

1. Record Nr.	UNINA9910779579103321
Autore	Saraceno Paolo
Titolo	Beyond the stars [[electronic resource]] : our origins and the search for life in the universe // Paolo Saraceno ; translated by David Goodstein
Pubbl/distr/stampa	Singapore ; ; Hackensack, NJ, : World Scientific, c2012
ISBN	981-4295-55-8 1-299-13307-X
Descrizione fisica	1 online resource (388 p.)
Altri autori (Persone)	GoodsteinDavid L. <1939->
Disciplina	523.1
Soggetti	Cosmology Life on other planets Life - Origin Molecular evolution Evolution (Biology) Earth (Planet) History
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Preface; Acknowledgements; Contents; Part I Origins; Chapter 1 Our Origins; 1.1 The Ancient Questions; 1.2 You Can't Answer Everything; 1.3 The Importance of Doubt; 1.4 Are Science and Religion Compatible?; 1.5 Life in the Universe; Chapter 2 The Beginning of Everything; 2.1 The Big Bang; 2.2 Olbers' Paradox; 2.3 Hubble's Constant; 2.4 The Expanding Universe; 2.5 Background Radiation; 2.6 The Inflated Universe; 2.7 The Horizon of "Our" Universe; 2.8 The Image of the Most Distant Source; 2.9 Dark Matter and Energy; 2.10 After the Big Bang; 2.11 Before the Big Bang Chapter 3 Origins of Stars and Planets3.1 The Stars and the Planets; 3.2 The Placental Cloud; 3.3 From the Cloud to the Star; 3.4 The Giant Molecular Clouds; 3.5 Populations of Stars; 3.6 Disks; 3.7 Outflows; 3.8 The Planets; 3.9 The Discovery of the First Planets; 3.10 Timescales; 3.11 The End of the Cloud; Chapter 4 The Origin of the Elements; 4.1 The Primordial Abundances; 4.2 The Origin of the Elements; 4.3 The Luminosity of the Stars; 4.4 White Dwarfs and Red Giants; 4.5 Supernovae; 4.6 The Cycle of Matter; 4.7 Fuel for the Stars; 4.8 The

Abundances of the Elements on the Earth

4.9 The Spectra of the Stars 4.10 Molecules in Space; Chapter 5 The Origins of Life; 5.1 Introduction; 5.2 Life is a Chemical Process; 5.3 The Primordial Soup; 5.4 The Cell; 5.5 The Kingdom of the Living Things; 5.6 DNA: An Instruction Manual for Organisms; 5.7 Variations in the Genetic Code; 5.8 Darwin's Theory of Evolution; 5.9 Evolution and Complexity; 5.10 The Cultural Evolution; 5.11 Does Life Come by Chance?; 5.12 Why Carbon?; 5.13 Suppose Life Came from Space; 5.14 Conclusion; Part II The Case of the Earth; Chapter 6 History of the Earth; 6.1 Fossils and the Age of the Rocks
6.2 The Primordial Earth 6.3 The Birth of Life; 6.4 The First Bacteria; 6.5 The First Three Billion Years; 6.6 Photosynthesis; 6.7 From Cells to Multicellular Organisms; 6.8 The "Big Bang" of Evolution: The Origin of Species; 6.9 From the Origin of the Species to the Dinosaurs; 6.10 The Dinosaurs; 6.11 The End of the Dinosaurs; 6.12 Mammals; Chapter 7 Extinctions; 7.1 Extinctions of Species in Biological Evolution; 7.2 Causes of Extinctions; Intense volcanic eruptions; Large drop in sea levels; Meteorite impacts; 7.3 Mass Extinctions; 7.4 Extinctions and the Species on the Earth
7.5 The Modern Era Extinction 7.6 The Anthropocene; 7.7 Polar Ices; 7.8 The Climate: An Unstable System; 7.9 The Problem of Energy; 7.10 A Difficult Choice; 7.11 What Future Will We Have?; Chapter 8 An Inhabitable Planet; 8.1 The Habitable Zone in the Galaxy; The central zone of the galaxy; The intermediate zone; The external zone; 8.2 The Reservoir of the Comets; 8.3 The External Planets; 8.4 Mars; 8.5 Venus; 8.6 The Earth: A Habitable Planet; 8.7 The Habitable Zone of the Planetary System; Chapter 9 The Importance of Continental Drift; 9.1 A World of Water; 9.2 The Structure of the Earth
9.3 Continental Drift

Sommario/riassunto

What is the origin of the universe? Are we alone in the Universe? Using clear and plain language, the author explores these two interesting scientific-philosophical themes with a broad range of studies, including astronomy, cosmology, chemistry, biology, geology and planet science. The first part discusses the origins of everything, from the Big Bang to humankind. It follows the long course of evolution - from original matter to the formation of more complex structures, from the furthest galaxies to the nearest stars, from planets to organic molecules, from the first and most elementary forms o
