

# Atomic and Laser Physics Seminar

Monday, 11 February

11.30

Audrey Wood Seminar Room

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*Quantifying the relationship between work and information-recent advances*

I discuss the relationship between information and work, which has been much debated ever since Maxwell first conceived of his daemon that uses information to turn 'heat' into 'work'. It is both of conceptual and technological interest. I argue that this relationship is best quantified using a new operationally motivated approach to information theory known as the single-shot approach. This is as opposed to the standard Shannon/von Neumann entropy approach. The two approaches differ dramatically when there are significant fluctuations around the average work, but coincide in certain limits. There is now a series of papers on this topic; I will try to give the key points.