



ΑΡΙΣΤΟΤΕΛΕΙΟ
ΠΑΝΕΠΙΣΤΗΜΙΟ
ΘΕΣΣΑΛΟΝΙΚΗΣ

ΣΕΜΙΝΑΡΙΟ ΤΜΗΜΑ ΦΥΣΙΚΗΣ

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Αίθουσα Α₃₁

Κύκλος σεμιναρίων



... ένα ταξίδι
σύγχρονης

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Φυσικής

στο Τμήμα Φυσικής

Our Universe as a hologram



Professor Kostas Skenderis
University of Southampton

Science was born out of our desire to explain the world around us and over the course of history we have learnt that what we perceive as physical reality based on everyday experiences may not accurately reflect the inner workings of Nature. In this lecture we will present the evolution of scientific theories describing physical reality, culminating with a discussion of the most recent ideas describing our Universe as a hologram. In this paradigm the laws of physics for the entire Universe are best formulated in terms of a theory in two spatial dimensions, analogously to how an optical hologram encodes a three dimensional image in a two dimensional surface, and this holographic theory is similar to electromagnetism and the theory describing the nuclear forces. One of the macroscopic dimensions perceived in everyday life and gravity itself both emerge from the dynamics of this two dimensional theory.

Το προφίλ του ομιλητή



Professor Kostas Skenderis graduated from the Physics Department of Aristotle University in 1991 and obtained his PhD at SUNY at Stony Brook, USA, in 1996 under the guidance of the Dirac medalist Peter van Nieuwenhuizen. After postdoctoral appointments in Leuven, Belgium and Utrecht, Netherlands, Skenderis returned to the USA to take up an appointment at Princeton University, where he was an assistant professor until 2003. Skenderis spent the years 2003-2012 at the University of Amsterdam, as associate and then full professor, before moving to a professorship at Southampton. He is currently the deputy director of the new research centre, STAG, which aims to bridge astrophysics, high energy physics and general relativity.