



# Colloquium del Departamento de Análisis Matemático

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**“New estimates on the matching problem”**

**Viernes 21 de octubre de 2016**  
a las 13:00 horas en el seminario 222

## **Abstract:**

The matching problem consists in finding the optimal coupling between a random distribution of  $N$  points in a  $d$ -dimensional domain and another (possibly random) distribution. There is a large literature on the asymptotic behavior as  $N$  tends to infinity of the expectation of the minimum cost, and the results depend on the dimension  $d$  and the choice of cost, in this random optimal transport problem. In a recent work, Caracciolo, Lucibello, Parisi and Sicuro proposed an ansatz for the expansion in  $N$  of the expectation. I will illustrate how a combination of semigroup smoothing techniques and Dacorogna-Moser interpolation provide first rigorous results for this ansatz. (Joint work, in progress, with Federico Stra and Dario Trevisan).

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