

# Wrap-up of Computational Systems Biology

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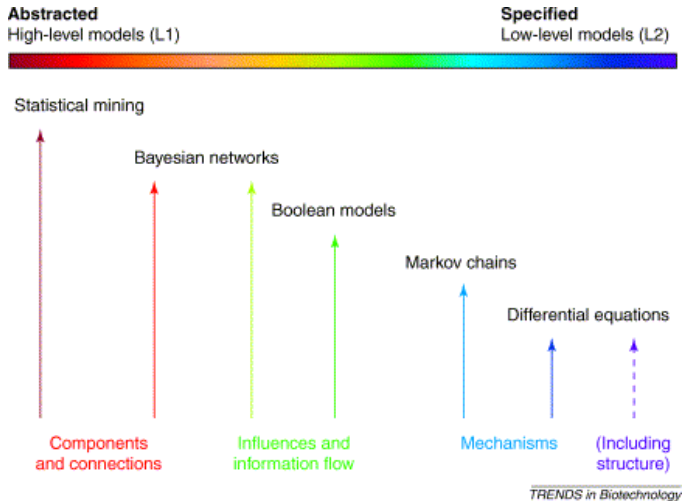
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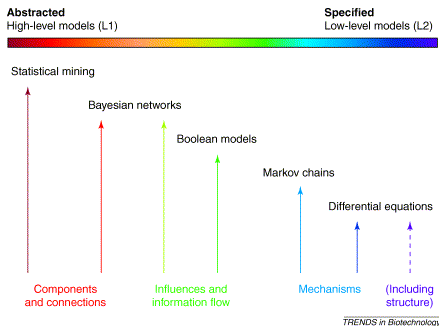
- ▶ Systems Biology is the study of the parts of the cell, their properties, and their relationships.
- ▶ What are the structures and modules that make up cellular networks?
- ▶ How do these modules interact with each other over time and in different situations?
- ▶ How can we interrogate the cell and iteratively refine our models of the cell?

# Continuum of Models in Systems Biology



From Ideker and Lauffenburger, Trends in Biotechnology Volume 21, Issue 6 , June 2003, Pages 255-262.

# Foci of the Course



- ▶ 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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- ▶ Integrate data-driven methods with physics-driven techniques.