# Table of Contents

**Preface**...................................................................................................................................................xxi

**Chapter 1**
Signal Detection Techniques for Satellite Communication ..........................................................1

   *Bilal Muhammad Khan, National University of Sciences and Technology Islamabad,  
Pakistan  
Rabia Bilal, Usman Institute of Technology, Pakistan*

**Chapter 2**
Cepstrum-Based Spectrum Hole Search in Different Fading Scenario in Cognitive Radio
Network................................................................................................................................................49

   *Srijibendu Bagchi, RCC Institute of Information Technology, India*

**Chapter 3**

   *Kijpokin Kasemsap, Suan Sunandha Rajabhat University, Thailand*

**Chapter 4**
Secure Baseband Techniques for Generic Transceiver Architecture for Software-Defined Radio......96

   *Nikhil Kumar Marriwala, University Institute of Engineering and Technology, India &  
Kurukshetra University, India  
Om Prakash Sahu, NIT, India  
Anil Vohra, Kurukshetra University, India*

**Chapter 5**
Design and Analysis of Optical Packet Switch Routers: A Review.......................................................118

   *Vaibhav Shukla, BIT Mesra Ranchi, India  
Aruna Jain, BIT Mesra Ranchi, India*
Chapter 6
Flexible Antennas for Wearable Technologies ................................................................. 158
   Amal Afyf, Mohammed V University, Morocco
   Bellarbi Larbi, Mohammed V University, Morocco
   Fatima Riouch, National Institute of Post and Telecommunication, Morocco
   Mohamed Adel Sennouni, University Hassan the 1st, Morocco
   Yaakoubi Nourdin, Maine University, France

Chapter 7
Performance Evaluation of Different Rectifying Antenna Systems for RF Energy Harvesting:
Rectifying Antenna Systems for RF Energy Harvesting .................................................... 196
   Saswati Ghosh, IIT Kharagpur, India

Chapter 8
Cooperative Protocol for IWSN ...................................................................................... 218
   Bilal Muhammad Khan, National University of Sciences and Technology Islamabad,
   Pakistan
   Rabia Bilal, Usman Institute of Technology, Pakistan

Chapter 9
A Dynamic Reputation-Based Incentive Scheme to Encourage Selfish Nodes in Post-Disaster
Situation Using Delay-Tolerant Network ........................................................................ 242
   Chandrima Chakrabarti, Narula Institute of Technology, India

Chapter 10
Cross-Layer Scheme for Meeting QoS Requirements of Flying Ad-Hoc Networks: QoS
Requirements of Flying Ad-Hoc Networks ..................................................................... 255
   Bilal Muhammad Khan, National University of Sciences and Technology Islamabad,
   Pakistan
   Rabia Bilal, Usman Institute of Technology, Pakistan

Chapter 11
Implementing Leader Election Algorithm after Evaluation of Node Trust in MANETs .............. 282
   Jayanta Das, SSVASM, India
   Abhijit Das, RCCIIT, India

Chapter 12
Fuzzy-Topsis-Based Cluster Head Selection in Mobile Wireless Sensor Networks: Cluster Head
Selection in Mobile WSN .............................................................................................. 312
   Bilal Muhammad Khan, National University of Sciences and Technology Islamabad,
   Pakistan
   Rabia Bilal, Usman Institute of Technology, Pakistan
Chapter 13
Vehicular Cloud Computing Challenges and Security ................................................................. 344
Sunilkumar S. Manvi, REVA University, India
Nayana Hegde, Sri Krishna Institute of Technology, India

Chapter 14
A Comprehensive Survey on Techniques Based on TPM for Ensuring the Confidentiality in Cloud Data Centers....................................................................................................................... 366
Arun Fera M, Thiagarajar College of Engineering, India
M. Saravanapriya, Thiagarajar College of Engineering, India
J. John Shiny, Thiagarajar College of Engineering, India

Chapter 15
RFID and Dead-Reckoning-Based Indoor Navigation for Visually Impaired Pedestrians............. 380
Kai Li Lim, The University of Western Australia, Australia
Kah Phooi Seng, Charles Sturt University, Australia
Lee Seng Yeong, Sunway University, Malaysia
Li-Minn Ang, Charles Sturt University, Australia

Chapter 16
Modified Differential Evolution Algorithm Based Neural Network for Nonlinear Discrete Time System................................................................................................................................. 397
Uday Pratap Singh, Madhav Institute of Technology and Science, India
Sanjeev Jain, Shri Mata Vaishno Devi University, India
Rajeev Kumar Singh, Madhav Institute of Technology and Science, India
Mahesh Parmar, Madhav Institute of Technology and Science, India

Chapter 17
A Brief Insight into Nanorobotics.................................................................................................... 421
Sanchita Paul, Birla Institute of Technology, India

Chapter 18
A Linear Time Series Analysis of Fetal Heart Rate to Detect the Variability: Measures Using Cardiotocography......................................................................................................................... 471
Sahana Das, Narula Institute of Technology, India
Kaushik Roy, West Bengal State University, India
Chanchal Kumar Saha, Biraj Mohini Matrisadan and Hospital, India

Chapter 19
A Comparative Study on DNA-Based Cryptosystem........................................................................ 496
Thangavel M, Thiagarajar College of Engineering, India
Varalakshmi P, Madras Institute of Technology, India
Sindhuja R, Thiagarajar College of Engineering, India