

## Shyam Lal Yadava (1953–2007)

Shyam Lal Yadava was born on 5 July 1953 at Ghanshyampur, Uttar Pradesh to Tahalal Yadava and Lakhani. During his early days in middle/high school, he was more interested in wrestling than in studies! He was a regular trainee in his village akhara (wrestling camp). However, Yadava suffered a fracture in his left leg due to a fall from a tree. As a result he could not pursue his primary interest for a long time. During this period he started taking interest in studies and never looked back. He completed his B Sc in 1974 from Gorakhpur University. Then he joined Banaras Hindu University (BHU), Varanasi and completed his M Sc in Mathematics in 1977 with distinction. At BHU he worked for his PhD in the area of differential geometry. He completed his doctoral work in two years and in 1979 joined the TIFR Bangalore Centre, IISc Campus as a participant of the joint IISc–TIFR programme in Applications of Mathematics. After completing this programme successfully he became a staff member of TIFR in 1981. From 1981 to 2007 he served at various positions in TIFR: Research Assistant: 1981–87; Research Associate: 1987–90; Fellow: 1990–92; Reader: 1992–97; Associate Professor: 1997–2000; Professor: From 2000 until his demise. He also held several visiting positions across the globe.

Yadava initially took interest in stochastic processes and did some work in stochastic calculus in locally convex

spaces. Later, his research interest shifted to partial differential equations (PDE). He made outstanding contributions to the theory of PDE and became a well-known expert of international repute. His major contributions lie in the area of semi-linear



elliptic equations in a bounded domain. These equations have tremendous applications in diverse areas such as differential geometry, mathematical biology, astrophysics, etc. At the same time they are also challenging from a mathematical point of view and have attracted the attention of leading mathematicians. Yadava, along with his collaborators, proved the existence/non-existence and uniqueness results for these equations satisfying critical growth conditions on the nonlinearity with various types of boundary conditions. In this context he had obtained relevant connection between the

concentration points of minimal energy solutions and the critical points of the mean curvature of the boundary of the domain. He solved a well-known conjecture in this area. This body of work has made Yadava as one of the leading researchers in this area. In recognition of his landmark contributions he was elected Fellow of the Indian Academy of Sciences, Bangalore in 1999. He was also elected Fellow of the Indian National Science Academy, New Delhi in 2002.

Yadava was the Convener of the TIFR Centre during 1999–2001, when he introduced several novel initiatives at the Centre. To promote training and development of mathematics in India he organized several workshops/symposia for research students and teachers.

Yadava was a strong person both physically and mentally. He was an expert in yoga. His enthusiasm for sports and other activities was contagious.

In 2001, Yadava fell ill and succumbed to his prolonged illness on 7 June 2007. His wife, pre-deceased him in 2004. He is survived by his son, daughter-in-law and a grand daughter.

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