



Seminar/Talk

On the variance blow-up phenomenon of singular SPDEs

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Host: Laszlo Erdős & Jan Maas

For singular SPDEs, solutions are typically given by the limit of appropriately renormalised random PDEs driven by mollified noises. Under the assumption of subcriticality, the black-box theory of regularity structures provides a systematic way of renormalisation. However, subcriticality alone does not promise the convergence of such renormalised solution, as stochastic objects required to make sense of the solution theory can have exploding variance when the mollification is removed. We will look at two examples which exhibit this phenomenon. In the first case, we will consider a supercritical SPDE and introduce an additional renormalisation in a multiplicative way, which leads to a limit different from what one would heuristically guess. In the second case, we start from a subcritical SPDE and consider the fluctuation of the renormalised solution around its limit; in particular, we prove a central limit-type theorem which characterises the fluctuation scale as well as its limiting profile in law, which again solves a singular SPDE. This talk is based on joint works with Mt Gerencsár and Rhys Steele.

Monday, November 2, 2026 04:00pm - 05:00pm

Central Bldg / O1 / Mondi 2a (I01.O1.008)



This invitation is valid as a ticket for the ISTA Shuttle from and to Heiligenstadt Station.

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