

## Special issue with selected papers from DISC 2012

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This special issue of Distributed Computing contains three papers that were selected among 27 papers that appeared in the Proceedings of the 26th International Symposium on Distributed Computing (DISC 2012), held in Salvador, Brazil, on 16–18 October 2012. The selected papers were initially chosen by the Program Committee as representing some of the best work that appeared in the conference. Subsequently, each selected paper was revised and expanded by its authors to produce an article submission. Each submission was then refereed according to the usual practices and quality standards of Distributed Computing.

The first paper in the special issue received the Best Student Paper Award at DISC 2012. It is titled *The CB Tree: A Practical Concurrent Self-Adjusting Search Tree*, and is written by Yehuda Afek, Haim Kaplan, Boris Korenfeld, Adam Morrison, and Robert E. Tarjan. The paper proposes a new concurrent tree data structure with two nice features: (1) commonly accessed elements end up near the top of the tree, which provides faster access for those elements, and (2) the tree performs rotations infrequently to avoid restructuring of the tree and thereby improve scalability under concurrent access.

The second paper is titled *Randomized Distributed Decision*, and is written by Pierre Fraigniaud, Mika Göös, Amos Korman, Merav Parter, and David Peleg. The paper studies the use of randomization in deciding a distributed language.

A fundamental technique for sequential randomized algorithms is *boosting* the probabilities of success, by executing the algorithm many times. Interestingly, this paper shows that, in many cases of interest, this boosting is not possible for deciding distributed languages. Thus, randomization is not as effective in the distributed setting as it is in the sequential setting.

The final paper in this issue received the Best Paper Award at DISC 2012. It is titled *No Sublogarithmic-Time Approximation Scheme for Bipartite Vertex Cover*, and is written by Mika Göös and Jukka Suomela. The paper considers the problem of finding distributed approximation algorithms for the minimum vertex cover problem on bipartite graphs. The paper shows an intriguing time lower bound of  $\Omega(\log n)$  for this problem. This result basically implies that König's theorem is non-local, as explained in the paper.

I am grateful to the Program Committee of DISC 2012 for reviewing the conference version of these papers and for selecting the best papers; and to the referees of Distributed Computing for reviewing the extended version of the papers. I am also thankful to Hagit Attiya for enabling this special issue, which promotes and sustains a productive relationship between DISC and Distributed Computing.

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