Workshop SNAAS (Social Network Analysis in Animal Societies)



ID de Contribution: 0

Type: Présentation orale

Universality in systems with group-outcome decision making

We study decision making in two different situations, where a group of N agents makes a decision that concerns only themselves as a group.

The first case, electoral data concerning participation to local elections in many countries, shows a universal scaling law as a function of the size, N, of each municipality. The second studied case, the number of democratic representatives for municipal, regional and national chambers in different countries, also exhibits a scaling behaviour as a function of the corresponding population, N. In both studied cases the corresponding group of N agents behaves as if it were split into subgroups of the order of N^{1/3}. A simple phenomenological model reproducing the stylised facts of local elections is proposed.

Author: M. BORGHESI, Christian (LPTM –Laboratoire de Physique Théorique et Modélisation–, Université Cergy-Pontoise)

Co-auteurs: M. CAPARROS, Fabrice (CUFR-Mayotte); Mme HERNÁNDEZ, Laura (LPTM); M. LOUF, Rémi (IPhT, CEA-Saclay)

Orateur: M. BORGHESI, Christian (LPTM –Laboratoire de Physique Théorique et Modélisation–, Université Cergy-Pontoise)