

## **Particle systems and related empirical measures**

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I will discuss general stochastic differential equations describing particle systems with repulsive forces. In the special case of ordered eigenvalues of matrix-valued SDEs in  $S_n$  (the space of symmetric  $n \times n$  matrices), we will introduce the appropriate scaling, describe the related empirical measures and study their behaviour as the number of particles  $n$  goes to infinity.

The talk is based on joint works with José Luis Pérez Garmendia (CIMAT, Guanajuato, México) and Piotr Graczyk (LAREMA, Angers, France)