



DEPARTMENT OF PHYSICS (AUTONOMOUS) UNIVERSITY OF MUMBAI

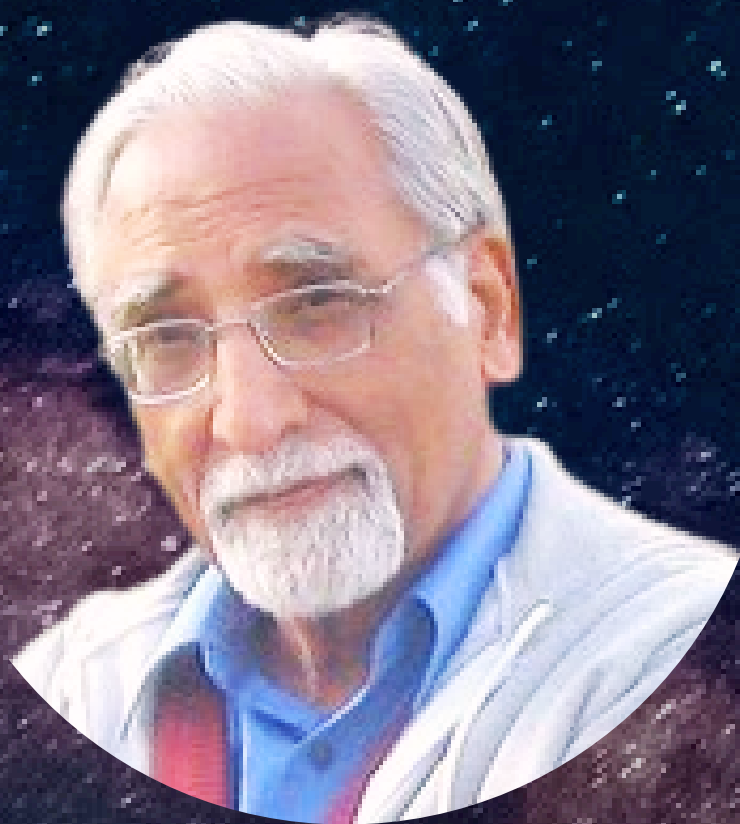
IN ASSOCIATION WITH

NATIONAL CENTRE FOR NANOSCIENCE AND NANOTECHNOLOGY
& DEPARTMENT OF CHEMISTRY

ON OCCASION OF NATIONAL SCIENCE DAY 2025

Wonderful world of dead stars

A lecture by Professor R. K. Manchanda



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ABSTRACT

It is believed that galaxies and the stars appeared between 2-10 billion years after the Big Bang. Our Sun and its planetary system were formed almost 5 billion years ago. Star formation is a slow process which extends over 100,000 years, during which it condenses from a gas cloud and starts burning its nuclear fuel to shine away its energy. A sun like star has a life of 10 billion years. Most of the stars evolve without any significant event in their life. At the end of their nuclear life cycle, each star has its designated stellar death. After death while Sun like stars become white dwarfs, heavy stars are reborn and take the most exotic forms like Neutron stars, Black holes, the Magnetars (stars with very high magnetic fields) or the Gamma ray flashers. All these discoveries became possible after the opening of new observational window "X-ray and Gamma ray astronomy" in 1962. In this talk, I will describe such Exotic corpses in the Universe.

ABOUT SPEAKER

Prof. R. K. Manchanda, a pioneer in X-ray astronomy in India, boasts over 50 years of experience in space technology, particularly in space-borne research, instrumentation, scientific ballooning, and lighter-than-air technology. Retiring as a Senior Professor from TIFR in 2012, he is now a NASI Senior Scientist and Adjunct Professor at Mumbai University, and a Companion Member of Engineers Australia. An esteemed member of multiple prestigious scientific societies, he chaired COSPAR Sub-commission E1 and was Vice-chair for the COSPAR panel on scientific ballooning from 2010 to 2014. Prof. Manchanda played a crucial role in India's ASTROSAT project, managing key experiments from 2001 to 2012, with the satellite successfully launching in 2015 and continuing to perform well.

**FEBRUARY 28 | 3:00 PM | SECOND FLOOR | NANO-SCIENCE AND NANO
TECHNOLOGY SEMINAR HALL, UNIVERSITY OF MUMBAI, VIDYANAGARI**