

Abstract Submitted
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An Attempt to Understand the Nonequilibrium Statistical Physics of Microbes MICHAEL OLAYA, NICK UTLEY, PREET SHARMA, Midwestern State University — Our attempt is to study the behaviour of microbes through the framework of nonequilibrium statistical physics. Microbes can be understood through their activity. Sometimes they are more active compared to other times. This behaviour can be attributed to their surroundings and how they change. We can also understand the dynamics of a microbe through its interactions with the surroundings. A typical way in which a microbe is understood to behave is a random motion which can be explained by Brownian motion. Since the surroundings affect this behaviour, we have attempted to study as to how the perturbations in the surroundings would affect the microbes. Our attempt is also towards explaining this behaviour of microbes through the Fokker-Planck equation and its perturbations.

Preet Sharma
Midwestern State University

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