

PERSONAL NEWS

M. A. Viswamitra: Crystallographer and structural biologist

An obituary

M. A. Viswamitra, the distinguished crystallographer and structural biologist, passed away on 10 April 2001, at Bangalore, at the age of 68. Ironically, the end came just as he finished speaking at a condolence meeting for G. N. Ramachandran who passed away on 7 April. Viswamitra is survived by his wife Meera, son Sanjay and a large number of students, colleagues and friends.

Born on 14 November 1932 at Shimoga in Karnataka, he obtained his B Sc from Mysore University and M Sc from the Banaras Hindu University before joining the Ph D programme at the Physics Department of the Indian Institute of Science, Bangalore in 1955 under the supervision of S. Ramaseshan. His doctoral work involved the X-ray structure analysis of copper potassium oxalate dihydrate and copper ammonium oxalate dihydrate. He was also involved in instrumentation, including the construction of a Weissenberg camera for low temperature crystallography. He obtained his Ph D in 1960 and was appointed a lecturer in the Physics Department in 1963. In late 1965 he left for Oxford to work with Dorothy Hodgkin. During the short period between obtaining his Ph D and proceeding for his first stint abroad, Viswamitra established himself as an independent scientist and a worthy successor to Ramaseshan who left for the Indian Institute of Technology, Madras in

1962. During this period, he made important contributions to structural studies on borazines and the metal complexes of antipyrine. His important contribution during this period was the structure analysis of dimethylsulphoxide using the low temperature equipment that he designed and constructed.

Viswamitra worked in the laboratory of Dorothy Hodgkin for nearly two and half years. His major contribution at Oxford concerned the structure analysis of thiostrepton, an antibiotic with a complex molecular structure. The solution of the structure using sulphurs as 'heavy' atoms demonstrated his virtuosity in Patterson vector methods. Ferrodervin is the other structure he was involved in while at Oxford.

Viswamitra returned to Bangalore early 1968 and initiated two lines of investigations. The first involved high temperature crystallography, up to temperatures above 2000°C, including very clever instrumentation. The second marked the beginning of his involvement with nucleic acids for the rest of his life. He and his students were among the first to determine the structures of many mononucleotides. He also developed many collaborative interactions, particularly with Olga Kennard's laboratory at Cambridge, England. The seventies were the golden period in his scientific career. His group made seminal contributions to the detailed structure of nucleic acids. The high point of this effort was to solve the structure of tetranucleotide ATAT during the second half



of the seventies. This marked the beginning of serious studies on the sequence dependence of DNA structure.

A new phase in Viswamitra's career started in early eighties which coincided with the initiation of the Thrust Area Programme of the Department of Science and Technology and reasonable funds began to be available in India on a systematic basis for serious scientific research. Taking advantage of the emerging scenario, he not only built a first rate X-ray laboratory in his own department, but helped others across the country to establish their own facilities. Over the years he has been involved with all major scientific institutions and agencies in the country playing a positive role. He has been generous in his support and encouragement to scientists from different disciplines. He was specially supportive of the university sector. His role in establishing major facilities has been particularly noteworthy. For example, his enthusiasm was substantially responsible for installing as many diffractometers as we have in the country. He paid special attention to instrumentation, an area in which India is comparatively poor and he himself was an expert. He has been receptive to modern trends. He was among the first to establish a Bioinformatics Centre, under the very successful programme of the Department of Biotechnology in the area, and to nurture it assiduously. Most recently, he was in the process of under-

taking a major effort in genomics and proteomics.

While playing a leadership role in Indian science with elan, Viswamitra continued to be active in his own researches. A steady stream of publications emanated from his laboratory. His intense commitment to scientific research continued well past his formal retirement from the Indian Institute of Science in 1993. He was among the first to be chosen as Honorary Professor (a post retirement position with a five-year tenure) by the Institute. He extended his interest to proteins primarily during this period. In addition to his work on oligonucleotides, during the last couple of years he and his associates solved the structures of two important xylanases from thermophilic organisms. The end came while he was still in the middle of active research efforts. Indeed, he died in harness.

Viswamitra is well recognized in the scientific community, nationally and internationally. He was a fellow of all the three national science academies and the Third World Academy of Sciences. He was a Jawaharlal Nehru Fellow during 1989. The honours and awards he received include the J.C. Bose Award of the Hari Om Ashram Trust and the University Grants Commission, the Biology Prize of the Third World Academy of Sciences, the J.C. Bose Medal and the Shanti Swarup Bhatnagar Medal of the Indian National Science Academy, the Ramesh-

wardas Birla National Award, the FICCI Award and the Distinguished Alumni Award of the Indian Institute of Science.

Viswamitra was a man of varied interests. He was an excellent billiards player in his youth. He had a passion for music. He had a philosophical bent of mind. In fact, the last international meeting he attended, in February this year in Paris, was on science and spirituality. He was an invitee for a similar meeting in US coming June.

Viswamitra was a special person to all those who knew him, particularly to his students, like this writer, friends and colleagues. He radiated nobility and was generous to a fault. He hardly ever talked ill of anyone and had enormous capacity to rejoice in the successes and achievements of others. Especially during the last few years, he rose well above the rough and tumble of professional life and became a source of solace and encouragement to everyone around him. He attained a measure of personal detachment while at the same time retaining a keen interest in his activities, colleagues, friends and students. Viswamitra will be missed for a long time to come.

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