Seminario de Ecuaciones Diferenciales y Análisis Numérico
Universidad de Buenos Aires - Argentina
16 de Octubre de 2018
Ciudad Universitaria - Pabellón I
Departamento de Matemática
Segundo Piso - Sala de Conferencias del DM-IMAS, 14:00.

Hydrodynamics of $N-$Branching Brownian motions with selection.

Pablo A. Ferrari *

The BBM is a system of particles performing Brownian motions and at rate 1 each particle branches creating a new particle at its current site. Particle motions and birth times are independent. In the $N-$BBM, only N particles are kept by erasing the leftmost particle at each branching event. This process was proposed by Brunet and Derrida in the 90's and in this form by Maillard. We show that the empirical measure of the particles at time t converges as N goes to infinity to a measure with density u(r,t), the solution of a pde with free boundaries.

Joint work with Anna De Masi[1], Errico Presutti[2] and Nahuel Soprano Loto[3].

References

[1] A. De Masi, P.A. Ferrari, E. Presutti and N. Soprano-Loto, *Hydrodynamics of the $N-$BBM process.* Arxiv `https://arxiv.org/pdf/1707.00799.pdf`.

*Professor at Universidad de Buenos Aires/ Superior Researcher at CONICET - Argentina, email:`pferrari@dm.uba.ar` Home Page:`http://mate.dm.uba.ar/~pferrari/`.

[1]Università degli Studi dell'Aquila - Italy, Home Page`http://www.disim.univaq.it/main/home.php?users%20username=anna.demasi` and email:`demasi@univaq.it`.

[2]Gran Sasso Science Institut - Italy, Home Page`https://sites.google.com/site/erricopresutti/` and email:`errico.presutti@gmail.com`.

[3]Universidad de Buenos Aires - Argentina, Home Page`http://mate.dm.uba.ar/~nsloto/` and email:`nsloto@dm.uba.ar`.