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Random Walks in Physical Biology

We are living through a time of explosive growth in the study of the living world that in many ways parallels advances in astronomy after the invention of the telescope. Quantitative measurements allied with physical models are providing a powerful lenses through which to view many of these biological insights. In this talk, I will give a personal view of how our understanding of living matter can be colored by appealing to ideas from statistical mechanics. In particular, these ideas are illustrated with case studies on the ways that both viruses and cells manage their genomes.