

INDO-USSR SEMINAR ON LASERS AND THEIR APPLICATIONS

A two day Indo-USSR Seminar on Lasers and their Applications, sponsored by M.P. Council for Science and Technology was organised by CAT on 26th and 27th December, 1988 at CAT, Indore. Thirteen Soviet scientists from Lebedev Physical Institute, Kuibyshev; Baikov Instt. of Metallurgy, Moscow; Research Centre for Technological Lasers, Shatura; General Physics Instt., Moscow; Dept. of General Physics and Astronomy, Moscow; Vishevski Instt. of Surgery, Moscow, etc. and more than 50 research scientists, engineers, industrialists and doctors from various Universities and Institutions of India

attended the seminar. The emphasis in this seminar was on industrial and medical applications of lasers.

Dr. D.D. Bhawalkar, Director, CAT inaugurated the seminar and Dr. V.A. Katulin, Director, Lebedev Physical Institute, Kuibyshev branch and Leader of the Soviet delegation delivered the key-note address, appreciating the Indo-USSR joint efforts in the field of laser and their applications in different areas.

Recent developments in colour centre lasers, XeCl excimer lasers, Plasma-recombination lasers, applications of lasers in material processing like surface hardening, alloying, welding, cut-

ting etc. and laser medical applications in cardiovascular surgery, otolaryngology, ophthalmology and gynecology were discussed in the two day deliberations. Various applications of lasers in surgery were illustrated with a video film and discussed in detail by Dr. Sargin, Senior Surgeon, Vishevski Institute of Surgery, Moscow. Various laser activities of CAT were also discussed. The seminar concluded with the visit of all participants to various laboratories of CAT.

Dr. A.K. Nath was the Convener of this Seminar.

Lectures by CAT Scientists.

1. Dr. D. D. Bhawalkar, on 'Synchrotron Radiation source at CAT' in Symposium on Solid state Physics, organised by Board of Research in Nuclear Sciences, DAE at Bhopal University, Bhopal on 22nd Dec. 88.
2. Shri A.S. Raja Rao, on 'Fabrication techniques in Vacuum Technology' at Workshop on 'Vacuum Technology in Plasma and Fusion application', organised by Institute of Plasma Research. (IPR) Ahmedabad and Indian Vacuum Society, on 27th July, 1988.
3. Dr. M. Thirumaleswar, on 'Cryogenics' at Devi Ahilya Vishwavidyalaya, Indore on 28th August 88.
4. Shri A.K. Gupta on 'Computers towards development of society', in the two day symposium on 'Science and Technology - tool for development', sponsored by Devi Ahilya Vishwavidyalaya and CAT on 28th Aug. and a series of lectures on computer graphics at DAVV, Indore from Aug. '88 to Dec' 88.
5. Dr. K.C. Rustagi gave 3 lectures on 'Non linear optics with emphasis on free-electron non-linearities and composite materials', at International College on condensed matter Physics held at IIT, Bombay during Dec. 88.
6. Shri S.C. Bapna, on 'DC Accelerators and their Applications', at INDO-USSR Seminar on 'Industrial applications of electron



A view of the participants of the INDO-USSR seminar on Lasers and their Applications organised at CAT.

Accelerators' at CAT, Indore on 29th Oct. 88.

7. Dr. A.K. Nath, Shri S.V. Nakhe and Shri Y.V.S.T. Sai gave two invited talks each respectively on 'Types of Lasers and their principle of operation', 'Electrical power supplies for high power CW and pulsed Lasers' and 'Lasers in Medicine and Surgery' at Laser workshop for Physicists and Chemists, organised by Dept. of Physics, Dr. Hari Singh Gaur University, Sagar from Nov. 17th to 23rd, 88.

EXHIBITIONS

With a view to help the Govt. of M.P. in setting up a nucleus for a science and technology Museum at Indore during the Nehru Centenary Year, CAT participated in a Science and Technology Exhibition at Nehru Kendra, Lal Bagh, Indore from 14th to 17th November, 1988. The exhibition was inaugurated by Chief Minister of M.P., Shri Arjun Singh. Scientific programmes and activities undertaken at CAT were explained in detail through posters and placards. Live working models of the copper vapour laser, CO₂ medical laser and cryoprobe were exhibited. Model of a section of the accelerator was also displayed.

As part of the commemoration of the 40th Anniversary of India's Independence and Pt. Jawaharlal Nehru's birth centenary, Ministry of Science and Technology organised a Science and Technology Exhibition at Pragati Maidan, New Delhi from Nov. 14th to Nov. 29th, 1988. As part of DAE, CAT also participated in this exhibition. Posters and pictures explaining the major programmes at CAT and an animated model explaining the working principle of the INDUS-I storage ring were displayed in this exhibition. The same exhibition later shifted to Jawahar Bal Bhawan, Bhopal, where CAT exhibits were on display from Jan. 11th to Jan. 25th, 1989.

A compact spark-gap operated N₂ laser giving peak power of 200 KW at 10 n sec pulse duration and using this N₂ - laser, a tunable Dye Laser was demonstrated by CAT scientists at the Laser Workshop (from Nov. 17th to

23rd, 1988) organised by Department of Physics, Dr. Hari Singh Gaur University, Sagar (M.P.)

HINDI DAY AT CAT

OLIC, CAT organised Hindi Day on Sept. 14th, 1988 at AECS, CAT premises. Dr. D.D. Bhawalkar, Director, CAT presided over the function while Shri Vishnu Chinchalkar, noted artist was the Chief Guest. An extempore Hindi Elocution competition and a Hindi Poetry Recitation com-

petition was also organised on the same occasion. About 20 CAT employees participated in these competitions, out of which 10 received cash prizes. After the main function, a cultural programme was arranged in which CAT employees and AECS staff and students participated. Dance, songs, bhajans, gazals were presented. A children play was presented by AECS students, while CAT Ladies Club presented a Hindi drama - "Rai ka Pahad."



Shri V.K. Kulkarni, Chief Engineer CAT and Chairman, OLIC welcoming Shri Vishnu Chinchalkar. Seen in the centre is-Dr. D.D. Bhawalkar, Director CAT



Medical CO₂ Laser system being demonstrated at the Lal Bagh Exhibition