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In this talk we derive the Large and Moderate Deviation Principles for two important population models: super-Brownian motion and Fleming-Viot Process. We do so by considering an Stochastic Differential Equation (SPDE) of the form,

$$u_t^\epsilon(y) = F(y) + \sqrt{\epsilon} \int_0^t \int_U G(a, y, u_s^\epsilon(y)) W(dsda) + \int_0^t \frac{1}{2} \Delta u_s^\epsilon(y) dy$$

where F is a function on \mathbb{R} and $G : U \times \mathbb{R}^2 \rightarrow \mathbb{R}$ is a non-lipschitz coefficient. This SPDE can be used to represent our models. (Received June 28, 2012)