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## NATIONAL CONFERENCE ON CRYSTALLOGRAPHY

**A** NATIONAL Conference on Crystallography, sponsored by the National Committee for Crystallography (Indian National Science Academy) was held at the Indian Institute of Science, Bangalore, from 26 to 29 December, 1974. A special Symposium on the "Structure and Conformation of Biological Molecules" and a Workshop on Crystallography were also arranged along with the Conference with financial support from the Council of Scientific and Industrial Research and the University Grants Commission respectively. The Conference, along with the Symposium and the Workshop, was organized and conducted by a Local Organizing Committee headed by Professor G. N. Ramachandran and consisting of senior crystallographers from the Indian Institute of Science, the National Aeronautical Laboratory and the Raman Research Institute.

The Conference was attended by about 130 crystallographers from different parts of India. In addition, three distinguished scientists from abroad, namely, Professor Alexander Rich of the Massachusetts Institute of Technology, Professor Walter Kauzmann of the Princeton University and Professor Henry Sobell of the Rochester University, also participated in the Conference.

The Conference, the Symposium and the Workshop were inaugurated by Professor Alexander Rich on the 26th at a function presided over by Professor S. Bhagavantam. In his inaugural address, Professor Rich described his celebrated work on the three-dimensional structure of yeast phenylalanine transfer RNA. He described the crystallographic techniques employed in the analysis and explained the three-dimensional architecture of the transfer RNA molecule.

### The Conference on Crystallography

The academic programme of the Conference (exclusive of the Symposium) consisted of four

invited talks and the presentation of about a hundred contributed papers. In his invited talk on crystal growth, Professor A. R. Patel described the reacted flux and gel methods of crystal growth developed in his laboratory at Anand. Dr. R. Chidambaram, in his talk, reviewed the evolution of single crystal diffractometers over the last decade and explained the salient features of the computer controlled diffractometer now being developed in the Bhabha Atomic Research Centre. Dr. P. Rama Rao presented a review of defects in metallic structures and their importance in understanding the strength and behaviour of metals and alloys. Dr. H. Manohar in his talk discussed the structural basis of topotactic reactions in crystals and described some examples of diffraction studies in this area. The contributed papers dealt with theoretical crystallography, the methods of structure determination, the x-ray analysis of organic and inorganic compounds, crystal defects and crystal growth, instrumentation, phase transitions and computer programming.

### The Symposium on the Structure and Conformation of Biological Molecules

The highlight of the Symposium on the "Structure and Conformation of Biological Molecules" was a talk by Professor H. M. Sobell on the x-ray visualization of drug-nucleic acid interactions. Professor Sobell demonstrated with the aid of molecular models and packing diagrams how plausible models for DNA-actinomycin and DNA-ethidium bromide interactions could be proposed on the basis of the x-ray structure analysis of model compounds. In another invited talk, Professor V. Sasisekharan discussed the importance of the effect of furanose ring puckering on the conformation of nucleic acid chains on the basis of energy calculations carried out by his group. The talk of Dr. Girjesh Govil was concerned with the organization of phospho-

lipids in biomembranes. The contributed papers submitted to the Symposium dealt with single crystal x-ray structure analysis of biologically important molecules, theoretical studies on the conformation of biomolecules, conformational studies in solution and enzyme crystallization.

#### The Workshop on Crystallography

The programme of the Workshop on Crystallography, held along with the Conference, consisted mainly of two evening lectures, and a one-day session of lectures and discussions on December 29. In his evening lecture on "Some problems in our understanding of protein structure", Professor W. Kauzmann showed how the information obtained from protein crystallography could be used in the study of the physical chemistry of proteins. Professor Sobell gave the other evening talk entitled "The stereochemistry of DNA strand equivalence in genetic recombination and its implication for models of recombination". The programme on

December 29 included two lecture-cum-discussion sessions, one on computational problems in crystallography and the other on the direct methods in crystallography, which were led by Dr. A. Sequeira and Dr. K. Venkatesan respectively. Dr. S. Ramaseshan, in his talk on "Anomalous scattering of x-rays, neutrons and electrons", discussed the new developments in this area and reported the highlights of the recent International Conference on Anomalous Scattering held at Madrid. The other talks in the Workshop consisted of one by Dr. M. Vijayan on "Macromolecular crystallography" and another by Dr. C. Ramakrishnan on "X-ray diffraction by helical structures". In addition, the programme of the Workshop included a discussion on the x-ray diffraction equipments available in India. Representatives of some Indian manufacturers of x-ray equipments also participated in this discussion.

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I, S. R. S. Sastry, hereby declare that the particulars given above are true to the best of my knowledge and belief.

Bangalore-6,  
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