

SCHOOL OF PHYSICS

UNIVERSITY OF NEW SOUTH WALES



COLLOQUIUM

4-5 p.m., Wednesday, 26 August 2009

PLEASE NOTE CHANGE IN DAY OF WEEK

School of Physics Common Room
Room 64, Old Main Building

Dr Ra Inta

Centre for Gravitational Physics, ANU

“The Vibratory World of Termites”

Despite being blind and relatively pathetic insects, termites form large sophisticated societies and cost billions of dollars in damages annually. Because any society requires effective communication channels; understanding how termites communicate ought to lead to more efficient means of controlling them. I will be discussing here how termites use vibratory signals in a variety of surprisingly sophisticated ways.

First, I will demonstrate how they are able to gain information on the size and, to some extent, the material properties of their wooden food sources by processing the vibratory signals given off as a by-product of their feeding. Then I will discuss how termites use vibration as a survival mechanism, to assess competitors and to optimise their invasive strategies. Finally I will show how, by using their own vibratory alarm signals, they can be made to reduce their wood consumption, and how that may be used as a potential termite control device.

This work raises a number of questions: with such small 'brains' (typically the central ganglia comprise ~105 neurons) how do they process these signals in such noisy environments? What are the key features in the vibratory signals? Come and see the talk.

The audience is invited to meet the speaker beforehand at 3.45 p.m. over coffee and biscuits in the Common Room.

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