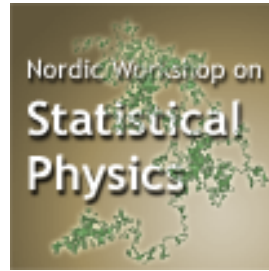


## 2nd Nordic Workshop on Statistical Physics: Biological, Complex and Non-equilibrium Systems



Contribution ID: 268

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### Population genetics in compressible flows

*Friday, February 25, 2011 2:15 PM (45 minutes)*

Population genetics studies how mutant forms of genes spread in space and can eventually take over a population. The physical mechanisms underlying this process can be very different in the ocean, where flows can radically alter the chances of genes being fixated. I will present a new model that generalizes basic models of population genetics in the presence of a fluid flow. I will show that even the presence of a weak compressible flow has a dramatic effect on the fixation times and probabilities. I will then discuss the possible consequences of these findings for understanding the behavior of plankton populations in the oceans.

**Presenter:** PIGOLOTTI, Simone (Niels Bohr Institute)