

# Department of Theoretical Physics

## Free Meson Seminar

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|-----------------------------|---|---|
| <i>Speaker</i>              | : | Gautam Mandal                               |
| <i>Topic</i>                | : | On the phase diagram of Yang-Mills in a box |
| <i>Day, Date &amp; Time</i> | : | Thursday, April 21, 2011<br>at 2:30 p.m.    |
| <i>Place</i>                | : | AG 69                                       |

### *Abstract*

We present an analytic treatment of Yang-Mills theories with adjoint scalars in dimensions  $d=0,1$  and 2. In special cases, the model corresponds to 4 dimensional pure Yang-Mills theories in a box. We construct a gravity dual of these theories and present a phase diagram combining the results from gravity and gauge theory. Our results are in agreement with the picture of a 'cascade of phase transitions' for YM in a box, inferred from lattice studies.

*(Nilmani Mathur)*