

Challenges in Predictive modeling for engineering/deciphering the regulatory networks

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The ultimate goal of systems biology and metabolic engineering is the prediction of cellular behavior, either for wild-type strains or the engineered strains. This ambitious task involves efforts at two levels: 1) prediction of regulatory networks, and 2) prediction of the behavior of the regulatory networks. We will discuss challenges in these problems and suggest some possible ways to tackle them. In particular, we will address how mathematical tools can interact with experimental data to maximize information output.