

第44回

MIMS Mathematical Biology Seminar

(This is a renewal seminar series of former GCOE MEE seminars.)

2013年11月12日(火) 14:30~16:30

明治大学中野キャンパス822

Nov 12, 2013. 14:30~16:30 Meiji Univ. Nakano campus 822

JR中央線快速・総武線、東京メトロ東西線／中野駅 下車 北口より徒歩約8分

詳しくは、http://www.meiji.ac.jp/koho/campus_guide/nakano/access.htmlをご覧ください。

Age structured cultural evolution

Laurel Fogarty (Stanford University)

Abstract: Data published by Hewlett et al (2011) showed that the age structure of cultural learning differs between modern hunter-gatherer groups and their agriculturalist neighbors. We used Leslie matrix models to investigate the implications of these differences for cultural evolution in each group, and more generally in groups with different age-structured learning regimes. These models show how traits affecting survival, fertility, or both can influence the birth rate, age structure, and asymptotic growth rate of a population. We show that the strong spread of some traits can lead to a demographic transition, similar to that experienced in Europe in the late 19th and early 20th centuries, without ecological or economic optimizing models. The spread of a cultural trait that increases fertility, but not survival, can cause demographic change similar to the 'Neolithic demographic transition'; a period of increased population growth that is thought to have accompanied the transition from hunter-gatherer to agricultural lifestyles. Finally, extensions to the above model allowing a more natural division of age classes could make the models more useful to anthropologists studying age-structured cultural transmission. We plan to investigate ways in which this approach can be improved and optimized for use with field data.

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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