



ALMA MATER STUDIORUM  
UNIVERSITÀ DI BOLOGNA  
DIPARTIMENTO DI SCIENZE STATISTICHE  
"PAOLO FORTUNATI"

***Statistics Seminars 2023/2024***

Giovedì 16 novembre 2023 alle ore 16.00

Sia in presenza, presso l'aula III nello stabile dove ha sede il Dipartimento di Scienze Statistiche, a Bologna, in via Belle Arti n. 41, sia in modalità telematica, mediante sistema di videoconferenza su piattaforma Microsoft Teams

**“On the number of elements beyond the ones effectively observed”**

**Prof. Eugenio Regazzini**

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**Abstract**

The following real-life example may be useful to get a preliminary idea of the problem. Libya and Tunisia are departure points for thousands of migrants who cross the Mediterranean, headed to Italy. From the point of view of statistics, the number of migrants who sail during a fixed time interval  $[0,t]$  is essentially undetectable, and the number of those who do not arrive at their destination can be seen as an example of what the title talks about. As a matter of fact, it represents the number, say  $X(t)$ , of migrants beyond the observed ones, that is, those arrived on Italian shores and registered by the competent authorities. It is easy to think of completely different phenomena in which the same problems arise. To study the time behaviour of  $X(t)$ , I mention and propose to explore both the properties and the statistical analysis of a continuous-time Markov chain introduced by Bruno de Finetti in 1957. It appears in a rather limited circulation collectanea devoted to Filippo Sibirani (1880-1957) and it considers jumps of positive and negative size (to take into account both, new departures and new immigrants landing).

L'Organizzatore  
Prof. Pietro Rigo

Il Direttore  
Prof. Carlo Trivisano

**La S.V. è invitata**

**Direzione**