

Stochastic Processes, Orderings and Dependence

Contributions by Bruno Bassan and recent developments

October 8, 2014

Aula Picone, Department of Mathematics, University "La Sapienza", Rome

A Mini-Workshop on *Stochastic Processes, Stochastic Orderings, Dependence among random variables* and related topics will be held at the Department of Mathematics, Università di Roma "La Sapienza".

The meeting will be devoted to discuss the scientific contributions of our colleague Bruno Bassan (1956-2004) and recent developments on these topics.

The invited speakers are F. Durante (Libera Università di Bolzano), I. Meilijson (Tel Aviv University), E. Orsingher (Università di Roma "La Sapienza"), F. Pellerey (Politecnico di Torino), Y. Rinott (Hebrew University, Jerusalem), C. Sempì (Università di Lecce). The detailed program is given below.

Besides the talks by the invited speakers, some time will be devoted to short contributions by other collaborators and friends of Bruno's. This event could also be of interest to scholars from different fields, who have had personal and professional interactions with Bruno.

All interested persons are invited to attend the Mini-Workshop. The participation is free. Attendants are, however, kindly requested to complete the [Registration Form](#) enclosed. Please send the registration form to nappo@mat.uniroma1.it (Please specify in the Subject: *Participation Mini-Workshop*)

The Organizing Committee

Marilena Barbieri (Università di Roma 3)

Clelia Di Serio (Università San Raffaele, Milano)

Giovanna Nappo (Università di Roma "La Sapienza")

Julia Mortera (Università di Roma 3)

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Marco Scarsini (Libera Università di Studi Sociali "Guido Carli", Roma)

Fabio Spizzichino (Università di Roma "La Sapienza")

Scientific Program

October 8, 2014

Aula Picone, Dipartimento di Matematica

Università "La Sapienza", Piazzale A. Moro 2, Roma

10.00 - 10.15 Opening

10.15 - 10.55 Yosef Rinott (Hebrew University, Jerusalem)

On model selection

11.00 - 11.40 Fabrizio Durante (Free University of Bolzano) and Carlo Sempi (University of Lecce)

The origin of the development of semi-copulas and their applications

11.45 - 12.30 Time for short contributions

12.30 - 14.30 LUNCH BREAK

14.30- 15.10 Franco Pellerrey (Politecnico di Torino)

Stochastic orders: a brief introduction and Bruno's contributions

15.15 - 15.45 Time for short contributions

15.45 - 16.15 Break

16.15 - 16.55 Enzo Orsingher (University of Rome, "La Sapienza")

Random fields and processes at finite velocity

17.00-17.40 Isaac Meilijson (Tel Aviv University)

Granule membranes play dice. The quantal nature of secretion

17.45 Closing remarks

webpage: [BrunoBassanDay2014](#)

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ABSTRACTS OF TALKS

Fabrizio Durante, Libera Università di Bolzano, and Carlo Sempi, Università di Lecce

The origin of the development of semi-copulas and their applications

Abstract: The talk discusses the class of semi-copulas that originated from a seminal paper by Bassan and Spizzichino (2003) and, since then, have been applied in various fields of applied probability and fuzzy set theory.

Isaac Meilijson, School of Mathematical Sciences, Tel Aviv University

Granule membranes play dice. The quantal nature of secretion

Abstract: Secretory cells contain small and large granules, but the functional significance of granule size is unclear. Attempts to understand the granule life cycle led us to establish a growth and elimination stochastic model that explains granule dynamics from the creation of unit granules, via aggregation of these unit granules into bigger ones, to their secretion out of the cell at some stage, by steady slow basal secretion or by occasional fast evoked secretion upon demand. Almost mimicking a Last-In-First-Out queue discipline, the unit granule is the most probable granule to be secreted under basal secretion, while larger granules, with longer shelf-life, function as inventory to be stored for emergency and secreted under evoked secretion. Granule fusion, either with each other to grow or with the cell membrane for secretion, is a fascinating drama played by SNARE proteins. The talk, a synopsis of this drama, will show evidence for granule aggregation and describe the information role it plays in the communication of the cell with its environment. Joint work with Ilan Hammel, Faculty of Medicine, Tel Aviv University.

Enzo Orsingher, Università di Roma "La Sapienza".

Random fields and processes at finite velocity

Abstract: The distribution of maxima for some random fields will be analyzed in terms of Slepian's inequality. Some extensions of the telegraph process are also considered.

Franco Pellerey, Politecnico di Torino

Stochastic orders: a brief introduction and Bruno's contributions

Abstract: The talk provides a short introduction to stochastic orders and their use in multivariate survival analysis, one of the scientific interests of Bruno Bassan. A description of his main results in this topic is also provided, together with an example of recent applications of his studies.

Yosef Rinott, Hebrew University, Jerusalem

On model selection

Abstract: I will discuss the notion of a model in statistics and applied probability, and some models in Bruno's work. I will then briefly discuss criteria for model selection in statistics