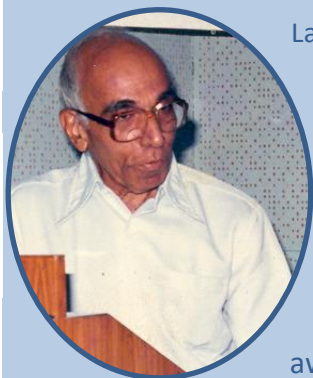




# आईआईटीएम की 55वीं 'प्रो. आर. अनंतकृष्णन' वार्ता IITM's 'Prof. R. Ananthakrishnan' Colloquium (55<sup>th</sup>)



Late Prof. R. Ananthakrishnan (Ex-Director and Honorary Fellow of IITM, Pune) started his research career as a research scholar in the field of light scattering under the guidance of Nobel Laureate Prof. C.V. Raman and was awarded D.Sc. in 1937 from

University of Madras. Then he joined IMD and occupied several positions up to DDG and then he worked as Director IITM during 1968-1971. He was awarded Padmashree by President of India in 1969 and Nobel Laureate Prof. C.V. Raman Centenary Medal in 1988. He was elected as an INSA Fellow in 1961 and was also member of many learned and professional societies like (Indian Academy of Sciences, Maharashtra Academy of Sciences). He was associated with many technical committees and working groups of WMO Geneva. He was editor of reputed national and international journals in Meteorology.

Prof. R. Ananthakrishnan was deeply associated in organizing and teaching M.Sc./M.Tech. Courses in Meteorology at University of Cochin and University of Pune. Under his able guidance 12 persons were awarded Ph.D.

Research contribution of Prof. R. Ananthakrishnan covers wide range topics viz. Light Scattering and Raman Effect, Solar Physics and Meteor Astronomy and Meteorology. In the field of Meteorology he covers: Aerology, Dynamics, Thermodynamics, Monsoon Circulation, Tracks of Storms and Depressions. Atmospheric pressure and oscillations, Indian Rainfall and features associated with onset of southwest monsoon and identification of errors in upper air data. To meet defense needs he organized the publications entitled 'Climatology of Himalayas, Tibet and adjoining areas'. There are 110 national/international (research papers/technical contributions) papers to his credit and a book entitled 'An introduction to Meteorology'. This text book is found to be extremely useful to all the new comers in the field of meteorology. Prof. R. Ananthakrishnan pursued his research and guidance in atmospheric science even after his retirement as an Honorary Fellow of IITM till his last days.



Prof. Pinaki Chakraborty

Okinawa Institute of Sci. & Technology (OIST), Japan

Title of the Talk: "Surprising thermodynamics of landfalling hurricanes"

**Abstract:** A hurricane over the ocean functions as a heat engine, its heat source being the moisture from the warm ocean. When a hurricane hits land, the heat source is lost and consequently it decays. This decay is considered to be a non-thermodynamic process. Contrary to this prevailing paradigm, we argue that thermodynamics plays a key role in the evolution of landfalling hurricanes and that the thermodynamic effect is orchestrated by the moisture stored in the hurricane from its journey over the ocean prior to landfall. This talk is based on joint research with Lin Li.

#### References:

1. L. Li and P. Chakraborty, Slower decay of landfalling hurricanes in a warming world, *Nature*, vol. 587, pp. 230-234, 2020.
2. L. Li and P. Chakraborty, Birth of a cold core in tropical cyclones past landfall, *Physical Review Fluids*, vol. 6, article L051801, 2021.

**Bio:** Pinaki Chakraborty is a Professor at the Okinawa Institute of Science & Technology (OIST), Japan. His group at OIST, the Fluid Mechanics Unit, works on theoretical, experimental, and computational studies of turbulent flows, atmospheric flows, geological flows, and granular flows. Prior to joining OIST in 2012, Pinaki was at the University of Illinois at Urbana-Champaign, first at the Department of Theoretical and Applied Mechanics, where he received his Ph.D. in 2006, and then at the Department of Geology, where he was a postdoctoral fellow and later a Research Assistant Professor.

<https://youtube.com/live/eq-erYnkCNI?feature=share>

Date: 01<sup>st</sup> March 2024, 1600 hrs.

Venue: Varahamihira Hall, IITM