

important developments in science rather than the historical accounts or quarrels of academicians. I trust that you would take note of this and consider my feelings while deciding policy matters as to what to print in future.

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Keep it up

This is just to tell you how much I appreciate your having printed Prof. Legget's excellent talk in *Current Science* (1994, 67, 785). I missed hearing this talk but your wisdom in printing it has permitted people like me to be aware of its important contents. I also enjoyed your

'A personal view'.

Current Science is doing really well. . . .

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NEWS

Report on the Third National Meet of CD-ROM/Online Users NICLAI, CLRI, Madras, August 9-10, 1994

Institutions worldwide spend billions of dollars annually on Research and Development. In the process they generate a vast amount of information which needs to be effectively managed. Academic research funded by the government adds substantially to the volume. The traditional method of information management in the form of printed journals, books, reports, etc., contributes to delays in effective communication and causes loss of time and money. Increasingly, the scientists are willing to abandon tradition and pursue new technologies in an effort to manage the information more effectively. The developments in information technology (IT), which include computers and communications, have led to this trend. The rapid advancements in computers, storage media, software packages, graphics technology for processing information and public switching telephone networks for information access have eased the situation considerably. These developments have made it possible to convert large volumes of information into machine-readable form as databases and are accessible through telecommunication lines remotely, in the form of CD-ROMs and online accessing of information.

The Third National Meet of CD-ROM/Online Users was sponsored by National Information System for Science and Technology (NISSAT), Department of Scientific and Industrial Research (DSIR), New Delhi, and organized by National Information Centre for Leather & Allied

Industries (NICLAI) at the Central Leather Research Institute, Madras, during August 9-10, 1994. Its objective was to assess the current national and international situation, the utility of the CD-ROM services, their popularization within the country, and to provide a forum for exchange of experiences on this new technique. The meeting focused its attention on the databases available, demand for search services, target users, problem areas and possible solutions. The meeting was attended by 205 participants from 91 institutions all over the country, representing a galaxy of R & D, academic, corporate, entreprenuring institutions, etc. Eleven information industries engaged in IT products participated in the meet.

The meet was organized into eight technical sessions. The inaugural session was held on 9th August 1994. Dr T. Ramasami, Senior Deputy Director, Central Leather Research Institute, welcomed the participants and highlighted the need for a change in the information services scenario on account of developments taking place in computer and communication technologies and storage media like CD-ROM, which could be the best solution in the future. Dr A. Lahiri, Joint Advisor, NISSAT, DSIR, New Delhi, while briefing about the meet explained its objectives and the opportunities for both buyers and sellers of information for coming together and discussing each other's requirements and problems. He also stressed that duplication in the acquisition

of CD-ROM databases should be avoided to save the valuable foreign exchange.

Prof. M. Anandkrishnan, Vice Chancellor, Anna University, Madras, delivered the keynote address. He complimented the NICLAI, Central Leather Research Institute and NISSAT for organizing this important meet specially in Madras and emphasized the viability of CD-ROM technology and advocated resource sharing due to its cost factor. He expressed that information services should not be restricted to urban areas alone, but should be extended to rural areas as well.

Mr S. Subba Rao, Assistant Director, Information Science, CLRI and the convenor of the meet, highlighted the achievements of the two previous meets held at New Delhi in 1992 and 1993:

1. General increase in awareness on the online/CD-ROM technology in the country.
2. Extension of customs duty exemption up to 15% *ad valorem* to R & D institutions and to those not engaged in commercial activities vide Notification No. 68/93-Cus., dated 28-02-1993.
3. Awareness of the users to secure fair prices for the CD-ROM equipment/databases from the vendors by way of direct negotiations and availing of possible discounts like multiple copies, educational, etc.
4. Improved knowledge about the modalities for procurement of CD-ROM database through a passbook scheme.
5. Initiation of activities towards rationalization of subscription to CD-ROM

databases in metropolitan cities.

The inaugural session concluded with the vote of thanks proposed by the convenor.

Session I was chaired by Mr M. N. Seetharaman, GIST, Bangalore. This session was devoted to CD-ROM scenario pertaining to databases and services in business, physical and engineering sciences, including patents and standards. The lead topic of the session was 'Trends in CD-ROM technology, world scenario'. Seven presentations were made in this session.

Session II was devoted to CD-ROM scenario pertaining to databases and services in biomedical and allied sciences (biotechnology, food sciences, full text databases, library applications, retrospective conversion). There were five presentations in this session. This session was chaired by Dr S. Kunthala Jayaram, CBT, Madras.

Session III was devoted to CD-ROM acquisition and copyright issues and was chaired by Dr S. S. Murthy, DESIDOC, New Delhi. The lead topic of the session was 'CD-ROM commercial issues concerning distribution, usage and scenario', followed by two presentations, viz. survey

of CD-ROM databases and services in India and procurement of CD-ROMs.

Session IV was on 10th August 1994 and was devoted to CD-ROM hardware/software and networking. This session was chaired by Dr R. Srinivasan, NAL, Bangalore. The lead topic was 'CD-ROM hardware/software selection criteria and the issues concerned', followed by four presentations of CD-ROM standards and networking in this session.

Session V was devoted to CD-publishing and CD-ROM applications. This session was started with the chairperson's remarks on CD-publishing, options and opportunities by Mr N. V. Satyanarayana, Informatics (India), Bangalore. Two presentations on multimedia and hypertext were made in this session.

Session VI was devoted to online scenario. This session was chaired by Dr Anju Chadha, SPIC, Madras. The lead topic of the session was 'Online industry: trends and forecast', followed by six presentations on telecom options, NACIDs, INTERNET and user feedback.

Session VII was devoted to company presentations, wherein the following 11 companies participated; STN, USA;

ESA/IRS, New Delhi; CMC, Bangalore; Informatics Group, Bangalore; GIST, New Delhi; Allied Publishers, Madras; Vans Information & Investors Services, Bombay; City Computers, Madras; Nexus Computers, Madras; World Trade Centre, Bombay; and C-DEC, USA. This session was chaired by Dr A. Lahiri, NISSAT, New Delhi.

The concluding session was chaired by Dr N. V. C. Swamy, IIT, Madras, who gave away the prizes to the three winners on the CD-ROM/Online Quiz sponsored by informatics Group. Dr Swamy recalled his research days when information had to be obtained manually, compared to the recent developments in information access. He expressed that networking of libraries is mandatory for effective information dissemination. Prof P. Soma Raju, Andhra University, Waltair, presented a bird's eye view of the proceedings of the meet, as a Rapporteur General. The meeting concluded with the vote of thanks from Ms Kamini Mishra, NISSAT, New Delhi, the co-convenor of the meet.

S. Subba Rao, Central Leather Research Institute, Madras

RESEARCH NEWS

New roles for RNA

K. K. Narayanan

Ribonucleic acid (RNA) is the most abundant form of nucleic acid in all cells; its concentration being five to ten times that of deoxyribonucleic acid (DNA). The principal and best understood role of RNA is as an intermediary in the translation of genetic information contained in DNA into proteins. In certain viruses, including the AIDS virus, RNA itself is the genetic material and gene expression is preceded by the copying of the RNA into complementary DNA. RNA, in association with certain proteins, is also known to be a structural component of subcellular bodies like the ribosomes—the centres of protein synthesis. Recent investigations^{1,2} have shed light on the many more interesting ways in which RNA participates in cell function.

Types of RNA in the cell

The RNA molecules that carry the information from DNA to the actual sites of protein synthesis, the ribosomes, are the messenger RNAs (mRNAs). At any point of time, there will be several thousand kinds of mRNAs, each kind corresponding to a gene being expressed at that time. However, all the mRNAs together account for less than five per cent of the total cellular RNA. The most preponderant form of RNA in the cell is the ribosomal RNA (rRNA), which forms a structural component of the ribosomes. Three or four species of rRNAs make up nearly 80 per cent of the cellular RNA. Another 15 per cent of the cellular RNA is made up of nearly hundred kinds of transfer

RNAs (tRNAs), whose primary function is to carry amino acids, the building blocks of proteins, to the ribosomes. Most, if not all, cells also contain a variety of other small cytoplasmic RNAs (scRNAs), and cells of higher organisms contain, in addition, a variety of small nuclear RNAs (snRNAs).

Cellular RNA is mostly single-stranded, although the genetic material of some viruses is made up of double-stranded RNA molecules that resemble a form of DNA. The single strands, almost invariably, form three-dimensional structures through base pairing between complementary regions within the same RNA molecule. The double helical structure at the paired regions is often short and interrupted because the base sequences