

**Statistics Seminar**  
Department of Mathematical Sciences

<b>DATE:</b>	Thursday, September 24, 2015
<b>TIME:</b>	1:15pm to 2:15pm
<b>LOCATION:</b>	WH 100E
<b>SPEAKER:</b>	Ron S. Kenett (The KPA Group, Raanana, Israel, and Department of Mathematics "G. Peano", University of Turin, Italy)
<b>TITLE:</b>	On the Performance of Sequential Procedures for Detecting a Change, and Information Quality (InfoQ)

**Abstract**

The literature on statistical process control has focused on the Average Run Length ( $\text{ARL}$ ) to an alarm, as a performance criterion of sequential schemes. When the process is in control,  $\text{ARL}_0$  denotes the  $\text{ARL}$  to false alarm and represents the in-control operating characteristic of the procedure. The average run length from the occurrence of a change to its detection, typically denoted by  $\text{ARL}_1$ , represents the out-of-control operating characteristic. These indices however do not tell the whole story. The concept of information quality (InfoQ) is defined as the potential of a dataset to achieve a specific (scientific or practical) goal using a given empirical analysis method. InfoQ is derived from the utility ( $U$ ) of applying an analysis ( $f$ ) to a data set ( $X$ ) for a given purpose ( $g$ ). Formally, the concept of Information Quality (InfoQ) is defined as:  $\text{InfoQ}(f, X, g) = U(f(X | g))$ . In this talk, we suggest the use of probability of false alarm (PFA) and conditional expected delay (CED) as an alternative to  $\text{ARL}_0$  and  $\text{ARL}_1$  which enhances the information quality (InfoQ) of statistical process control methods. As an extension, we discuss the concept of a system for statistical process control in the context of a life cycle view of statistics (SPCLive).

**Speaker's Biography:** Professor Ron S. Kenett is Chairman and CEO of the KPA Group, Research Professor at the University of Turin, Italy, International Professor, Center for Risk Engineering, NYU, USA, Professor at the Hebrew University Institute for Drug Research and at the Faculty of Economics, Ljubljana University, Slovenia. He is Past President of the Israel Statistical Association (ISA) and of the European Network for Business and Industrial Statistics (ENBIS).

Dr. Kenett authored and co-authored over 170 papers and 10 books on topics ranging from industrial statistics, customer surveys, multivariate quality control, risk management and statistical methods in healthcare up to performance appraisal systems and integrated management models. The KPA Group, he formed in 1994, is a leading Israeli firm focused on generating insights through analytics with international customers such as HP, 3M, Teva, Perrigo, Roche, Intel, Amdocs, Stratasys, Israel Aircraft Industries, The Israel Electricity Corporation, ICL, Rafael, several start ups, banks and health care providers.

Dr. Kenett serves and served as editor and member of the editorial board of several international journals including Applied Stochastic Models in Business and Industry, Dynamic Relationships Management Journal, Journal of the Royal Statistical Society, Series A, Quality

Technology and Quantitative Management, Statistica Applicata, Italian Journal of Applied Statistics, and Transactions on Machine Learning and Data Mining. Ron was awarded the 2013 Greenfield Medal by the Royal Statistical Society in recognition for excellence in contributions to the applications of Statistics. He is member of the National Public Advisory Council for Statistics Israel, which is the overseeing board of the Israel Central Bureau of Statistics and board member of the Executive Academic Council, Wingate Academic College.

Itinerary	
9:00 - 10:00	Aleksey Polunchenko
10:00 - 10:30	Zuofeng Shang
10:30 - 11:00	Qiqing Yu
11:00 - 11:30	Xingye Qiao
11:30 - 12:00	Ganggang Xu
12:00 - 1:00	Lunch
1:15 - 2:15	Talk
2:15 - 6:00	Break
6:00 - 8:00	Dinner

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Last update: **2015/09/22 22:24**

