



Professor Eric Bonnetier

# The Mathematics Seminar Series

Presented by The Department of Mathematics

## SMALL VOLUME AND SMALL BOUNDARY PERTURBATIONS OF AN ELLIPTIC EQUATION

Guest lecturer: Professor Eric Bonnetier

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Université Grenoble-Alpes

Date: 4/29/21

Time: 12:30-1:30 PM



<https://erau.zoom.us/j/99243119837>

### ABSTRACT:

There has been a lot of work in the past decades on deriving asymptotic expansions of the solution to an elliptic PDE in the presence of inclusions of small size. These expansions have proven useful in the inverse problem of detecting an inhomogeneity from boundary measurements.

In this talk, we consider such asymptotics when the small perturbation occurs on the boundary, for instance when a homogeneous Neumann condition is replaced by a Dirichlet condition on a small subset of the boundary.

This is joint work with Charles Dapogny and Michael Vogelius

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