

S. K. Trehan (1931–2004)

Surinder Kumar Trehan passed away on 9 September 2004 at Chandigarh due to massive pulmonary thromboembolism (blood clot in the lung). He was an eminent educator and a scientist who, as he put it, had the good fortune of growing with his research area: plasma physics and magneto-hydrodynamics.

He was born on 4 April 1931 in the West Punjab town of Gujarat (now in Pakistan) where his father, Faqir Chand Trehan, was the school headmaster. Trehan passed his matriculation examination in 1946 from Sanatan Dharm High School, Gujarat and resumed his studies in Delhi the next year where his family shifted after partition. Trehan passed his B Sc (Honours) from Hindu College in 1950 and M Sc (Honours) in Physics in 1952 from Delhi University. In M Sc he came first in the University. He enrolled for his Ph D degree under the guidance of R. C. Majumdar and even co-authored a paper on classical equations of motion of a point particle in charge-symmetric meson field, which was published in *Progress of Theoretical Physics* in 1954. His future career, however, was fashioned by the award, in 1955, of the Central States Scholarship of the Government of India for Studies Abroad, which brought him to University of Chicago, where he was supervised by Subramanyan Chandrasekhar. For his Ph D, awarded in 1958, Trehan examined the stability of force-free magnetic fields. After two years' stint as a post-doctoral fellow at University of California, Berkeley, and Plasma Physics Laboratory, Princeton University, he returned to India, to take up, in 1961, lecturership in the Physics Department, Panjab University, Chandigarh. In the same year he got married to Rama Trehan nee Khanna. From 1962 to 1967, Trehan served as a reader in Physics Department, Delhi University. In 1967 he returned to Panjab University as a professor, this time in the Mathematics Department. In practical deference to water-tight compartmentalization in the university system, he now emphasized the magneto-hydro-

dynamics part of his research area rather than plasma physics.

He retired from service in 1991, but continued his association with the university as a senior scientist of Indian National Science Academy (INSA). Just a few days before his death, on 24 August 2004, Panjab University honoured him with an emeritus professorship.



Trehan is well known for his work in theoretical magneto-hydrodynamics. His work on the stability of force-free magnetic fields, the stability of jets and cylinders and inhomogeneous plasmas has received wide recognition. Trehan's work on magnetic polytropes is significant in that it gives for the first time a consistent mathematical theory of self-gravitating gaseous masses in the presence of magnetic field, since the pioneering work of Chandrasekhar (1952), Chandrasekhar and Prendergast (1956) and Woltjer (1962). Trehan later contributed to nonlinear stability studies in magneto-hydrodynamics with the possibility of applications in astrophysical situations. He gave for the first time an account of the modulational stability of bounded systems taking into account the boundary conditions consistently, and without the restriction of flows being confined to be irrotational.

He was awarded the Shanti Swarup Bhatnagar prize in physical sciences (1976), B. C. Roy award in the category 'Eminent person in sciences' (1989), Dr Biren Roy Memorial Lecture of INSA (1999), and delivered the Platinum Jubilee Lecture of Indian Science Congress Association (1999). He was a University Grants Commission (UGC) National Lecturer 1977–78, and UGC National Fellow 1981–83. Trehan was an elected fellow of INSA (1976), Indian Academy of Sciences, Bangalore (1978) and of the National Academy of Sciences, Allahabad (1978).

He was editor of publications INSA (1979–82), as also the Vice-President (1976–78) and the Editor of the *Bulletin of Astronomical Society of India* (1979–91). He served as a Dean of Science Faculty at various times and Dean of University Instructions (1986–88) in Panjab University. He had been a member of the Governing Council of UP State Observatory Naini Tal, Indian Institute of Astrophysics Bangalore, and Indian Statistical Institute, Kolkata.

Trehan was a clear-headed, methodical and result-oriented person who believed in delivering in the shortest possible time and in the most direct manner. The precision that he so admired in mathematical equations he sought to imbibe in himself (successfully) and inculcate in others (with mixed results). He loved teaching and did not approve of any frivolity in the class or seminar room. Otherwise, he was capable of a good laugh. He was a warm-hearted person who valued friendship and loyalty. In his death, the country has lost a dedicated teacher and researcher. He is survived by his wife, two children and two grandsons.

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