

1. Record Nr.	UNINA9910963175203321
Titolo	Chaos and complexity research compendium . Volume 1 // Franco F. Orsucci and Nicoletta Sala, editors
Pubbl/distr/stampa	New York, : Nova Science Publishers, Inc., c2011
ISBN	1-62100-337-X
Edizione	[1st ed.]
Descrizione fisica	1 online resource (370 p.)
Collana	Chaos and complexity research compendium ; ; v. 1 Chaos and complexity, , 2158-8066
Altri autori (Persone)	OrsucciFranco F SalaNicoletta
Disciplina	003/.857
Soggetti	Chaotic behavior in systems
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	Intro -- CHAOS AND COMPLEXITY RESEARCH COMPENDIUM, VOLUME 1 -- CHAOS AND COMPLEXITY RESEARCH COMPENDIUM, VOLUME 1 -- LIBRARY OF CONGRESS CATALOGING-IN-PUBLICATION DATA -- CONTENTS -- PREFACE -- Chapter 1: EDITORIAL -- A State of the Art -- Complexity in Metaphor -- Dynamical Systems Theory -- Variation and Selection -- Our Mission -- References -- Chapter 2: MEMORIAL: ILYA PRIGOGINE AND HIS LAST WORKS -- Chapter 3: ACCELERATION AND ENTROPY: A MACROSCOPIC ANALOGUE OF THE TWIN PARADOX -- Abstract -- 1. Introduction -- 2. Weakly Coupled Gas -- 3. The Transformation -- 4. H-function -- 5. Effects of Velocity Rotations -- 6. Comparison with the Twin Effect -- 7. Concluding Remarks -- Acknowledgments -- References -- Chapter 4: WILLIAM JAMES ON CONSCIOUSNESS, REVISITED -- Abstract -- 1. Introduction -- 2. The Typology of Causality -- 3. Level 3 - Macroscopic: The Circular Causality of Intentionality -- 4. Level 2 - Mesoscopic: The Circular Causality of Reafference -- 5. Level 1 - Microscopic: Circular Causality among Neuronsand Neural Masses -- 6. Circular Causality in Awareness -- 7. Consciousness Viewed as a System Parameter ControllingChaos -- 8. Conclusion -- Acknowledgments -- References -- Chapter 5: THE STRUCTURAL EQUATIONS TECHNIQUE FORTESTING HYPOTHESES IN NONLINEAR DYNAMICS:CATASTROPHES, CHAOS, AND RELATED DYNAMICS -- Abstract -- Overview -- Types and Amount of

Data -- Probability Density Functions -- Structure of Behavioral Measurements -- Tips for Using Nonlinear Regression -- Testing Catastrophes through Nonlinear Regression -- Examples on Record -- References -- Chapter 6: SYNCHRONIZATION OF OSCILLATORS IN COMPLEX NETWORKS -- Louis M. Pecora¹ and Mauricio Barahona² -- Abstract -- I. Introduction -- II. Formal Development -- III. Synchronization in Semirandom Smallworlds (Cycles) -- IV. Synchronization in Scale-Free Networks. V. Hypercube Networks -- VI. Conclusions -- References -- Chapter 7: CTML: A MARK UP LANGUAGE FOR HOLOGRAPHIC REPRESENTATION OF DOCUMENT BASED KNOWLEDGE -- Graziella Tonfoni* -- Abstract -- 1.1. Introduction -- 2.1. Documentation Visualization as a Teaching and Learning Opportunity -- 3.1. On "Transmission Documental Holograms" and "Reflection Documental Holograms" -- 4. Conclusions -- Acknowledgments -- References -- Chapter 8: SUSTAINABILITY AND BIFURCATIONS OF POSITIVE ATTRACTORS -- Abstract -- 1. Introduction -- 2. Profitability and Compatibility -- 3. Sustainability -- 4. An Example -- Acknowledgments -- References -- Chapter 9: DYNAMICAL PREDICTION OF CHAOTIC TIME SERIES -- Abstract -- 1. Introduction -- 2. Dynamical Networks -- 3. Prediction of Future Evolution -- 4. Cross Prediction -- 5. Conclusion -- Acknowledgment -- References -- Chapter 10: DYNAMICS AS A HEURISTIC FRAMEWORK FOR PSYCHOPATHOLOGY -- Abstract -- 1. Introduction -- 2. Metaphors -- 3. Qualitative -- 4. Quantitative -- 5. Conclusion -- References -- Chapter 11: COLLECTIVE PHENOMENA IN LIVING SYSTEMS AND IN SOCIAL ORGANIZATIONS -- Abstract -- 1. Introduction -- 2. Some Models of Collective Behaviours in Biological Systems -- 3. A New Approach to Collective Behaviour Description and a Prototypical Example -- Conclusion -- References -- Chapter 12: CONTRIBUTION TO THE DEBATE ON LINEAR AND NONLINEAR ANALYSIS OF THE ELECTROENCEPHALOGRAM -- Abstract -- Introduction -- Spectral Analysis -- Chaos and Noise in the Electroencephalogram -- Concluding Remarks -- Acknowledgments -- References -- Chapter 13: COMPLEX DYNAMICS OF VISUAL ARTS -- Abstract -- 1. Introduction -- 2. Baker's Transform in -Space -- 3. Aesthetic Unstability Initiates Bifurcation -- 4. Self-Similarity in Art Space -- 5. Hierarchy of Complexity -- 6. Conclusion -- Acknowledgment -- Appendix -- References. Chapter 14: THE MYTH OF THE TOWER OF BABYLON AS A SYMBOL OF CREATIVE CHAOS -- Chapter 15: CHAOS AND COMPLEXITY IN ARTS AND ARCHITECTURE -- References -- Chapter 16: COMPLEXITY AND CHAOS THEORY IN ART -- References -- Chapter 17: POLLOCK, MONDRIAN AND NATURE: RECENT SCIENTIFIC INVESTIGATIONS -- Abstract -- Introduction -- 1. Pollock's Dripped Complexity -- 2. Fractal Aesthetics -- 3. Mondrian's Simplicity -- 4. Discussion -- Acknowledgments -- References -- Chapter 18: VISUAL AND SEMANTIC AMBIGUITY IN ART -- Abstract -- Non-Linear Models Perception of Ambiguous Patterns -- Visual Ambiguity in Art -- Semantic Ambiguity in Plot Development and in Comic Situations -- Mixed Ambiguity -- Conclusion -- References -- Chapter 19: DOES THE COMPLEXITY OF SPACE LIE IN THE COSMOS OR IN CHAOS? -- Chapter 20: CRYSTAL AND FLAME/FORM AND PROCESS THE MORPHOLOGY OF THE AMORPHOUS -- Abstract -- Introduction -- Background -- Conclusion -- References -- Bibliography -- Chapter 21: COMPLEXITY IN THE MESOAMERICAN ARTISTIC AND ARCHITECTURAL WORKS -- Abstract -- Introduction -- Material and Methods -- Results and Discussion -- Conclusions -- References -- Chapter 22: NEW PARADIGM ARCHITECTURE¹ -- Chapter 23: SELF-ORGANIZED CRITICALITY IN URBAN SPATIAL DEVELOPMENT -- Abstract

-- Introduction -- Results -- Discussion -- Conclusion --
Acknowledgments -- References -- Chapter 24: GENERATION OF
TEXTURES AND GEOMETRIC PSEUDO-URBAN MODELS WITH THE AID OF
IFS -- Abstract -- 1. Introduction -- 2. From IFS to Urban Textures and
Geometric Models -- 3. From Generated Scenes to Real World -- 4.
Conclusions and Future Works -- References -- Chapter 25: PSEUDO-
URBAN AUTOMATIC PATTERN GENERATION -- Abstract -- 1.
Introduction -- 2. Research Task Context -- 3. Applications -- 4.
Conclusion -- References -- Chapter 26: TONAL STRUCTURE OF MUSIC
AND CONTROLLING CHAOS IN THE BRAIN -- Abstract.
1. Introduction -- 2. Control of Chaos in the Brain by Sinusoidal or
Periodic Pulsed Force -- 3. Model of Music Tonality -- References --
Chapter 27: COLLECTING PATTERNS THAT WORK FOR EVERYTHING --
Abstract -- Conclusions -- References -- INDEX.

Sommario/riassunto

Presents research on artificial life, cellular automata, chaos theory,
cognition, complexity theory, synchronisation, fractals, genetic
algorithms, information systems, metaphors, neural networks, non-
linear dynamics, parallel computation and synergetics.
