明治大学グローバルCOEプログラム【現象数理学の形成と発展】

第9回 MEE SEMINAR

MATHEMATICAL ECOLOGY & EVOLUTION

2009年10月20日(火) 14：40～16：10

明治大学生田キャンパス第二校舎A館：A207

小田急小田原線　「生田駅」から徒歩10分
又は「向ケ丘遊園」駅北口から「明治大学正門前」行きバスで10分終点下車
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October 20, 2009, 14:40～16:10　　Meiji Univ, Ikuta campus A207

On the asymptotic approximation of gene frequency distribution

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Abstract:

The change of a gene frequency in a finite population along the time is expressed by the stochastic process. The density function that accompanies the stochastic process will be obtained by solving the Fokker-Planck equation corresponding to the process. Kimura (1955) gives strict solutions when alleles are neutral and when the process has linear pressure like migration or mutation. It is, however, difficult to solve the equation strictly in many cases. In this study, I invoke the small disturbance asymptotic theory (Yoshida 1992, Kunitomo and Takahashi 2003), to consider the asymptotic approximation of the density function of the diffusion process that appears in population genetics. This asymptotic method gives a good approximation when boundaries are entrance, though the speed of convergence may not be fast and it does not give good approximations in other cases. However, the generality of this method is so high that we can use this method in many cases.

参加自由です。皆様のお越しをお待ちしております。

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