## Contents

Acknowledgements vii

Introduction 1

*Norman G. Lederman*

### SECTION I. MORAL REASONING

1 The Role of Moral Reasoning and the Status of Socioscientific Issues in Science Education 7

*Dana L. Zeidler & Matthew Keefer*

### SECTION II. NATURE OF SCIENCE ISSUES

2 Socioscientific Issues in Pre-college Science Classrooms 41

*Fouad Abd-El-Khalick*

3 Exploring the Role of NOS Understandings in Decision-Making 63

*Randy L. Bell*

4 Beliefs in the Nature of Science and Responses to Socioscientific Issues 81

*Michael L. Simmons & Dana L. Zeidler*

### SECTION III. CLASSROOM DISCOURSE ISSUES

5 The Role of Argument During Discourse about Socioscientific Issues 97

*Dana Zeidler, Jonathan Osborne, Sibel Erduran, Shirley Simon & Martin Monk*

6 Integrating Science Education and Character Education 117

*Marvin W. Berkowitz & Patricia Simmons*

7 The Assessment of Argumentation and Explanation 139

*Richard Duschl*

### SECTION IV. CULTURAL ISSUES

8 Morality, Spirituality and Science in the Elementary Classroom 165

*Klaus Witz & Nancy MacGregor*

9 Recognizing and Solving Ethical Dilemmas in Diverse Science Classrooms 183

*Cathleen C. Loving, Susan W. Lowy, & Cori Martin*

10 The Morality of Inclusive Verses Exclusive Settings 195

*J. Randy McGinnis*
SECTION V. SCIENCE-TECHNOLOGY-SOCIETY-ENVIRONMENT SOCIAL AND CASE-BASED ISSUES

11 Teaching Science, Technology, Society and Environment (STSE) Education
   Erminia Pedretti

12 Moral Reasoning and Case-based Approaches to Ethical Instruction in Science
   Matthew Keefer

13 Scientific Errors, Atrocities, and Blunders
   Troy D. Sadler & Dana L. Zeidler

SECTION VI. CONCLUDING REMARKS

14 Unifying Themes in Moral Reasoning on Socioscientific Issues and Discourse
   Dana L. Zeidler & Jennifer Lewis

Notes on the Contributing Authors
The Role of Moral Reasoning on Socioscientific Issues and Discourse in Science Education
Zeidler, D.L. (Ed.)
2003, VII, 311 p., Hardcover
ISBN: 978-1-4020-1411-6