



Physical Research Laboratory, Ahmedabad

SPECIAL COLLOQUIUM - 12-31

Speaker: Prof. Robert F. Anderson

Ewing-Lamont Research Professor, Lamont-Doherty Earth Observatory and Adjunct Professor, Columbia University.

Title: Abrupt climate change and CO₂: The bipolar seesaw vs. the winds

Abstract

Changes in Southern Hemisphere winds, forced by extremely cold “stadial” events in the North Atlantic region, are inferred to have caused increased upwelling in the Southern Ocean, warming of Antarctica, and rising atmospheric CO₂ during the termination of the last ice age. Similar north-south connections occurred throughout the last ice age, indicating that these processes represent an integral component of Earth’s varying climate. However, coupled atmosphere-ocean general circulation models do not show a shift in the latitude of the southern westerlies between glacial and interglacial conditions. Instead, model results support the view that the north-south coupling is driven by changes in ocean heat transport, known as the bipolar seesaw. The presentation will review evidence to link upwelling in the Southern Ocean to changes in atmospheric CO₂, and discuss evidence in support of climate-related changes in the position of the southern westerlies.

The Speaker

Prof. Robert Anderson did his B.S. in Oceanography and Chemistry (double major) from the University of Washington (1975) and Ph.D. in Chemical Oceanography from the Massachusetts Institute of Technology/ Woods Hole Oceanographic Institution (1981). His research focuses on the Chemical Oceanography, Marine Biogeochemistry & Paleoclimatology, more specifically on the development and application of geochemical tracers for research on ocean processes that regulate the exchange of carbon dioxide between the ocean and the atmosphere. He received the A.G. Huntsman Award for Excellence in Marine Science by the A.G. Huntsman Foundation, Dalhousie University & the Bedford Institute of Oceanography. He is a fellow of the American Geophysical Union. He has published more than 130 papers in peer reviewed journals.

Thursday: 25 October, 2012, 16:00 hrs.

K.R. Ramanathan Auditorium, PRL

Tea at 15:30 hrs.

ALL ARE WELCOME



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