1046-92-1584 **Ryusuke Kon*** (kon-r@bio-math10.biology.kyushu-u.ac.jp), Hakozaki 6-10-1, Higashi-ku, Fukuoka, 812-8581, Japan. *Dynamics of a discrete-time lottery model and its approximation by ODEs.* Preliminary report.

Temporal heterogeneity is one of the important factors promoting species coexistence. The lottery model proposed by Chesson and Warner (1981) plays an important role in understanding the role of temporal heterogeneity. In this talk, we derive an ODE model from the original discrete-time lottery model by mean of averaging and analyze it since ODE models are often mathematically more tractable than discrete-time models. In fact, the mathematical framework of competitive exclusion constructed by McGehee and Armstring (1977) and the Liapunov function constructed by Kubo and Iwasa (1996) are applicable to our ODE model. These applications help to understand the global dynamics of the original discrete-time lottery model and show how to count the number of resources generated by temporal heterogeneity. (Received September 16, 2008)