1145-92-466 **Yunshyong Chow** (chow@math.sinica.edu.tw), Taipei, Taiwan, **Sophia Jang*** (sophia.jang@ttu.edu), Lubbock, TX , and **Hua-Ming Wang** (hmking@mail.ahnu.edu.cn), Wuhu, 241000, Peoples Rep of China. *Cooperative hunting in a discrete predator-prey system.*

In this talk, we introduce a discrete-time predator-prey system with cooperative hunting in the predators, constructed from the classical Nicholson-Bailey host-parasitoid system with density dependent prey growth rate. A sufficient condition based on the model parameters for which both populations can coexist is derived, namely that the predator's maximal reproductive number exceeds one. We study existence of interior steady states and their stability. It is shown that the system behaves asymptotically similar to the model with no cooperative hunting if the degree of cooperation is small. Large cooperative hunting, however, may promote persistence of the predator, for which the predator would otherwise go extinct if there were no cooperation. (Received September 06, 2018)