## **Contents**

| Law Challenged. Reasoning About Neuroscience and Law Antonio D'Aloia                           | 1   |
|--|-----|
| Part I Neuroscience and Law: Introductory Reflections  |     |
| A Wider Scope for Neuroscience and Law   | 39  |
| Why Neuroscience Matters for Law   | 51  |
| "Actus non facit reum nisi mens sit rea". The Concept of Guilt in the Age of Cognitive Science | 69  |
| Neuroscience and the "Mute Law"  | 81  |
| Cognitive Liberty and Human Rights   | 95  |
| Some Reflections on Neuroscience and Civil Law   | 113 |
| Empowering Negotiating Skills in Law Professionals: Neuro-Cognitive Applications               | 139 |
| The 'Mirror Rights': Reflections on Law and Neuroscience Through the Lens of the Greek Tragedy | 163 |

xiii

xiv Contents

| Part II Neuroscience, Health Rights and Human Being: New Challenges   |     |
|---|-----|
| Neuroenhancement and Law  | 189 |
| Self-Determination, Health and Equality: The Constitutional Protections for Cognitive Enhancement           | 215 |
| When the 'Age of Science and Technology' Meets the 'Age of Rights'.  'Moral' Bioenhancement as a Case Study | 239 |
| An Epigenetic Pro-action for Moral Development  | 257 |
| Brain Computer Interface and Transcranial Magnetic Stimulation in Legal Practice and Regulations            | 273 |
| Brain-Computer Interfaces and the Protection of the Fundamental Rights of the Vulnerable Persons            | 291 |
| Ethical and Legal Issues in Deep Brain Stimulation: An Overview Sonia Desmoulin-Canselier                   | 319 |
| Neuroscience and End-of-Life Decisions: What Kind of Coexistence? Giada Ragone and Benedetta Vimercati      | 339 |
| The Dilemma of Human Brain Surrogates: Scientific Opportunities, Ethical Concerns                           | 371 |
| Part III Mind, Brain and the Courtroom: Opportunities and Controversial Implications                        |     |
| Neuroscientific Evidence and Criminal Trials  | 403 |
| Neuroscience and Law: Conceptual and Practical Issues   | 415 |
| Neurobiological Correlates of Antisocial Human Behavior   | 441 |
| The Methodology of Forensic Neuroscience  | 453 |

Contents xv

| (Neuro)Science and Criminal Trial. Between Scientific Epistemology and Judicial Epistemology   | 475 |
|--|-----|
| Tailor-Made Intentions: Legal Categories and (Neuro)Scientific Tools Stefano Fuselli   | 497 |
| Moral Freedom and Neuroscientific Assessments: Constitutional Features   | 513 |
| Another Perspective on "Neurolaw": The Use of Brain Imaging in Civil Litigation Regarding Mental Competence                                  | 529 |
| Social Neuroscience, Communication and Collective Behavior: Thinking About the Psychic Causation After L'Aquila Earthquake Francesco Barresi | 549 |