



PONDICHERRY UNIVERSITY
School of Physical, Chemical & Applied Sciences
Department of Physics

Invited Lecture on

**Understanding complex structure property correlations in the lead free
ferroelectric compound $\text{Na}_{1/2}\text{Bi}_{1/2}\text{TiO}_3$**

by

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Date: 28th March 2014.

Time: 3.30 PM – 4:30 PM

Venue: Raman seminar Hall, Dept. of Physics.

All are invited

Head of the Department of Physics

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The complex ferroelectric perovskite $\text{Na}_{1/2}\text{Bi}_{1/2}\text{TiO}_3$ (NBT) and its derivatives have received considerable attention in the recent years as interesting lead –free piezoelectric materials. However, unlike for the other known ferroelectric compounds such as BaTiO_3 , PbTiO_3 and KNbO_3 , the structure-ferroelectric properties of the NBT is still being debated even more than five decades after its discovery. For example it is well known fact that NBT exhibits features of a relaxor ferroelectric as well as that of a normal ferroelectric, and until recently this behaviour was not properly understood. Also not understood was the structural basis of the depolarization of NBT well below its Curie point. In this talk I will discuss how a comprehensive experimental and computational research approach from our group has helped settle these outstanding structure-property issues.