1. Record Nr. UNINA9910454142103321

Autore	Gaines Susan M
Titolo	Echoes of life [[electronic resource]] : what fossil molecules reveal about earth history / / Susan M. Gaines, Geoffrey Eglinton, Jurgen Rullkotter ; scientific illustrations by Florian Rommerskirchen
Pubbl/distr/stampa	Oxford ; ; New York, : Oxford University Press, 2009
ISBN	0-19-756225-6 1-281-86823-X 9786611868239 0-19-972108-4
Descrizione fisica	1 online resource (376 p.)
Collana	Oxford scholarship online
Altri autori (Persone)	EglintonG (Geoffrey) RullkotterJ
Disciplina	572/.33
Soggetti	Biomolecules, Fossil Biomolecules Electronic books.
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Previously issued in print: 2009.
Nota di bibliografia	Includes bibliographical references (p. 315-339) and index.
Nota di contenuto	Fossil Molecules in Geologic Time; Contents; 1. Molecular Informants: A Changing Perspective of Organic Chemistry; 2. Looking to the Rocks: Molecular Clues to the Origin of Life; 3. From the Moon to Mars: The Search for Extraterrestrial Life; 4. Black Gold: An Alchemist's Guide to Petroleum; 5. Deep Sea Mud: Biomarker Clues to Ancient Climates; 6. More Molecules, More Mud, and the Isotopic Dimension: Ancient Environments Revealed; 7. Microbiologists (Finally) Climb on Board; 8. Weird Molecules, Inconceivable Microbes, and Unlikely Environmental Proxies: Marine Ecology Revised 9. Molecular Paleontology and Biochemical Evolution10. Early Life Revisited; 11. Thinking Molecularly, Anything Goes: From Mummies to Oil Spills, Doubts to New Directions; Appendix: Biomarkers at a Glance; Glossary; Figure List; Selected Bibliography; Index; A Biomarker-centric Tree of Life
Sommario/riassunto	In 1936 a German chemist identified certain organic molecules in ancient rocks and oils as the fossil remains of chlorophyll, presumably

	from plants that had lived millions of years in the past. Many years later this insight was revisited and the term biomarker coined to describe fossil molecules whose molecular structures could reveal the presence of otherwise elusive organisms and processesand then, the hunt was on. Echoes of Life is the story of those molecules and how they illuminate the history of the earth and its life. It is also the story of how a few maverick organic chemists and geologists defied the dictates of their disciplines and, at a time when the natural sciences were fragmenting into ever-more-specialised sub-disciplines, reunited chemistry, biology and geology in a common endeavor.

2. Record Nr. UNINA9910808853603321

Titolo	Multiscale kinetic modelling of materials : proceedings of the symposium "Multiscale Kinetic Modelling of Materials", organised within the EMRS Fall Meeting 2006 held in Warsaw, Poland, 4-8 September 2006 / / edited by R. Kozubski, G.E. Murch and P. Zieba
Pubbl/distr/stampa	Stafa-Zuerich : , : Trans Tech Publications, , [2007] ©2007
ISBN	3-03813-142-3
Descrizione fisica	1 online resource (171 p.)
Collana	Diffusion and defect data. Pt. B. Solid state phenomena, , 1012-0394 ; ; volume 129
Altri autori (Persone)	KozubskiRafa <1955-> MurchG. E ZiebaPawe
Disciplina	620.11
Soggetti	Kinetic theory of matter Materials - Analysis Mathematical models
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Conference proceedings.
Nota di bibliografia	Includes bibliographical references and indexes.
Nota di contenuto	MULTISCALE KINETIC MODELLING OF MATERIALS; Participants; Committees; Preface; Table of Contents; Bridging Different Length and Time Scales in Diffusion Problems Using a Lattice Monte Carlo Method ;

Electro-Mechano-Chemistry; Transport Problem in Four Time Scales ; Concurrent Multiscale Kinetic Monte Carlo-Continuum Models for the Evolution of Solids via Diffusion ; Comparison of the Strain Distribution Obtained from Multi Scale and Conventional Approaches to Modelling Extrusion ; Energetic Landscapes and Diffusion Properties in FeCu Alloys
Multi-Lattice Kinetic Monte Carlo Simulation of Interface Controlled Solid-State Transformations Cluster Dynamics Modeling of Materials: Advantages and Limitations; Interdiffusion of Two L10Phases without Long-Range Order Decrease: Experiments and Molecular Dynamics Simulations; Orientation of Interstitials in Clusters in -Fe: A Comparison between Empirical Potentials ; Anisotropy of the Vacancy Migration in Ti, Zr and Hf Hexagonal Close-Packed Metals from First Principles ; Monte Carlo Simulation of Texture and Microstructure Transformation during Annealing of Steel
A Phase Field Model for grain Growth and Thermal Grooving in Thin Films with Orientation Dependent Surface Energy An Extensive Study of Charge Effects in Silicon Doped Heterofullerenes ; Interface Shape Change and Shift Kinetics on the Nanoscale; Analysis of Oxygen Segregation at Metal-Oxide Interfaces Using a New Lattice Monte Carlo Method ; Materials Hardness Estimation by Simulation of the Indentation Process ; Stability of Hollow Nanospheres: A Molecular Dynamics Study ; First Principles Study of Al(100) Twisted Interfaces Interface Dynamics of Melt Instabilities on Semiconductor Surface Grain Boundary Migration in Nanocrystalline Iron ; Mutiscale Plastic Deformation near a Fatigue Crack from Diffraction ; Statistical Model of Grain Growth in Polycrystalline Nanomaterials ; Keywords Index; Authors Index

Sommario/riassunto

The inspiration for this book was to gather together the efforts of those physicists, materials scientists/engineers and other scientists who are carrying out interdisciplinary research into multiscale modelling of time-evolving phenomena in materials. The resultant collection focuses on the principal topics of: 1. The current development of theoretical and model approaches to structural kinetics (links between quantum electron theories of solids and non-equilibrium thermodynamics); 2. Computer simulations as an effective tool for studying atomistic mechanisms of structural kinetics (Monte Car