Course announcement

Topics in engineering mathematics and coding
"Handling Uncertainty in Complex Systems"
Prof.ssa Serena Doria

Hours 12
Classes will be in English
Compulsory attendance

Final essay based on a set of questions also provided by Wims Plattaform. Final essay is compulsory to obtain **cfu 1,5.**

ABSTRACT

"Handling Uncertainty in Complex Systems"
The course presents the concept of conditional probability as a tool to represent partial knowledge and Bayes' theorem as a tool for updating knowledge in complex and / or chaotic systems or in the presence of big data. In particular, the case in which the conditioning event is the attractor of a chaotic system or an unexpected event with respect to the initial probability space is analyzed.
We introduce a Bayesian updating model based on Hausdorff outer dimensional measures and the concept of Hausdorff dimension of a set is presented to characterize the complexity of information.
As examples of information, images and data resulting from biomedical investigations, natural and built environments are provided.
To deepen the basic concepts of the course, the WIMS platform will be used.

OBJECTIVES
To introduce Phd students to Bayesian updating models based on Hausdorff dimensional outer measures.

✉Register by sending email to:
tea.taraborelli@unich.it &(in cc serena.doria@unich.it)
For those not at University of Chieti-Pescara it is possible to follow the short course online: specify request when you register.

TIMETABLE			
MONDAY	29-5-2023	9	12
TUESDAY	30-5-2023	9	12
WEDNESDAY	31-5-2023	9	12
THURSDAY	1-6-2023	9	12