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Editorial

Sadly, the journal lost a most valuable member of the Editorial Board: Jean-Pierre Barthélemy passed away June 21, 2010. I invited J-P, as he was called by some friends and colleagues, on the Board in 2002, when my editorship started, and he has served the journal ever since with great dedication. His expertise in discrete mathematics, particularly in topics like (hyper)graphs, trees, lattices and algorithmic complexity was impressive, and as a referee, he always carefully kept that delicate balance between rigor and leniency that is so helpful for authors to improve their manuscripts. We will miss him.

The first three articles in this issue are concerned with distance data, while the next three articles directly address multivariate data. The lead paper by Ionescu, Polaillon, and Boulanger offers a new method for fitting phylogenetic trees (also called additive trees, or X-trees in the favourite terminology of J-P). Test results indicate that the new method outperforms the popular Neighbor Joining (NJ) method in accuracy, while being almost as fast. The next paper by Dress, Huber, Koolen, Moulton and Spillner offers an algorithm for the decomposition of a given metric into simpler metrics induced by the cut-points of a graph (vertices that make the graph disconnected upon removal), with greatly improved speed compared to an earlier algorithm published in this journal. After this paper, Warrens studies some proposals in the literature for the evaluation of complex relationships between three or more objects by accommodating them in a family of multi-way metrics, and characterizes these in terms of a fundamental polyhedron inequality.

The multivariate papers start with a contribution by Lombardo and Meulman, who propose an extension of multiple correspondence analysis for the case of ordered categorical variables. Using orthogonal polynomials, they show what additional insights this relatively simple extension has to offer. The last two papers propose new clustering methods for the analysis of longitudinal multivariate data. Kayano, Dozono and Konishi express the observations in terms of orthonormal Gaussian basis functions, and apply an unsupervised neural network method to a well-considered transformation of the coefficient vectors. Maharaj, D'Urso and Galagedera use a wavelet decomposition of the data, and do not cluster on the wavelet coefficients, but on the wavelet variances. Their method is able to detect switching behavior of time series.

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