Preface

This volume contains a selection of papers presented to the Third International Conference on the L_1-Norm and Related Methods, held in Neuchâtel, Switzerland, from August 11-15, 1997, as a Satellite Meeting to the 51st ISI Session in Istanbul. The conference included invited talks, contributed papers and a tutorial. A Summer School in Regression and Time Series Analysis for young graduate students and research workers ran in parallel.

The success of the 1987 and 1992 conferences on the Statistical Data Analysis based on the L_1-Norm and related methods made it evident that there is a need for regular conferences on the topic. For this reason we launched the third and happily brought together many new faces, especially those of younger statisticians.

This volume includes 38 invited papers listed under nine headings.

The Prologue contains two papers. One on measuring the performance of boundary-estimation methods by Peter Hall and Marc Raimondo and another by Roger Koenker on a new computational procedure for L_1. These two papers make the opening and closing lectures of the conference. Peter Hall and Marc Raimondo consider the problem of linear approximation to a curved boundary using a gridded data which is closely related to both curve estimation in statistics and rational approximation in number theory. They show that measures of performances based on the L_1 norm are more appropriate for the problem than those found in L_p norms for $p > 1$. Roger Koenker's breakthrough in computation of L_1 is rather different from the simplex method since it does not iterate around the exterior of the constraint set. When there are many observations, the simplex algorithm becomes too slow in computation since it has to pass through too many vertices to acheived the optimal solution. His algorithm starts in the interior of the constraint set and does penalized Newton steps with the log-barrier formulation designed to keep the algorithm in the interior.

Part one contains seven papers on estimation, testing and characterization. A new regression rank statistic for testing general hypothesis in a class of non-parametric linear model is introduced by Cornelius Gutenbrunner. In the same article, Gutenbrunner develops the asymptotic representation