



Vicerrectorado de
Investigación y
Transferencia

Cursos online Unidad de Excelencia Modeling Nature (MNat)

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La Universidad de Granada a través de su Unidad de Excelencia Modeling Nature (MNat) inicia un programa de cursos on line **para la formación de pre y posdoctorales**. Los cursos se complementarán próximamente con videos introductorios.

A continuación presentamos el primero de ellos:

Collective Dynamics in Science and Society

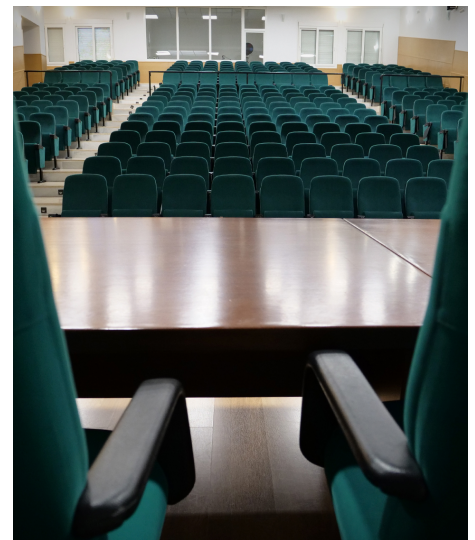
A Program of 7 Lectures for PhD Students and Young Researchers

by Nicola Bellomo, Diletta Burini, Giovanni Dosi, Livio Gibelli, Damian A. Knopoff, Pietro Terna, Nisrine Outada, Maria E. Virgillito

These lectures attempt to show how the broad variety of tools, delivered by mathematical sciences, can contribute to describing the dynamics of living, hence complex, systems. The contents are developed within an interdisciplinary, multiscale framework, looking at the rich plurality of sciences.

The final target is the study of living complex systems. The theoretical mathematical approach is that of active particle methods with applications to collective learning, modeling pandemics, behavioural dynamics of human crowds, behavioural and evolutionary economy.

These Lectures are offered to the scientific community, especially to young researchers, accounting for the lack of vis-a-vis communication, as well as for the present difficulty to move across research centres due to COVID-19 outbreak and the subsequent pandemic. But it is also a bet for the future to create a repository of online lectures that can be useful for the training of researchers.



<https://www.modelingnature.org/collectivedynamic-lectures>

INDEX OF LECTURES

1. A quest for a mathematical theory of living systems
2. On the kinetic theory of active particles
3. Collective learning and networks
4. Behavioral crowd dynamics
5. Modeling COVID19
6. Behavioral swarms
7. Evolutionary economy