Α ΡΙΣΤΟΤΕΛΕΙΟ
Π ΑΝΕΠΙΣΤΗΜΙΟ
Θ ΕΣΣΑΛΟΝΙΚΗΣ

# ΣΕΜΙΝΑΡΙΟ
# ΤΜΗΜΑ ΦΥΣΙΚΗΣ

## Τετάρτη 24 Απριλίου 2013

## ώρα $12^{30}$

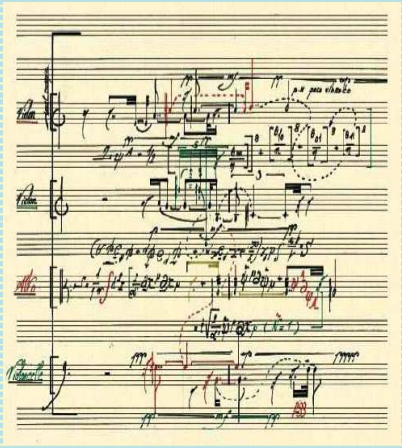
## Αίθουσα $A_{31}$

Κύκλος σεμιναρίων

... ένα ταξίδι στον κόσμο της σύγχρονης Φυσικής

στο Τμήμα Φυσικής

# String theory and attempts for unification




***Professor Marios Petropoulos***

***Ecole Polytechnique, Paris***



***Many of the challenges of the 21st century physics are conceptual in nature. They often appear as the heritage of a long history of the standard model of particles: search for the most fundamental constituents, unify interactions, compute instead of adjust parameters. From that perspective, string theory embraces all previous attempts such as grand-unification or supersymmetry. However, string theory is so constraint that no genuinely consistent model is yet available, that would reproduce ab initio the observed world. In this conference I will present a global view of the subject and try to give an account for 30 years of quest for unification***


***Το προφίλ του ομιλητή***

Marios Petropoulos was born in Athens but soon afterwards his family moved to Belgium. He went to school in Mons and obtained his First Diploma in Physics and the Masters in Theoretical Physics from the University of Mons. He then moved to Ecole Normale Superieure in Paris, where after finishing top in his DEA class, he obtained a PhD in Theoretical Physics. He's thesis was titled " Strings, quantum gravity and matrix models". As a postdoctoral fellow he spent time in Comissariat à l'Energie Atomique, Service de Physique Théorique, Gif-sur-Yvette, in CERN and in the University of Neuchatel, Switzerland. Then he joined the Centre de Physique Theorique at Ecole Polytechnique, where he now serves as Research Director at the CNRS, Head of the String Theory Group and also a Professor at the Ecole Polytechnique.His research interests are in mathematical physics: general relativity and gravitation, gauge theories, quantum field theory, string theory and branes, conformal field theories, duality and holographic correspondence. More concretely, he has been working in quantum gravity (matrix models), in the study of phenomenological implications of string theory, in flux compactifications, in formal aspects of branes, and more recently in gravitational instantons and their holographic applications e.g. to fluids and superfluids. He was also involved in more mathematical developments involving automorphic forms.