



DIPARTIMENTO DI MATEMATICA
ALMA MATER STUDIORUM · UNIVERSITÀ DI BOLOGNA
PIAZZA DI PORTA SAN DONATO 5, 40126 BOLOGNA, ITALIA
TEL. +39.051.20.94402, EMAIL: segreteria@dm.unibo.it

SEMINARI DI FISICA MATEMATICA

Lunedì 14 dicembre 2009 – ore 17

Aula Seminario I

EDUARDO G. ALTMANN
(Universidade Federal do Rio Grande do Sul (Brasile))

terrà il seminario

“Intermittency in the temporal distribution of words”

RIASSUNTO: *Recent research has identified scaling regularities in the temporal distribution of events such as earthquakes, wind gusts, and e-mail submissions. These studies consistently report bursty deviations both from random and regular processes, and together suggest the existence of a dynamic counterpart to the long-known scaling laws in magnitude and frequency distribution (e.g., Gutenberg-Richter’s law and Zipf’s law). In this talk I will report on our recent investigations of the temporal distribution of words. We found that the distribution of distances between successive occurrences of the same word display bursty deviations from a Poisson process and are well characterized by a Weibull scaling. We found that the burstiness of words depends more strongly on their semantic type than on their frequency of occurrence. Finally, we propose a simplified generative model that explains our main observations and fully determines the dynamics of word usage. As an outlook, I will discuss some analogies and differences to the problem of recurrence of extreme events in long-range correlated time series, where similar Weibull distributions were recently reported by the physics community.*

Tutti gli interessati sono invitati a partecipare.

Marco Lenci