Read the paper Hasty 2002, and also section 6 in Purcell2010. The model you have to implement is reported in Hasty2002, equations on the second page.

1) Describe and explain the model (20%).
2) Simulate the model and plot the model variables as a function of time for various model parameter values. Explain your choices and the behaviour of the system (10%).
3) Plot the nullclines in the phase plane, including the direction field and suitable trajectories. Comment about the steady-state(s). (30%).
4) Create a bifurcation diagram in terms of γ_x. Describe the bifurcations (40%).

NOTES:

- Submit on the main unit page
  1) the PDF of your report;
  2) the Xpp file.

- The report should not be longer than 12 pages. Describe properly all the analysis you did.

- All plots should have axes labels and, if there are multiple graphs on a plot, the legend (or key) should be included. For each missing label or legend, 1% of mark will be substracted.