UFRJ UNIVERSIDADE FEDERAL DO RIO DE JANEIRO

Work Plan 2

Duration: 12 months

Activity: Build the Gene Regulation Network involving the genes determined in plan 2.
Duration: 1st to 2nd month

Activity: Validate the network constructed from data on behaviors and interactions described in the literature.
Duration: 3rd and 4th months

Activity: Determination of the stationary states of the validated network to determine the constraints that must be respected between configurations to guarantee the multiplicity of stationary states. Strategy: null eigenvalue analysis and disability theory.
Duration: 5th and 6th months

Activity: Calibration of gene regulation network parameters based on gene expression data and quantitative results from the literature.
Duration: 7th and 8th months

Activity: Deterministic simulations to characterize the attractors corresponding to the luminal, HER+ and triple negative subtypes.
Duration: 9th and 10th months

Activity: Stochastic simulations to determine transition probabilities between basins of attraction, which correspond to disease progression between luminal, HER+ and triple negative breakthroughs.
Duration: 11th and 12th months

Activity: Publication of the results obtained.
Duration: 11th and 12th months