## Minisymposium 19 - Random Discrete Structures and Algorithms

### 0/1-Polytopes With Exponentially Small Vertex-Expansion

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A long-standing conjecture by Mihail and Vazirani states that the graphs of 0/1-polytopes have edge-expansion at least one. A proof of this conjecture would have many important implications in the theory of randomized approximate counting. By a probabilistic construction, we show that there are $d$-dimensional 0/1-polytopes whose graphs have exponentially small (in $d$) vertex-expansion. While this may be seen as an indication that the Mihail-Vazirani conjecture is not true, we also show that our approach does not lead to a counterexample to this conjecture.