

INVITATION

to a **TALK** by

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Irreversibility and Dissipation

We learn in undergraduate courses the intimate relationship between entropy and irreversibility: every irreversible process is characterized by an increase of entropy. In the last years, using concepts from information theory, we have been able to quantify irreversibility and relate this measure of irreversibility to the entropy produced along a process, both for classical and quantum systems. Our technique allows one to estimate the entropy production even in the absence of currents and flows, where the standard methods from irreversible thermodynamics fail. We can in principle detect if a system is out of equilibrium in the absence of currents by exploiting its non-markovianicity. In biophysics, this is equivalent to discern if a process is active or passive, which is valuable information to find out the physical mechanisms behind molecular motors. The connection between non-markovianicity and irreversibility could also be of interest for open quantum systems.

Thursday, February 13, 2020

11:00 am

Ludwig-Boltzmann-Hörsaal
Boltzmannngasse 5, EG, 1090 Vienna

Hosted by: Caslav Brukner