

Dr. Srikumar Banerjee



Srikumar Banerjee (1946–2021) was a man of many parts — scientist, engineer, administrator — and he excelled at everything he did. His sudden and unexpected demise deprives the nation of a wise head and a great heart, and it leaves the entire Department of Atomic Energy bereaved of a much-respected and well-loved father figure. Banerjee worked in the BARC all his life, but he was associated with TIFR for a long time. He was a member of the TIFR Governing Council, both during his stint as Secretary DAE and later in his personal capacity. Indeed, he was a member of the Council till the moment he drew his last breath.

Banerjee was born near Park Circus, Kolkata on April 25, 1946, the son of Narayan Chandra Banerjee and his wife Shanti. He was schooled at the well-known Ballygunge Government High School, whose eminent alumni include polymath Satyajit Ray, economist Sukhamoy Chakraborty and historian Tapan Raychaudhuri. Passing out in 1962, Banerjee wished to study Physics, but eventually joined the Indian Institute of Technology (IIT) at Kharagpur for a degree in Metallurgical Engineering. Graduating with a B. Tech. in 1967, he then joined the eleventh batch of the BARC Training School, after which he was absorbed into the BARC (1968) as a Scientist in the Electron Microscopy Group. For his early research work at the BARC, he was awarded a Ph.D. by the IIT Kharagpur in 1974. Banerjee remained at the BARC for most of his career, rising to become Director in 2004. He left the BARC in 2009 to become the Chairman of the Atomic Energy Commission, a post he retained till his retirement in 2012.

At the BARC, Banerjee worked on the metallurgy of alloys. His Ph.D. thesis was on *Martensitic Transformation in Zirconium Alloys*. Indeed, his studies on phase transformation in zirconium alloys cover a spectrum of solid-state transformations, including the crystallography of martensitic transformations, thermodynamic prediction of metastable phase reactions, mechanisms of hybrid displacive and replacive transitions; interstitial ordering, vitrification and crystallization. He employed rapid solidification, radiation damage and shock pressure techniques to study phase transformations under conditions far from equilibrium. He and his team made significant contributions to phase transformations and structure-property correlations in titanium, zirconium and shape-memory alloys. His contributions to devitrification in zirconium base glasses have been described as 'highly creative' and his work on irradiation-induced order-disorder transformation and phase separation in nickel-molybdenum alloys as 'highly original'. His book *Phase Transformations: Examples taken from Titanium and Zirconium Alloys*, jointly authored with the late P. Mukhopadhyay, is a comprehensive treatise on the subject.

In fact, Banerjee set up an internationally recognized research group on phase transformations at the BARC. He himself held visiting positions at the University of Sussex, UK, at the Max Planck Institute for Metallurgy, Germany and at the Ohio State University, USA. He became Head of the Metallurgy Division at BARC in 1990 and Associate Director in 1996. In April 2004, he succeeded Dr. Anil Kakodkar as Director of BARC, a position he held till 2009, when he again followed Dr. Kakodkar as Chairman of the Atomic Energy Commission and Secretary DAE. His 2½-year tenure at the apex position in the DAE was brief but eventful. It saw the completion of the controversial nuclear power plant at Kudankulam and the initiation of work on the even more contentious India-based Neutrino Observatory (INO). The second campus of TIFR at Hyderabad was inaugurated during his tenure.

After retiring from the DAE in 2012, Banerjee was appointed Vice Chancellor of the new Central University of Kashmir (2012–17) and Chairman of the Board of Governors of his *alma mater* IIT Kharagpur (2013–17). He was Chancellor of the Homi Bhabha National Institute (HBNI) and a member of the TIFR Governing Council till his death. Banerjee also won many awards and accolades during his lifetime, including the Shanti Swarup Bhatnagar Prize (1989) and the Padma Shri (2005). For his work on zirconium, he was awarded the Kroll medal by the ASTM (2012) and for his interdisciplinary work, the Robert Cahn award (2016). He was a Fellow of all three Indian Academies of Science and of the Third World Academy of Science (TWAS).

The late scientist is survived by his wife Ranjana and his son Rajarshi. TIFR offers them sincerest condolences and mourns the passing of one of its sincerest well-wishers.