# AIPSN Condolence Resolution

## Roddam Narasimha: an exemplar for future generations

All India Peoples Science Network expresses its condolences over the passing away of one of India's leading scientists, researcher and teacher Professor Roddam Narasimha (hereafter RN) in Bangalore on 14 December 2020 at the age of 87. Born and brought up in Bangalore, he went to school and pursued higher education in mechanical engineering with a bachelor's degree from Mysore University and Masters from the Department of Aeronautical Engineering, Indian Institute of Science (IISc) in Bangalore. At IISc he was mentored by Prof. Satish Dhawan, one of the founders of the indigenous Indian space programme and Director of IISc for over 20 years. RN went on to do his PhD under Prof. Hans Liepmann, who had also supervised Prof. Dhawan, from the prestigious California Institute of Technology (Caltech), in the USA. Like many like-minded scientists of his generation who had studied abroad, he returned to India motivated to advance self-reliant science and technology in India, and embarked on a long career undertaking world class research, mentoring several generations of students, and contributing to building several advanced research institutions in India. RN went on to become Professor at IISc in the now renamed Department of Aerospace Engineering over a near four-decade period. . He became Director of the CSIR's National Aerospace Laboratory (NAL), Bangalore, was closely associated with the Jawaharlal Nehru Centre for Advanced Scientific Research (JNCASR) for 14 years and was also Director, National Institute of Advanced Studies (NIAS), Bangalore. Throughout he maintained his relationship with IISc.

RN made fundamental contributions to a number of areas in fluid mechanics, especially in studying turbulence, the transitions just from turbulent to laminar or normal flows as well as the reverse transition, parallel computing for fluid dynamics problems, and finally modeling of the monsoon. In a landmark paper published on the vibration of an elastic string RN derived an equation that has since been named after him. RN's entire body of work excellently straddled the worlds of science and engineering. RN belonged to that early post-Independence generation of scientists who took on the challenging task of building scientific institutions in sovereign India, inspiring students to work on new scientific problems, and creating schools of scientific research while at the same time working on problems relevant to India's developmental needs. RN was involved both as an engineering scientist in India's aerospace industry and as a policymaker. At NAL he participated in a number of projects such as the development of the indigenous Light Combat Aircraft (LCA), and initiated work on parallel computing for a number of applications. He also pioneered numerical modeling of the monsoons, beginning with his involvement in establishing the Centre for Atmospheric and Oceanic Sciences at IISc, where the now well-known Monsoon Trough Boundary Layer Experiment (MONTBLEX) was undertaken. Given the complexity of monsoon prediction, RN successfully lobbied for the formation of the Ministry of Earth Sciences. RN was deeply appreciative of the history of science and technology in India as evidenced by his classic paper on Tippu Sultan's rockets and also took a balanced view of progressive and regressive trends within Indian society, as reflected in several writings and projects he undertook at NIAS and JNCASR. Current and future generations of scientists and engineers in India undoubtedly have an exemplary role model to look up too and emulate.

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