Theoretical Physics in Cellular Biology: Some Illustrative Case Studies

Living matter obeys the laws of physics, and the principles and methods of theoretical physics ought to find useful application in many areas of biology. This truism is becoming ever more relevant with the rapid growth of the ability of biological experiment to produce large amounts of quantitative data: comprehending that data surely will require theoretical frameworks of some kind. In an effort to put some flesh on this very general observation, I will describe a few specific instances where approaches inspired by theoretical physics allow us to think about data from cellular biology in interesting, and perhaps illuminating, ways. I hope to convince you that the two fields have much to offer each other, and that relations between them are destined to grow closer.

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October 16, 2012 (Tuesday) at 3:30pm (Refreshments at 3:00pm)
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