

## **abstract**

GEOMETRIC PDE SEMINAR

Topic:

Speaker:

Affiliation:

Date:

Time/Room:

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The talk is devoted to the homogenization of a stochastic evolution problem with non Lipschitz forcing. The problem is considered in a sequence of perforated cylindrical domains obtained from the removal of tiny cylinders from a fixed one (the distribution of the holes is not periodic); the thicknesses of the tiny cylinders converge to zero. The appropriate type of solution for the problem considered here is a probabilistic system consisting of a probability space, a multidimensional Wiener process and a stochastic process satisfying the problem in the sense of distributions. An adequate framework is developed within which a sequence of solutions to the original problem converges in suitable topologies to a solution of a limit stochastic evolution problem with an additional term of capacity type. This is achieved through an in depth asymptotic analysis based on an asymptotic expansion of the solutions. The expansion contains some correctors and a remainder term. This work is a stochastic counterpart of the deterministic Khruslov-Marchenko-Skrypnik's homogenization theory.