

第23回 MEE SEMINAR

MATHEMATICAL ECOLOGY & EVOLUTION

2010年6月8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「向ヶ丘遊園」駅北口から「明治大学正門前」行きバスで15分終点下車

詳しくは、http://www.meiji.ac.jp/koho/campus_guide/ をご覧下さい

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Meiji Univ. Ikuta campus A207

Generating Functional Analysis on Asymmetric Random Replicators

Yoshimi Yoshino (The University of Tokyo)

Abstract:

The idea of Generating Functional (GF) was originally suggested by Martin, Siggia and Rose (1973). It is based on Path Integral and is widely referred in various research fields, mainly Quantum Mechanics. We applied the GF to Random Replicators model in order to consider the problem of stability and complexity in ecosystem. The Replicator model with random interacting species indicates that complexity tends to destabilize community dynamics (Gardner and Ashby (1970), May (1972)). The case under the detailed balance condition is discussed in Equilibrium statistical mechanics, especially Replica method is applied to the system with disordered interactions. GF includes Replica method to analyze in the framework of Non-equilibrium physics intrinsically without detailed balance, which is corresponding to general asymmetric interactions. In the seminar, we present a detailed discussion of GF method and its application to ecosystem using Random Replicators model (YY, Galla and Tokita, Phys. Rev. E 78, 031924 (2008)).

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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