



UNIVERSITY OF CRETE
DEPARTMENT OF PHYSICS



CCN

CRETE CENTER FOR
QUANTUM COMPLEXITY
AND NANOTECHNOLOGY

ΓΕΝΙΚΟ ΣΕΜΙΝΑΡΙΟ ΤΜΗΜΑΤΟΣ ΦΥΣΙΚΗΣ

PHYSICS COLLOQUIUM

Thursday, 22 October 2015

17:00 -18:00

3rd Floor Seminar Room

**“Quantum Engineering: Theory, Design And Promise Of
Quantum Coherent Macroscopic Structures”**

Prof. Alexandre Zagoskin

Department of Physics, Loughborough University, UK

Abstract

Much of our technology uses quantum mechanical effects routinely (like lasers and semiconductor microchips, which were produced by the “first quantum revolution” back in the 20th century). If the current trends hold, we will be soon enough playing with the technological results of the “second quantum revolution”, using even more subtle and bizarre quantum effects. Creation of such devices, which are not restricted to the field of quantum computing or quantum cryptography, requires a new discipline, quantum engineering, the development of which goes hand in hand with the cutting edge research in theoretical and experimental quantum physics. I will give an overview of this discipline, its current status and applications and its promise.