
BERN-FRIBOURG GRADUATE SEMINAR

a seminar for Master and PhD students

Wednesday 22nd March, 2023: 17:15 - 18:00

Room B1, Exakte Wissenschaften, Bern

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The competition between the law of large numbers
and the central limit Theorem in the shape of a
droplet.

Abstract

In this talk, we want to illustrate the apparently naive but sometimes surprisingly deep interplay between two basic theorems in probability theory: the law of large numbers and the central limit Theorem. To this end, we introduce a toy model for the shape of a droplet of oil embedded in water. As we shall see, the law of large numbers and the central limit Theorem have a natural - functional - extension in this setting, that we are going to present. An effort will be made to present those two fundamental results to a non-probabilist audience. If time allows it, we will present a recent result that identifies the exact scale at which those two effects have the same order of magnitude and shows the convergence of the rescaled interface towards a new random process. Joint work with Romain Panis.