

広島統計談話会

Hiroshima Statistics Study Group

第 237 回談話会を下記のように開催致しますので
御参集下さいますよう御案内申し上げます。

You are cordially invited to the 237th meeting as scheduled below.

日 時 : 2007 年 6 月 29 日 (金) 15:00-

Date : June 29, 2007 (Fri) 15:00-

場 所 : 放射線影響研究所 講堂

Place: RERF Auditorium

演 者 : 吉本 敦 博士 (東北大学大学院環境科学研究科 助教授)

Speaker: Atsushi Yoshimoto, Ph.D., Associate Professor,
Graduate School of Environmental Studies, Tohoku University

演 題 : 「確率制御モデルによる持続的森林管理のための価格閾値」

Title: "A threshold price toward sustainable forest management through
stochastic control modeling"

要 約 :

Summary:

Recent debates on sustainable forest management result from multifold functions of forest resources to the public. These functions become effective only if forest resources are under suitable management. During the last decade in Japan, however we have observed that some private forest owners have given up or postponed their forestry practices mainly because of an unfavorable price trend of timber products at the current. For such a situation, if we were able to predict a range of price where forest owners can sustain the forest management, it could be possible to lead forest owners to achieve sustainability of forest resource management with the use of some policy measure, e.g. the price support policy commonly applied to agricultural policy. It could be enough to fill the gap between the market price and the derived threshold price, when the market price turns to be lower than the allowable price range for the management.

This seminar presents an approach to search for a threshold price for sustaining forest management under stochastic log prices. The model incorporates a stochastic model for price dynamics into a stochastic dynamic programming model to search for an optimal decision on sustaining the management. A stochastic model is to capture stochastic price dynamics. The threshold price is defined by such a minimum price that forest owners can sustain the forest management. The geometric Ornstein-Uhlenbeck process is used as a stochastic model. A stand density management diagram for a sugi (*Cryptomeria japonica*) forest stand in Kyushu area is used for simulating deterministic forest stand growth dynamics. National statistics data on log price in Japan are used for the analysis. Parameter estimation is performed by a quasi-maximum likelihood method. All results are presented in the seminar.