



## JOINT CCQC - CCTP SEMINAR

**Thursday, 30 October 2014**

**15:15-16:15**

**2nd Floor Seminar Room**

**What is inside a black hole?**

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### Abstract

There has been renewed interest in the black hole information paradox following the claims by AMPS that unitary evolution is possible only if black holes have firewalls located just inside their event horizons. In this talk we will argue that holography implies an alternative, and rather more natural, resolution of the information loss paradox: significant modifications to the naive black hole geometry at sub-horizon scales. AdS/CFT calculations will be used to infer how the region "inside" a black hole should be described: we will use holography to explain why certain families of microstates of BPS black holes can be well-described by horizonless supergravity geometries (often called fuzzballs or microstate geometries in the literature) but we will also that generic black hole microstates cannot be captured within supergravity. Throughout the talk we will relate our calculations to the recent claims of Hawking, Martinec and others.

