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Leibniz  
Universität  
Hannover

## Oberseminar Analysis und Theoretische Physik

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The University of Warwick

## Nonunital spectral triples, KK-theory and metric completeness

It is well known that nonunital  $C^*$ -algebras correspond to noncompact spaces. In this talk I will describe a notion of nonunital spectral triples in terms of certain approximate units in the Lipschitz algebra of the spectral triple. Several equivalent characterizations of this notion will be given. In the commutative case, this notion turns out to correspond to the metric completeness of the underlying noncompact metric space. The operator space framework for Lipschitz algebras allows for the construction of quasi-central approximate units relative to an ideal. Using these, I will indicate how the Baaj-Julg lifting result in KK-theory can be refined to allow for the lifting of Kasparov products to the Lipschitz category.

(Joint work with A.Rennie)

**Dienstag, 19.11.2013, 15:15 Uhr, Raum g005  
Hauptgebäude der Leibniz Universität**

Dazu laden herzlich ein:  
Prof. Dr. Joachim Escher  
Prof. Dr. Olaf Lechtenfeld  
Prof. Dr. Elmar Schrohe  
Prof. Dr. Christoph Walker