MOHAMMADREZA ANVARI, University of Saskatchewan, Department of Mathematics, 106 Wiggins Road, Saskatoon, SK S7N 5E6

Relative Dynamics in Systems Biology

The aim of this work is to design a method for developing mathematical models in order to apply on natural dynamical systems. Discussions on biological knowledge, in terms of objects, concepts and rules, suggest a need for mathematical models and novel methodologies to contribute to the conceptual or theoretical framework in studying dynamics on organisms. Through this paper, we will describe our mathematical method, "observational modelling", which is based on system theory, factor-space theory, dynamical systems and fuzzy logic to provide a relational description of dynamic on genomic systems, metabolic systems and systems biology. In the other part, we are going to apply Schopenhauer's philosophy to the specific dynamical systems, "relative dynamical systems", through observational modelling. In these kind of systems the Rule Bases could have their own dynamic, or some how modification. However, investigating the conflict between this dynamic and original dynamic of system is the aim.