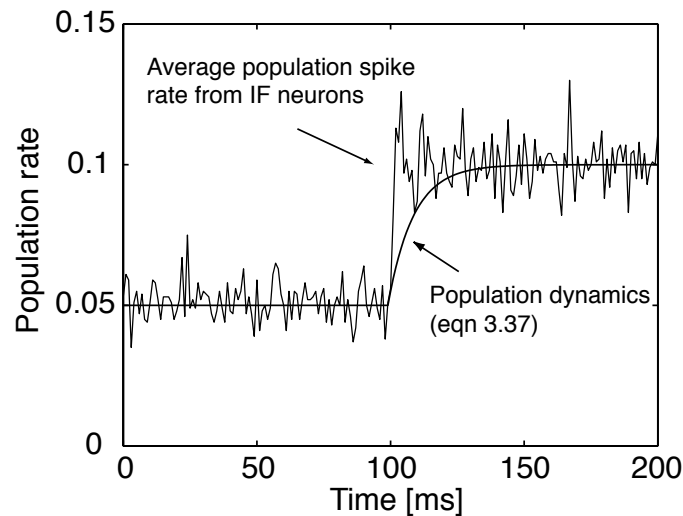# Assignment 3

for NeuroComputing/ Theoretical Neuroscience 2013

1. Implement an Izhikevich neuron in Matlab and plot an activation function (the average firing rate versus the input current) for a fast-spiking Izhikevich neuron.

2. In this project you should try to reproduce an experiment similar to that shown in the figure below (Fig 3.18 in the book) but for a population of Izhikevich neurons. Basically, you should implement 1000 independent Izhikevich neurons and study the average response to a sudden change to their inputs. You should also plot the corresponding change of a population node.

Send your answers to prof6508@cs.dal.ca with subject line A3. Please submit your work in one program which plots the answers for question one and question 2. This assignment must be received on Thursday, Feb 7, before 4pm.