



Medical Imaging: Principles, Detectors, and Electronics

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A must-read for anyone working in electronics in the healthcare sector

This one-of-a-kind book addresses state-of-the-art integrated circuit design in the context of medical imaging of the human body. It explores new opportunities in ultrasound, computed tomography (CT), magnetic resonance imaging (MRI), nuclear medicine (PET, SPECT), emerging detector technologies, circuit design techniques, new materials, and innovative system approaches.

Divided into four clear parts and with contributions from a panel of international experts, Medical Imaging systematically covers:

- X-ray imaging and computed tomography—X-ray and CT imaging principles; Active Matrix Flat Panel Imagers (AMFPI) for diagnostic medical imaging applications; photon counting and integrating readout circuits; noise coupling in digital X-ray imaging
- Nuclear medicine—SPECT and PET imaging principles; low-noise electronics for radiation sensors
- Ultrasound imaging—Electronics for diagnostic ultrasonic imaging
- Magnetic resonance imaging—Magnetic resonance imaging principles; MRI technology

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Editorial Review

Review

?The papers are very readable for serious physicists and electrical engineers who are focusing on electronics present in the health care field, as well as interested computer scientists and medical technicians.?

(*Computing Reviews* , August 2009)

From the Back Cover

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About the Author

Krzysztof Iniewski, PhD, manages R&D chip development activities at Redlen Technologies. Previously, he was an associate professor in the electrical engineering and computer engineering department of the University of Alberta, where he conducted research on low-power wireless circuits and systems. His research interests are in VLSI circuits for medical and security applications. Dr. Iniewski has published over 100 international journal or conference papers, and holds eighteen international patents.

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