

64 CODATA / NEWSLETTER

August 1993

Survey of Data Sources in Asian-Oceanic Countries

HIGHLIGHTS

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The Committee on Data for Science and Technology (CODATA) was established in 1966 by the International Council of Scientific Unions.

Working on an interdisciplinary basis, CODATA seeks to improve the quality, reliability, processing, management, and accessibility of data of importance to science and technology.

The Task Group bearing the above name and the acronym CODATA/DSAO will hold its sixth meeting in Taipei, on March 10-12, 1994. This very active group established as a Working Group in 1987 and upgraded to a Task Group in 1988 has produced a *Directory of East Asian Data Sources* and two *Special Reports on Presentations*. A *Special Report on Presentations* and an updated *Directory* are in press. The Task Group, however, more than a reporting facility for the *status quo*, seems to be effective in promoting and enhancing the development of databases in its region of concern by precept and example, and by a subtle "missionary" emphasis.



But such a meeting is no mean operation. In addition to the 16 Task Group members from the region (representing China, Japan, Korea, R.O.C., India), invited CODATA officers, and 20 foreign participants (including delegates from Asian-Oceanic countries) and 60 local scientists may be involved. It is truly a significant subset of a CODATA Conference! Negotiations, arrangements, and funding have been arranged by Dr. Jen-Leih Wu (Chairman of CODATA/Academia Sinica, Taipei) through the sponsorship of CODATA/DSAO; CODATA/Academia Sinica, Taipei; Science and Technology Information Center, National Science Council, Taipei, Taiwan; and the Institute of Zoology, Academia Sinica, Nankang, Taipei, Taiwan. Excursions to database centers, the Science and Information Center, etc. are planned to supplement the foreign presentations.

The ICSU Federation of Astronomical and Geophysical Data Analysis Services

The earliest scientific measurements were probably of the movement of the sun through the heavens. When wise men among the ancients developed scientific theories to fit the observed facts, they did so to satisfy the practical human demands of adjusting to the seasons. Like today's scientists, they must have understood the basic experimental requirement: good science needs good data. Studies of the Earth, the solar system, and the universe demand data of the highest quality, measured systematically over as long a period as possible.

Although such observations have been made since time immemorial, few records were kept in a systematic way to allow detailed analyses and the identification of trends and changes. The Federation of Astronomical and Geophysical Data Analysis Services (FAGS), formed in 1958, is an interdisciplinary ICSU Body. FAGS includes ten individual Services, each operating under the authority of one or more of the sponsoring ICSU Unions: IAU, IUGG, and URSI. Each Service Director is an acknowledged international authority on the phenomena for which the Service is responsible; each Director is charged not only with receiving data from a world wide network of co-operating agencies, but also for quality control, dissemination of data and advice to interested scientists, and above all for applying his expertise to the scientific analysis and interpretation of the integrated sets of observations.

Scientific interest in these analyses continues to grow. For example, recent studies of the variations in the rate of rotation of the earth are important in relation to meteorological changes, glacier distribution in polar regions, geomagnetic activity and space navigation. The long-term changes are of special interest—for example, in anticipating the effects of climate trends on the global economy, the possibility that slow tectonic movements and tides may play a role in triggering earthquakes, and the coastal impacts of secular changes in sea levels.

FAGS Services give special attention to questions of instrument calibration, resolution, and stability. Reliable scientific analyses of small but important long-term geophysical trends is possible only if the methods of making the measurements over decades and centuries have been carefully controlled. No new measuring procedure can be introduced without careful comparison and checks for compatibility with the older methods. Here the advice and experience of the Services Directors is invaluable as guidance for the network of individual measuring systems which operate at a national level.

Each Service works independently, under the general auspices of FAGS, towards the common goal of long-term scientific excellence in data analysis and interpretation of astronomical and geophysical variability. The sponsoring Unions appoint Advisory Boards with strong international membership to guide and assist each Director to achieve these goals.

Although the central co-ordination of FAGS began under ICSU as recently as 1956, many of the Services have a longer history. Most maintain data which have been collected over decades, and in some

cases, centuries. It is appropriate to consider the special activities of each Service in turn.

The International Earth Rotation Service (IERS, established in 1895 in Potsdam, Germany, presently in Paris, France) maintains the terrestrial reference system for both positions and velocities; it also maintains an extragalactic celestial reference system and determines the earth orientation parameters which connect these systems; it organises the observational activities necessary to collect the appropriate data. The advent of satellite geodetic measurements such as Very Long Baseline Radio Interferometry, Lunar Laser Ranging, the Global Positioning System, and Satellite Laser Ranging, has revolutionised the accuracy of the studies: crustal movements as small as 2 to 5 mm per year are detectable, and changes in the length of the day are monitored to within 0.0002 seconds. The various IERS results contribute in many ways to space research, astronomy, and geophysics. For example, data on the Earth's rotation are interpreted in terms of mantle elasticity, structure and properties of the core-mantle boundary, rheology of the core, underground waters, ocean circulation, atmospheric winds, and mass distribution.

The Quarterly Bulletin on Solar Activity (established in 1928 in Zurich, Switzerland, presently in Tokyo, Japan) publishes a *Bulletin*, a record of solar activity which is as final and complete as possible, for studying short- and long-term activities of the sun. These activities include sunspots, synoptic charts of solar magnetic fields, chromospheric eruptions, intensity of the solar wind, and solar radio emissions. More than 70 observatories and institutes contribute observations to these syntheses.

International Service for Geomagnetic Indices (established in 1932 in De Bilt, Netherlands, presently in St. Maur, France) collects and publishes data disturbance variations of the geomagnetic field. Disturbances include sudden commencement of magnetic storms, solar flare effects, and pulsation disturbances. Variations in the intensity of the earth's magnetic field are related to the level of solar activity, and the amount of energy coming from the sun into the earth's environment.

Permanent Service for Mean Sea Level (PSMSL, established in 1933 in Merseyside, U.K.) collects and analyses monthly mean sea level data from a global network of tide gauges. These gauges are operated by a wide range of national authorities: hydrographers, surveyors, oceanographic institutes, and individual university departments. PSMSL works to improve the quality of the measurements, and the range of global coverage. There is a shortage of reliable long-term sea level observations in the Antarctic, and from ocean islands. The latter are important to get an even coverage of the measurements; to increase the data flow, PSMSL has worked with the Intergovernmental Commission of Unesco to develop GLOSS, an intergovernmental system for measuring sea levels to common high standards. Altimetry has given a new momentum to these analyses, and in future the emphasis will be on developing integrated products for sea level based on both coastal and satellite measurements. In recent years the prospects of global

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MASAO KOTANI — 1906-1993

Masao Kotani, Japanese physicist and the Fourth President of CODATA 1978-82, passed away on 6th June 1993, at the age of 87. He had long been very well since he had recovered after the medical operation in 1966, when seventy-two gallstones were extracted and again after an operation for stomach cancer in March, 1992.

Prof. Kotani was born in Kyoto in 1906 and spent his primary and middle school days in Osaka. He received his higher education in Tokyo at the First High School and the Tokyo Imperial University (presently the University of Tokyo), both of which are held in highest esteem in Japan. After he graduated from the University in 1929, he began a career in the University, and in 1943 became a full professor of physics in the University from which he had graduated. In 1965 he moved to the Faculty of Engineering Science at Osaka University. After retirement, he was elected (1970) to the Presidency of the Science University of Tokyo, a private university of high renown, and completed three terms of four years each. He had since been working as advisor in the University's research institute. Of the several awards and prizes given to him for his work on magnetrons, on microwave circuits, and on molecular- and bio-physics, the Order of Cultural Merit—which he received in 1980 in the presence of the Emperor (Hirohito)—was the highest honor in Japan. His short speech of thanks represented all the awardees.

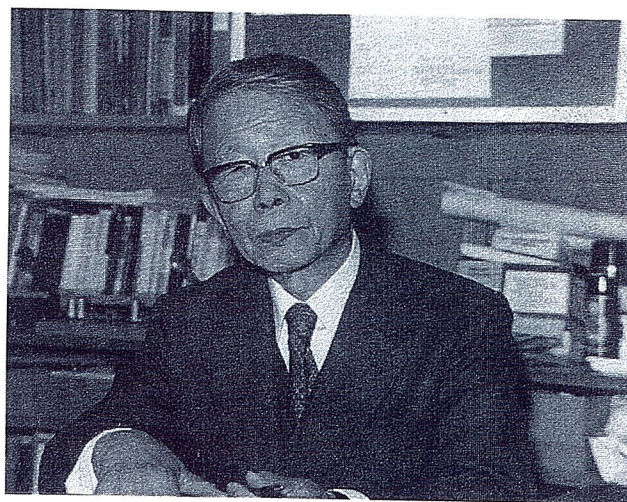
He was an expert in mathematical physics. His earliest paper was on Rayleigh disk; he worked on distorted wave calculation of some electron-atom collision cross sections in the late 30's.

He and his colleagues did systematic numerical computation of molecular integrals in the 30-40 era before electronic computers were available in chemical physics. They studied electronic structure and properties of simple diatomic molecules.

Then he studied electronic structure in metallic complexes to which he applied field theory elegantly. Through this research he turned to studies of hemoproteins. Subsequent research activity was focused on biophysical problems. He established the Biophysical Society of Japan and was nominated as the first President of this Society in 1962.

He was one of the six founding members of CODATA in 1966 and served as a Bureau Member 1969-72. In 1972 he was appointed Chairman of the Task Group (TG) on the Accessibility and Dissemination of Data (CODATA/ADD) which he had proposed and which had been approved at the preceding Annual Meeting (equivalent to the present General Assembly). This was the most active TG in CODATA and under his chairmanship made many contributions. Its first achievement was the *Study on the Accessibility and Dissemination of Data in Science and Technology* (cf., Unesco SC.74/WS/16 and

CODATA Bulletin No. 16.), under a contract with Unesco. Another publication from this predominant TG was *Data Handling for Science and Technology—An Overview and Sourcebook* edited by S.A. Rossmassler and D.G. Watson and published by North-Holland, which contained an introductory survey of the basic aspects of scientific and technical data. A training course on data dissemination was planned during his term, and was carried out under the chairmanship of his successor Dr. D.G. Watson. In the meantime he was



elected to the Presidency of CODATA at the General Assembly held in Sicily in 1978. After completing his term of four years, he served as the Past President and Chairman of the Nominating Committee for four years in accordance with the CODATA Constitution. In addition to the above, he was involved in several TGs as a member or an honorary member.

Twice President of the Physical Society of Japan and of the Biophysical Society of Japan, he was also a Vice President of IUPAP ('55-'60), Vice-President of International Federation of Documentation ('60-'62), eight years a Council Member of IUPAB ('61-'69), and a Member of the Executive Board of ICSU ('66-'70). For two years ('55-'57) he chaired the Graduate School of Physics and later ('58-'59) was Dean of the Faculty of Science at the University of Tokyo. He was honored with membership in the Japan Academy in 1980.

When we speak of Prof. Kotani, we cannot help using the word "small," in contrast to his greatness, in several respects—worthy of his name which means "small valley" in Japanese. First, he was physically small. Once Yoshiko Ishii was astonished, when she was serving as secretary to the President of Science University of Tokyo, to find President Kotani suddenly disappeared from her sight in the President's office. Her uneasiness was soon dispelled when she recognized the President, crouching to tie his shoestrings, completely hidden behind his desk. Second, he spoke in a very modest (low) voice. We had to listen to him very carefully and often failed to hear him when he spoke in meetings—especially in a noisy environment. In our celebration party for his achievement of the Order of Cultural Merit, his short

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Kotani (continued from page 3)

speech of thanks to the Emperor became the topic of our conversation. A young geologist asked him, "Did you make the speech in your usual small voice? Could the Emperor hear you?" Everybody burst into laughter, and so did Prof. Kotani, joyfully. Third, he wrote very small characters. His handwritten letters, even kanji modified Chinese characters, were as small as those of elite type.

Small as he was, he was energetic and full of vitality. When he discussed something with somebody, he was insensitive to the elapse of time. It is a famous legend about him that the time necessary for discussion with him must be measured by a non-SI unit of "kotani" which was roughly equal to 10^4 seconds (2 h + 40 min). Dr. Kizawa recalls an experience of a three kotanis discussion with him during writing the Sourcebook.

He always behaved with nobility, dignity, modesty, and politeness. He always spoke gently, he never used wild words, and I never saw him angry. He was, however, "human." His secretary once related, "Mr. President likes young girl students as do ordinary people; when they come in the President's office, I notice him full of gladness with a joyful face." Then she added in a complaint tempered jokingly, "He pays no attention to me, although I, too, am a girl!"

His intellectual ability was so superior to ours that few persons could follow him well. At the start of a new term of a committee in Science Council decades ago, the majority of the members present voted to extend his chairmanship beyond his last term. He was, however, hesitant to accept it, because of his advancing age. "Recently I find a considerable deterioration in my intellectual ability," he said. Then one of the senior members stood up, saying, "A considerable deterioration? That's fine! That will give us a better balance!"

He also demanded strictness and completeness when writing English. He examined every word when preparing an English document. Strangely, though, his typewriting in English was an unbelievable exception; his English documents typewritten with two fingers, incorporated significant typographical errors. (It was really heartbreaking that such a great scientist lacked better secretarial English language support for his international activities.) Native English-speakers should note that he had to overcome such difficulties as are common in the environment of a language completely different from English in order to communicate with scientists of the world.

Prof. Kotani liked traveling. It seemed to be one of his pleasures to look at the monthly *JTB Time Tables* (a book which contains the time tables of trains in all parts of Japan; similar to *Cooks European Timetables*, and make imaginary trips. He looked happy when he told me he found the longest nonstop run of super-express trains. This hobby of his must have been very helpful to him in his international activities—traveling frequently and globally. He went on an overseas trip light-heartedly—according to Mrs. Kotani—with no more concern than visiting a restroom.

Dr. Kizawa remembers a part of his banquet speech at the Third International CODATA Conference, Le Creusot, France, 1972. He said, "I hope to live in a calm French countryside some day when my business life is over." His importance and indispensability in

the science society, after all, did not allow him to realize his wish during his life. Dr. Kizawa now prays that as an alternative for him, "May he rest calmly and peacefully in Heaven for ever."

His wake was held at Gokokuji temple on June 10th. The formal funeral ceremony on July 10th, held under the auspices of the Science University of Tokyo, took place near the Science Council Building. He is survived by his wife, Yae, a daughter, Mrs. Akiko Otsuka, a son, Masahiro (Professor of Chemistry at Gakushuin University).

—Makoto Kizawa and Akira Tsugita*

*See also: "CODATA Profile (Masao Kotani)", CODATA Newsletter No. 29, p. 7 (July, 1984).

DIPPR Pure Component Data Compilation

The Design Institute for Physical Property Data (DIPPR) is the AIChE's oldest active sponsored research group. The new Version 7 of the Pure Component Data Compilation with 1351 chemicals, now available on diskettes and magnetic tapes for a variety of computers, covers more chemicals and upgraded information about chemicals included in earlier versions. Database Version 7 provides data for 26 constant and 13 temperature-dependent physical and thermodynamic properties. DIPPR can be used by many commercially-available programs and simulators, including EQS Chemical Equilibrium Software, POLARPROPS (polar and non-polar fluids and mixtures), and PPDS2 (which calculates phase equilibrium for mixtures and pure components).

For more information, phone or write to: Technical Database Services Inc., 135 West 50th Street, New York, NY 10020-1201. Tel: (212) 245-0044. Fax: (212) 247-0587.

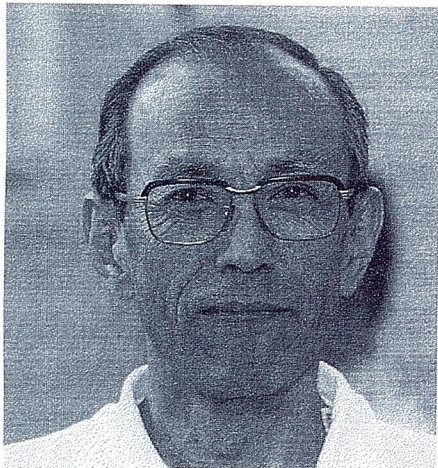
Workshop on Epitope Data

The CODATA International Workshop of Epitope Data under the auspices of the CODATA Task Group on Biological Macromolecules (TGBM) and supported by the Japanese Bioindustry Association (JBA) will be held on September 13-15, 1993 at the Research Institute for Biosciences at the Science University of Tokyo, Noda, Japan. The speakers include Lu-Ping Chow (PIR-Taipei, Taipei, China), Hiroko Inoura (PIR-JIPID, Japan), Carl S. Jone (PIR-Intl., UK), Ashok S. Kolaskar (HDB Core Committee and CODATA TGBM member, India), Lunjiang Ling (PIR-Intl., Beijing, China), Catherine Lukens (HDB, USA), Kazuo Satake (PIR-JIPID, Japan), Junko Shimura (HDB, Japan), Hideaki Sugawara (HDB, Japan), Nobuko Suzuki (PIR-JIPID), Mitsuo Tasumi (CODATA-observer DSAO, Japan), Akira Tsugita (PIR-JIPID and Chairman of TGBM, Japan), Tomio Tada (IUIS Vice President, Japan), Jen-Leih Wu (National Committee Chairman and TGBM member, Taipei), Kazuhiko Yamamoto (IUIS, Japan), and Li-Jun Yang (PIR-Intl., Shanghai).

Information may be had from: PIR-JIPID, Research Institute for Biosciences, Science University of Tokyo, 2669 Yamazaki, Noda 278, Japan. Tel: +81 471 23 9778; Fax: +81 471 22 1544.

Dr. Hideaki Chihara Honored

Dr. Hideaki Chihara, Executive Director of the Japan Association for International Chemical Information (JAICI), Tokyo, Japan, is the 1993 recipient of the Patterson-Crane Award. He is being recognized for his international contributions to chemical information and documentation spanning more than four decades. Through his leadership, worldwide access to the Japanese chemical literature became available.



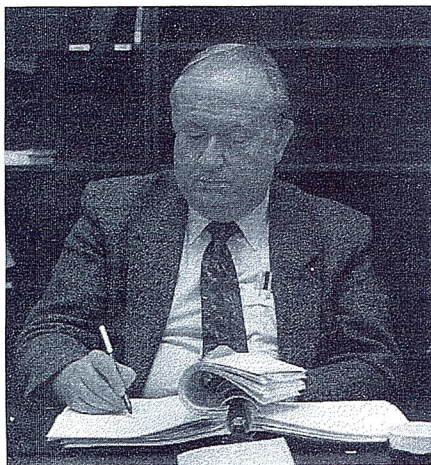
As early as 1954, he organized and directed the activities of the Japanese Chemical Abstracts Abstractors Association. In 1971, he was one of the founders of the Japan Association for International Chemical Information (JAICI), an organization established by Japanese academic chemical science societies to disseminate Japanese scientific and technical information worldwide. He has been associated with JAICI as a Director and/or Executive Director since its inception.

At JAICI, he has directed a range of information handling research programs. These endeavors have resulted in numerous papers and presentations dealing with the development and refinement of chemical information storage and retrieval techniques, analyses of the chemical literature (including chemical structure searching), as well as storage and retrieval of chemical thermodynamic data.

The Award, honoring two previous editors of *Chemical Abstracts*, Mr. Patterson and E. J. Crane, recognizes outstanding contributions in chemical information theory or practice. The Award was presented at a joint meeting of the donors (The American Chemical Society Dayton, Ohio, and Columbus, Ohio, Sections) at the University of Dayton, May 11, 1993.

Gordon H. Wood in the News

Dr. Gordon H. Wood, Manager of CISTI's (Canadian Inst. for Scientific and Technical Information) is also Executive Secretary for the Canadian National Committee for CODATA as well as the CODATA Secretary General. Gordon presented a terse outline of CODATA's role in *CISTI News*, June 1993.



CODATA Calendar

1993

September

13-15 CODATA International Workshop of Epitope Data. Science University of Tokyo, Tokyo, Japan.

October

6-8 First International Symposium on Computerization and Use of Materials Property Data. Gaithersburg, MD, USA

8-9 CODATA Task Group on Materials Property Data Management. Gaithersburg, MD, USA

----- CODATA Referral Database Task Group. Paris, France (Tentative)

December

Task Group on Geothermodynamic Tables. New York, USA (Tentative)

1994

March

10-12 CODATA East Asian Data Sources Task Group Meeting, Taipei, Taiwan

17 CODATA Officer's Meeting. Paris, France

18-19 CODATA Executive Committee Meeting. Paris, France

September

18-22 International CODATA Conference. Chambéry, France

23-24 CODATA General Assembly. Chambéry, France

1996

----- International CODATA Conference. Tsukuba, Japan

----- CODATA General Assembly. Tsukuba, Japan

Title of Baron Conferred on Past President of CODATA

Prof. Paul Melchior, former President of CODATA and Secretary General of the International Union of Geodesy and Geophysics for 18 years, was honored with a concession of hereditary noblesse with a personal title of Baron on 20 July 1993 by King Baudouin of Belgium.

Members of the CODATA family extend their congratulations to Baron Melchior.

FAGS Services (continued from page 2)

warming, and possible enhanced rates of sea level rise have made the demands for PSMsL analyses more urgent. Present rates of sea level rise to 0.15 m per century may increase, but there is no evidence for this yet.

Bureau Gravimétrique International (BGI, established in 1953 in Paris, France, presently in Toulouse, France) collects on a worldwide basis all gravity measurements and pertinent information about the gravity field of the Earth; it compiles and stores the information on a computerised database in order to redistribute them to a large variety of scientific users. Other data such as mean values of gravity anomalies, geoid heights, topographic heights, and satellite altimetry derived geoid heights are also collected and distributed to scientists worldwide. The BGI also records absolute measurements of gravitational acceleration. One of the applications in which BGI assists is the preparation of geoids for cartographic and hydrographic applications.

International Centre for Earth Tides (established in 1960, in Brussels, Belgium). Ocean tides are easily observed by the casual coastal visitor, but the gravitational attractions of the moon and sun are also felt by the solid Earth. The forces and the Earth's responses to these can be calculated and measured to great accuracy. These Earth responses relate to the elasticity of the mantle and to the properties of the liquid core. Movement of water due to ocean tides also affects the crustal deformations observed by sensitive gravity metres, tilt metres and strain gauges. When known, global effects are removed from the records, and the residuals are analysed in terms of local phenomena and tectonic features.

International Ursigram and World Day Service (IUWDS, established in 1962 in Chatswood, Australia) describes itself as "The World Space Weather Warning Service." It operates through a network of ten Regional Warning Centres, which have responsibility for collecting data in their geographic area and distributing it to users through the other centres. The wide distribution of these centres is typical of many of the FAGS Services: Paris, Prague, Warsaw, Moscow, New Delhi, China, Tokyo, Sydney (Australia), Boulder (USA), and Ottawa. Warnings of disturbances in the solar terrestrial environment are used by radio communicators, surveyors using geophysical techniques, power line and pipe line authorities, operators of satellites, and a host of scientific users. IUWDS also encourages co-ordinated observations by preparing the International Geophysical Calendar each year; this lists a series of "world days" which scientists may use to carry out synchronised experiments.

World Glacier Monitoring Service (established in 1967 in Zurich, Switzerland). Increased interest in possible global warming has focused on trends in the extent of glaciers; maps of fluctuations are published at 5-year intervals. A century of systematic observations clearly reveal a general shrinkage of mountain glaciers on a global scale, which provides one of the most reliable pieces of evidence for a secular warming trend. Glacier inventory information provides the basis for identifying global trends, and for isolating locally anomalous behaviour; but interpretation is not straight forward, and standard procedures for monitoring glacier length and volume must be applied.

Sunspot Index Data Centre (SIDC, established in 1985 in Brussels, Belgium). Since 1981 the SIDC has collected data from some 40 co-operating centres to calculate a provisional sunspot number, but the records go back as far as 1700. Recently the Service has begun separate analyses of activity in the two solar hemispheres. On top of the well known 11-year periodicity, there are many shorter- and longer-term fluctuations. Apart from strong scientific interest, users include space-centres and telecommunication systems. SIDC issues 12-month forecasts, with necessary cautions. Until 1997 the level of sun spot activity will generally decrease through the 11-year cycle.

Centre de Données Stellaires (CDS, established in 1985 in Strasbourg, France) is the world reference database for the identification of astronomical objects. It collects all of the useful data concerning these objects from observatories around the world, upgrades this information by critical evaluation and comparisons, and distributes the results for further research. CDS has also had a major part to play in most of the major astronomical space missions, by identifying observed sources, and by helping to solve problems of data archiving and access.

There is no typical FAGS Service, but as the above summary shows, there is a general theme: of attention to co-ordinated global observing systems of the highest quality; data assimilation; analysis and interpretation of this data using the best scientific expertise; and a commitment to make these results available for other scientists and for a wide range of other practical applications.

ICSU and the Scientific Unions provide a small sum of money to assist the Services in their central activities, but the main support comes in each case from the national authorities which undertake these responsibilities for the benefits of international science. The Council of FAGS ensures that standards are maintained, and that where possible, links among the Services are developed. Joint meetings of the Services Directors and the FAGS Council are held every four years, to exchange ideas and experience, and occasional cross-Service scientific meetings are organised. In December 1993 the Permanent Service for Mean Sea Level is celebrating 60 years of operation at a meeting to which it has invited Directors of several of the other FAGS Services.

The driving force and vision which established a co-ordinated system of astronomical and geophysical observations and analysis within ICSU came from the scientists, who demanded data of the highest quality to enhance our understanding of the Earth on which we live, and of the solar and stellar systems which surround us. But the final acknowledgement must go to the generations of anonymous observers without whose patient and exact application of their measuring skills, none of this would have been possible.

**--Dr. David Pugh
Secretary, FAGS**

**Time to plan to participate. . .
International CODATA Conference
Chambéry, France, Sept. 18-22, 1994**

CODATA TASK GROUP ON BIOLOGICAL MACROMOLECULES MEETS

Completing a decade of successful initiatives in the field of data in modern molecular biology, the CODATA Task Group on Biological Macromolecules met from March 9th to 12th. Prior to the meeting, a colloquium was held at the Max Planck Institute for Biochemistry, Martinsried near Munich, Germany, which focused on the question "Why and How to Sequence a Genome" and attracted much attention to CODATA activities in the rapidly growing field of systematic analysis of genomic information.

Seven leading people in the scientific, technological, and managerial aspects of genome data spoke of the unprecedented complexity in biology. P. Slonimski (CNRS, France) presented an overview of the challenge of the massive collection of new sequences derived from genomic sequenced projects that are not related to known identified cellular products. Experiments to ascertain the conditions under which such genes are expressed can contribute to elucidation of the structure/function relationship of expressed proteins. B. Dujon (Institut Pasteur, Paris) described the exciting progress of the European Yeast Sequencing project in which the first sequence of an eukaryotic chromosome was revealed and the next two chromosomes are near completions. Funded by the Commission of the European Communities more than 50 laboratories are joined in a decentralized network administered by a panel of DNA coordinators (S. Oliver, Manchester; B. Dujon, Paris; and H. Felmann, Munich). Data are centrally compiled and analyzed in Martinsried, Germany (H.W. Mewes, MIPS). The American activities to analyze the Human Genome were described by D. Benton (NIH, Bethesda). P. Argos and C. Sander (EMBL, Heidelberg) reported on recent results in sequence data analysis. The ongoing European program to analyze a plant model organism (*A. thaliana*) was described by R. Schmidt (Norwich, UK), and J. Celis introduced a comprehensive approach for a data bank of human proteins identified by 2-dimensional gel analysis at the Danish Human Genome Center at Aarhus.

The annual meeting of the Task Group took place at Schloss Ringberg in a spectacular wintry landscape. Surrounded by the Bavarian Alps, the castle overlooks the Tegernsee. The perfect accommodation was applauded by the members. The Max Planck Society acknowledged the importance of the CODATA activities by generous support for the meeting for the second time since 1988.

The CODATA Task Group chaired by A. Tsugita of Noda, Japan was joined by the CODATA Commission on Standardized Terminology for Access to Biological Data Banks headed by L. Blaine of Bethesda, USA and representatives of the former Task Group on a Hybridoma Data Bank by A. Kolaskar of Poona, India. This fact reflects the need for an interdisciplinary approach to solving problems in standardization, nomenclature, and terminology for data banks in biology. Specific emerging activities in the field of taxonomy were discussed by experts from Europe and the United States (L. Blaine, M. Sogin, M. Krichevsky, Bethesda; T. Duncan, Berkeley; F. Bisby, Southampton, UK; and A. Elzanowski, Martinsried).

The subcommittee on 2-dimensional gel electrophoresis which was formed in 1991 continued its activities to standardize data exchange between centers analyzing proteins by high-resolution separation on polyacrylamide gels, a technique that continues to gain in importance. The subcommittee (chaired by R. Simpson, Melbourne, Australia) had to address specific problems of data structures and exchange, due to the differences in the technical procedures applied and the volume of data generated by the image analysis of the gels. Representatives of leading laboratories in the field contributed to the stimulating workshop (J. Celis, Aarhus; J. Vandekerckhove, Gent; F. Lottspeich, Martinsried; A. Bairoch and D. Hochstrasser, Geneva).

The Task Group continues to focus its attention on the issues of data banks for biological macromolecules, *e.g.*, protein sequences (represented by W. Barker, Washington, D.C.; A. Tsugita, Noda; H.W. Mewes, F. Pfeiffer, Martinsried), nucleic acids and data extracted from the literature (J. Wootton, Bethesda); complex carbohydrates (K. Bock, Copenhagen); NMR data of protein structures (B. Seavey, Madison, Wisconsin, USA); and protein coordinates (T. Koetzle, Brookhaven, USA). Several sessions were devoted to these issues. The impact of the emergence of new sequence data collection centers in the USA (National Center for Biotechnology Information at the National Library of Medicine) and in Europe (European Bioinformatics Institute as an EMBL outstation located in Cambridge) was the subject of reports and discussions. The Task Group has again addressed the unsolved problem to find an internationally acceptable copyright for scientific data collections.

A remarkable development of scientific data collections in the biosciences with the past ten years, since the inception of the existing Task Group, was observed. This exciting growth has not yet terminated and the Task Group still successfully continues to stimulate cooperation of individual groups around the world. The next meeting of the Task Group is scheduled to take place in Chambéry, France at the time of the 14th International CODATA Conference and General Assembly in September 1994.

--H.W. Mewes
Secretary, CODATA Task Group
on Biological Macromolecules

New! Second Edition (1993)
International Register of Materials
Database Managers. Available
postpaid \$15 from Secretariat.

Geoinfo V Conference in Prague

The Geoscience Information Society (GIS) is a sponsor of the Fifth International Conference on Geoscience Information, held every four years in cooperation with other national/international organizations. It is expected that the 5th Conference in Prague, Czech Republic, will continue in a good tradition of interaction and cooperation among information professionals, librarians, editors, cartographers, and educators.

The Geoinfo V preliminary program is subject to change. It includes:

- **Geoscience Information Systems and Databases for Environmental Geology Tasks**

- International bibliographic and factual/numeric databases for environmentally oriented needs, research, and service

- Integration of Earth-scientific knowledge into an environmentally oriented database over specific region

- **Advanced Information Technologies Applied to Geoscientific and Geographic Information Systems**

- Object-oriented databases and/or DBMS in the Geosciences
- Visualizing geoscience data processing and information products
- Advanced techniques and standards for transferring geoscience information

- **New Methods, Services and Techniques in Geoscience Libraries and Map Collections...(etc.)**

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DETHERM and CHEMSAFE Improved

DECHEMA's thermophysical property database DETHERM, and chemical safety database CHEMSAFE, have been enhanced with a new user-friendly menu mode. The latest release covers more than twice the number of chemicals in the previous version. TDS has lowered hit charges by 40% and subscription charges by almost 60%.

DETHERM now contains phase equilibrium data and thermophysical properties for more than 11,300 substances. Information is gathered from over 900 journals and includes almost 126,000 data tables. CHEMSAFE, which contains safety values for combustible gases, liquids, dusts and mixtures, now includes almost 16,000 tables. These online databases are updated semiannually.

In addition to the online version, both are on magnetic tape for mainframes, and DETHERM is on disk for UNIX.

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