

UNIVERSIDADE FEDERAL DE SÃO CARLOS  
DEPARTAMENTO DE MATEMÁTICA

## COLÓQUIOS DO VERÃO

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Falará sobre

### Layer Potentials for Higher-Order Systems and Geometric Measure Theory

Boundary layer potentials for second order operators have been used with tremendous success in Partial Differential Equations and Harmonic Analysis from immemorial times. Along the way, they have been responsible for many spectacular advances in mathematics, from the inception of Fredholm theory by Ivar Fredholm in the early 1900's to the boundedness of the Cauchy integral operator on arbitrary Ahlfors regular rectifiable curves in the plane, stemming from more recent work of A.P. Calderón, R. Coifman, A. McIntosh, Y. Meyer, and G. David. In contrast to this long and distinguished history, the case of boundary layer potentials associated with *higher order* operators is virtually terra incognita. In this talk I will report on very recent progress made in collaboration with Gustavo Hoepfner (Sao Carlos, Br), Paulo Liboni (Londrina, Br), Dorina Mitrea (Missouri, USA), and Irina Mitrea (Philadelphia, USA), which elucidates basic questions arising in the study of layer potentials associated with higher order systems.

Quarta-feira, 8 de fevereiro, às 10h no Auditório