

hello

Chapter 3: Emergent Properties of Small Networks

Supplementary Material

Electronic Notebooks

- [Goldbeter-Koshland ultrasensitivity](#)
- [Hill feedback analysis](#)
- [Huang and Ferrell 1996 MAPK](#)
- [Najdi 2006 Asp Thr biosynthesis](#)
- MAPK cascade in solution with feedback, according to models of [Bardwell](#) and [Kholodenko](#)
- MAPK cascade stochastic
- MAPK cascade on scaffold (old Cellerator [model](#))
- more

Exercises

- Emergent dynamics
- MAPK exercises

Figures - electronic sources

- MAPK cascade and transfer function
- Asp Thr biosynthesis
- elementary behaviors
- Brusselator (Figure 3.13c) [model file](#) and [pdf](#).
- feedback loop nullclines
- repressilator oscillations
- MAPK with feedback transfer functions
- stochastic MAPK
- scaffolded MAPK

Bibliography - electronic access - chapter 3

- [Here](#)

Text Outline

- 3.1 Network behavior

- 3.2 Elementary network analysis
- 3.3 Small network examples: S-E-P, MAPK, and threonine metabolism
- 3.4 Dynamical consequences of feedback
- 3.5 Building larger networks: MAPK in depth
- 3.6 Summary

Missing Topics

From: <http://cmsb.ics.uci.edu/> - **Computational Mathematical Systems Biology**

Permanent link: http://cmsb.ics.uci.edu/doku.php/wiki:chapter_3:emergent_properties_of_small_networks

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