



First KIA Laureate Fundamental Research



- ◆ **Researcher:** Prof. Padma Kant Shukla
- ◆ **Nationality:** German
- ◆ **Date of birth:** 1950
- ◆ **Position:** Professor
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Project title: Plasma physics and nonlinear sciences

Abstract: Mixtures of small charged particles (dust) with free electrons and ions (plasma) are found not only in low-temperature laboratory discharges, in microelectronics, but also in the near-Earth environment and interstellar space. This talk describes the various dusty plasma environments, the forces acting therein, and the various collective phenomena (e.g. dust acoustic waves and their excitation), ordered dust structures (e.g. dust Coulomb crystals), and localized excitations (e.g. shocks, Mach cones, voids, vortices, etc) that are found.

Biography: Prof. Shukla was born on 7 July 1950 in a small village Tulapur, Uttar Pradesh, India. He obtained in 1972 a Ph.D degree in physics from Banaras Hindu University, Varanasi, India and in 1975 a Ph. D. degree in theoretical plasma physics from Umea University, Umea, Sweden in 1975. He is honored with the Doctor Honoris Causa degrees from The Russian Academy of Sciences, Moscow and the Technical University of Lisbon, Portugal. He is recipient of the American Physical Society (APS) Nicholson Medal for Human Outreach, and the Gay-Lussac / Humboldt Prize from the French Ministry of Education and Research. He is member of The Royal Swedish Academy of Sciences, The Royal Swedish Academy of Engineering Sciences, and TWAS-The Academy of Sciences for the Developing World. He is APS Fellow and Fellow of the Institute of Physics (U. K.), and the director of plasma physics activities at the AS-ICTP Trieste. The ASASICTP, The ICTP Journal of Plasma Physics.