PANTHÉON-ASSAS
UNIVERSITÉ
PARIS

LEMMA
Laboratoire d'économie
mathématique et de
microéconomie appliquée

SÉMINAIRE

N-PLAYER WAR OF ATTRITION IN CONTINUOUS TIME WITH COMPLETE INFORMATION

06 juin 2024
Lemma - Salle Maurice Desplas 4 rue Blaise Desgoffe 75006 PARIS

Séminaire du Lemma

Le LEMMA organise un séminaire, sur le thème ***« N-Player War of Attrition in Continuous Time with Complete Information »*** le jeudi 6 juin à 11h.

Hao WANG *(Peking University)*

Résumé :

I consider the nondegenerate equilibria of a war of attrition game in continuous time with complete information, in which $N \geq 2$ players compete for $N - K$ prizes. When $K = 1$, a "memoryless" equilibrium, in which the strategies follow exponential distributions, is explicitly characterized. The equilibrium suggests that the duration of an attrition game may increase with the number of players.
The nondegenerate equilibrium surely exists if $N = 2$. If $N \geq 3$, it exists when the weakest player is not too weak compared to the average. If it exists, the equilibrium is unique under some conditions. When $K \geq 2$, the game typically has nondegenerate equilibria in which $K - 1$ players concede immediately. The model can be extended to cases in which the players have interdependent valuations, the players face the risk of defeat, or one of the players has private information. It also helps to solve an all-pay auction with ascending bids and complete information.