Wrap-up of Computational Systems Biology

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May 2, 2006
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- How do these modules interact with each other over time and in different situations?
- How can we interrogate the cell and iteratively refine our models of the cell?
Continuum of Models in Systems Biology

We covered “high-level” models.
Emphasised a data-driven approach to systems biology.
Focussed on large-scale properties of biological systems.
Integrated massive quantities of different types of data.
Learnt techniques from clustering, data mining, and graph theory and applied them to solve specific biological questions.
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  ▶ Which genes should I knock out to obtain a particular phenotype?
  ▶ Model the effect of multiple treatments.
  ▶ Model the effect of changing the degree of a treatment.
▶ Integrate data-driven methods with physics-driven techniques.