Biological Systems as Reactive Systems

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Systems Biology is a new discipline aiming to understand the behavior of biological systems as it results from the (possibly non-Boolean, non-

simple) interactions of biological components. We discuss some biological molecules that are characterized by simple components, but by complex interactions. The interactions are supported by chemical reactions, which are "programming" molecules that can be described as "digital" molecules. The molecules can then react (alternative, and their interactions are studied by simulation algorithms. Active and non-active molecules can be treated as "levels" of a simulation, and put simply together to analyze cases, giving some hints of the whole system and, with care, by inspection of this organization of biological interactions.