Course Title:	INFORMATION THEORY AND PHYSICS 1: CLASSICAL PHYSICS
Instructor	G.Massimo Palma
N of hours	10
description	Introduction to the basic concepts of information theory and their connection with classical physics and thermodynamics
contents	• Shannon entropy, conditional entropy and mutual information data compression and redundancy, channel capacity. • Discrete stochastic processes, random walks on graphs, entropy production rate. • Fisher information and Cramer-Rao bound. • Landauer principle, Maxwell Demon, logical vs thermodynamical reversibility. • Computing paradigms: gates vs Turing machines. Computational complexity. Kolmogorov information