Quantifying Ideas by Computation & Simulation

Mathematics is a natural language for quantifying and codifying thoughts and ideas. It is also a language of precision and logic. Just as pictures or words can be used to describe objects or actions, so too can mathematical models be used as a basis for an idealized or abstract understanding. This course will explore the concepts of mathematical models by utilizing the numerical and algorithmic nature of computers.

Lectures and labs will be based upon a *case-study* approach of various themes in mathematical modelling. Among the types of models to be presented are: dynamical systems, random processes and statistical data sets. The rudiments of computation and simulation and graphical presentation will be developed through the use of the Matlab and Maple computing environments.

Further information & updates: http://www.math.sfu.ca/∼muraki

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