

# Contents

## Part I Theoretical Foundations of Machine Medical Ethics

<b>An Overview of Machine Medical Ethics</b> . . . . .	3
Tatjana Kochetkova	
<b>Surgical, Therapeutic, Nursing and Sex Robots in Machine and Information Ethics</b> . . . . .	17
Oliver Bendel	
<b>Good Healthcare Is in the “How”: The Quality of Care, the Role of Machines, and the Need for New Skills</b> . . . . .	33
Mark Coeckelbergh	
<b>Implementation Fundamentals for Ethical Medical Agents</b> . . . . .	49
Mark R. Waser	
<b>Towards a Principle-Based Healthcare Agent</b> . . . . .	67
Susan Leigh Anderson and Michael Anderson	
<b>Do Machines Have Prima Facie Duties?</b> . . . . .	79
Joshua Lucas and Gary Comstock	
<b>A Hybrid Bottom-Up and Top-Down Approach to Machine Medical Ethics: Theory and Data</b> . . . . .	93
Simon Peter van Rysewyk and Matthijs Pontier	
<b>Moral Ecology Approaches to Machine Ethics</b> . . . . .	111
Christopher Charles Santos-Lang	

## **Part II Contemporary Challenges in Machine Medical Ethics: Justice, Rights and the Law**

<b>Opportunity Costs: Scarcity and Complex Medical Machines . . . . .</b>	<b>131</b>
Adam Henschke	

<b>The Rights of Machines: Caring for Robotic Care-Givers . . . . .</b>	<b>151</b>
David J. Gunkel	

<b>Machine Medical Ethics and Robot Law: Legal Necessity or Science Fiction? . . . . .</b>	<b>167</b>
Rob van den Hoven van Genderen	

## **Part III Contemporary Challenges in Machine Medical Ethics: Decision-Making, Responsibility and Care**

<b>Having the Final Say: Machine Support of Ethical Decisions of Doctors. . . . .</b>	<b>181</b>
Julia Inthorn, Marco Elio Tabacchi and Rudolf Seising	

<b>Ethics of Robotic Assisted Dying . . . . .</b>	<b>207</b>
Ryan Tonkens	

<b>Automating Medicine the Ethical Way . . . . .</b>	<b>223</b>
Blay Whitby	

<b>Machine Medical Ethics: When a Human Is Delusive but the Machine Has Its Wits About Him . . . . .</b>	<b>233</b>
Johan F. Hoorn	

## **Part IV Contemporary Challenges in Machine Medical Ethics: Medical Machine Technologies and Models**

<b>ELIZA Fifty Years Later: An Automatic Therapist Using Bottom-Up and Top-Down Approaches . . . . .</b>	<b>257</b>
Rafal Rzepka and Kenji Araki	

<b>Models of the Patient-Machine-Clinician Relationship in Closed-Loop Machine Neuromodulation . . . . .</b>	<b>273</b>
Eran Klein	

<b>Modelling Consciousness-Dependent Expertise in Machine Medical Moral Agents. . . . .</b>	<b>291</b>
Steve Torrance and Ron Chrisley	
<b>Emotion and Disposition Detection in Medical Machines: Chances and Challenges. . . . .</b>	<b>317</b>
Kim Hartmann, Ingo Siegert and Dmytro Prylipko	
<b>Ethical and Technical Aspects of Emotions to Create Empathy in Medical Machines. . . . .</b>	<b>341</b>
Jordi Vallverdú and David Casacuberta	
<b>Epilogue . . . . .</b>	<b>363</b>

Machine Medical Ethics

van Rysewyk, S.P.; Pontier, M. (Eds.)

2015, XIII, 369 p. 19 illus., 11 illus. in color., Hardcover

ISBN: 978-3-319-08107-6