

The papers in these proceedings were presented in Austin, Texas on January 16, 2010 at the *Seventh Workshop on Analytic Algorithmics and Combinatorics (ANALCO'10)*.

The aim of ANALCO is to provide a forum for original research in the analysis of algorithms and associated combinatorial structures. Papers in ANALCO study the properties of fundamental combinatorial structures that arise in practical computational applications (such as trees, permutations, strings, tries and graphs) and address the precise analysis of algorithms for processing such structures, including average-case analysis; analysis of moments, extrema, and distributions; and probabilistic analysis of randomized algorithms.

We selected 12 papers out of a total of 20 submissions. An invited lecture by Bruno Salvy “Newton Iteration: From Numerics to Combinatorics, and Back”, was also presented at the workshop.

ANALCO'10 took place concurrently with the *Twelfth Workshop on Algorithm Engineering and Experiments (ALENEX'10)*. Since researchers in both workshops work at understanding algorithmic performance, we expect that interesting synergies can develop. People in the ANALCO community are encouraged to look over the ALENEX papers for problems where the analysis of algorithms might play a role; people in the ALENEX community are encouraged to look over these ANALCO papers for problems where experimentation might play a role.

We would like to express our gratitude to all the people contributing to the success of the workshop: the authors who submitted papers, the ANALCO Program Committee members, the external reviewers, and the helpful SIAM staff, in particular, Joyce Bagley, Nancy Griscom and Kirsten Wilden.

Mordecai Golin and Robert Sedgewick

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