Integrated Models for Information Communication Systems and Networks: Design and Development

Aderemi Aaron Anthony Atayero (Covenant University, Nigeria) and Oleg I. Sheluhin (Moscow Technical University of Communication & Informatics, Russia)

Release Date: June, 2013. Copyright © 2013. 469 pages.

DOI: 10.4018/978-1-4666-2208-1, ISBN13: 9781466622081, ISBN10: 1466622083, EISBN13: 9781466622098

Description

Top

With current advancements in the modeling and simulation of systems and networks, researchers and developers are better able to determine the probable state of current systems and envision the state of future systems during the design stage. The uses and accuracies of these models are essential to every aspect of communication systems.

Integrated Models for Information Communication Systems and Networks: Design and Development explores essential information and current research findings on information communication systems and networks. This reference source aims to assist professionals in the desire to enhance their knowledge of modeling at systems level with the aid of modern software packages.

Table of Contents and List of Contributors

Top

Search this Book: Full text search term(s) Reset

Modeling and simulation of industrial information communication systems and networks is one of the major concerns of productivity engineers for the establishment... Sample PDF

9. Modeling of Packet Streaming Services in Information Communication Networks — **$37.50**
   Aderemi A. Atayero, Yury A. Ivanov. Pages 166-206.
   Application of the term video streaming in contemporary usage denotes compression techniques and data buffering, which can transmit video in real time over the... Sample PDF

10. Mathematical Models of Video-Sequences of Digital Half-Tone Images — **$37.50**
    E.P. Petrov, I.S. Trubin, E.V. Medvedeva, S.M. Smolskiy. Pages 207-241.
    This chapter is devoted to Mathematical Models (MM) of Digital Half-Tone Images (DHTI) and their video-sequences presented as causal multi-dimensional Markov... Sample PDF

11. Performance Analysis of Multi-Antenna Relay Networks over Nakagami-m Fading Channel — **$37.50**
    E. Soleimani-Nasab, A. Kalantari, M. Ardebilipour. Pages 242-255.
    In this chapter, the authors present the performance of multi-antenna selective combining decode-and-forward (SC-DF) relay networks over independent and... Sample PDF

12. A Generic Method for the Reliable Calculation of Large-Scale Fading in an Obstacle-Dense Propagation Environment — **$37.50**
    Theofilos Chrysikos, Stavros Kotsopoulos, Eduard Babulak. Pages 256-277.
    The aim of this chapter is to summarize and present recent findings in the field of wireless channel modeling that provide a new method for the reliable... Sample PDF

13. Development of Nonlinear Filtering Algorithms of Digital Half-Tone Images — **$37.50**
    E. P. Petrov, I. S. Trubin, E. V. Medvedeva, S. M. Smolskiy. Pages 278-304.
    This chapter is devoted to solving the problem of algorithms and structures investigations for Radio Receiver Devices (RRD) with the aim of the nonlinear filtering... Sample PDF

14. Performance Analysis of Traffic and Mobility Models on Mobile and Vehicular Ad Hoc Wireless Networks — **$37.50**
    Lawal Bello, Panos Bakalis. Pages 305-313.
    Advances in wireless communication technology and the proliferation of mobile devices enable the capabilities of communicating with each other even in areas with... Sample PDF

15. Modeling of Quantum Key Distribution System for Secure Information Transfer — **$37.50**
    K. E. Rumyantsev, D. M. Golubchikov. Pages 314-342.
    This chapter is an analysis of commercial quantum key distribution systems. Upon analysis, the generalized structure of QKDS with phase coding of a photon state is... Sample PDF

16. ANFIS Modeling of Dynamic Load Balancing in LTE — **$37.50**
    Matthew K. Luka, Aderemi A. Atayero. Pages 343-360.
    Modelling of ill-defined or unpredictable systems can be very challenging. Most models have relied on conventional mathematical models which does not adequately... Sample PDF

17. Neural Network Control of a Laboratory Magnetic Levitator — **$37.50**
    J. Katende, M. Mustapha. Pages 361-374.
    Magnetic levitation (maglev) systems are nowadays employed in applications ranging from non-contact bearings and vibration isolation of sensitive machinery to... Sample PDF

18. Constitutive Modeling of Wind Energy Potential of Selected Sites in Nigeria: A Pre-Assessment Model — **$37.50**
    O. O. Ajayi, R. O. Fagbenle, J. Katende. Pages 375-389.
    In this chapter, the authors present the result of a study carried out to develop a pre-assessment model that can be used to carry out a preliminary study on the... Sample PDF

19. Cross-Layer Optimization in OFDM Wireless Communication Network — **$37.50**
    Babasanjo Oshin, Adeyemi Alatishe. Pages 390-410.
    The wide use of OFDM systems in multiuser environments to overcome problem of communication over the wireless channel has gained prominence in recent years.... Sample PDF

Topics Covered

Top

- Artificial Intelligence
- Information Communication Systems
- Mobile Ad Hoc Wireless Networks
- Neural Network Control
- Power Systems
- Software Architecture
- Systems Modeling
- Vehicular Ad Hoc Wireless Networks

Author(s)/Editor(s) Biography

Top

Aderemi A. Atayero graduated from the Moscow Institute of Technology (MIT) with a B.Sc. Degree in Radio Engineering and M.Sc. Degree in Satellite Communication Systems in 1992 and 1994 respectively. He

earned a PhD in Telecommunication Engineering/Signal Processing from Moscow State Technical University of Civil Aviation, Russia in 2000. He is a member of a number of professional associations including: the Institute of Electrical and Electronic Engineers, IEEE, the International Association of Engineers, IAENG, and a professional member of the International Who's Who Historical Society (IWWHS) among others. He is a registered engineer with the Council for the Regulation of Engineering in Nigeria, COREN. A two-time Head, Department of electrical and Information Engineering, Covenant University, Nigeria, he was the coordinator of the School of Engineering of the same University. Dr. Atayero is widely published in International peer-reviewed journals, proceedings, and edited books. He is on the editorial board of a number of highly reputed International journals. Atayero is a recipient of several awards including the '2009/10 Ford Foundation Teaching Innovation Award'. His current research interests are in Radio and Telecommunication Systems and Devices; Signal Processing and Converged Multi-service Networks. Atayero is a professor of Communication Engineering and the current Vice-Chancellor (Academic) at Covenant University, Nigeria.

Oleg I. Sheluhin was born in Moscow, Russia in 1952. He obtained an M.Sc. Degree in Radio Engineering in 1974 from the Moscow Institute of Transport Engineers (MITE). He later enrolled at Lomonosov State University (Moscow) and graduated in 1979 with a Second M.Sc. in Mathematics. He received a PhD at MITE in 1979 in Radio Engineering and earned a D.Sc. Degree in Telecommunication Systems and Devices from Kharkov Aviation Institute in 1990. He is currently Head of Department of Information Security, Moscow Technical University of Communication and Informatics, Russia. He was the Head of Radio Engineering and Radio Systems Department of Moscow State Technical University of Service (MSTUS). Prof. Sheluhin is a member of the International Academy of Sciences of Higher Educational Institutions. He has published over 15 scientific books and textbooks for universities and has more than 250 scientific papers. He is the Chief Editor of the scientific journal Electrical and Informational Complexes and Systems and a member of Editorial Boards of various scientific journals. In 2004 the Russian President awarded him the honorary title 'Honored Scientific Worker of the Russian Federation'.