Editorial

In virtually all disciplines where mathematical models are used, there are many real-world problems which can be formulated as global optimizations. These are optimization problems where global optima are sought, although local optima different from the global one exist.

Global Optimization appears in a huge variety of forms and problem classes including, for example, nonlinear, stochastic and combinatorial programming, multiobjective optimization, control, games and approximation. Closely related (and here included) are global-solution aspects of various types of nonlinear systems.

The enormous practical need for solving global optimization problems coupled with a rapidly advancing computer technology has allowed one to consider problems which a few years ago would have been considered computationally intractable. As a consequence, we are seeing the creation of a large and rapidly increasing number of diverse algorithms for solving a wide variety of global problems. This development is naturally coupled with nice advances in related theoretical and practical research which include, for example, new mathematical tools, complexity studies, parallel implementation, and others.

The present status of the field is characterized by a certain maturity, rapid progress, broad interest and enormous diversity of methods and applications. Therefore, the Editors and Publisher are convinced that now is the right moment to establish the *Journal of Global Optimization* which covers the whole spectrum of global optimization and thus is serving as a constant source of information about the current state-of-the art and new developments.

The *Journal of Global Optimization* will publish carefully refereed papers dealing with every theoretical, computational and applicational aspect of global optimization and closely related fields. Global Optimization is understood in the widest above defined sense. Besides research articles and expository papers on the theory and algorithms of global optimization, articles on numerical experiments and on applications in engineering, management and the sciences are welcome. We explicitly invite submissions dealing with (possibly unsolved) problems arising from applications. The journal has also a book review section and a problems section where short communications on open and solved problems will be published. For details, please see the announcement at the end of this issue. For the procedure of submissions we kindly ask you to observe the Instructions for Authors.

The first paper of most of the first issues will present a survey of the state-of-the art in important branches of Global Optimization. Occasional special issues will be devoted to workshops and special conferences on Global Optimization, other special issues to special topics of high interest.

Trier, December 1990   REINER HORST
                                                                        Managing Editor