



**Mês de: Abril 2011**

## **SEMINÁRIO DE ANÁLISE E EQUAÇÕES DIFERENCIAIS**

**Dia 14 de Abril (quinta-feira), às 13h30, na Sala B3-01**

“A new forward-backward regularization of the Perona-Malik equation”

**Patrick Guidotti**

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**Abstract:**

The Perona-Malik equation (PME) is a forward-backward nonlinear diffusion which was proposed in the context of image processing as an image enhancement tool capable of preserving sharp features such as edges. To this day its mathematical nature has not been fully understood in spite of many an attempt. After a brief historical overview of the mathematical results available for the equation and its many regularizations/relaxations, the talk will introduce and analyze a novel, rather natural, regularization which will shed light on the nature of PME. The regularization is quite mild in that PME is regularized by a family of forward-backward equations, the solutions of which are, however, better behaved.

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