

Contents

Chapter 1: Introduction to Chaos	1
<i>Dimitar Solev, Predrag Janjic, Ljupco Kocarev</i>	
Chapter 2: Chaos-Based Public-Key Cryptography	27
<i>Igor Mishkovski, Ljupco Kocarev</i>	
Chapter 3: Digitized Chaos for Pseudo-random Number Generation in Cryptography	67
<i>Tommaso Addabbo, Ada Fort, Santina Rocchi, Valerio Vignoli</i>	
Chapter 4: Formation of High-Dimensional Chaotic Maps and Their Uses in Cryptography	99
<i>Wallace K.S. Tang, Ying Liu</i>	
Chapter 5: Chaos Based Hash Function	137
<i>Di Xiao, Xiaofeng Liao, Shaojiang Deng</i>	
Chapter 6: Chaos-Based Video Encryption Algorithms	205
<i>Zhaopin Su, Shiguo Lian, Guofu Zhang, Jianguo Jiang</i>	
Chapter 7: Cryptanalysis of Chaotic Ciphers	227
<i>Ercan Solak</i>	
Chapter 8: Lessons Learnt from the Cryptanalysis of Chaos-Based Ciphers	257
<i>Gonzalo Alvarez, José María Amigó, David Arroyo, Shujun Li</i>	
Chapter 9: Hardware Implementation of Chaos Based Cipher: Design of Embedded Systems for Security Applications	297
<i>Camel Tanougast</i>	

**Chapter 10: Hardware Implementation of Chaos-Secured
Optical Communication Systems..... 331**
Apostolos Argyris

**Chapter 11: Performance Evaluation of Chaotic and
Conventional Encryption on Portable and Mobile
Platforms..... 375**
Rogelio Hasimoto-Beltran, Fadi Al-Masalha, Ashfaq Khokhar

Author Index..... 397