

**DEPARTMENT OF MATHEMATICS AND  
COMPUTER SCIENCE**

**UNIVERSITY OF SOUTHERN DENMARK,  
ODENSE**

## **Mathematics seminar**

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**Thursday 8 March 2018, 14:15-  
15:15,  
IMADAs seminar room**

**The standard Podles quantum sphere as a  
spectral metric space**

**abstract:**

We study the spectral metric aspects of the standard Podles sphere, which is a homogeneous space for quantum  $SU(2)$ . The point of departure is the equivariant spectral triple investigated by Dabrowski and Sitarz. The Dirac operator of this spectral triple interprets the standard Podles sphere as a 0-dimensional space and is therefore not isospectral to the Dirac operator on the 2-sphere. We show that the seminorm coming from commutators with this Dirac operator (provides the Podles sphere with the structure of a compact quantum metric space in the sense of Rieffel. We note that taking commutators with a Dirac operator forms a derivation, and in this talk, we show how our approach was motivated by the standard derivation on the space of continuously differentiable functions on the interval  $[0,1]$ .

**Host: David Kyed**