



ΓΕΝΙΚΟ ΣΕΜΙΝΑΡΙΟ ΤΜΗΜΑΤΟΣ ΦΥΣΙΚΗΣ

# *PHYSICS COLLOQUIUM*

Thursday, 6 November 2008  
17:00-18:00

3<sup>rd</sup> Floor Seminar Room

*“The Holographic New World”*

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Abstract:

In recent years, largely due to the advent of Holography, we have begun to see glimpses of yet another class of string theoretical spin-offs. It appears that string and M-theory can provide useful descriptions for transport phenomena of strongly interacting theories in low dimensions, fluid mechanics and non-relativistic systems. It is remarkable that using gauge/string duality and more broadly holography -- ideas that have been developed in string theory -- the apparently diverse physics of all such systems can be mapped to a dual gravitational description in a unified way. Explicit physical systems that may have dual holographic descriptions include quantum critical points in 2+1 dimensions, high-T<sub>c</sub> superconductors, quantum Hall systems, systems that exhibit parity breaking, non-relativistic critical systems as well as fluid mechanics and turbulence. I present a pedagogical overview of this Holographic New World and the local group's contribution to its exploration.