Editorial

McMorris and Powers begin this issue with an axiomatic characterization of the majority consensus rule for hierarchical classifications. They prove that four axioms are needed – symmetry, monotonicity, biprofile nontriviality, and restricted decisive neutrality –, and that the majority consensus rule is the only one that satisfies all of them. In the next paper, Hertz and Varone study optimal realizations of metric spaces in graphs, where they are interested in answering the question whether or not the embedded graph has a cutpoint. They conclude that this problem is polynomially solvable, and propose two algorithms, one for determining if a given metric space has an optimal realization containing a cutpoint, and another for constructing an optimal graph, which uses the first one recursively for defining building blocks of the graph.

After these two papers dealing with (ultra)metric spaces, we switch to three papers on agreement (association, or resemblance) measures between partitions. In the first paper by Warrens, he shows that the well-known Hubert-Arabie adjusted Rand index is equivalent to Cohen's kappa statistic calculated on the so-called matching table, which relates two partitions by comparing joint cluster membership of pairs of objects. Next, Brusco and Steinley propose a new exact solution procedure for finding a contingency table with maximal agreement, given fixed marginal frequencies, using binary integer programming. In a second paper by Warrens, the author studies bounds for a great variety of association and similarity coefficients defined on binary sequences. He also establishes several order relations between these coefficients, using well-known relationships between the Pythagorean means.

The last three papers are of a statistical nature. Kokolakis and Fouskakis discuss micro-aggregation, a partitioning problem with small clusters that arises in situations where data-sets must be protected against identity disclosure. They prove that the asymptotically optimal equal probability clustering has a simple canonical form, and give a low cost method for calculating it. Grün and Leisch analyze the identifiability of a general class of finite mixtures of multinomial logit models. They formulate identifiability conditions that have not only theoretical but also practical interest, because they give formal properties of a data-set to determine if it is informative enough to distinguish between different mixture models. Finally, Billor, Abebe, Turkmen, and Nudurupati study the multinomial classification problem from the point of view of robustness. They propose a new classifier combining the concepts of data depth and transvariation probability, and show under what conditions it outperforms well-known alternatives.

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