

## Rajagopala Chidambaram (1936–2025)

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Rajagopala Chidambaram, one of the most distinguished crystallographers of our era, and an outstanding leader of science in India, passed away on the 4th January 2025.



Both of us have known Chidambaram for a long time. SCM met him for the first time in 1982 during the National Seminary on Crystallography in Nagpur, while SCM was still a final year Bachelor's student in college. Chidambaram then explained to SCM the beauty of understanding geometric relationships among atoms in molecules in order to understand the properties of materials. TPS met him for the first time at the Indian Institute of Science, Bangalore (IISc) while pursuing a PhD in physics in 1971. Chidambaram had obtained his PhD from the same department in IISc several years before. He was also the PhD thesis examiner of TPS and a frequent visitor to IISc in the following years.

Chidambaram was born in 1936 in Chennai (formerly Madras) and received his initial education in Chennai. Later, he received his PhD from the IISc, Bangalore. He once recounted a fascinating story of how he was lost as a child in Prayagraj (Allahabad) and later reunited with his family.

Chidambaram started his independent professional career in 1962 at the Atomic Energy Establishment, Trombay (AEET), later renamed as the Bhabha Atomic Research Centre (BARC), Mumbai. He initially began his work using neutron diffraction and high-pressure physics and soon established a vibrant group addressing structural analysis of materials. He initiated multiple lines of crystallographic analyses on materials using both X-rays and neutrons. By carrying out a comparative analysis of these techniques, he initially addressed questions related to hydrogen bonding by water in crystals and showed that, in the crystalline state, bent hydrogen bonds are preferred over distortion of the geometry of the H–O–H angle. He soon shifted his attention to creating high pressures on crystals and made a diamond anvil cell for the same. These studies continue at the XRD-2 beamline at the Elettra synchrotron radiation source using a similar diamond anvil cell, constructed under the India–Italy collaboration.

He rose to become Director of BARC in 1990 and later moved to New Delhi as the Chairman of the Atomic Energy Commission (AEC) in 1993. He was appointed as the Principal Scientific Advisor (PSA) to the Government of India in 2002, a position that he held for close to 17 years. He also served as the Chairman of the Board of Governors of



**Figure 1**  
 Photograph shows Chidambaram (centre) with J. N. Moorthy (left, Indian Institute of Science Education and Research, Thiruvananthapuram) and SCM (right) at the National Seminar on Crystallography held at the National Institute of Mental Health and Neurosciences, Bangalore.

the International Atomic Energy Agency during 1994–1995 and was a member of the Executive Committee and later the Vice President of the IUCr during 1990–1999.

During his time as the Chairman of AEC, Chidambaram played a crucial role in the nuclear test in India in 1998. While he was the PSA, he started many new initiatives including the National Knowledge Network to improve internet connectivity in academic organizations. Another of his initiatives was to launch technology interventions through the rural technology action group (RuTAG).



**Figure 2**  
 Chidambaram (centre) is seen with Dinakar Salunke (left, International Centre for Genetic Engineering and Biotechnology) and TPS (right).

Chidambaram was a great champion of structural analysis of materials using X-rays and neutrons. He hardly missed any of the annual National Seminars on Crystallography in India. He also was an extraordinarily fine gentleman. Due mostly to his affable personality, even when he found himself in the most difficult situations, he was able to steer through them with ease. For example, while he was the Vice President of the IUCr, he was denied a US visa because of his involvement in the nuclear explosion a few years before. However, he did not make a scene, and instead quietly buried the matter.

With his departure, the world of crystallography has lost a great champion. He will be missed by the crystallographic community around the world, but even more by the team of scientists that he created in India's nuclear establishment, and the Indian crystallography fraternity (see Figs. 1 and 2).