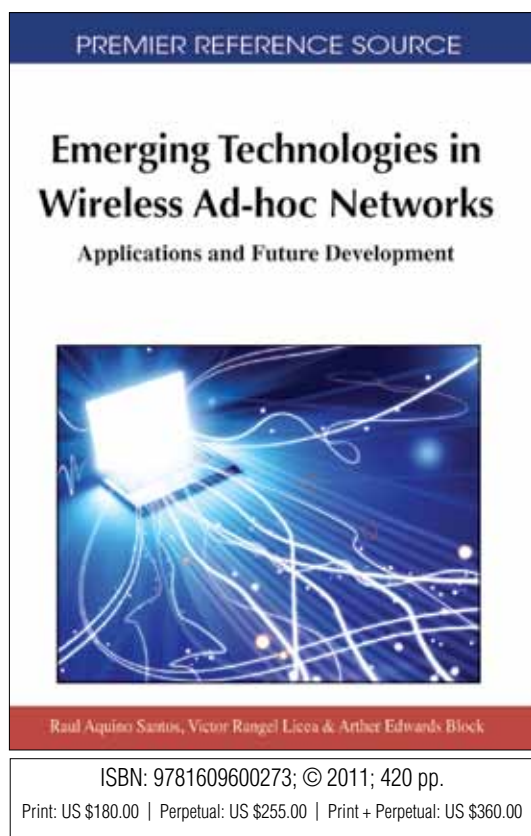


An Excellent Addition to Your Library!

Released: November 2010

Emerging Technologies in Wireless Ad-hoc Networks: Applications and Future Development



Raul Aquino-Santos (University of Colima, Mexico),
V́ctor Rangel-Licea (National Autonomous University of Mexico, Mexico)
and Arthur Edwards-Block (University of Colima, México)

Mobile ad-hoc networks have attracted considerable attention and interest from the commercial sector as well as the standards community. Many new ad-hoc networking applications have been conceived to help enable new commercial and personal communication beyond the domain of tactical networks, including personal area networking, home networking, law enforcement operations, search and rescue operations, commercial and educational applications, and sensor networks.

Emerging Technologies in Wireless Ad-hoc Networks: Applications and Future Development provides the rationale, state-of-the-art studies and practical applications, proof-of-concepts, experimental studies, and future development on the use of emerging technologies in wireless ad-hoc networks. In addition, this work explores emerging wireless ad hoc technologies based on communication coverage areas: body sensor networks, personal area networks, local area networks, and metropolitan area networks and their applications in critical sectors, for example, agriculture, environment, public health and public transportation.

Topics Covered:

- Body sensor networks
- Computer security
- Digital forensics
- Local area networks
- Metropolitan area networks
- Mobile and ubiquitous computing
- Personal area networks
- Software engineering
- Telematics
- Wireless ad-hoc networks

Market: This premier publication is essential for all academic and research library reference collections.

It is a crucial tool for academicians, researchers, and practitioners and is ideal for classroom use.

Raúl Aquino Santos graduated from the University of Colima with a BE in Electrical Engineering, received his MS degree in Telecommunications from the Centre for Scientific Research, and Higher Education in Ensenada, Mexico in 1990. He holds a PhD from the Department of Electrical and Electronic Engineering of the University of Sheffield, England. Since 2005, he has been with the College of Telematics, at the University of Colima, where he is currently a Research-Professor in telecommunications networks. His current research interests include wireless and sensor networks.

Section 1: Wireless Sensor Networks

Chapter 1

A Survey on Localization in Wireless Sensor Networks

Marcelín-Jiménez Ricardo (UAM-Iztapalapa, Mexico)
Ruiz-Sánchez Miguel Ángel (UAM-Iztapalapa, Mexico)
López-Villaseñor Mauricio (UAM-Iztapalapa, Mexico)
Ramos-Ramos Victor M. (UAM-Iztapalapa, Mexico)
Moreno-Escobar Carlos E. (UAM-Iztapalapa, Mexico)
Ruiz-Sandoval Manuel E. (UAM-Azcapotzalco, Mexico)

Chapter 2

Low Power Design Techniques for Wireless Sensor Networks

Aedo José (Universidad de Antioquia, Colombia)
Gaviria Natalia (Universidad de Antioquia, Colombia)
Aguirre Johnny (Universidad de Antioquia, Colombia)
Múnera Danny (Universidad de Antioquia, Colombia)

Chapter 3

A Forward & Backward Secure Key Management in Wireless Sensor Networks for PCS/SCADA

Alzaid Hani (Queensland University of Technology, Australia & King Abdulaziz City for Science and Technology, Saudi Arabia)
Park DongGook (Suncheon National University, South Korea)
Nieto Juan González (Queensland University of Technology, Australia)
Boyd Colin (Queensland University of Technology, Australia)
Foo Ernest (Queensland University of Technology, Australia)

Chapter 4

Body Area Networks:

Agudelo Leonardo Betancur (Universidad Pontificia Bolivariana, Colombia)
Cadavid Andres Navarro (Universidad ICESI, Colombia)

Chapter 5

M-Health:

Hipólito Juan Ivan Nieto (Autonomous University of Baja California, México)
Briseño Mabel Vázquez (Autonomous University of Baja California, México)
Cervantes de Ávila Humberto (Autonomous University of Baja California, México)
Rosas Miguel Enrique Martínez (Autonomous University of Baja California, México)
Sergiyenko Oleg Yu (Autonomous University of Baja California, México)

Chapter 6

Wireless Sensor Networks (WSN) Applied in Agriculture

Martínez-Rosas Miguel Enrique (Universidad Autónoma de Baja California, México)
De Ávila Humberto Cervantes (Universidad Autónoma de Baja California, México)
Hipólito Juan Iván Nieto (Universidad Autónoma de Baja California, México)
López José Rosario Gallardo (University of Ottawa, Canada)

Chapter 7

Wireless Data Acquisition System for Greenhouses

Aguilar Jaime Ortégón (Universidad de Quintana Roo, México)
Castillo Javier Vázquez (Universidad de Quintana Roo, México)
Puc Freddy Chan (Universidad de Quintana Roo, México)
Atoche Alejandro Castillo (Universidad Autónoma de Yucatán, México)
Cardena Mayra Palomino (Universidad de Quintana Roo, México)
Villanueva César Rosado (Universidad de Quintana Roo, México)

Section 2: Wireless Ad Hoc Networks

Chapter 8

Power Aware Routing in Wireless Mobile Ad Hoc Networks

Varaprasad G. (B.M.S. College of Engineering, India)

Chapter 9

Network Address Management in MANETs Using an Ant Colony Metaphor

Pachón Alvaro (Universidad Icesi, Colombia)
Madrid Juan M. (Universidad Icesi, Colombia)

Chapter 10

Key Management Protocols in Mobile Ad Hoc Networks

Elbouchari Mohamed (University Mohamed Ist, Oujda, Morocco)
Azizi Mostafa (University Mohamed Ist, Oujda, Morocco)
Azizi Abdelmalek (University Mohamed Ist, Morocco and Academy Hassan II of Sciences & Technology, Morocco)

Chapter 11

Connectivity and Topology Organization in Ad-Hoc Networks for Service Delivery

Vargas-Rosales Cesar (Instituto Tecnológico y de Estudios Superiores de Monterrey, Mexico)
Barrientos Sergio (Instituto Tecnológico y de Estudios Superiores de Monterrey, Mexico)
Munoz David (Instituto Tecnológico y de Estudios Superiores de Monterrey, Mexico)
Rodríguez Jose R. (Instituto Tecnológico y de Estudios Superiores de Monterrey, Mexico)

Chapter 12

Location Acquisition and Applications in Mobile and Ad-Hoc Environments

Rodríguez David Muñoz (Instituto Tecnológico y de Estudios Superiores de Monterrey, Mexico)
Cruz José Ramón Rodríguez (Instituto Tecnológico y de Estudios Superiores de Monterrey, Mexico)
Rosales Cesar Vargas (Instituto Tecnológico y de Estudios Superiores de Monterrey, Mexico)
Jimenez Daniel Elias Muñoz (Instituto Tecnológico y de Estudios Superiores de Monterrey, Mexico)

Chapter 13

Quality of Service in Wireless Ad-Hoc Networks and New Trends

Routray Sudhir K. (Eritrea Institute of Technology, Eritrea)

Section 3: Hybrid Networks

Chapter 14

Challenges of Emerging Technologies in Transportation Systems

Guerrero-Ibáñez Antonio (University of Colima, México)
Damián-Reyes Pedro (University of Colima, México)

Chapter 15

IP Mobility Support in Hybrid Wired-Mobile Ad Hoc Networks

Villasenor-Gonzalez Luis Armando (CICESE Research Center, Mexico)

Chapter 16

Game Theory for Resource Allocation in Wireless Networks

Rawat Danda B. (Old Dominion University, USA)
Bajracharya Chandra (Old Dominion University, USA)
Yan Gongjun (Old Dominion University, USA)