



# UNIVERSITY OF CALIFORNIA RIVERSIDE

DEPARTMENT OF MATHEMATICS

## COLLOQUIUM

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**Dr. Maria Gualdani**

**(Postdoctoral Scholar, University of Texas, Austin)**

"Global Existence of a Free Boundary Problem with  
Non-Standard Sources"

**Abstract:**

We consider a nonlinear free boundary problem, proposed by J.M. Larys and P.L. Lions in 2006 in the framework of mean field games. The model describes the evolution of a scalar price which is realized as a free boundary of a diffusion equation with evolving sources. The talk focuses on global existence, uniqueness and regularity of solutions. The proof uses tools from non-interacting stochastic particle systems and multiscale analysis.

**Tuesday, March 9<sup>th</sup>, 2010**

**Surge 284**

**4:10-5:00pm**

*Tea Time at 3:40pm*