"Workshop on Dynamic Interactions"

June 11th 2014, Centre d'Economie de la Sorbonne

106-112 Boulevard de l'Hôpital, Paris, ***room: 6th floor***

PROGRAM

9:00 – 9:15 Welcome & coffee

9:15 – 10:00 Dunia Lopez-Pintado (*Universidad Pablo de Olavide*)

"Public Goods and Random Networks"

10:00 – 10:45 Jean-Jacques Herings (*Maastricht University*)

"Subgame Perfect Equilibria in Majoritarian Bargaining"

(joint with Andrey Meshalkin and Arkadi Predtetchinski)

10h45 – 11:00 Coffee break

11:00 – 11:45 Ana Mauleon (*Université Saint-Louis – Bruxelles*)

"Stability of Networks under Limited Farsightedness"

(joint with Jean-Jacques Herings and Vincent Vannetelbosch)

11:45 – 12:30 Vincent Vannetelbosch (*University of Louvain, CORE*)

"Allocating Value among Farsighted Players in Network Formation"

(joint with Nicolas Carayol and Rémy Delille)

12:30 – 14:30 Lunch

14:30 – 15:15 Jeanne Hagenbach (*Ecole Polytechnique – CNRS*)

"Truthtelling in Matching Markets"

(joint with Frédéric Koessler and Thomas Trégouët)

15:15 – 16:00 Marie Laclau (*Paris School of Economics – CNRS*)

"Communication in Repeated Network Games with Imperfect Monitoring"

16:00 – Goodbye coffee

Organizers: Francis Bloch, Michel Grabisch, Agnieszka Rusinowska

Participation: Registration for participation is compulsory. If you like to participate in the meeting, please contact agnieszka.rusinowska@univ-paris1.fr by ***June 1st 2014.***

The workshop is sponsored by:

- Labex OSE (*Ouvrir la Science Economique*) – DT4 (*Fondements des comportements individuels, stratégiques et sociaux*) http://www.opening-economics.com/recherche/fondements-des-comportements-individuels-strategiques-et-sociaux/
- ANR (National Agency for Research / Agence Nationale de la Recherche), Project *DynaMITE* (*Dynamic Matching and Interactions: Theory and Experiments,* ANR-13-BSH1-0010-01) https://sites.google.com/site/anrdynamite/home

---

ABSTRACTS

Dunia Lopez-Pintado (*Universidad Pablo de Olavide*)

"Public Goods and Random Networks"

We study the provision of a public good in a social network where links are directed, i.e., the information flows one way. Our results relate, through stochastic dominance, the equilibrium outcome of such process with the out-degree distribution of the network.

Jean-Jacques Herings (*Maastricht University*)

"Subgame Perfect Equilibria in Majoritarian Bargaining"

We study the division of a surplus under majoritarian bargaining in the three-person case. In a stationary equilibrium as derived by Baron and Ferejohn (1989), the proposer offers one third times the discount factor of the surplus to a second player and allocates no payoff to the third player, a proposal which is accepted without delay. Laboratory experiments show various deviations from this equilibrium, where different offers are typically made and delay may occur before acceptance. We address the issue to what extent these findings are compatible with subgame perfect equilibrium and characterize the set of subgame perfect equilibrium payoffs for any value of the discount factor. We show that for any proposal in the interior of the space of possible agreements there exists a discount factor such that the proposal is made and accepted. We characterize the values of the discount factor for which equilibria with one-period delay exist. We show that any amount of equilibrium delay is possible and we construct subgame perfect equilibria such that arbitrary long delay occurs with probability one.

Ana Mauleon (*Université Saint-Louis – Bruxelles*)

"Stability of Networks under Limited Farsightedness"

We provide a tractable concept that can be used to study the influence of the degree of farsightedness on network stability. A set of networks Gk is a level-K farsightedly stable set if three conditions are satisfied. First, external deviations should be deterred. Second, from any network outside of Gk there is a a sequence of farsighted improving paths of length smaller than or equal to K leading to some network in Gk. Third, there is no proper subset of Gk satisfying the first two

conditions. We show that a level-K farsightedly stable set always exists and we provide a sufficient condition for the uniqueness of a level-K farsightedly stable set. There is a unique level-1 farsightedly stable set G1 consisting of all networks that belong to closed cycles. Level-K farsighted stability leads to a refinement of G1 for generic allocation rules. We then provide easy to verify conditions for a set to be level-K farsightedly stable and we consider the relationship between limited farsighted stability and efficiency of networks.

Vincent Vannetelbosch (*University of Louvain, CORE*)

"Allocating Value among Farsighted Players in Network Formation"

We propose a concept to study the stability of social and economic networks when players are farsighted and allocations are determined endogenously. A set of networks is a von Neumann-Morgenstern farsightedly stable set with bargaining if there exists an allocation rule and a bargaining threat such that (i) there is no farsighted improving path from one network inside the set to another network inside the set, (ii) from any network outside the set there is a farsighted improving path to some network inside the set, (iii) the value of each network is allocated among players so that players suffer or benefit equally from being linked to each other compared to the allocation they would obtain at their respective credible bargaining threat. We show that the set of strongly efficient networks is the unique von Neumann-Morgenstern farsightedly stable set with bargaining if the allocation rule is anonymous and component efficient and the value function is top convex. Moreover, the componentwise egalitarian allocation rule emerges endogenously.

Jeanne Hagenbach (*Ecole Polytechnique – CNRS*)

"Truthtelling in Matching Markets"

We analyze a dynamic search and matching model with asymmetric information. Randomly paired agents go through an evaluation phase before they discover each other's types and decide to match or not. Before deciding to enter this phase, agents can send a cheap-talk message about their type to their partner. We provide conditions for this communication to be informative and examine how it impacts search behaviors and the matching that arises in a stationary equilibrium. Early access to truthful information enables agents to avoid spending time in unfruitful evaluation phases and can modify the final matching as it affects how picky agents are. A full characterization of the matching configurations emerging in equilibrium with or without communication is provided. Communication is Pareto improving only when the matching is assortative in the absence of communication and left unchanged by information transmission.

Marie Laclau (*Paris School of Economics – CNRS*)

"Communication in Repeated Network Games with Imperfect Monitoring"

I consider repeated games with private monitoring played on a network. Each player has a set of neighbors with whom he interacts: a player's payoff depends on his own and his neighbors' actions only. Monitoring is private and imperfect: each player observes his stage payoff but not the actions of his neighbors. Players can communicate costlessly at each stage: communication can be public, private or a mixture of both. Payoffs are assumed to be sensitive to unilateral deviations. First, for any network, a folk theorem holds if some Joint Pairwise Identifiability condition regarding payoff functions is satisfied. Second, a necessary and sufficient condition on the network topology for a folk theorem to hold for all payoff functions is that no two players have the same set of neighbors not counting each other.