IMS – SPPU National Seminar

in association with IMD & IITM

Title of the Talk: "ANTARCTICA: A NATURAL LAB TO STUDY CLIMATE CHANGE"

Venue: Seminar Hall, Department of Geography, S.P. Pune University, Pune-411007.

Date: 11 April 2023 Time : 11.00 a.m.

Dr. M. R. Ramesh Kumar

Chief Scientist (Retired), Head, Physical Oceanography Division, National Institute of Oceanography, Goa

About the Speaker He was born on 31 May 1959 in Irinjalakuda village in Trichur District, Keral. He did M.Sc. in Meteorology from Deptt. of Atmospheric Sciences, CUSAT, Kochi and PhD from Goa University in 1991 and the topic of research was "Surface Heat Budget of the Indian Ocean." He joined as Trainee Scientist in NIO, Dona Paula, Goa in 1982 and subsequently positioned as Scientist B on 16 Feb 1983. He has vast experience in teaching Meteorology, Marine Science and Oceanography for M.Sc. in Goa University. He taught to B.E. students in Goa Engg. College, Farmagudi and PEE Engg. College, Verna in Digital Image processing. Also had also given lectures in national natural Remote Management System Training conducted by NIO & guided students for B.A., B.E., & M.Sc. dissertations of different universities.He have participated in several oceanographic cruises onboard the research vessels Gaveshini & Sagar Kanya in different parts of Arabian Sea, Bay of Bengal and south Indian Ocean. He have participated in the National Program called Arabian Monsoon Experiment (ARMEX). His most important achievement in research cruises has been the participation as a Member of the Sixth Indian Scientific Expedition to Antarctica in 1986-1987. He had visited many countries like : Antarctica, United Kingdom, Germany, Japan, Mauritius, Italy, Egypt, China, Greece, on different assignments such as UNDP Fellow, Post Doctoral Fellowship, Workshop, Conferences, Seminars etc.

Awards: Awarded Dr.N.K.Panikar Memorial Award for obtaining First Rank in M.Sc. Meteorology from Cochin University of Science and Technology, Kochi in 1981. Awarded Prof. P. R. Pisharoty Memorial Award for the year 2003 for work in the field of Remote Sensing (this award was previously known as National Remote Sensing Award), Fellow of the Indian Geophysical Union. His Research Interests in the field of : Air Sea Interaction, Monsoons, Cyclones, Climate Change, Antarctic Oceanography.He has more than 80 research publications in National and International Journals of Science Citation Index. He guided several students for their B.Tech, M.Sc. and M.Tech Dissertations and Ph.D from various colleges as well as Universities. **Invited talks:** He Gave more than 70 invited talks at various National /International Seminars / Conferences / Workshops

About the Talk:

Antarctica is Earth's southernmost and least-populated continent. Situated almost entirely south of the Antarctic Circle and surrounded by the Southern Ocean (also known as the Antarctic Ocean), it contains the geographic South Pole. Antarctica is the fifth-largest continent, being about 40% larger than Europe, and has an area of 14,200,000 km2 . Most of Antarctica is covered by the Antarctic ice sheet, with an average thickness of 1.9 km. Antarctica is, on average, the coldest, driest, and windiest of the continents, and it has the highest average elevation. It is mainly a polar desert, with annual precipitation of over 200 mm (8 in) along the coast and far less inland. About 70% of the world's freshwater

reserves are frozen in Antarctica, which, if melted, would raise global sea levels by almost 60 metres (200 ft). Antarctica holds the record for the lowest measured temperature on Earth, −89.2°C The coastal regions can reach temperatures over 10 °C in summer. Native species of animals include mites, nematodes, penguins, seals and tardigrades. Where vegetation occurs, it is mostly in the form of lichen or moss. There are 54 countries which have acceded to the Antarctica Treaty with 12 original signatories, during the International Geophysical Year (IGY, 1959) and other 42 countries have joined later. The first Indian Scientific Expedition to South Pole was a major milestone in Indian Endevaour to understand the mysteries of the Antarctica Environment and its implication on Climate Change. An eight member team embarked on an inland traverse from Maitri station to in four specialized vehicles on 13 November 2010 and reached