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## SEMINÁRIO DO DEPARTAMENTO DE GEOFÍSICA

# Shape and Topology Optimization Methods for Inverse Problems

**Data:** 18 de maio de 2017 (quinta-feira)

**Horário:** 16h30

**Local:** IAG/USP – Auditório 1



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**Abstract:** In various image processing and inverse problems, the objects to be reconstructed have a nonsmooth structure. Typically, they may be piecewise constant or piecewise smooth. Many well-established reconstruction algorithms rely on smooth functions for the approximation of the solution, so they do not provide a solution in the appropriate class of functions. Reconstruction algorithms based on nonsmooth techniques allow to compute solutions which have the required nonsmooth features. In this talk, we present a general shape optimization approach for the resolution of inverse problems, which allows to work in the class of piecewise constant functions. We present applications to several problems such as electrical impedance tomography and gravimetry.

\* Alunos com no mínimo 70% de presença nas palestras receberão um Certificado de Participação no final do ano.

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