

THE INTERNATIONAL BESTSELLER

# MICHIO KAKU

## The Future of Humanity

Terraforming Mars,  
Interstellar Travel,  
Immortality and  
Our Destiny Beyond Earth

'Kaku summons up the  
sheer wonder of science'

DAILY TELEGRAPH



# CONTENTS

ACKNOWLEDGMENTS ix

PROLOGUE 1

INTRODUCTION: TOWARD A MULTIPLANET SPECIES 7

## PART I: LEAVING THE EARTH

- 1 PREPARING FOR LIFTOFF 19
- 2 NEW GOLDEN AGE OF SPACE TRAVEL 36
- 3 MINING THE HEAVENS 54
- 4 MARS OR BUST 62
- 5 MARS: THE GARDEN PLANET 76
- 6 GAS GIANTS, COMETS, AND BEYOND 96

## PART II: VOYAGE TO THE STARS

- 7 ROBOTS IN SPACE 111
- 8 BUILDING A STARSHIP 137
- 9 KEPLER AND A UNIVERSE OF PLANETS 167

## PART III: LIFE IN THE UNIVERSE

- 10 IMMORTALITY 185
  - 11 TRANSHUMANISM AND TECHNOLOGY 206
  - 12 SEARCH FOR EXTRATERRESTRIAL LIFE 225
  - 13 ADVANCED CIVILIZATIONS 247
  - 14 LEAVING THE UNIVERSE 291
- NOTES 309
- SUGGESTED READING 323
- ILLUSTRATION CREDITS 325
- INDEX 327