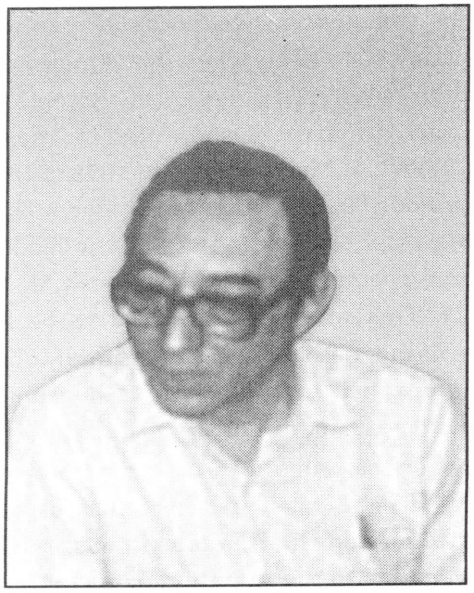
Tributes

Courtesy: Presidency Alumni Association Calcutta, Kolkata 700073

OBITUARY
Late Professor Chanchal Majumdar

Anjali Mookerjee



Born on 11 August, 1938 Professor Chanchal Kumar Majumdar impressed one with his intellectual brilliance, encyclopaedic knowledge and incisive and analytical thinking ability.

He was an exceptionally good student and stood first in school (St. John's C.M.S. School, Krishnanagar, West Bengal), college (Presidency College, Calcutta) and university (University College of Science, Calcutta). He obtained his doctoral degree in Physics in 1965 from the University of California (La Jolla), U.S.A. His thesis supervisor was the eminent scientist Professor Walter Kohn, who is now a Nobel Laureate. Noted scientist Professor T.M. Rice, once reminiscing about those days, remarked that Chanchal was the brightest star in a galaxy of brilliant students. Professor Majumdar joined the Tata Institute of Fundamental Research, the premier research institute in India, in 1966. He left T.I.F.R. in 1975 to join the Physics Department of Calcutta University as the Palit Professor. His aim was to rejuvenate Physics Education and research in Calcutta. In his teaching, he set the highest standards of rigour and perfection. He devised new experiements for the M.Sc. students, modernised the Departmental Library, gave weekly lectures on various topics to the research community at large, took classes in computer-oriented numerical algorithms and the Fortran language to spread computer literacy, provided active help to various research groups in Calcutta, supervised his own research students-the list of his activities is simply endless. His enthusiasm

and dynamism knew no bounds. He joined the Indian Association for the Cultivation of Science in 1982. In 1987, he became the Director of the newly established S.N. Bose National Centre for Basic Sciences in Bidhannagar, Calcutta. He devoted himself, heart and soul, towards the construction of the new campus and to promote high-quality research activity at the Centre.

Professor Majumdar has made significant contributions in several areas of condensed matter physics. His pioneering contributions on positron annihilation in metals (Phys. Rev. A 140 (1965) 227, 237; Phys. Rev. B4 (1971) 2111) have motivated experiments all over the world in metals, alloys and high-temperature super-conductors. In magnetism, his important contributions include the exact, analytic formulation of the three-magnon bound state problem (Phys. Rev. B 1 (1970) 287; J. Math. Phys. 19 (1978) 2187, Physica A 107 (1981) 212) and construction of the 'Majumdar-Ghosh' Hamiltonian for a chain of antiferromagnetically interacting spins of magnitude 1/2. The ground state of the model can be determined exactly and has a gap in the excitation spectrum (with D.K. Ghosh, J. Math. Phys. 10 (1969) 1388, also J. Phys. C3 (1970) 911). This work is considered to be a landmark achievement in quantum many body theories of magnetism and has inspired a large amount of work on spin models. The model provides an explicit example of a "resonating valence bond" state used in some theories for high temperature superconductivity.

Professor Majumdar was not only a brilliant theorist but had pioneered several experimental studies on condensed matter. He and his co-workers had utilised the Mossbauer effect to study the phenomenon of corrosion and the iron ores in eastern India (Phys. Stat. Sol. (a) 91 (1985) 29). He had been associated with the radiation damage work carried out with the alpha beam of the Variable Energy Cyclotron Centre, Calcutta.

When invited to any educational institution—be it a university or a suburban school—nothing was insignificant for him. He always accepted them.

The dates of birth and demise hold between them the index of one's living existence on this planet—a minute fraction of infinity. But there are several other entities—other qualities of human existence which spill over beyond those two dates and tend towards infinity within limits. This holds for Professor Majumdar.

The news of his sudden and untimely passing away on 20 June, 2000 was emotionally shattering to his colleagues, students and friends, besides his family. We express our deep sympathies to all of them.