

1. Record Nr.	UNINA9910790047803321
Autore	Deamer D. W
Titolo	First life [[electronic resource]] : discovering the connections between stars, planets, and evolution on earth / / David Deamer
Pubbl/distr/stampa	Berkeley, : University of California Press, 2011
ISBN	1-283-27802-2 9786613278029 0-520-94895-5
Descrizione fisica	1 online resource (283 p.)
Disciplina	576.8/3
Soggetti	Exobiology Life - Origin Evolution (Biology)
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	Front matter -- CONTENTS -- ACKNOWLEDGMENTS -- INTRODUCTION -- 1. A Fireball Over Australia -- 2. Where Did Life Begin? -- 3. When Did Life Begin? -- 4. Carbon and the Building Blocks of Life -- 5. The Handedness of Life -- 6. Energy and Life's Origins -- 7. Self-Assembly and Emergence -- 8. How To Build a Cell -- 9. Achieving Complexity -- 10. Multiple Strands of Life -- 11. Catalysts: Life in the Fast Lane -- 12. Copying Life's Blueprints -- 13. How Evolution Begins -- 14. A Grand Simulation of Prebiotic Earth -- 15. Prospects for Synthetic Life -- Epilogue -- Sources and Notes -- Index
Sommario/riassunto	This pathbreaking book explores how life can begin, taking us from cosmic clouds of stardust, to volcanoes on Earth, to the modern chemistry laboratory. Seeking to understand life's connection to the stars, David Deamer introduces astrobiology, a new scientific discipline that studies the origin and evolution of life on Earth and relates it to the birth and death of stars, planet formation, interfaces between minerals, water, and atmosphere, and the physics and chemistry of carbon compounds. Deamer argues that life began as systems of molecules that assembled into membrane-bound packages. These in turn provided an essential compartment in which more complex

molecules assumed new functions required for the origin of life and the beginning of evolution. Deamer takes us from the vivid and unpromising chaos of the Earth four billion years ago up to the present and his own laboratory, where he contemplates the prospects for generating synthetic life. Engaging and accessible, *First Life* describes the scientific story of astrobiology while presenting a fascinating hypothesis to explain the origin of life.
