Contents

Foreword v
Participants vii
Scientific Program of the Conference ix
Preface xv
List of Sketches xxxiii

JÁNOS ACZÉL
István Fenyő (1917-1987) in memoriam 1

INEQUALITIES FOR SUMS, SERIES AND INTEGRALS

HORST ALZER
Inequalities for pseudo arithmetic and geometric means 5

ACHIM CLAUSING
A review of Shapiro's cyclic inequality 17

ALOIS KUFNER AND ANDREAS WANNEBO
Some remarks on the Hardy inequality for higher order derivatives 33

R.N. MOHAPATRA, D.C. RUSSELL AND K. VAJRAVELU
Copson's inequalities for series and their variations 49

ZSOLT PÁLES
Comparison of two variable homogeneous means 59

INEQUALITIES IN ANALYSIS AND APPROXIMATION

RAVI P. AGARWAL
Sharp inequalities in polynomial interpolation 73

CALVIN D. AHLBRANDT
Discrete variational inequalities 93

GIUSEPPE CHITI AND MARCO LONGINETTI
Differential inequalities for Minkowski functionals of level sets 109

MATTS ESSÉN
Some best constant inequalities for conjugate functions 129

L. LORCH AND D.C. RUSSELL
Remarks on trigonometric inequalities 141

LÁSZLÓ LOSONCZI
On an extremal property of nonnegative trigonometric polynomials 151

THEMISTOCLES M. RASSIAS
On polynomial inequalities and extremal problems 161

GIORGIO TALENTI
An inequality between u^* and $|\text{grad } u|^*$ 175

INEQUALITIES OF FUNCTIONAL ANALYSIS

W. BEEKMANN AND K. ZELLER
Inequalities for summability factors 185

MOSHE GOLDBERG
Seminorms and multiplicativity factors 193

HERMANN KÖNIG
Some remarks on the Grothendieck inequality 201

FUNCTIONAL EQUATIONS AND INEQUALITIES

JÁNOS ACZÉL AND MAREK KUCZMA
Solutions of a functional equation, convex of higher order 209

C. ALSINA AND M.S. TOMAS
On positive semidefinite strict t-norms 215

ROMAN GER
On functional inequalities stemming from stability questions 227

INEQUALITIES FOR DIFFERENTIAL OPERATORS

MARK ASHBAUGH, RICHARD BROWN AND DON HINTON
Interpolation inequalities and nonoscillatory differential equations 243

C. BENNEWITZ AND E.J.M. VELING
Optimal bounds for the spectrum of a one-dimensional Schrödinger operator 257

B.M. BROWN, W.D. EVANS AND W.N. EVERITT
HELP integral and series inequalities 269

A. CHALJUB-SIMON, R. LEMMERT, S. SCHMIDT AND P. VOLKMANN
Gewöhnliche Differentialgleichungen mit quasimonoton wachsenden rechten Seiten in geordneten Banachräumen 307

G.S. LADDE, M. SAMBANDHAM AND S. SATHANANTHAN
Comparison theorem and its applications 321

RAYMOND M. REDHEFFER
Nagumo theory without the Nagumo point 343

SABUROU SAITOH
Inequalities for the solutions of the heat equation 351

RENÉ P. SPERB
An isoperimetric inequality for the first eigenvalue of the Laplacian under Robin boundary conditions 361

WOLFGANG WALTER
Minimum principles for weak solutions of second order ordinary differential equations 369

VOLKMAR WECKESSER
Uniqueness and existence for viscosity solutions of quasimonotone systems 377

INEQUALITIES IN OPTIMIZATION AND APPLICATIONS

B. BÜTTGENBACH, G. LÜTTGENS AND R.J. NESSEL
On some problems concerning best constants for the midpoint and trapezoidal rule 393

CHEN HAN-LIN AND WALTER SCHEMPP
The uncertainty inequality in quantum holography, Bohr's indeterminacy principle, and synchronized neural networks 411

DON-LIN MON AND CHUNG-LIE WANG
Optimization and inequalities on product spaces 423

NOTES, PROBLEMS AND REMARKS

J.L. BRENNER AND H. ALZER
A note on Henrici's inequalities 437

R. LEMMERT AND H. ALZER
A note on an inequality of G. Talenti 441

L. LOSONCZI AND ZS. PALES
A simple proof for a quadratic inequality 445

JOSIP E. PEČARIĆ
Notes on convex functions 449

JÜRG RÄTZ
On special pairs of polygons with minimal area sum 455

B. SAFFARI
On the Landau-Hadamard inequality 459

JÁNOS ACZÉL AND CHE TAT NG
A lemma on the angles between a fixed line and the lines connecting a fixed point on it with the points of a convex arc 463

B.M. BROWN, W.D. EVANS AND W.N. EVERITT
Remarks 465

HEINZ KÖNIG
A simple proof of the Minkowski inequality 469

HEINZ KÖNIG
On a property of convex functions 471

ZS. PÁLES
On a generalization of the plank problem 473

JÁNOS ACZÉL
Three problems 477

CLAUDI ALSINA
A problem 479

HERMANN KÖNIG
Problem: The Grothendieck constant K_G 481

S.H. LEHNIGK
A function and an associated inequality 483

HARRY I. MILLER
A problem 485

THEMISTOCLES M. RASSIAS
A remark and problem for polynomials of several variables 487

THEMISTOCLES M. RASSIAS
An eigenvalue problem 489

THEMISTOCLES M. RASSIAS
A problem for harmonic mappings 491

DENNIS C. RUSSELL
A problem 493

WOLFGANG WALTER
Problem: An integral inequality by Bushell and Okrasinski 495