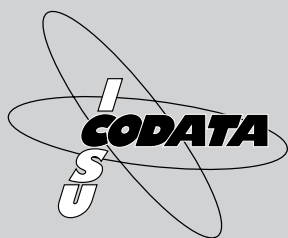


# CODATA Special 01

Committee on Data for Science and Technology



July 2001

## Highlights

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<http://www.codata.org>

CODATA Newsletter n°82 will be published in September 2001. See Highlights page 3. It will be devoted to current and future CODATA activities over the coming year.

## Dear Reader,

You will note that this CODATA publication is slightly different from the usual Newsletter CODATA publishes. At its recent Executive Committee meeting in Paris, CODATA decided to publish an annual document addressing CODATA's scientific activities over the previous year. My objective also is that you will find something in the following pages that is of a specific interest to you. In order for me to do this I had to identify who you are

### Are You —

- one of our 23 National Members. You are interested in general CODATA News over the last year and, in particular, the activities your institution has funded through its annual dues ?
- one of our Supporting Organizations and you are interested in the activities your organization has funded through its financial contributions ?
- a member of one of the 14 International Scientific Unions or Co-opted Organizations who have assigned a liaison delegate to CODATA. You are curious about possible common areas of interest between your Union or Organization and CODATA ?
- a member of one of our old Task Groups, Commissions or Working Groups and are curious to see what has been happening within the CODATA family ?
- a member of one of our newly approved Task Groups and are interested in learning about other CODATA activities besides your Group ?
- a Potential National Member and would like to know more about the organization ?
- a curious scientist who has heard about CODATA through your colleagues and you want to know more about it and its network ?
- reminded from somewhere that this was the organization that had to move conference location in October 2000 as the waters of Lake Magiorre in Italy invaded their conference rooms!

### Or maybe You are—

- the coffee break reader sitting in your university coffee room and it is part of the general reading material strewn on the table beside you. You decide to browse through it during your 15 minute break before you return to the lab

Whatever category of reader you fall into or for whatever reason this publication has come to your attention, I hope that each of you will learn something from the contents that follow that will directly or indirectly contribute to a better understanding of who we are, what we are doing and the beneficiaries of our work.

Happy reading!

Kathleen Cass  
Executive Director, CODATA

For



# The Potential Member, the Curious Scientist and the Coffee Break Reader

## Who are we?

CODATA, the Committee on Data for Science and Technology, is an interdisciplinary Scientific Committee of the International Council for Science ICSU. We are established over 30 years and our secretariat is housed at 51, Bld de Montmorency, 75016 Paris, France.

## What are our objectives?

- The improvement of the quality and accessibility of data, as well as the methods by which data are acquired, managed, analyzed and evaluated.
- The facilitation of international cooperation among those collecting, organizing and using data
- The promotion of an increased awareness in the scientific and technical community of the importance of these activities
- The consideration of data access and intellectual property issues
- Work with developing countries to take advantage of the scientific information revolution.

In short, the reason for CODATA is to help foster and advance science and technology through developing and sharing knowledge about data and the activities that work with data.

## How do we achieve these objectives?

CODATA uses many mechanisms in its ongoing effort to

reach these objectives. These are:

- Task Groups
- Working Groups
- National Member activities
- Conferences
- Workshops
- Publications
- Studies and Reports
- Co-operation with other organizations on common interests

## Do we succeed in reaching these objectives?

Methods used to reach our objectives are continually improving and evolving. Data related activities are not confined to a specific scientific discipline but they relate to data activities in every area of science and technology, from biology to global change, from the physical sciences to engineering. CODATA reaches out to different disciplines through its growing number of members within the CODATA family, each outlining their different data needs, sharing knowledge about their respective data activities and identifying common areas of interest. Today CODATA has 23 National Members, 14 assigned International Union Delegates, 5 Co-Opted Organizations and over 21 Supporting Organizations from industry, government and academia, which define and lead the scientific program and are the implementers in attaining our objectives.

or for

# National Members, Supporting Organizations and Potential Members

CODATA is financially supported from two main sources

- National Members, who pay annual dues based on the financial categories set by the General Assembly
- Supporting Organizations, who contribute financially in accordance with the category they choose

## National Member/Regional Member

A National Member is a scientific academy, research council, scientific institution or association of such institutions that have activities in scientific data compilation and evaluation. A Regional Member is an international body, representing a group of nations on the basis of some regional or other

relationship and is interested in the work of CODATA. New member applications must be approved by the General Assembly. (More details can be found in the CODATA Constitution on [http://www.codata.org/codata/01con\\_e.html](http://www.codata.org/codata/01con_e.html))

## Supporting Organization

This is an organization that supports the objectives of CODATA. An organization may become a Supporting Organization upon application to the Executive Committee. (More details can be found in the CODATA Constitution on [http://www.codata.org/codata/01con\\_e.html](http://www.codata.org/codata/01con_e.html))

From this publication it is clear that CODATA implements



a strong scientific program through its Task Groups, Working Groups, Conferences and Workshops.

**Q. In order to participate in any of the above do you have to come from a National Member country or Supporting Organization?**

No. CODATA provides a milieu in which data experts from different countries and organizations can interact, cooperate directly, develop bilateral collaborations outside of CODATA, and exchange ideas and knowledge.

**Q. Why then become a National Member or Supporting Organization?**

**To be part of a network**

The importance of the traditional sciences such as biology, chemistry, physics, astronomy - to name but a few - has long been established. However it is only in recent years that the importance of scientific and technological data, in all areas of science, has come to the fore. Given the information technology age we live in today, unprecedented amounts of data confront us. The need to be able to manage, manipulate and exploit the data while simultaneously identify guidelines and standards for data handling and data management is a pre-requisite. CODATA is one of the few international organizations to address these issues. By being a member of CODATA you are supporting and recognizing the changes that have and are continuing to take place within the scientific community as a result of information technology developments. More importantly you are recognizing the need to confront issues that arise as a direct result of these changes. CODATA provides a network structure that facilitates bilateral understanding and cooperation between members, when confronting the issues.

**To shape the international scientific data agenda**

All scientific activities of CODATA are democratically voted by the General Assembly. As a National Member you have the right to exercise your vote at this meeting and thereby directly contribute to shaping the Scientific Agenda and supporting the scientific data activities in your country.

**To receive CODATA Publications**

As a National Member or Supporting Organization, you receive free of charge, the CODATA Handbook, CODATA Special and CODATA Newsletters. These publications give updated information on all our National Members, Supporting Organizations, Task Groups and Working Groups. You also receive the various circulars leading to our biennial conference. Members will also have access to the

new CODATA electronic Journal on Science and Technology. See Highlights Newsletter n°82 below.

**To support access to data and information**

The principle of the universality of science, which is observed and upheld by ICSU, entails many elements, amongst which are freedom of association and expression and access to data and information in connection with international scientific activities. CODATA has, as one of its principles, the need for full and open access to data for scientific advances. The tradition of full and open access to data has led to breakthroughs in scientific understanding as well as to later economic and public policy benefits. The idea that an individual or organization can control, access to or claim ownership of the facts of nature is foreign to science.

Being a member of an organization that endorses such a principle, helps to create a structure that can act as a united voice on behalf of scientists. By so doing their needs and concerns of scientists are fully represented and protected in legislation and policy decisions that deal with these issues. For example the work of the ICSU CODATA ad hoc Group on Data and Information (see page 5).

**To gain economic benefit**

- In 2000 over 65% was spent on international scientific activities. The remaining 35% was spent on indirect support.
- At the 17th International Conference approximately 50% of financial expenditure of the conference went to support participation of international scientists. Nearly all of the scientists came from developing countries
- In cases, financial support given to scientists from some countries, exceeded the annual dues received from these National Member countries
- It should be noted that all financial allocations are in the form of grants and not loans.

**Highlights of CODATA Newsletter n°82  
(due for publication September 2001)**

- New CODATA Electronic Journal on Data for Science and Technology
- Calls for proposals for new Task Groups and Commissions
- CODATA Prize 2002
- 18<sup>th</sup> International CODATA Conference 2002 - *Frontiers of Scientific and Technical Data*
- Calendar of Meetings.

# For all Readers - our Scientific Agenda

Through its Task Groups, Commissions and Working Groups, CODATA executes an ambitious international agenda addressing major data needs and policy issues in a broad range of subjects. These activities are selected through a peer-reviewed proposal process and approved democratically at the biennial CODATA General Assembly. A request for new proposals is issued one year in advance of the Assembly (next issue fall 2001). CODATA welcomes enquiries about possible new projects.

## Biological Sciences

The **Global Plant Checklist Network** has started the establishment of a master list of the world's plants in support of scientific research, species diversity and preservation, genetic resources and drug development. The **Standardized Terminology for Access to Biological Data Banks-Species 2000 Project** has worked to develop a coordinated, distributed master list of all living species. The Species 2000 project is a multi organization effort that aims to link all species databases, so biologists, ecologists, environmentalists and others can have one point access to basic information on living things.

A new Task Group called **Global Species Data Networks** was approved by the CODATA 22nd General Assembly in Italy, in October 2000. This Group combines the work of the previous two Groups and is working to provide a uniform and validated quality index of names of all known species for use as a practical tool. The index will provide: (1) an electronic baseline species list for use in inventorying species projects world-wide; (2) the index for an Internet gateway to species databases world-wide; (3) a reference system for comparison among inventories; and (4) a comprehensive world-wide catalogue for checking the status, classification and naming of species.

The **Biological Macromolecules** Task Group (1998-2000) has facilitated interoperability among existing and emerging biotechnology databases dealing with biomacromolecules, such as proteins, nucleic acids and other large molecules of importance in living things.

At its recent Executive Committee meeting in Paris, CODATA approved the proposal of a special **CODATA Workshop on Quality and Data Models for Biological Macromolecular Databases** to be held in 2001. It will have three primary goals:

(1) How to set up regular surveying and review of the major databanks in this area; (2) to encourage modern data models of genomes, sequences, structures, etc. and (3) to facilitate the improvement of annotation of these databanks.

A special Working Group on **Biological Collection Data** was also recently approved by the Executive Committee. The objective of the Group is to foster accessibility of existing and emerging biological collection data banks at the international level by developing proposals for data

and metadata standards. The Group works closely with the Taxonomic Data Working Group of the International Union of Biological Sciences (IUBS).

## Physical Sciences

One of CODATA most well known activities is the periodic revision of the fundamental constants of nature. Under the auspices of the CODATA Task Group on the **Fundamental Constants**, revisions have been produced in 1974, 1986 and 1998 (the latter was published in 1999). The resulting set of fundamental constants is used in all areas of physical science and is widely disseminated through publications and various forms. The Task Group was reapproved at the recent CODATA General Assembly in Italy. It held a recent meeting in June 2001 (see page 7).

The IUPAC-CODATA Task Group on **Standard Physico-Chemical Data Formats** has made significant progress in the presentation of numerical property data in **standardized electronic formats (SELFs)**. The Task Group was reapproved at the General Assembly in Italy as the **Standard Physico-Chemical Data Formats** Task Group. The work of the Task Group is coordinated with other international projects concerned with chemical and physical data exchange. The participation of IUPAC, as a source of chemical expertise, CODATA, with its broad interest in data handling and access, and ICSTI, with its representation from the publishing community, makes a powerful coalition to develop and demonstrate the needed standards.

## Industrial and Materials Data

Over the last two years the Working Group on **Molten Salts** and the Working Group on **Environmental Life Cycle Inventories** carried out activities related to materials data, especially of interest to industry. The Working Group on **Molten Salts** has concentrated on the development of criteria for evaluating molten salts data. Its international workshop held in September 2000 was successful in bringing together international partners to work on the development of a Web-based data resource to support new research directions. The Working Group on **Environmental Life Cycle Inventories** (LCI) worked on exchange of high quality data involved in the modern product development and manufacturing cycle. This Group also focused on promoting the use of standardised formats for LCI-data to ensure harmonisation with the relevant ISO standards and procedures.



**Materials Database Management** Task Group (1998-2000) has provided international leadership to experts who build, manage and distribute databases on the properties of engineering materials.

The importance of activities related to the industrial materials data was further endorsed at the General Assembly in Italy. A Task Group on **Data on Natural Gas Hydrates** was approved by the delegates. The Group has as its objective the development of the concept of a comprehensive information system of all aspects of natural gas hydrates. The first meeting of the Group was held in May in Paris in 2001 (see page 7).

### Global Sciences

The CODATA Special Group on **Environmental Ecosystem Conservation** (1998-2000) co-ordinated data activity on the problem of bioaccumulation and bio-indication of the heavy metals pollution in the ecosystems of the circumpolar regions (Northwest regions of Russia, Scandinavia, Canada). The two main themes of its second workshop were the development of a unified database on environment pollution by highly toxic substances and the development of pollution monitoring methods using biological indicators.

The Task Group on **Comparative Mathematical Methodologies of Data Handling and Knowledge Extraction** has become a widely effective Group for developing new measurement technologies for the large volumes of global data (geodynamical, seismological, biological, satellite and linguistic) now available. The Group was reapproved by the General Assembly in Italy as the Task Group on **Data Management and Virtual Laboratories**. Its objectives have been expanded to include the development of a virtual laboratory environment.

### Data Management and Exploitation

The Task Group on **Data Information and Visualization** holds tutorials on the latest data technologies. Based on the successful visualization conference and tutorial held in Canada in 1999, the subsequent maintenance of communication by various participants, including university students, has contributed to the general recognition of the importance of the area. This Group was reapproved and is interested in working with any Group wishing to expand their knowledge of the latest data technology.

The Task Group on **Data Quality and Database Compatibility** (1998-2000) has made an effort to combine the goals of the Task Group with the general goals of CODATA towards involving new disciplines and new technological fields. The Task Group meetings involved data quality and database management experts from the fields of pharmaceutical bioinformatics and related industries.

### Communication, Data Policy and Intellectual Property Issues

The Task Group on **Outreach Education and Communication** (1998-2000) concentrated on expanding data activities through education and outreach work, especially with developing countries. It held meetings in Paris 1999 and a special Biosafety Workshop in Bangkok, Thailand. It has developed considerable educational material on biosafety and informatics in preparation for the Workshop.

A Working Group on **Archiving Scientific Data**, was recently approved by the Executive Committee. The Group proposes to develop a position paper on preserving and archiving scientific data. It will develop a comprehensive bibliography and include a description of best practices, the role of CODATA, the major issues to be considered and other activities in the area of archiving scientific data.

**The ICSU CODATA ad hoc Group on Data and Information** continued to examine problems, policies, and possible solutions to issues of international access and exchange of data for scientific research. A highlight was the workshop held on the **European Directive on the Legal Protection of Databases** just before the Baveno CODATA International Conference. It consisted of a series of invited talks by scientists, lawyers, and a representative of the European Commission. The workshop offered 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. The European Commission in 2002 will likely review the Directive.

### Regional Activities

The CODATA Task Group on the **Survey of Data Sources in Asian-Oceanic Countries** has provided 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. This Task Group was reapproved at the General Assembly in Italy. It held its most recent meeting in January 2001 (See page 7)

**Task Group on Scientific Data Sources in Africa** is one of our newly approved Groups also. It is the first multi-national project within Africa to address scientific data problems. To the extent possible, the Task Group will make use of modern information technology to help development of scientific data resources for the less developed nations, especially in Africa.

**For more information on these Groups contact the CODATA Secretariat at [codata@dial.oleane.com](mailto:codata@dial.oleane.com)**



# General News

## CODATA PRIZE

The first recipient of the newly instituted CODATA Prize is Dr. Barry Taylor of the National Institute of Standards and Technology (United States). Dr. Taylor is cited for major contributions to the advancement of our understanding of the physical world through critically evaluated values of the fundamental physical constants. This first CODATA Prize was awarded at the 17th International CODATA Conference held at Baveno/Stresa, Italy in October 2000.

For over 30 years, Dr. Taylor, working with colleagues throughout the world, has been at the forefront of measuring and evaluating data on the fundamental physical constants. This work has resulted in three decennial adjustments of the fundamental constants that provide a cohesive set of constants that are used by scientists and engineers in virtually every field of science and engineering. These recommended values have had a profound influence on precision metrology. Working with partners including E. Richard Cohen and Peter Mohr, Taylor has pioneered new approaches to evaluating these data. The

1999 CODATA Adjustment of the Fundamental Physical Constants has recently been published in the Journal of Physical and Chemical Reference Data and the Reviews of Modern Physics.

Barry Taylor served for six years as Chairman of the CODATA Task Group on Fundamental Constants and is still an active member of that Group. Taylor is a Fellow of the American Physical Society, the Institute of Electrical and Electronic Engineers and the Washington Academy of Science. He has been made an Honorary Foreign Member of the Academy of Metrology of the Russian Federation and has been elected Chair of the American Physical Society Topical Group on Precision Measurements and Fundamental Constants.

Dr. Taylor's early work on the ac Josephson effect first made it known to the world that measurements of quantum phenomena in condensed matter physics could provide information on the fundamental constants. Such measurements have been an important source of information since then. Taylor has also organized two international conferences



on fundamental constants that have stimulated communication and interest in the field. For recent generations of workers in science and technology, any mention of the fundamental constants brings Barry Taylor's name to mind.

## The CODATA Family Grows

CODATA is delighted to welcome both Ukraine and Thailand as new National Members. Ukraine's application, by the National Academy of Sciences of the Ukraine, and Thailand's application, on behalf of the National Center for Genetic Engineering and Biotechnology (BIOTEC), were accepted by CODATA Delegates in a recent Postal Ballot.

Academician Mikhail Z. Zgurovsky, Director of the Institute for Applied System Analysis of the National Academy of Science of the Ukraine and Rector of the National Technical University of Ukraine, has been appointed the Ukrainian National Delegate.

Professor Morakot Tanticharoen, Director National Center for Genetic Engineering and Biotechnology, has been appointed the National Delegate from Thailand. CODATA is also pleased to announce that the All Russian Institute of Scientific and Technical Information (VINITI), has become a Supporting Organization. Mr Oleg Nesterov, Head of Section of the Department of International Relations, VINITI, has been appointed the official liaison contact for CODATA. Welcome on Board!

### CODATA Officers and Executive Committee Members

The October 20 and 21, 2000 General Assembly in Stresa, Italy elected the following Officers and Executive Committee Members:

#### Officers

President:	Dr. John Rumble, Jr., USA	(1998-2002)
Vice-President :	Prof. Akira Tsugita, Japan	(1998-2002)
Secretary General:	Prof. P. G. Mezey, Canada	(1998-2002)
Treasurer :	Dr. Jean-Jacques Royer, France	(2000-2004)

#### Executive Committee Members 2000-2002

Dr. Heinrich Behrens	(Germany)
Ms. Lois Blaine, U.S.A.	(USA)
Dr. Abdoulaye Gaye	(Senegal)
Dr. Shuichi Iwata	(Japan)
Dr. Krishan Lal	(India)
Prof. Steve F. Rossouw	(South Africa)
Prof. SUN Honglie,	(Chinese Academy of Sciences)
Dr. Vladimir Yungman	(Russia)



# CODATA Meetings

## 17th International CODATA Conference, Italy, 2000

The highlight of CODATA activities in 2000 was its 17th International Conference- *Data and Information for the Coming Knowledge Millennium- Science and Technology in the Quest for a Better World*. It took place in Baveno/Stresa, Italy, 16-19 October 2000. It was a special event in that it addressed the important interdisciplinary issues in scientific and technical data management and dissemination. It also covered today's issues such as: data access; intellectual property rights; data and database quality; data exchange standards and the roles of databases in research and development.

Eleven Plenary presentations were made by world class scientists and 245 papers were presented over four symposia:

- Data, Information and Knowledge: Principles, Methodologies, Systems and Policies
- Data, Information and Knowledge in the Biodiversity, Life and Medical Sciences
- Data, Information and Knowledge in the Earth and Physical Sciences, Engineering and Industry
- Data, Information and Knowledge in the Environment and for Renewable Energy

Between 180-230 people attended each day of the conference

Due to adverse weather conditions the conference was forced to relocate from Baveno to Stresa when the waters of Lake Maggiore invaded the meeting rooms. The conference was delayed by a mere three hours and was back on track by the end of the first day.

Paper abstracts can now be consulted on our website [www.codata.org](http://www.codata.org). Electronic publication of full papers and viewgraphs is currently underway and these will also be available on the website over the coming months.

## Fundamental Constants Task Group

The CODATA Task Group on Fundamental Constants met on 29 June 2001 at the Bureau International des Poids et Mesures (BIPM), near Paris. The meeting was attended by thirteen Task Group members.

The main topics of the meeting were issues concerning the next set of CODATA recommended values of the fundamental constants. It was agreed that the Task Group would attempt to stay on schedule to produce a new set of recommended values, termed the 2002 values, based on all data available up to 31 December 2002. These values would be published sometime in the year 2003. The technical data that have become available since the 1998 adjustment of the values of the constants were reviewed in some detail. There has been a considerable amount of relevant work done in this time period, and about 158 publications were identified for further examination and evaluation. This new work already has had a visible impact on the values of the constants, and it is clear that a new set of CODATA recommended values will be warranted.

## Data on Natural Gas Hydrates

The CODATA Task Group on Data on Natural Gas Hydrates was approved at the recent CODATA General Assembly in Italy. It has as its objective the development of the concept of a comprehensive information system of all aspects of natural gas hydrates. The Group held its first meeting at the CODATA Secretariat, 51 Bld de Montmorency, 75016 Paris on 12-13 May 2001. Detailed discussions took place on the type of information system to be established; the need for systemized data.

The system must be multi-disciplinary and format compatible; the contributors for this distributed system and different type users of the system must be identified.

The Group also identified other Groups and Organizations throughout

the world whose work was directly or indirectly related to the objectives of the Task Group. These will be contacted over the coming months.

Follow up:

- It was decided to organise a CODATA Workshop on Gas Hydrates Data Sharing within the framework of the International Conference on Gas Hydrates, 19-23 May, 2002, Yokohama, Japan. The object of the Workshop is to highlight to the international gas hydrate community data handling problems within this area. The organizers of the Yokohama Conference have agreed to include the proposed Workshop in the program of the meeting. The Japanese National CODATA Committee will help in organizing the Workshop.

- A web page on the work and future work of the Gas Hydrate Group is currently been established.

- A strategic plan has been drafted outlining four possible programs for future financial support for the Group. A liaison person has been assigned from the Group for each of the four programs, to commence the preparatory steps in soliciting funding under the programs.

## CODATA Task Group Data Sources in Asian and Oceanic Countries (DSAO)

The CODATA Task Group, DSAO, held a joint forum entitled, Taxonomy Initiatives for Biodiversity Conservation in an IT Era, on 13-14 January 2001. It took place at the National Science Museum in Tokyo.

The sponsors of the meeting were the Union of Japanese Societies for Systematic Zoology, National Science Museum of Japan, National Institute for Environmental Studies of Japan, Center for Global Environmental Research of NIES, Gaialist 21, Species 2000 Asia Oceania and CODATA/DSAO.

One hundred and twelve participants from eleven countries gathered over the two days. Abstracts of the papers and Power Point presentations are available at <http://www-sp2000ao.nies.go.jp/whatsnew/2001/january/jointforum/index.html>.



## Obituary Himo Ansara (1936-2001)

The thermochemistry community was greatly saddened by the recent, sudden and unexpected death of Himo Ansara. His cheerful and active presence at meetings of CALPHAD, SGTE, JEEP and CODATA, in all of which he played a full and active role, will be very sorely missed. His many friends and colleagues around the world extend their deepest sympathy to Himo's wife Aljette, to his daughter, Karin and to his son, Jan.

Himo's warm and friendly personality undoubtedly stemmed from his rich, multicultural background. Born and raised in Suez, Egypt, he first attended an English school and then a French school. He obtained his Baccalaureat in Cairo in 1955 and from there he moved to Grenoble in France, which was to become his home for the rest of his life.

His scientific career progressed rapidly with the award of a Mathematics-Physics-Chemistry diploma at the Scientific University of Grenoble in 1957 and entrance into the National School of Electrochemistry and Electrometallurgy in the same year. A bachelor's degree in chemistry followed in 1960, and in 1961 he joined CNRS as Attaché de recherche at the Laboratoire de Thermodynamique et Physico-Chimie Métallurgiques (LTPCM). He remained at LTPCM from then onwards. In 1967, with his thesis work for the State Doctorate of Sciences, he was promoted to Chargé de recherche. A further promotion to Maître de recherche was awarded in 1973 and in 1986 he achieved the status of Directeur de recherche.

Himo's work was concentrated throughout his distinguished career on the thermodynamics of alloys. In this field he made very many original contributions, in particular in the calculation of multicomponent alloy phase diagrams and in the development of thermodynamic modeling descriptions for metallic phases with complex structures. In the last few years he published several important papers dealing with descriptions of ordering in high temperature alloy phases. Many young scientists from around the world spent time working with him to learn not only the basics of modeling, but also the skills of computational thermochemistry in general.

Major awards presented to Himo were the Prize Sue of the Société Chimique de France (1970), the Hume-Rothery Prize of the Institute of Materials, UK (1995), and Member of the Academia Europa (1996).

Himo's world-wide interactions were reflected by positions he held in a number of international organizations. Among these were:

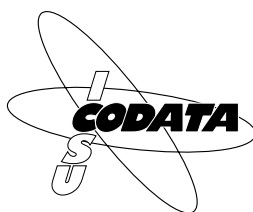
- member and secretary of the IUPAC Commission on physico-chemical symbols, terminology and units
- member of CODATA Task Groups on Thermodynamic Key Values and Thermochemical Tables
- vice-president of the Alloy Phase Diagram International Commission (APDIC)
- representative of Institut National Polytechnique de Grenoble in the Administrative Council of the Scientific Group Thermodata Europe (SGTE)
- associate editor of CALPHAD, Journal of Phase Equilibria, Zeitschrift für Metallkunde



While his scientific achievements were many, Himo is remembered as much by his friends and colleagues for the pleasure he gained from sharing an evening of companionship and laughter over a good meal, accompanied by an appropriate supply of good wine. The hospitality that he and Aljette showed to scientists visiting the laboratory at Grenoble is legendary and very many thermochemists have some of their warmest memories of evenings spent at the Ansara home in Poisat. Apart from his science, a major passion in Himo's life was golf. Many lunch breaks were spent rushing off for a quick nine holes at Uriage, where he broke all course records – not for holes in the lowest total, but for the speed of moving from number 1 tee to number 9 hole! A game of golf with Himo, which could be on a course anywhere in the world, was a test in fitness as well as in golfing skills!!

While his death came too early, and shortly before he was due to retire, our memories are of a life lived to the full, in work, in play, and above all in times spent with friends. Those memories remain with us.

*Philip Spencer*



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