Speaker: **Clemens Gneiting, RIKEN, Tokyo**

Title: **Jump-time unraveling**

Date: **Tuesday, February 20th, 11 o‘clock (s.t.)**

Place: **Seminar room 915**

Jump-time unraveling

Quantum jump trajectories are physically realized in continuous quantum measurements, where the stochastically occurring quantum jumps are registered as "clicks" in the detector. Ensemble averaging quantum trajectories at preset clock times recovers the solution of an associated quantum master equation, but at the prize of discarding the information about the occurrence of the quantum jumps. In this talk I present an alternative averaging protocol, where the quantum jumps are actively involved in that the readout is triggered by preset jump counts. The accordingly ensemble-averaged states are then governed by a discrete, deterministic evolution equation that mediates in between subsequent quantum jumps. I show with several examples how this discrete evolution can deviate from its counterpart master equation, providing a potential route to realizing targeted quantum channels. Moreover, I will argue that this approach to dissipative quantum systems is particularly well suited for capturing their topological features.