

**A picture is worth a thousand tables -
graphics in life sciences**

**Andreas Krause and Michael O'Connell
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As few years ago BD MacArthur, A Ma'ayan and IR Lemischka (Department of Gene and Cell Medicine, The Black Family Stem Cell Institute, Mount Sinai School of Medicine, New York) pointed out in a very interesting paper (titled *Toward stem cell systems biology: from molecules to networks and landscapes* published on Cold Spring Harb Symp Quant Biol 2008;73:211-5) that we have nowadays the need to use *landscape representations* to show the overwhelming amount of data we accumulate even in a single experiment. Tables, simple graphics and even networks are no longer able to communicate in an efficient manner the multidimensional feature of the data we gather from the use of the high-throughput techniques and from the immense databases we build up. Quite interesting, few days ago I was through the M Krzywinski and E Savig *Multidimensional data on how to visually organize complex data by mapping them onto familiar representations of biological systems* (Nat Methods 2103;10:595) and I was strengthened on the fact that we have to start to teach our student about this new need.

Saying it in other words, if we will still continue to use and to teach our pupils on the sole use of tables and simple graphics to accomplish non-verbal communication of our data, well, we will miss a great opportunity of communication among scientists and will ask for an increasingly demanding, laborious and tiring readings all those interested in our data! Another example is given by the paper of Z Shi,

J Wang and B Zhang (Nat Methods 2013;10:597-8) titled *NetGestalt: integrating multidimensional omics data over biological networks*. Starting from this simple evidence it is a warm welcome and a grateful thanks what the scientific community have to tell to Andreas Krause and Michael O'Connell for this volume which is here to fill the gap of self-education in graphics representation of biomedical data: as pointed out by Stuart Pocock in the foreword there is virtually no training in the art and science of graphic representation.

The book has several great merits, noteworthy nearly all of the pictures are in colours and the AA generously give the reference of a companion Web site (<http://www.elmo.ch/doc/life-science-graphics/>) dedicated to the readers to function as an helpdesk and containing computer programs for download. The preface the AA write down is simply an interesting chapter, rather than the usual page committed to tell the objective of the book, providing examples of the philosophy behind the volume which is divided in four parts. Part I present several examples of the general principles reviewing graphics while part II is devoted to the preclinical and early clinical studies (quite interesting the chapter on how to use graphics for studies with small sample sizes. The core of the book is part III dealing with the clinical trials; part IV presents examples of marketing and post-approval graphics.

No more than 60 - 80 years and we moved from the mute artistic handmade wall charts (I still remember them in my class rooms) to the landscapes and multidimensional graphic representations, time is passing away fast and furious !

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