

TATA INSTITUTE OF FUNDAMENTAL RESEARCH

Homi Bhabha Road, Mumbai-400 005

January 11, 2019

ASET Colloquium

- Speaker** : **Dr. C.M. Nautiyal** (*Prog. Consultant, Indian National Science Academy, New Delhi*)
- Title** : **Radiocarbon Dating: A Chemist's Gift to Geoscientists and Archaeologists**
- Date & Time** : **Friday 11 January 2019 at 16:00 hrs.**
- Venue** : **Lecture Theater (AG-66)**

Abstract :

Radiocarbon (C14), a chemist's gift to science, is actually now serving geologists and archaeologist more. The unraveling of the mystery of C14 in the atmosphere reads like a detective story. What appears straightforward, calculating time required to produce the measured radiocarbon from the estimated C14 originally present, it's actually more complex. The bigger fear, however, is not from these uncertainties but from the doubtful relation between sample and the context.

By resorting to Accelerator Mass Spectrometry (AMS), the applications now include precise dating of vegetation/ climate- changes, fruit/food grains whose charred remains are excavated, old structures and ancient people's practices, and detecting forgeries. With advent of AMS even some iron implements, pottery, and biologically precipitated individual skeletons. Libby's gift has grown into a precious tool for geologists, archaeologists, palaeo climatologists.

About the Speaker:

After M.Sc Physics from IIT-Roorkee, Chandra Mohan Nautiyal was at PRL, Ahmedabad during 1977-1985 for PhD and Post- Doc, establishing solar wind and solar energetic particles as isotopically distinct. At Birbal Sahni Institute of Palaeosciences, Lucknow he combined radiocarbon dates, pollen and geochemical data for palaeoclimate-reconstruction and archaeological studies and published in a variety of journals. He was also at Max Planck Institutes, Heidelberg and Mainz. He has been recipient of a Travel Award from Meteoritical Society, INSA Medal for Young Scientists and others but has also been an integral part of national science popularization scenario and honoured by several organistaiions like CSIR-CIMAP and Vigyan Parishad, Prayag.



Dr. Satyanarayana Bheesette
(Coordinator, ASET Forum)