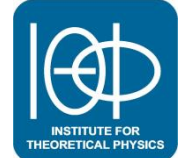




TECHNISCHE UNIVERSITÄT WIEN
INSTITUT FÜR THEORETISCHE PHYSIK
WIEDNER HAUPTSTRASSE 8-10, 1040 WIEN



INVITATION

Seminar for Theoretical Physics

Pierre Ronceray

Aix-Marseille Université

From trajectories to models: data-driven approaches to decipher the dynamics of living systems

Stochastic differential equations are often used to model the dynamics of living systems, from Brownian motion at the molecular scale to the dynamics of cells and animals. How does one learn such models from experimental data? This task faces multiple challenges, from information-theoretical limitations to practical considerations. I will present a recent and ongoing effort to develop new methods to reconstruct such stochastic dynamical models from experimental data, with a focus on robustness and data efficiency. These methods provide a generic means to quantify complex behavior and unfold the underlying mechanisms of an apparently erratic trajectory.

Date: "Tuesday the 26th September at 10:00"

Location: Seminar Room (Freihaus, gelber Bereich, 10. Stock DB10E11)