

- ▶ JIAMOU LIU, *Computational Complexity Issues in Hedonic Games on Graphs*.  
School of Computer Science, The University of Auckland, Auckland 1142, New Zealand;  
*E-mail:* [jiamou.liu@auckland.ac.nz](mailto:jiamou.liu@auckland.ac.nz).

A hedonic game is a model of the cooperative behaviors of self-interested players. In such a game, each participating player have a preference ranking over subsets of the possible coalition that it may join. The outcome of the game consists of a partition of the set of all players into mutually disjoint subsets, i.e., coalitions. A recently proposed model, fractional hedonic game, extends the paradigm to graphs whose vertices are players of the game and the preference ranking is determined by the edge relation. This type of game is particularly relevant to the analysis of social networks. We will define solution concepts of fractional hedonic game and discuss computational complexity of solving such a game. The talk will also draw connections to concepts in social network analysis such as community structures and structural cohesion.