



**Speaker:** David Bate  
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Thursday, December 4, 2014  
11:00 AM  
125 Hayes-Healy Hall

**Title:** What do Lipschitz differentiability spaces look like?

**Abstract:**

A Lipschitz differentiability space is a metric measure space that satisfies two equivalent, yet seemingly very different, generalisations of Rademacher's theorem. The first of these was introduced by Cheeger and the second naturally follows from the work of Alberti and Alberti-Csörnyei-Preiss in Euclidean space.

In this talk we will present these generalisations and explain how they produce equivalent notions of almost everywhere differentiability of Lipschitz functions. We will then look at what a completely geometric description of such spaces may look like and consider the interesting and surprising examples of Lipschitz differentiability spaces that this investigation has produced.