Tutorial on Computational Economics

59ª SIE Conference

25th - 27th October 2018, Bologna

Description of the tutorial

A visible trade-off affects economic theory. On the one hand, rigorous analytically tractable models are used to implement policies. Clearly enough this family of models, resting on strong "ad-hoc" hypotheses, is not able to reproduce many emerging evidences which would require to relax some of the above mentioned assumptions. Of course, the cost of this mitigation is not absolutely trivial: the model would lose the analytical tractability and the identification of that steady state that is so necessary for policy-makers in order to implement policies.
On the other hand, other models, related to the science of complexity, are able to recreate many stylized facts thanks to the interaction of heterogeneous agents. If these models are able to masterfully reproduce empirical regularities, they, however, often appear as black boxes unable to explain the clear origin of these regularities.

This tutorial begins to bridge this gap by presenting some computational models that integrate stylized facts and an almost analytical solution that can be used as a benchmark for economic policies.

Learning Outcomes

The objective is to advance your knowledge on how a computational approach could improve our view of economic systems.

Please, enroll as soon as possible.

Lecturer

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Program

Two hours: Introduction to Computational Economics (Why, What, How)

Two hours: Prensentation of HAMs literature with two example on Matlab

Bibliography

- Cars Hommes (2013) Behavioral Rationality and Heterogeneous Expectations in Complex Economic Systems, Cambridge.
- Ludwig von Bertalanffy (1968), General System Theory, New York: George Braziller

Software used:

- Matlab (https://it.mathworks.com/products/matlab.html)

Knowledge required: More than knowledge you need curiosity, open minded e eclecticism. However, some knowledge on dynamical systems, bounded rationality and heterogeneous perspective could help your attendance.