



UNIVERSITY OF CRETE
DEPARTMENT OF PHYSICS



CCN

CRETE CENTER FOR
QUANTUM COMPLEXITY
AND NANOTECHNOLOGY

ΓΕΝΙΚΟ ΣΕΜΙΝΑΡΙΟ ΤΜΗΜΑΤΟΣ ΦΥΣΙΚΗΣ

PHYSICS COLLOQUIUM

Thursday, 28 May 2015

17:00 -18:00

3rd Floor Seminar Room

“Is smell a quantum phenomenon?”

Dr. Luca Turin

Ulm University, Germany

Abstract

Our sense of smell is extraordinarily good at molecular recognition: we can identify tens of thousands of odorants unerringly over a wide concentration range. The mechanism by which this happens is still hotly debated. One view is that molecular shape governs smell, but this notion has turned out to have very little predictive power. Some years ago I revived a discredited theory that posits instead that the nose is a vibrational spectroscope, and proposed a possible underlying mechanism, inelastic electron tunneling. In my talk I will review the history and salient facts of this problem and describe some recent experiments both on fruit flies and on humans that go some way towards settling the question.