

# Department of Theoretical Physics

## Free Meson Seminar

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|-----------------------------|---|--|
| <i>Speaker</i>              | : | Probir Roy<br>(SINP, Kolkata)                                  |
| <i>Topic</i>                | : | Maximal Neutrino Yukawa Texture<br>Zeroes and Oscillation Data |
| <i>Day, Date &amp; Time</i> | : | Thursday, February 28, 2008<br>at 2:30 p.m.                    |
| <i>Place</i>                | : | AG 69  |

### *Abstract*

Within the Type I seesaw framework and assuming all light neutrinos to be massive, the physical implications of zero textures in neutrino Yukawa couplings will be explored. We will show that, with the extant neutrino data, four is the maximum number of texture zeroes allowed. All such four zero textures will be completely classified and systematically studied. They will be seen to admit CP violation, both at low energies relevant to oscillation studies and at high energies controlling leptogenesis, with the latter completely determined in terms of the former. Other phenomenological implications of these textures will also be discussed.

*(Saumen Datta)*