NANOELECTRONIC MIXED-SIGNAL SYSTEM DESIGN

Saraju Mohanty

The only single-volume text to cover both the classical and emerging nanoelectronic technologies being used in mixed-signal design addresses digital, analog, and memory components.

Nanoelectronic Mixed-Signal System Design offers professionals and students a unified perspective on the science, engineering, and technology behind nanoelectronics system design.

Written by the director of the NanoSystem Design Laboratory at the University of North Texas, this comprehensive guide provides a large-scale picture of the design and manufacturing aspects of nanoelectronic-based systems. It features dual coverage of mixed-signal circuit and system design, rather than just digital or analog-only. Key topics such as process variations, power dissipation, and security aspects of electronic system design are addressed.

- A unified text that provides top-down analysis of all stages--from design to manufacturing
- Coverage of current and developing nanoelectronic technologies--not just nano-CMOS

Saraju Mohanty, Ph.D., is a faculty member in the Department of Computer Science and Engineering at the University of North Texas, where he directs the NanoSystem Design Laboratory (NSDL). He obtained a Ph.D. in computer science and engineering from the University of South Florida in 2003, a master's degree in systems science and automation from the Indian Institute of Science, Bangalore, India, in 1999, and a bachelor's degree (honors) in electrical engineering from Orissa University of Agriculture and Technology, Bhubaneswar, India, in 1995. Dr. Mohanty's research is in low-power, high-performance nanoelectronics. He is an author of hundreds of peer-reviewed journal and conference publications.
A critical reference designed to help practicing engineers meet one of the biggest challenges faced by the semiconductor industry – the increasing demand for efficient power conversion.

Charge Pump IC Design delivers an advanced systematic approach to charge pump circuit design from building blocks to final pump. The book provides engineers with an in-depth, thorough understanding of this technically difficult and challenging area of IC design, allowing them to apply charge pump technology to their own on-chip or off-chip power supply designs. Power conversion efficiency is the key emphasis of the book, explaining in a systematic way how to achieve high-power efficiency in pump stage architecture, pump regulation and feedback, and system-level architectures. Real-world design examples with schematics and simulations are included.

The demand for power has grown rapidly due to increased global use of portable devices, which has led to power management becoming one of the most important de... Feng Pan received his BS degree from the University of California, Berkeley, and an MS in Electrical Engineering from Stanford University. He is a Stanford Certified Program Manager (SCPM), and is currently working as a senior analog design manager at SanDisk. Mr. Pan is coauthor of Charge Pump Circuit Design, and has 45 granted patents related to power management, LDO, charge pump architectures, charge pump regulations and applications, ADC design, op-amp designs, and flash memory designs.
ANALYSIS AND DESIGN OF FRP REINFORCED CONCRETE STRUCTURES
Shamsher Bahadur Singh
The Most Complete FRP Reinforced Concrete Structure Analysis and Design Guide

This comprehensive reference provides proven design procedures for the use of fiber-reinforced polymer (FRP) materials for reinforcement, prestressing, and strengthening of reinforced concrete structures. The characteristics of FRP composite materials as well as the latest manufacturing techniques are discussed. Detailed illustrations and tables, design equations, end-of-chapter problems, and real-world case studies are included in this authoritative resource.

Analysis and Design of FRP Reinforced Concrete Structures covers:

- Material characteristics of FRP bars
- History and uses of FRP technology
- Design of RC structures reinforced with FRP bars
- Design philosophy for FRP external strengthening systems
- Durability-based design approach for external FRP strengthening of RC beams

Shamsher Bahadur Singh has 25 years of teaching and research experience, including a postdoctoral fellowship in the U.S.. His area of specialization is in structural engineering with composite structure as a major area. Dr. Singh is the reviewer of many prestigious journals such as the ASCE Journal of Composites for Construction, International Journal of Earth Science and Engineer, ACI Structural Journal, IJE, and the Journal of Korean Society of Civil Engineering. He has been a member of various IIT Delhi committees such as the construction committee, committee for recruitment of project engineers, and committee for recruitment of BITS faculty. Dr. Singh is an editorial board member of the IJEE Journal and the Journal of Civil Engineering and Architecture, published by Lublin University of Technology, Faculty of Civil Engineering and Architecture.
Critical Path Method (CPM) Tutor for Construction Planning and Scheduling

William East

This unique tool provides a fresh approach to construction scheduling by focusing on ways in which the Critical Path Method (CPM) can be used to answer the important questions that arise on virtually every construction project.

Critical Path Method (CPM) Tutor for Construction Planning and Scheduling helps commercial contractors meet today's ever-increasing demands to improve operational efficiency and increase profitability. The construction schedule is heavily dependent upon the skill of the practitioner and responsible participants, and one which greatly impacts the efficiency, cost, and overall success or failure of a project.

This book explains the practical application of the CPM, the most widely used and taught technique for construction planning and scheduling. Readers are guided through each step of the CPM process from planning and communication to deciding payment and/or claims. Practitioners and students will quickly understand both the mechanics and the use of the CPM.

William East, PhD, PE, F.ASCE, has worked for the U.S. Army Corps of Engineers over the past three decades, first as a project engineer and then as a research program manager. His evaluation of the first PC-based scheduling systems resulted in the Standard Data Exchange Format, which delivers earned-value loaded schedules on Corps of Engineers' projects. Dr. East's website is cpmTutor.com.
FAILURE ANALYSIS OF
WOOD AND WOOD-
BASED PRODUCTS
Dirk Lukowsky

This practical reference provides a proven, simple approach to failure analysis of wood and wood-based products using a full range of forensic analysis methods.

In Failure Analysis of Wood and Wood-Based Products an expert in the areas of failure analysis, coatings, and wood preservatives presents innovative ways to analyze obvious wood failure and answer the important question of what went wrong—and who has to pay.

The book provides an in-depth look at the various common causes of damage to wood and wood-based materials, including surface and coating damage by chemical influences, damage linked to design and conditions of use, and material characteristics, and offers analytical methods that can in many cases be carried out locally.

- Offers a full range of forensic analysis methods, including wood moisture measurement, light microscopy, physical and chemical processes, frottage, imprints, lighting, and staining
- Many of the described techniques are easy to perform and do not require bringing...