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# Analysis Seminar

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## R. Smith

will speak on

## Lipschitz-free spaces and the metric approximation property

Tue 30th September 2014 at 4:00PM

Location:

Given a metric space $M$ with distinguished point 0, the Lipschitz-free space $mathcalF(M)$ is the natural predual of the space of Lipschitz functions that vanish at 0 (endowed with the Lipschitz norm). The study of these spaces is an emerging area of research. Despite their elementary definition, the linear structure of the spaces $mathcalF(M)$ is still relatively poorly understood: in many cases it is not known whether $mathcalF(M)$ has the approximation property, a finite-dimensional decomposition or a Schauder basis. In this talk we show that for certain subsets $M$ of $mathbbR^N$ (such as all finite-dimensional compact convex sets), the Lipschitz-free space $mathcalF(M)$ has the metric approximation property, independent of the choice of norm on $mathbbR^N$. This contrasts with the fact, proved by Godefroy and Ozawa, that there exist infinite-dimensional compact convex sets $M$ such that $mathcalF(M)$ does not have the approximation property.

This talk is part of the **Analysis** series. For more, see
https://maths.ucd.ie/seminars