



Analysis Seminar

Title: L^p -improving of averages on nondegenerate surfaces of codimension 2

Speaker: Spyridon Dendrinos (UCC)

Date: Tue 2nd December 2025 at 3:00PM

Location: E0.32 (beside Pi restaurant)

Abstract: Convolving a function with a measure supported on a submanifold, one expects that the resulting function will be smoother than the original one. One manifestation of this smoothing effect is the improvement of integrability as measured by the spaces L^p . This phenomenon has been widely studied in Harmonic Analysis primarily when the submanifold has dimension 1 or codimension 1. However, cases of intermediate dimension have been very little understood and indeed until relatively recently it was not even clear how to characterise those surfaces (nondegenerate) that achieve best possible L^p improving. We answer this question for surfaces of codimension 2 in even ambient dimension using the concept of affine invariant surface measure, together with inflation arguments from Harmonic Analysis and the notion of semistability/unstability from Geometric Invariant Theory. This is joint work with Andrei Mustata (UCC) and Marco Vitturi (MTU).

<https://ucd-ie.zoom.us/j/65786529108>

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