

Preface¹

Inequalities are an essential component occurring in various mathematical areas. On the one hand, they form a highly important collection of tools e.g. for proving analytic or stochastic theorems or for deriving error estimates in numerical mathematics, and on the other hand they also constitute a fascinating and challenging research field of their own. Inequalities also appear directly in mathematical models for many kinds of applications e.g. from science, engineering, and economics. This volume reflects all these aspects of the area. Classical inequalities related to means or to convexity are addressed as well as inequalities arising in the field of ordinary and partial differential equations, like Sobolev or Hardy-type inequalities, and inequalities occurring in geometrical contexts.

Within the last five decades, great contributions to the field of inequalities have been made by late Wolfgang Walter. His book on differential and integral inequalities was a real breakthrough in the 1970's and has generated a vast variety of further research in this field. He also organized six of the seven "General Inequalities" Conferences held at Oberwolfach between 1976 and 1995, and co-edited their proceedings volumes. He participated as an honorary member of the Scientific Committee in the "General Inequalities 8" conference in Hungary. As a recognition of his great achievements, this volume is dedicated to Wolfgang Walter's memory.

The "General Inequalities" meetings found their continuation in the "Conferences on Inequalities and Applications" which, so far, have been held twice in Hungary. This volume contains some contributions of the participants of the second of these conferences which took place in Hajdúszoboszló in September 2010, as well as additional articles written upon invitation. These contributions reflect many theoretical and practical aspects in the field of inequalities, and will be useful for

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researchers and lecturers, as well as for students who want to familiarize themselves with the area.

The Editors

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