CONTENTS

PREFACE	vii
CHEMICAL MODELS OF WEATHERING IN SOILS Garrison Sposito	1
MULTICOMPONENT SOLID SOLUTIONS FOR CLAY MINERALS AND COMPUTER MODELING OF WEATHERING PROCESSES Bertrand Fritz	19
DISSOLUTION MECHANISMS OF PYROXENES AND OLIVINES DURING WEATHERING Jacques Schott and Robert A. Berner	35
THE EFFECTS OF COMPLEX-FORMING LIGANDS ON THE DISSOLUTION OF OXIDES AND ALUMINOSILICATES Werner Stumm, Gerhard Furrer, Erich Wieland and Bettina Zinder	55
KINETIC STUDY OF THE DISSOLUTION OF ALBITE WITH A CONTINUOUS FLOW-THROUGH FLUIDIZED BED REACTOR Roland Wollast and Lei Chou	75
INTERSTRATIFIED CLAY MINERALS AND WEATHERING PROCESSES M.J. Wilson and P.H. Nadeau	97
FORMATION OF SECONDARY IRON OXIDES IN VARIOUS ENVIRONMENTS U. Schwertmann	119
PHYSICAL CONDITIONS IN ALUNITE PRECIPITATION AS A SECONDARY MINERAL R. Rodriguez-Clemente and A. Hidalgo-Lopez	121
THIS PLANET IS ALIVEWEATHERING AND BIOLOGY, A MULTI-FACETTED PROBLEM W.E. Krumbein and B.D. Dyer	143

AND DEDOCATED AN	1.11
SOLUBILIZATION, TRANSPORT, AND DEPOSITION OF MINERAL CATIONS BY MICROORGANISMS - EFFICIENT ROCK WEATHERING AGENTS Friedrich E.W. Eckhardt	161
CHEMICAL WEATHERING AND SOLUTION CHEMISTRY IN ACID FOREST SOILS: DIFFERENTIAL INFLUENCE OF SOIL TYPE, BIOTIC PROCESSES, AND H DEPOSITION Christopher S. Cronan	175
PROTON CONSUMPTION RATES IN HOLOCENE AND PRESENT-DAY WEATHERING OF ACID FOREST SOILS Horst Fölster	197
EQUILIBRIUM AND DISEQUILIBRIUM BETWEEN PORE WATERS AND MINERALS IN THE WEATHERING ENVIRONMENT Wolfgang Ohse, Georg Matthess and Asaf Pekdeger	211
HYDROGEOCHEMICAL CONSTRAINTS ON MASS BALANCES IN FORESTED WATERSHEDS OF THE SOUTHERN APPALACHIANS Michael A. Velbel	231
PAST AND PRESENT SERPENTINISATION OF ULTRAMAFIC ROCKS; AN EXAMPLE FROM THE SEMAIL OPHIOLITE NAPPE OF NORTHERN OMAN Colin Neal and Gordon Stanger	249
MANGANESE CONCENTRATION THROUGH CHEMICAL WEATHERING OF METAMORPHIC ROCKS UNDER LATERITIC CONDITIONS Daniel Nahon, Anicet Beauvais and Jean-Jacques Trescase	277 s
RIVER CHEMISTRY, GEOLOGY, GEOMORPHOLOGY, AND SOILS IN THE AMAZON AND ORINOCO BASINS Robert F. Stallard	293
LIST OF WORKSHOP PARTICIPANTS	317
SUBJECT INDEX	321