



Physical Research Laboratory, Ahmedabad

Colloquium 16-12

- Speaker:** Dr. Amitava Sen Gupta
Hon. Distinguished Research Professor, The NorthCap University,
Gurgaon
- Title:** "From Sundials to Atomic Clocks - A glimpse into the amazing journey"
- Time:** Wednesday, 28 December 2016, 16.00 hrs.
- Venue:** K. R. Ramanathan Auditorium, PRL

Abstract

One of the things that we do not have to worry about in our day to day life today is accurate time. We just have to look at our watches, mobile phones, the internet or the radio and TV. For scientific experiments, requiring very accurate time, we can use time from atomic clocks perhaps relayed through navigation satellites such as the GPS. But have you ever wondered about the development over millenia that made such incredible timekeeping available to us today. This talk will give a brief historical development of timekeeping from the ancient days about a few millenia BC to the present day atomic clocks. We shall describe the sundials, water clocks, mechanical clocks, quartz clocks and finally the atomic clocks. The present day atomic clocks are so accurate that they can keep time to a few billionth part of a second per day.

The Speaker

Dr. Amitava Sen Gupta obtained the M. Sc. and Ph.D. degrees in Physics from the University of Delhi, in 1974 and 1980, respectively. In 1979, he joined the Time Standards section of the National Physical Laboratory (NPL), New Delhi. Dr. Sen Gupta's research interests during his Ph.D. and in the early years at NPL involved studies of upper atmosphere and VLF radio propagation studies and of late & recently on development of atomic frequency standards and a new generation of microwave synthesizers for atomic frequency standards. Subsequently, he was engaged in research on extremely accurate time synchronization using the Indian domestic satellite INSAT. This work has led to the INSAT time broadcast service, which has been widely used in India. During the eighties Dr. Sen Gupta was associated with the Indian Antarctic research program and was one of the youngest members of the first Indian Antarctic Expedition. During his expedition in 1988-89 he and his team members set up the permanent Indian Antarctic Station 'Maitri'.

Dr. Sen Gupta is a Fellow of the National Academy of Sciences, India and the Institution of Electronic and Telecom Engineers (IETE), India. He is a President of the Metrology Society of India and a Senior Member of the IEEE, USA. He was awarded the prestigious O. P. Bhasin Foundation award for Science and Technology for the year 2002 for outstanding contributions in the field of Electronics and Information Technology.

Tea at 15:30 hrs.
ALL ARE WELCOME

