Differential equation system that describes the RTK-PTP interaction network.

$$\frac{dRTKp_i}{dt} = (RTKt_i - RTKp_i)(k_1\alpha_1(RTKt_i - RTKp_i) + k_2\alpha_2 RTKp_i)$$
$$- k_2\gamma RTKp_i PTPa_i$$

$$\frac{dROS_i}{dt} = k_a RTKp_i - d_g ROS_i + c(ROS_j - ROS_i)$$

$$\frac{dPTPa_i}{dt} = k_4(PTPt_i - PTPa_i) - k_3\beta PTPa_i ROS_i$$

The constants are expressed in dimensionless units. The total protein concentrations are assumed to be constant in the time considered. The simulations in Fig.5 correspond to the following set of parameters:

$$\alpha = 0.1, \alpha_1 = 1, RTKt = 1, PTPt = 1, k_1 = k_2 = k_3 = k_4 = 0.5,$$
$$k_a = d_g = 0.5, c = 0.05, \gamma = 20, \beta = 50$$