



Hamilton Institute

Evolutionary Escape on Fitness Landscapes

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Wednesday, April 25th, 2007

Abstract:

The evolution of HIV within individual patients is associated with disease progression and failure of antiretroviral drug therapy. Using graphical models we describe the development of HIV drug resistance mutations and show how these models improve predictions of the clinical outcome of combination therapy. We present combinatorial algorithms for computing the risk of escape of an evolving population on a given fitness landscape.

The method is applied to calculating the likelihood of therapy failure as a function of the viral genotype. Thus, it presents a step towards personalized antiretroviral treatment.

Venue: Seminar Room, Hamilton Institute, Rye Hall, NUI Maynooth

Time: 2.00 - 3.00pm (followed by tea/coffee)

Travel directions are available at www.hamilton.ie

