

## università degli studi FIRENZE

Dipartimento di Fisica e Astronomia

## **SIFS Plenary Colloqium**

Thursday 6 June 2024 15:00 Aula Magna Dept. Physics and Astronomy, Via G. Sansone 1, Sesto Fiorentino, Firenze

## Jean-Philippe Bouchaud - Académie des Sciences (France) Complexity, Economics & Statistical Physics





In a radically complex world, rational solutions are impossible to determine, not even to learn. One has to turn to satisficing solutions that are generically exponentially numerous. Every agent (even rational) will choose a different one, thereby creating de facto (if not de jure) heterogeneities. Simple models of a complex world necessarily generate a multiplicity of possible emergent properties, often (but not always) separated by "phase transitions". We will review how all these ideas may come together and be disciplined by tools from statistical physics, in particular concerning disordered, high dimensional models. The overarching idea of phase diagrams and the distinction between stiff and sloppy directions may allow one to build a qualitative, scenario-based approach to macroeconomics, trading the whimsical pursuit of numerically precise predictions with the aim of being "roughly right".

In collaboration with the Italian Society of Statistical Physics (SIFS) <u>https://www.fisicastatistica.org/</u>

## https://meet.google.com/kbo-rzxf-oij