

CONTENTS

Prologue: Astronomy at Large vii

EARTH AND SPACE

CHAPTER 1	Restless Earth: The way of the world	3
CHAPTER 2	The terminator: A user's guide to nightfall	10
CHAPTER 3	Starring citizen science: Research by the people	23
CHAPTER 4	Catch a falling star: Meteors, meteorites and space dust	33
CHAPTER 5	Radio silence: The quietest place in the world	47
CHAPTER 6	The off-planet economy: Doing business in space	56
CHAPTER 7	Moonstruck: Where did our satellite come from?	70

PLANETARY EXPLORATIONS

CHAPTER 8	Telescope troubles: Astronomers in court	83
CHAPTER 9	Space bugs: Rules for planetary protection	99
CHAPTER 10	Climate change: What happened to Mars?	109
CHAPTER 11	Not our Planet B? Colonising Mars	115
CHAPTER 12	Ring in the changes: The vanishing rings of Saturn	124
CHAPTER 13	Stormy weather: Weird worlds of the Saturnian system	132
CHAPTER 14	Stalking an invisible planet: The search for Planet Nine	142

THE UNIVERSE AT LARGE

CHAPTER 15 Nature's barcode: A user's guide to light	153
CHAPTER 16 Reverberations: Exploding stars and light echoes	167
CHAPTER 17 Signals from the unknown: The fast radio burst mystery	180
CHAPTER 18 Eye of the storm: Black holes inside and out	188
CHAPTER 19 Through gravity's lens: The curious matter of dark matter	200
CHAPTER 20 Ripples in space: Probing the birth of the Universe	212
CHAPTER 21 Unrequited love: Is anyone there?	226
Acknowledgments	236
Index	238