CONTENTS

President’s Address 1

Plenary Lecture

ELLIOT SOBER: Intelligent Design is Untestable. What about Natural Selection? 5

MANUEL GARRIDO: The New Scientific Image of Man and Philosophy 23

Section A: Logic

JOAN BAGARIA: Natural Axioms of Set Theory and the Continuum Problem 43

LEV D. BEKLEMISHEV: Veblen Hierarchy in the Context of Provability Algebras 65

THIERRY COQUAND: A Completeness Proof for Geometrical Logic 79

PETER A. CHOLAK: The Computably Enumerable Sets: Recent Results and Future Directions 91

WILFRID HODGES: Definability and Automorphism Groups 107

MICHEL VAN LAMBALGEN: Evolutionary Considerations on Logical Reasoning 121

EWAA ORLOWSKA AND DIMITER VAKARELOV: Lattice-Based Modal Algebras and Modal Logics 147

CARLOS AUGUSTO DI PRISCO: Mathematics versus Metamathematics in Ramsey Theory of the Real Numbers 171

GREG RESTALL: Multiple Conclusions 189

HEINRICH WANSING: On the Negation of Action Types: Constructive Concurrent PDL 207
Section B: General Philosophy of Science

Rachel A. Ankeny: Case-Based Reasoning in the Biomedical and Human Sciences: Lessons from Model Organisms 229

Daniela M. Bailer-Jones: Models, Theories and Phenomena 243

Marcel Boumans: Truth versus Precision 257

Carl Hoefer: Humean Effective Strategies 271

Ilkka Niiniluoto: Inductive Logic, Verisimilitude, and Machine Learning 295

Peter Milne: Conditional Probability, Conditional Events, and Single-Case Propensities 315

Jim Woodward: Prospects for a Manipulability Account of Causation 333

Section C: Philosophical Issues of Particular Sciences

Haim Gaifman: Some Thoughts and a Proposal in the Philosophy of Mathematics 351

Ignacio Jané: The Iterative Conception of Sets from a Cantorian Perspective 373

Edward L. Keenan, Edward P. Stabler: Linguistic Invariants and Language Variation 395

Alain Leplège: The Measurement of Quality of Life in Medicine 413

Michel Morange: What is Life? A New Look at an Old Question 431

Jesús Mosterín: Anthropic Explanations in Cosmology 441

Philip Pettit: Group Agency 473

Geoffrey K. Pullum and Barbara C. Scholz: Contrasting Applications of Logic in Natural Language Syntactic Description 481

Barry Smith: The Logic of Biological Classification and the Foundations of Biomedical Ontology 505

Friedrich Steinle: Experiment and Concept Formation 521

Jos Uffink: Rereading Ludwig Boltzmann 537
Section D: Ethical, Social and Historical Perspectives on Philosophy of Science

James W. McAllister: Emotion, Rationality, and Decision Making in Science 559

Ren-Zong Qiu: Vulnerability – A Principle of the Ethics of Science & Technology 577

Symposium 1: Scientific (Evidence-Based) Medicine, 19th-20th Centuries

Claude Debru: Evidence-Based Medicine and the Classification of Chronic Lymphocytic Leukemias 589

Anne Fagot-Largeault: Evidence-Based Medicine: Its History and Philosophy 593

Elodie Giroux: Conceptions of the Normal and the Pathological 599

Alain Leplège: Measuring Qualities: How to Quantify Health, Pain, Well-Being, etc. 605

Zbigniew Szawarski: The Polish School of Philosophy of Medicine and The Concept of Cure 611

Symposium 4: Philosophy and Methodology of Empirical Modeling: Causation, Validation and Discovery

Jean-Gabriel Ganascia: Rational Reconstruction of Wrong Theories 617

Aris Spanos: Structural Equation Modeling, Causal Inference and Statistical Adequacy 639

Symposium 5: The Unusual Effectiveness of Logic in Computer Science

Anuj Dawar: Fixed-Point Logics and Computation 665

Index 681