

**BRIGITTE CHAUVIN, PHILIPPE FLAJOLET, DANIELÈ
GARDY, ABDELKADER MOKKADEM EDS., “MATHEMATICS
AND COMPUTER SCIENCE II: ALGORITHMS, TREES,
COMBINATORICS AND PROBABILITIES”, BIRKHÄUSER
VERLAG, BASEL-BOSTON-BERLIN, 2002, ISBN 3-7643-6933-7,
557 PAGES**

HORIA F. POP

This book features a collection of original papers situated at the cross-roads of Mathematics and Computer Science, representing the Proceedings of the International Colloquium of Mathematics and Computer Science, held at the University of Versailles-St-Quentin, in September 18–20, 2002. The issue is centered around topics of large interest, as Combinatorics, Random Graphs and Networks, Algorithms Analysis and Trees, Branching Processes and Trees, Applied Random Combinatorics. The book has 557 pages, and provides 34 papers written by 60 authors, distributed among five distinct chapters of mathematics and computer science.

Combinatorics is the starting point of many researches of discrete models. A few important results are presented, concerning map colouring problems, a theory of walks, ECO-systems, planar maps.

Random Graphs and Networks have been the subject of intense study for forty years. A few results concern an analysis of triangle-free graphs on breadth-first search, random maps and random graphs, colouring random graphs, approximation of paths colouring problems, minimal spanning trees.

Analysis of Algorithms and Trees. Trees appear as data structures in a variety of domains, like data processing, data compression, information retrieval, symbolic computation. Among the published studies, we remind the analysis of the new suffix search tree data structure, the analysis of the Quickfind algorithm, a study of digit statistics in a variety of number representation systems.

Branching Processes and Trees. Branching processes are the probabilistic counterparts of the combinatorial theory of trees. The published studies include analyses of random trees, random walks, stable weighted branching processes.

Applied random combinatorics. A few papers present implications of random combinatorics to many other areas of science: the parking problem, sensitivity

Received by the editors: May 15, 2003.

of Boolean functions to input noise, new results in learning theory, hierarchically structured databases, and a study of the number of spanning trees in structured graphs.

This book illustrates numerous ramifications of the theory of random discrete structures throughout mathematics and computer science. The book serves both as a reference text and as a smooth introduction to many aspects of interest both to mathematicians and computer scientists. It is an outstanding tool and a main information source for a large public in applied mathematics, discrete mathematics and computer science, including researchers, teachers, graduate students and engineers.

DEPARTMENT OF COMPUTER SCIENCE, FACULTY OF MATHEMATICS AND COMPUTER SCIENCE,
BABEȘ-BOLYAI UNIVERSITY, CLUJ-NAPOCA, ROMANIA

E-mail address: `hfpop@cs.ubbcluj.ro`