

SIR JAGADIS CHANDRA BOSE: AN INNOVATIVE SCIENTIST AND FOUNDER OF INTERDISCIPLINARY RESEARCH IN PLANT BIOLOGY

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*Sir Jagadis Chandra Bose (JC Bose, 1858 - 1937) is acknowledged as the greatest interdisciplinary scientist in India. He was a pioneer not only of physics, but of plant biology. The path-breaking experiments of JC Bose to measure electrical signals in plants are novel and paved the way for the exciting field of plant biophysics. Thus, he was the father of biophysics, long before it became a field. The observations of JC Bose on feelings and movements in plants were among the earliest studies on the "intelligence" of plants and plant neurobiology. The patterns of plant growth recorded by JC Bose have been confirmed in recent years by much sophisticated computer based image analysis system and are explained to be due to the oscillatory behavior in plants. The biological significance of seasonal and diurnal variation in electrophysiology and growth patterns of plants became the subject matter of modern research in chronobiology. Bose's work on carbon assimilation in *Hydrilla verticillata* is a landmark in photosynthesis research. He made a phenomenal discovery that a unique type of carbon fixation pathway operated in *Hydrilla*, different from normal and CAM plants. These findings of Bose appeared anomalous at his time but are now known to illustrate an instance of non-Kranz single cell type C_4 -mechanism. Sir J. C. Bose is therefore rightly considered as not only a pioneer in photosynthesis research but also an icon of biology research in modern India.*
