# Computer System for Diagnostics of Disease Condition of an Organism Taking into Account the Basic Levels of Biosystem Organization

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In the given work the results of working out of the object-oriented software for analyzing mechanisms of occurrence, development and consequences of illnesses of an organism by examples of follicular cancer of thyroid gland and hepatitis B based on the modeling backup for quantitative research of regulatory mechanisms functioning developed by authors at molecular-genetic, cellular, organ-tissue and organismal levels of living system organization and experience of construction of corresponding mathematical and computer models [1] are considered. Applying methods of the qualitative analysis of functional-differential equations of mathematical models, the conditions for abnormalities occurrence in hormonal regulation of thyroid gland functions and in regulatorika of the interconnected activity of molecular-genetic systems between hepatocytes and hepatitis B virus [2,3] are defined. Software complexes for diagnostics, treatment and forecasting of diseases outcome are constructed taking into account the structurally-functional organization of cells, intercellular mutual relations and organismal regulation on concrete sites of considered organ and tissues. It allows to conduct computing experiments on habitual object for medical officers, to effectively interpret results of computer modeling organism functioning at norm and anomalies, to develop the real scientifically-proved recommendations about improvement of organism condition at diseases.

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