



# Quantum Efficiency Seminar und Colloquium

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## What is the optimal control Hamiltonian to counteract decoherence?

Abstract: Genuine quantum properties - such as coherence, or entanglement - degrade under decoherence. In this talk, we discuss to what extent this seeming automatism can be mitigated by suitably chosen coherent dynamics. In particular, we develop a universal scheme to determine the *optimal* Hamiltonian that stabilizes an arbitrary control objective in the best possible way, and apply it to two exemplary scenarios: The coherence of a decaying two-level system, and the entanglement of two qubits.

**Date:** Tuesday, January 22nd, 2013 14:15  
**Location:** Lecture Hall 1, Hermann-Herder-Str. 3, Freiburg

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