Contribution ID: **1260** Type: **Oral (Student, Not in Competition) / Orale (Étudiant(e), pas dans la compétition)**

Repeated Interaction with Ensemble of Ancillas

Thursday 16 June 2016 14:15 (15 minutes)

We investigate the general open dynamics of a quantum system S undergoing a bombardment of short (unitary) interactions with an environment made of individual ancillas. We show how decoherence emerges from the fully unitary interaction of S with a large set of (in general non-identical) ancillas, and we compute the master equation that governs the dynamics of the system. Our findings may have applications in a range of fields both fundamental and applied: from the Quantum Zeno effect and the very foundations of the measurement problem to the study of decoherence and quantum thermodynamics.

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