Data Processing for Environmental Protection - Organizers: Prof. M. Zgurowsky (Ukraine) and Prof. Novikov (Ukraine)

Industrial Ecology and Urban Pollution

Theme IV-6: Geographical Information Systems - Organizer: Prof. A. Fabbri (ITC, Netherlands)

Theme IV-7: Global Cross Border Pollution: Industrial and Natural Disasters - Organizer: Dr. J.C. Oppeneau (ADEME France)

Theme IV-8: Data and Knowledge for the City of Tomorrow - Organizer: Prof. A-F. Cutting-Decelle (France)

Theme IV-9: Urban Air Quality and Human Exposure - Organizer: Dr. D. Kotzias (JRC-EI, EC)

Energy Inventories: Prospective and Renewable Resources

Theme IV-10: Energy Sources for the Future: Fossils, Fission and Renewable Energy (Organizer to be decided [TBD])

Theme IV-11: Gas Hydrates: Role in Past and Future - Organizer: Prof. F.A. Kuznetsov (Russia)

Theme IV-12: Geothermy: An Alternative Source of Energy - Organizer: Dr. J.-J. Royer (France)

Theme IV-13: Renewable Energy and Environmental Issues : Needs, Opportunities and Perspectives of the New Millennium - Organizer: Dr. H. Ossenbrink (JRC-EI, EC)

Policy

Round Table Discussion IV-a: World Energy Issues and Perspectives - Organizer: Prof. J.-E. Dubois

Round Table Discussion IV-b: Water Issues- Resources and Redistribution - Organizer: Dr. J.-M. Martin (JRC-EI, European Commission)

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Conference Tours

Several day tours featuring the rich history and culture of Baveno and its region will be offered to accompanying persons. These tours are private to this conference and therefore you must pre-register, pay in advance and send the registration form directly to the company - Verbano Viaggi, Baveno. This form is contained in the booklet sent with this Newsletter. The form is also available on the website <http://www.codata.org>

Accompanying Persons Tours

Mount Rosa (Half Day)

This includes a scenic drive up the rugged valley of Anza, through charming villages built in stone, past winding rivers and waterfalls, towards the village of Macugnaga. Once famous for its goldmines, Macugnaga lies at the foot of the Mount Rosa range, the second highest in the Alps (15,217ft, 4638 m). Free time is available to explore the village and take the chair lift (optional) to admire the peaks and glaciers. A stroll in the meadows to see the wild flowers, then perhaps a "fil de fer" in the local café before returning down to the valley and back to Lake Maggiore.

Date: 16th October; Time: 13.00h-18.00h; Cost: 37 000 Lira per person.

Three Lakes Tour (Full Day)

Three of Europe's most beautiful lakes in one day!

Following the road around Lake Maggiore we enter Switzerland and make our first stop in Ascona for one hour. This gives us an opportunity to explore this delightful little artists paradise full of character. Then we bypass Locarno and over the Magadine Plain, over Monte Ceneri to fashionable Lugano, set on its own lake, partly in Italy and partly in Switzerland. Here we stop for about two and half hours for lunch, sightseeing and shopping. Afterwards we pass by the Swiss miniature village of Melide, then over the bridge which

GROUND TRANSPORTATION

TAXI

The airport, Milano Malpensa is approximately 40 km from the Conference Hotel, Grand Hotel Dino. The price by taxi from this airport to the hotel is about 160 000-170 000 Lira

TRAIN

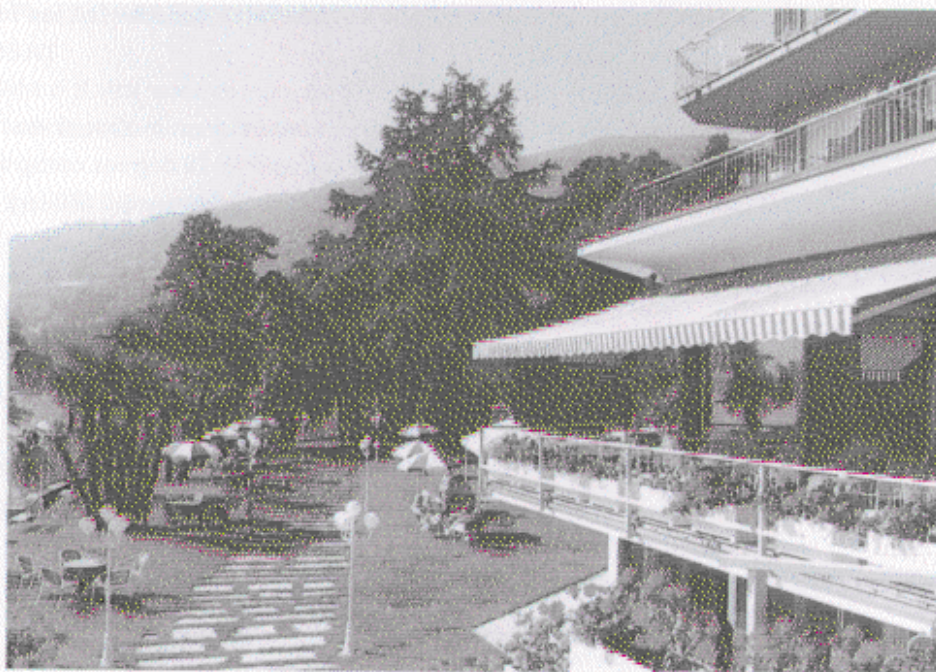
However one can get a taxi from Malpensa to the trainstation Gallarate for 35 000 Lira (approx. 15 min). The train from this station to Baveno takes 45 min. They run every three hours. It costs 7 000 Lira. A train from Gallarate to Stresa takes 30 min. They run every two hours. It costs 12 000 Lira. A taxi from Stresa to Baveno costs 25 000 Lira.

SPECIAL SHUTTLE SERVICE

A special shuttle is been organised by the Company Verbano Viaggi, Baveno specifically for this conference. It will transport people from the airport, Milano Malpensa to the conference hotel. This will cost 140 000 Lira RETURN (70 000 Lira one way). In order to avail of this service it is imperative that the prebooking form is completed and returned directly to the Company, Verbano Viaggi. This form is contained in the booklet sent with the Newsletter. It can also be found on the website <http://www.codata.org>.

Please note that the company must:

- Be informed of any changes to the flights at least 24 hours in advance.
- Have 24 hours notice of cancellations, otherwise the passenger is billed.



Grand Hotel Dino



divides Lake Lugano, through the heart of the silk industry. We stop to visit the Cathedral, the old walled town and the shopping area. We return via the motorway arriving at the southern tip of Lake Maggiore.

Date: 17th October; Time: 8.30h-18.00h; Cost: 50 000 Lira per person

Shopping in Arona (Optional wine tasting)

Passing through the villages along the lakeside, we arrive at the Statue of Saint Charles Borromeo, above Arona. This is one of the highest statues in the world. Time to visit it before proceeding to the shopping area, available. Here you will find shops of all types including designer clothes-all pockets are catered for. Then we can wind down with some wine tasting of several excellent red/white Italian wines, accompanied by local cheeses and salami!!

Date: 18th October; Time: 11.00h-15.00h; Cost: 35 000 Lira (optional wine tasting 20 000 Lira)

Post Conference Tour

Zermatt and the Matterhorn (Full day)

A drive along the Ossola Valley through Domodossola along the Simplon road through some very impressive scenery into Switzerland. The tour continues along Napoleon's road and over the Simplon Pass. At the Belvedere view point a stop is made for photos and coffee. Then we continue to Brig, with its Stockalper Castle, through Visp and up the Matter Valley as far as Taesch. We then take the little Mountain rack-railway train (included) into Zermatt.

The whole village is a pedestrian area and from the main street we see the famous Matterhorn. Free time is available to explore this resort. For lunch (optional) you can taste the local dishes such as raclette or fondue. Time perhaps to take a horse-drawn carriage around the old town, a little shopping and then return to the coach by the rack railway.

Date: 20th October; Time: 8.00h-18.00h; Cost: 74 000 Lira

GENERAL INFORMATION

The town of Baveno has a population of 5 000 people. It contains about eight small restaurants each within close proximity of the conference hotel. These restaurants cater for all purses ranging from pizza for 12 000 Lira to three course dinners for 25 000 Lira upwards. For those of you who would like to wander further than Baveno, the town of Stresa is situated 4km from Baveno. It has a population of 8 000 people. Here you will find a large number of restaurants to suit every palate. A taxi from Stresa to Baveno costs 25 000 Lira. Trains run between the two towns every three hours up to 11pm. The journey costs about 2 000 Lira.

Within the Grand Hotel Dino, there are two restaurants at the disposal of the clients-the "Panorama" or the "3 Isole". Snacks and light meals can also be obtained in the Hotel Bar and Terrace.

Every International visitor must possess a valid passport to enter Italy. It is advisable that each participant contacts the Italian Embassy in their respective countries to ensure that all visa requirements are complied with. The local weather in Baveno in October averages 15-18 degrees centigrade. The official currency is Lira. At the time of publication the exchange rate was approximately 2 000 Lira to one US\$.

REGISTRATION AND RESERVATION FORMS CONCERNING THE 17TH INTERNATIONAL CODATA CONFERENCE

The following forms are contained in the booklet sent with this Newsletter. They can also be found on the website at : <http://www.codata.org>

- Registration Form for 17th CODATA Conference (15-19 October)
- Registration Form - Workshop on the European Directive on the Legal Protection of Databases (14 October)
- Hotel Reservation Form
- Tour Reservation Form
- Special Shuttle Service Registration Form

A tour of ISPRA is currently planned. Details of this will be available on the website shortly.



Fundamental Constants Task Group

By now, many of you have seen articles in your local newspapers or favorite scientific magazine that CODATA's new set of recommended values of the fundamental physical constants is now available. It is a great accomplishment, and CODATA is quite proud of its Task Group on Fundamental Constants for work well done.

The values of the constants themselves are available on the World Wide Web at <http://physics.nist.gov/constants>. The definitive article, describing the science behind the values and the truly impressive intellectual effort led by Peter Mohr and Barry Taylor of the National Institute of Standards and Technology (NIST), was published by both the *Journal of Physical and Chemical Reference Data* and the *Reviews of Modern Physics*. Single reprints of the article are available from the CODATA Secretariat upon request. NIST and CODATA are also making the article available for translation into different languages.

What's different? Perhaps not much except our uncertainty about the values. One of the most impressive aspects of the five year effort that went into this new set is the careful uncertainty analysis that Mohr and Taylor executed demonstrating that even though the values of the constants have not changed a lot, we are more sure of those values than ever before.

Key to acceptance of this work has been the active participation of the members of the CODATA Task Group on Fundamental Constants. Experts from nine countries and one international organization carefully reviewed the set, the underlying science and the final article. Once again, the Task Group demonstrated that international data work is important to scientific progress. We congratulate Peter Mohr, Barry Taylor and the entire Task Group for a fundamentally important achievement!

CODATA Meetings

Workshop on the European Directive on the Legal Protection of Databases: A Focus on Science and Technology

This workshop, sponsored by the ICSU/CODATA Ad hoc Group on Data and Information, takes place in the Grand Hotel Dino, Baveno, Italy on 14 October 2000. The Directive, 96/9/EC, adopted by the European Union to take effect in January 1998, requires each of the EU Member States to enact laws giving database makers an exclusive property right in the content of databases that fail to qualify for copyright under domestic copyright laws. By protecting collections of data, this right potentially affects the freedom of scientists to download or utilize data sets for public databases. According to the text of the Directive, it should be reviewed in 2001.

In preparing for the review, this workshop offers an opportunity for the European Scientific Community

- to understand the importance of traditional, full and open data access for science, in Europe and on the worldwide stage
- to understand the issues involved and the impact of the Directive on research
- to develop collective responses reflecting the needs of their disciplines and countries
- to be prepared to make substantive inputs towards the review process

More details on the workshop can be found on <http://www.codata.org>.

Workshop on Building Information on Molten Salts

The 1st Meeting and Workshop of the CODATA Working Group on Molten Salts will be held on September 18-20, 2000 in France. The meeting will partly take place in Marseille (one half day)

and the majority of the meeting will take place aboard the "NAPOLEON BONAPARTE", a luxury ferry line linking Marseille to Corsica.

The goal of this first Workshop is to discuss the barriers to and propose solutions for bringing together the vast amounts of data in the molten salt literature into a "Virtual Molten Salt Data Laboratory".

The Workshop will be divided between individual presentations and panel discussions. Following the completion of the workshop, a summary of the discussions will be posted on the Internet and a working model will be proposed for the creation of a centralized Virtual Molten Salt Data Laboratory. Further details on the workshop are available on <http://www.codata.org>

CODATA Symposium on Diagnostic Methods for Data Quality and Database Compatibility

This meeting took place 20-21 December 1999 at the Institute for Advanced Study, Collegium Budapest, Hungary. There were twenty-seven participants representing several CODATA countries and also some non-CODATA countries, primarily Hungary. By the very nature of the topic of the Task Group, the meeting had more emphasis on the scientific aspects of data activities than on the purely administrative aspects, and some of the suggested solutions on data pollution problems were also items involving more of a scientific approach than organizational innovations.

Several of the speakers at the meeting were representatives of various data-intensive industries, primarily the pharmaceutical industry. Their insight and their presentations on the already

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rather evolved techniques for managing data pollution in large databases were well received by the participants.

Overall, the meeting provided a rich selection of ideas and practical methodologies for data quality maintenance. These collections of ideas and methodologies form the basis of the development of the initial set of data quality safeguards for CODATA. This latter activity is in an advanced stage of development, and the Symposium provided additional momentum to reach the fundamental goals of the Data Quality and Database Compatibility Task Group.

A joint roundtable discussion meeting of the CODATA Task Group on Data Quality and Database Compatibility and the IUCOSPED Task Group on Standardization of the Physico-Chemical Property Electronic Datafiles, is planned within the framework of the 17th CODATA Conference in October 2000. website-<http://www.chemint.org>

CODATA CALENDAR

September 18-20

Workshop on Building
Information on Molten Salts

September 23-26

ChemInt 2000

Chemistry and the Internet

October 14

Workshop on the European
Directive on the Legal
Protection of Databases

October 15-19

17th International CODATA
Conference

October 20-21

22nd CODATA General
Assembly

General News

1st Workshop on Thermochemical, Thermodynamic and Transport Properties of Halogenated Hydrocarbons and Mixtures

This meeting, held under the auspices of the IUPAC Commission on Thermodynamics, took place 15-18 December, Pisa, Italy. The objective of this IUPAC Project is to increase knowledge and understanding of the thermodynamic and transport properties of halogenated organic compounds, especially halogenated aliphatic hydrocarbons, and of their mixtures, and also of their mixtures with hydrocarbons.

The aims of this first Workshop were:

- to review the available experimental data for these systems (density, speed of sound, vapour pressure, viscosity, thermal conductivity, etc., with the addition of phase equilibria and excess properties for mixtures) in order to identify areas for further study;
- to consider available methods for thermodynamic modelling, including EOS for pure fluids and mixtures, innovative mixing rules, model intercomparisons, computer simulations and model approaches for the transport properties;
- to select key systems and topics for collaborative research to be carried out for presentation and discussion of the results at future Workshops.

There were eight invited lectures, 30 oral communications, and a poster discussion session for the 30 poster presentations. It was agreed that there is a need for:

- measurement of thermodynamic and transport properties of compounds and mixtures where there was an identified data gap and where such data were important for the testing of theoretical

models or correlating equations. There is a need for such data for technically important HFC binary and ternary mixtures, of blends of refrigerants with lower alkanes, and of hydrofluoroethers;

- theoretical calculation of molecular structures to improve the representation of molecular interactions;
- further modeling, for an improved fit to experimental data generally and in particular for the important system of lubricant oils and refrigerants.

The Proceedings of this Workshop will be published as a special issue of *Fluid Phase Equilibria*.

This highly successful Workshop was organised by Professor E. Matteoli (Pisa) and his Scientific and Local Organising Committees. The next Workshop, to be organised by Professor Dominique Richon (Ecole Nationale Supérieure des Mines de Paris), is planned for 9-11 April 2001. More detailed information can be found on http://www-cenerg.enscm.fr/iupac_paris.wshop/workshop.html

ChemInt 2000 Chemistry and the Internet

This takes place 23-26 September, Georgetown University, Washington, DC. ChemInt 2000, building on the successes of the two previous ChemInt meetings will continue to look into the current and future technologies and developments for chemistry using the internet. This meeting will gather together the leaders and innovators in developing Internet resources for chemists from industry, academia, and government, leading to discussions of what future innovations and direction will bring to chemists. For further details, consult the website <http://www.chemint.org>



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