

Undergraduate Math Club

Winter 2007

2nd floor Nesbitt Common Room

Thursday, March 15, 4:10-5:00pm

(free pizza and pop, as always)

Optimal Oscillations

How to Avoid Jet Lag

Professor Daniel Forger

Abstract

When we travel across time zones, biological clocks within our bodies must synchronize to a new local time. I will present several relatively simple mathematical models for these clocks (e.g., harmonic oscillators, van der Pol oscillators, ...). Using these models, three mathematical techniques (one geometric, one stochastic, one variational) will be presented to determine "optimal" schedules to avoid jet lag.