**Speaker:** **Thomas Konrad,University of KwaZulu-Natal, Durban, South Africa**

**Title:** **Quantum Systems controlled by quantum systems or measurement-based feedback**

**Date:** **Wednesday, January 24th, 11 o‘clock (s.t.)**

**Place:** **Seminar room 915**

**Quantum Systems controlled by quantum systems or measurement-based feedback**

In this talk I address the question whether interactions with other quantum systems (or measurements combined with feedback) can be used to drive a quantum system from an arbitrary initial state deterministically into pure target state and stabilise it there, in spite of entanglement with the interaction partners (the stochasticity of the measurement results). In order to answer, I present a theorem that shows under which conditions this is possible and discuss the underlying mechanism as well as possible applications.