Guest Editor's Foreword

This special issue consists of six selected papers presented at the Tenth Annual Symposium on Computational Geometry held June 1994 in Stony Brook. The submission of the papers was invited and all six papers were subject to the usual refereeing process of this journal.

The first paper by Jiří Matoušek discusses a generalization of linear programming: given a set of constraints and an objective function find the best solution satisfying all but at most k of the given constraints. The second paper by Dan Halperin and Micha Sharir treats a by now classical problem in combinatorial geometry: they give improved bounds for the complexity of a single cell in an arrangement of low-degree algebraic surface patches in 3-space. The third paper by Marshall Bern, Scott Mitchell, and Jim Ruppert is on mesh generation. They show how to triangulate a polygonal region into a linear number of nonobtuse triangles. They also report on an implementation of their algorithm. The fourth paper by Bernard Chazelle and Nadia Shouraboura deals with a related problem in 3-space. The problem is to decompose the region between two polyhedra into tetrahedra. The paper by Michael T. Goodrich studies a basic problem in approximation theory: efficient piecewise-linear approximation with respect to the uniform metric. The final paper by Hervé Brönnimann and Michael T. Goodrich combines elements from geometry and combinatorial optimization: almost optimal set covers in finite VC-dimension.

Together the six papers witness the diversity and the high quality of the work done in computational geometry.

KURT MEHLHORN
Guest Editor
Saabrücken