## عنوان مقاله:

Computational Modeling in Systems Biology: Integration towards Improvement

## محل انتشار:

چهارمین کنفرانس ملی دستاوردهای نوین در برق و کامپیوتر و صنایع (سال: 1397)

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## خلاصه مقاله:

Systems biology is a discipline that studies biological systems from a holistic and interdisciplinary perspective. It brings together biologists, mathematicians, computer scientists, physicists, and engineers. One of the main aims of systems biology is understanding of the biological system as a whole rather than focusing on individual factors. With the rise of next generation sequencing technologies and through large-scale consortia projects massive amount of heterogeneous datasets were generated in different fields such as genomics, transcriptomics or proteomics, we are now in a position to view the molecular aspects of diseases at a systems level by incorporating various cellular entities into a network framework. These multi-scale personalized medicine approaches are likely to significantly re-shape the health care industry in the coming decades and decrease the division that we currently see between medicine and other biotechnology disciplines. Here we review current advances in systems biology approaches for data integration .and highlight the need for further developments in this area

## کلمات کلیدی:

Systems biology, Biological networks, Genotype, Machine learning, Data integration