

Significant Research Contributions of Prof. Jananadeva Maharana

Professor Jananadeva Maharana is an outstanding scientist of international reputation and recommend him for the **Biju Patnaik Award for Scientific Excellence** in highest terms. It is very difficult to identify another Oriya Scientist who has scaled such heights in research, has been internationally recognized by his peers, who has trained young students as scientists, relentlessly taught for decades and is firmly rooted in Orissa.

Professor Maharana has made seminal contributions to several fields of research in Physics and notable among them are: (i) *Cosmology*, (ii) *Quantum Gravity* and (iii) *String Theory*. These are the most important and frontier areas of research which envisage deep and intimate connections between the microscopic fundamental laws of physics and the Cosmos. The accompanying CV and list of publication together with Appendices provide details of research activities and his accomplishments.

He has been invited to best research institutions of the World such as Institute of Advanced Study, Princeton, California Institute of Technology (**Caltech**), USA, CERN, Geneva, FERMILAB, USA, Rutherford Laboratory, UK, Albert Einstein Institute, Germany, KEK (High Energy Physics Laboratory), Japan to name a few most prestigious Laboratories. All these recognitions have come due to his research activities at **Institute of Physics**, Bhubaneswar. He joined the Institute from its inception in 1975 and has put it in the map of international scientific research.

He has educated, guided and nurture young students, Ph.D. Scholars, and Postdoctoral Fellows of **IoP** and several of them are faculty members of IIT's and DAE Research Institutes. His contributions in training young Oriya scholars are undeniable since some of his (the then) young collaborators have become full professors in DAE Institutes. Moreover, he has delivered popular lectures, has taken part in radio programmes to propagate science.

He has been invited to some of the most prestigious Conferences and Workshops to present his research works; notable among them are Cargese workshop, ASICTP, Trieste Workshops, ICHEP Conference; EPS-HEP Conferences to mention a few. The accompanying reflects the high esteem in which the International Community hold professor Maharana.

He has also been responsible for inviting some of the most outstanding physicists of our time to Orissa for the Series of Workshops which were organized by him at Puri; names that stand out are G. 't Hooft (NL), J.H. Schwarz (Dirac Medal), C.G. Callan (Dirac Medal), L. Susskind (Stanford), G. Gibbons, FRS (Cambridge), A. Strominger, Harvard, D. J. Gross (NL), T.W.B. Kibble, FRS, UK and G. Veneziano

(Einstein Medal and Fermi Prize). This Workshop series has profoundly influenced research in string theory, cosmology, quantum gravity in India. He also organized 'Einstein's Legacy in the New Millennium' meeting at Puri in 2005 - Year of Physics inviting some of the most famous physicists had assembled for the event. to the Institute in Orissa by his important contributions to Physics. The scientific contributions of Professor Maharana are outstanding. His dedications to teaching and research are exemplary. He has enriched scientific research in Orissa through leadership and able guidance.

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