

Το Τμήμα Μαθηματικών και Στατιστικής του Πανεπιστημίου Κύπρου διοργανώνει σεμινάριο την Τετάρτη 19/10/2016, ώρα 11:00-12:00, στην αίθουσα ΣΘΕΕ01/037 στην Πανεπιστημιούπολη.

Ομιλητής: Asaf Shachar (Hebrew University of Jerusalem)

Τίτλος: Geometric rigidity of Riemannian manifolds

Περίληψη: A classic rigidity theorem by Liouville states that a mapping whose differential at every point is a rotation, is in fact a global rotation.

Let f be an embedding of an Euclidean domain into a Euclidean space of the same dimension. Consider a functional assigning to f a measure of distortion—an average distance of df from being a local isometry. A generalization of Liouville's theorem, due to Reshetnyak, states that a sequence of embeddings whose mean distortion tends to zero has a subsequence converging to an isometry.

In this lecture I will review classical rigidity results, and present a generalization of Reshetnyak's theorem to embeddings of Riemannian manifolds. Specifically, if $f_n: (M, g) \rightarrow (N, h)$ are a sequence of diffeomorphisms whose mean distortion tends to zero, then they converge to an isometry.

This work was motivated by current trends in the theory of nonlinear elasticity.