

# SALZBURG MATHEMATICS COLLOQUIUM

Winter 2018/2019

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## „Probabilistic laws from deterministic dynamics“

December 20, 2018

### Abstract:

It is well known that for many apparently simple deterministic dynamical systems the long-term behaviour of individual orbits is inherently unpredictable. Nonetheless, ergodic theory often enables us to make rigorous quantitative predictions about the asymptotics of such "chaotic" systems. These results are best viewed as extensions of classical probability theory to processes generated by the deterministic dynamics. The latter typically fail the clear-cut dependence structure defining standard classes of random processes, but retain some weak form of asymptotic independence due to their ergodic properties. This talk will discuss some recent results regarding Poisson limits for processes defined through the visits of orbits to small sets in the phase space.

Thursday, **15:00-15:45**

Hörsaal 414, 1. Stock