

# CONTENTS

Foreword		ix
Preface		xi
<b>Part 1</b>	<b>Quantum Field Theory</b>	
R. Haag	<i>Local Quantum Physics and Beyond</i>	3
H. J. Borchers	<i>A Non-commuting Realization of Minkowski Space</i>	11
J. E. Roberts	<i>Goldstone's Theorem Revisited</i>	31
K. Fredenhagen	<i>Global Observables in Local Quantum Physics</i>	41
D. Kastler	<i>State of the Art of Alain Connes' Version of the Standard Model</i>	53
A. Arai	<i>Supersymmetric Extension of Quantum Scalar Field Theories</i>	73
<b>Part 2</b>	<b>Statistical and Solid State Physics</b>	
E. Lieb and E. Carlen	<i>Optimal Two-Uniform Convexity and Fermion Hypercontractivity</i>	93
J. Bricmont and A. Kupiainen	<i>Renormalization Group and Non-linear Media</i>	113
K. R. Ito	<i>Random Walk Representations and Mayer Expansion</i>	119
R. F. Streater	<i>The Free-energy Theorem</i>	137
Y. M. Park	<i>Dynamical Entropy of Quasi-local Algebras</i>	149
L. J. Landau	<i>The Weak Coupling Limit for a Fermi Gas in a Random Potential</i>	167
J. Bellisard	<i>The Gap Labelling Theorem: the Case of Automatic Sequences</i>	179

H. Araki	<i>Operator Algebra Approach to Soluble Models of Quantum Spin Lattice Systems</i>	183
T. Matsui	<i>On Conservation Laws of the XY Model</i>	197
<b>Part 3</b>	<b>Quantum Groups</b>	
P. P. Kulish	<i>Reflection Equation Algebras and Quantum Groups</i>	207
M. Flato and D. Sternheimer	<i>Quantum Groups, Star Products and Cyclic Cohomology</i>	221
K. Gawedzki	<i>Quantum Group Symmetry in Conformal Field Theory</i>	239
T. Kakehi, K. Ueno and T. Masuda	<i>Spectrum of an Operator Appears in the Quantum <math>SU(1,1)</math> Group</i>	253
Y. Nakagami	<i>Takesaki Duality for the Crossed Product by Quantum Groups</i>	263
<b>Part 4</b>	<b>Subfactors and Index Theory</b>	
T. Natsume	<i>A New Role of Graph Projections in Index Theory</i>	285
M. Choda	<i>Endomorphisms and Automorphisms for Factor Inclusions</i>	291
H. Kosaki	<i>Automorphisms in the Irreducible Decomposition of Sectors</i>	305
M. Izumi	<i>Fusion Rules and Classification of Subfactors</i>	317
S. Yamagami	<i>Vector Bundles and Bimodules</i>	321
Y. Watatani	<i>Lattice Structure of Intermediate Subfactors</i>	331
R. Longo	<i>Minimal Index Unimodular Sectors</i>	335
J. Evans and Y. Kawahigashi	<i>Subfactors and Conformal Field Theory</i>	341

<b>Part 5</b>	<b>Operator Algebras and Related Topics</b>	
G. Elliott	<i>A Classification of Certain Simple C*-Algebra</i>	373
H. Su	<i>K-Theoretic Classifications for Certain Real Rank Zero C* algebras</i>	387
K. Thomsen	<i>Inductive Limits of Interval Algebras The Simple Case</i>	399
S. Doplicher	<i>Operator Algebras and Abstract Duals: Progress and Problems</i>	405
C. Pinzari	<i>Regular Actions of Compact Groups on Cuntz Algebras</i>	419
O. Bratteli, D. Evans and A. Kishimoto	<i>Almost Shift Invariant Projections in Infinite Tensor Products</i>	427
D. W. Robinson	<i>Strongly Elliptic and Subelliptic Operators on Lie Groups</i>	435
Former Students	<i>Postscripts</i>	455
Editors	<i>List of Speakers</i>	461