

Thursday, February 14<sup>th</sup>, 12:00

Seminar room at the Mathematics Department of the UPV/EHU

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## FUNCTIONAL ANALYTIC APPROACH TO SELF-IMPROVING PROPERTIES IN PDE

Consider a local energy solution to an inhomogeneous elliptic equation in divergence form. Classical results in regularity theory tell that when the source term has regularity slightly better than what is required for solvability, the regularity of the solution itself is also better than what is assumed a priori. This is traditionally seen as a consequence of Gehring's lemma about open-ended property of reverse Hölder classes.

In this talk, I discuss a functional analytic point of view on the topic with focus on extensions to parabolic PDEs.