Deeper Understanding Faster Calculation Mlc Spring 2011

The most important radiotherapy modality used today, intensity modulated radiation therapy (IMRT), is the most technologically advanced radiotherapy cancer treatment available, rapidly replacing conformal and three-dimensional techniques. Because of these changes, oncologists and radiotherapists need up-to-date information gathered by physicists an

Computers have had and will continue to have a tremendous impact on professional activity in almost all areas. This applies to radiological medicine and in particular to radiation therapy. This book compiles the most recent developments and results of the application of computers and computer science as presented at the XIIIth International Conference on the Use of Computers in Radiation Therapy in Heidelberg, Germany. The text of both oral presentations and posters is included. The book is intended for computer sientists, medical physicists, engineers and physicians in the field of radiation therapy and

provides a comprehensive survey of the entire field.
Drawing on the authors' more than six years of R&D in location-based information systems (LBIS) as well as their participation in defining the Java ME Location API 2.0, Location-Based Information Systems: Developing Real-Time Tracking Applications provides information and examples for creating real-time LBIS based on GPS-enabled cellular phones
The Use of Computers in Radiation TherapyXIIIth International Conference Heidelberg, Germany May 22–25, 2000Springer Science & Business Media
World Scientific Handbook Of Metamaterials And Plasmonics (In 4 Volumes)
Proceedings of the 4th Symposium on Fluid-Structure-Sound Interactions and Control
Clinical Evidence and Techniques
Concepts, Syntheses, Characterization, Modeling and Applications
Monte Carlo Techniques in Radiation Therapy
Expert Consult

This volume brings together an interdisciplinary group of specialists to present and discuss the latest diagnostic and therapeutic concepts and current controversial issues in the management of primary and secondary brain tumors. In the first part, the latest technical developments in neuro-oncology are presented. These include the evaluation of positron-emission tomography for diagnosis, and neuronavigation and operative mapping for operation planning. Innovations in computer-assisted 3-D radiotherapy planning and in image fusioning of CT, MRT, SPECT and PET are also described. A large section of the book is devoted to the diagnosis and interdisciplinary treatment of glioblastoma, one of the most frequently occurring brain tumors. In-depth coverage is given to pathological differential diagnosis, operative standards and the results of radiotherapy. A detailed presentation of the current chemotherapeutic strategies as well as their evaluation within an interdisciplinary therapy concept is also provided. A special chapter focuses on the role of radiotherapy and neurosurgery in the treatment of craniopharyngioma. The final section features discussions on the therapeutic options for brain metastases. Individual indications for both whole-brain irradiation and radiosurgery are given and compared with neurosurgical intervention. New experimental chemotherapies are considered, and finally, the palliative use of chemotherapy is examined. In summary, this book provides an excellent survey of the state of the art in neuro-oncology. It is therefore recommended reading for all clinical neuropathologists, neurologists, neurosurgeons and radiation oncologists.

Offering comprehensive coverage of the clinical, physical, and technical aspects of radiation treatment planning, Khan's Treatment Planning in Radiation Oncology, Fifth Edition, provides a team approach to this complex field. Drs. Paul W. Sperduto and John P. Gibbons are joined

by expert contributing authors who focus on the application of physical and clinical concepts to solve treatment planning problems—helping you provide effective, state-of-the-art care for cancer patients. This unique, well-regarded text has been updated throughout to reflect the most current practices in today's radiation oncology treatment.

Successful clinical use of intensity-modulated radiation therapy (IMRT) represents a significant advance in radiation oncology. Because IMRT can deliver high-dose radiation to a target with a reduced dose to the surrounding organs, it can improve the local control rate and reduce toxicities associated with radiation therapy. Since IMRT began being used in the mid-1990s, a large volume of clinical evidence of the advantages of IMRT has been collected. However, treatment planning and quality assurance (QA) of IMRT are complicated and difficult for the clinician and the medical physicist. This book, by authors renowned for their expertise in their fields, provides cumulative clinical evidence and appropriate techniques for IMRT for the clinician and the physicist. Part I deals with the foundations and techniques, history, principles, QA, treatment planning, radiobiology and related aspects of IMRT. Part II covers clinical applications with several case studies, describing contouring and dose distribution with clinical results along with descriptions of indications and a review of clinical evidence for each tumor site. The information presented in this book serves as a valuable resource for the practicing clinician and physicist.

This book is a practical guide on image-guided robotic (CyberKnife®) radiosurgery of the brain and the spine. The volume introduces the radiosurgical community to the potential of image-guidance in the treatment of neurosurgical diseases including neuro-oncological, vascular and functional disorders. Principles of image-guided radiosurgery, including physics and

radiobiology are considered. Each chapter provides a critical review of the literature and analyses of several aspects to offer an assessment of single and hypofractionated treatments. Based on the authors' experience, tables or summaries presenting the treatment approaches and associated risks are included as well. Providing a practical guide to define the selection of dose, fractionation schemes, isodose line, margins, imaging, constraints to the structures at risk will support safe practice of neuroradiosurgery. This book aims to shed new light on the treatment of neoplastic and non-neoplastic diseases of the central nervous system using the CyberKnife® image-guided robotic radiosurgery system. It will be adopted by neurosurgery residents and neurosurgery consultants as well as residents in radiation oncology and radiation oncologists; medical physicists involved in radiosurgery procedures may also benefit from this book.

CyberKnife NeuroRadiosurgery

The Engineer

Clinical 3D Dosimetry in Modern Radiation Therapy

Comprehensive Biomedical Physics

Vortex Methods

Fluid-Structure-Sound Interactions and Control

This book equips readers with detailed knowledge on the current status of image-guided radiotherapy with photons and particles and highlights issues that need to be addressed in order to further improve treatment outcomes. The opening chapters cover clinical and technical aspects of target volume definition using anatomic (computed tomography and

magnetic resonance imaging; MRI) as well as functional (MRI and positron emission tomography) imaging. Up-to-date information is then provided on the full range of image-guided high-precision radiotherapy techniques, including IMRT/VMAT, stereotactic body radiation therapy, MR-guided linear accelerators, MR-guided brachytherapy, and particle therapy. The role of ultrasonography in image-guided radiotherapy is discussed, as are the available means for target volume demarcation and stabilization and adaptive radiation therapy. Finally, outcome evaluation is explored in depth, with a particular focus on the role of multimodality imaging in predicting tumor control and normal tissue toxicity. The authors are experts in different specialties and the book will be of high value for radiation oncologists, medical physicists, radiologists, nuclear medicine physicians, and radiation technicians.

The scientific and clinical foundations of Radiation Therapy are cross-disciplinary. This book endeavours to bring together the physics, the radiobiology, the main clinical aspects as well as available clinical evidence behind Radiation Therapy, presenting mutual relationships between these disciplines and their role in the advancements of radiation oncology.

Modern cancer treatment relies on Monte Carlo simulations to help radiotherapists and clinical physicists better understand and compute radiation dose from imaging devices as well as exploit four-dimensional imaging data. With Monte Carlo-based treatment

planning tools now available from commercial vendors, a complete transition to Monte Carlo-base

About ten years after the first edition comes this second edition of Monte Carlo Techniques in Radiation Therapy: Introduction, Source Modelling, and Patient Dose Calculations, thoroughly updated and extended with the latest topics, edited by Frank Verhaegen and Joao Seco. This book aims to provide a brief introduction to the history and basics of Monte Carlo simulation, but again has a strong focus on applications in radiotherapy. Since the first edition, Monte Carlo simulation has found many new applications, which are included in detail. The applications sections in this book cover the following: Modelling transport of photons, electrons, protons, and ions Modelling radiation sources for external beam radiotherapy Modelling radiation sources for brachytherapy Design of radiation sources Modelling dynamic beam delivery Patient dose calculations in external beam radiotherapy Patient dose calculations in brachytherapy Use of artificial intelligence in Monte Carlo simulations This book is intended for both students and professionals, both novice and experienced, in medical radiotherapy physics. It combines overviews of development, methods, and references to facilitate Monte Carlo studies.

Khan's Treatment Planning in Radiation Oncology

Techniques and Applications

Principles and Practice of Image-Guided Radiation Therapy of Lung Cancer
Advances in Radiation Oncology in Lung Cancer
Radiation Physics, Therapy and Oncology
Annual Reviews of Computational Physics IV

This book presents the proceedings of the Symposium on Fluid-Structure-Sound Interactions and Control (FSSIC), (held in Tokyo on Aug. 21-24, 2017), which largely focused on advances in the theory, experiments on, and numerical simulation of turbulence in the contexts of flow-induced vibration, noise and their control. This includes several practical areas of application, such as the aerodynamics of road and space vehicles, marine and civil engineering, nuclear reactors and biomedical science, etc. Uniquely, these proceedings integrate acoustics with the study of flow-induced vibration, which is not a common practice but can be extremely beneficial to understanding, simulating and controlling vibration. The symposium provides a vital forum where academics, scientists and engineers working in all related branches can exchange and share their latest findings, ideas and innovations - bringing together researchers from both east and west to chart the frontiers of FSSIC.
Co-published by the European Medical Imaging Technology e-Encyclopaedia for Lifelong Learning (EMITEL) consortium and supported

by the International Organization for Medical Physics (IOMP), Encyclopaedia of Medical Physics contains nearly 2,800 cross-referenced entries relating to medical physics and associated technologies. Split into two convenie

Since its introduction in 1972, X-ray computed tomography (CT) has evolved into an essential diagnostic imaging tool for a continually increasing variety of clinical applications. The goal of this book was not simply to summarize currently available CT imaging techniques but also to provide clinical perspectives, advances in hybrid technologies, new applications other than medicine and an outlook on future developments. Major experts in this growing field contributed to this book, which is geared to radiologists, orthopedic surgeons, engineers, and clinical and basic researchers. We believe that CT scanning is an effective and essential tools in treatment planning, basic understanding of physiology, and and tackling the ever-increasing challenge of diagnosis in our society.

This well-received book, now in its fifth edition, is unique in providing a detailed examination of the technological basis of radiation therapy. Another unique feature is that the chapters are jointly written by North American and European authors. This considerably broadens the book's contents and increases its applicability in daily practice throughout the world. The book is

divided into two sections. The first section covers basic concepts in treatment planning and explains the various approaches to radiation therapy, such as intensity-modulated radiation therapy, tomotherapy, stereotactic radiotherapy, and high and low dose rate brachytherapy. The second discusses in depth the practical clinical applications of the different radiation therapy techniques in a wide range of cancer sites. All chapters have been written by leaders in the field. This book will serve to instruct and acquaint teachers, students, and practitioners with the basic technological factors and approaches in radiation therapy.

Image-Guided High-Precision Radiotherapy
Developing Physics and Clinical Implementation
Study Manual
Biomedical Physics in Radiotherapy for Cancer
Gunderson & Tepper's Clinical Radiation Oncology, E-Book
Technical Basis of Radiation Therapy

Handbook of Robotic and Image-Guided Surgery provides state-of-the-art systems and methods for robotic and computer-assisted surgeries. In this masterpiece, contributions of 169 researchers from 19 countries have been gathered to provide 38 chapters. This handbook is 744 pages, includes 659 figures and 61 videos. It also provides basic medical knowledge for

engineers and basic engineering principles for surgeons. A key strength of this text is the fusion of engineering, radiology, and surgical principles into one book. A thorough and in-depth handbook on surgical robotics and image-guided surgery which includes both fundamentals and advances in the field A comprehensive reference on robot-assisted laparoscopic, orthopedic, and head-and-neck surgeries Chapters are contributed by worldwide experts from both engineering and surgical backgrounds Intensity-modulated radiation therapy (IMRT), one of the most important developments in radiation oncology in the past 25 years, involves technology to deliver radiation to tumors in the right location, quantity and time. Unavoidable irradiation of surrounding normal tissues is distributed so as to preserve their function. The achievements and future directions in the field are grouped in the three sections of the book, each suitable for supporting a teaching course. Part 1 contains topical reviews of the basic principles of IMRT, part 2 describes advanced techniques such as image-guided and biologically based approaches, and part 3 focuses on investigation of IMRT to improve outcome at various cancer sites. Quantum phenomena and methods are the core of this volume in our series which publishes rapidly reviews of topics in computational physics. In addition, we look at phase transitions in Ising lattices, in continuum fluids,

polymer solutions, and end with biological ageing. As before, papers were submitted by e-mail, and these files were used directly to produce the book, for increased speed and reliability.

Edited by the experts and pioneers in the field, this is the first monograph to cover the topic, containing the must-have information hitherto only scattered among journals. Clearly divided into sections on preparation, characterization and modeling, and applications, this is essential reading for chemists, chromatographers, analytical chemists, biochemists and biologists.

Actex Mlc Study Manual

Intensity-Modulated Radiation Therapy

Image-Guided IMRT

A practical Guide

Walter and Miller's Textbook of Radiotherapy E-book

Practical Clinical Applications

A wide range of scientific continuum calculations typically concentrate computational effort non-uniformly over localized regions of physical space. We present a run-time partitioning strategy, intended for such methods, that distributes work evenly across a team of processors and that can exploit the spatial localization present in the original computation in order to avoid high overhead costs. We

tried out our strategy on Anderson's Methods of Local Corrections, a type of vortex method for computational fluid dynamics. Because computational effort follows particles that congregate and disperse irregularly about the domain, this problem is hard to partition in a way that distributes the work evenly among the processors. We ran experiments on 32 processors of an Intel Personal Scientific Computer-- a message-passing hypercube multiprocessor--and on 4 processors of a Cray X-MP--a shared-memory vector architecture--and achieved good parallel speedups of 22 and 3.6, respectively. The partitioner may be implemented as a virtual machine (VM) and made available to the programmer as a library of run-time utilities. The semantics of the VM are insensitive to the application and to the computer architecture on which the VM are insensitive to the application and to the computer architecture on which the VM is implemented. The VM works with ordinary programming languages, incurs modest overhead costs, and requires no special hardware support. It should apply to diverse applications, including finite difference methods, and to diverse architectures without requiring that the application be reprogrammed extensively for each new architecture. A comprehensive textbook of radiotherapy and related radiation physics and oncology for use by all those concerned with the uses of radiation and cytotoxic drugs in the treatment of patients with

malignant disease. Walter & Miller's Textbook of Radiotherapy has become the core text for therapeutic radiography students and an important introductory text for trainee radiologists and clinical physicists. The book is divided into two parts: the first covers underlying principles of physics, and the second is a systematic review by tumour site concentrating on the role of radiotherapy in the treatment of malignant disease and setting its use in context with chemotherapy and surgery. The 7th edition continues the tradition of bringing the physics and clinical application of radiation for therapy together at entry level and is completely revised to take into account the huge technological advances in radiotherapy treatment since publication of the previous edition. *Imaging is now an essential part of radiotherapy, relevant for both the treatment and preparation of a patient's treatment. Radionuclide imaging and X-ray imaging have been expanded to MRI and PET, along with some use of ultrasound. *Treatment planning dose prediction - the basis and application of modern computational calculations are explained for modern treatment delivery systems. The role of the algorithm for dose prediction is central to ensure speedy and accurate calculations for treatment. *Quality Control *Quality Systems The book is supported by Evolve electronic resources: sample plans, additional diagnostic images and clinical photographs.

This volume will describe recent progress and future directions in radiation oncology and biology research, focusing on strategies designed to improve disease control and reduce the risk of long-term adverse effects on patients. As more and more patients are becoming long-term survivors, this strategy will become increasingly important--in radiation oncology and throughout the field of oncology.

Stay on top of the latest scientific and therapeutic advances with the new edition of Leibel and Phillips Textbook of Radiation Oncology. Dr. Theodore L. Phillips, in collaboration with two new authors, Drs. Richard Hoppe and Mack Roach, offers a multidisciplinary look at the presentation of uniform treatment philosophies for cancer patients emphasizing the "treat for cure" philosophy. You can also explore the implementation of new imaging techniques to locate and treat tumors, new molecularly targeted therapies, and new types of treatment delivery. Supplement your reading with online access to the complete contents of the book, a downloadable image library, and more at expertconsult.com. Gather step-by-step techniques for assessing and implementing radiotherapeutic options with this comprehensive, full-color, clinically oriented text. Review the basic principles behind the selection and application of radiation as a treatment modality,

including radiobiology, radiation physics, immobilization and simulation, high dose rate, and more. Use new imaging techniques to anatomically locate tumors before and during treatment. Apply multidisciplinary treatments with advice from experts in medical, surgical, and radiation oncology. Explore new treatment options such as proton therapy, which can facilitate precise tumor-targeting and reduce damage to healthy tissue and organs. Stay on the edge of technology with new chapters on IGRT, DNA damage and repair, and molecularly targeted therapies.
Developing Real-Time Tracking Applications
Proceedings of the U.C.L.A. Workshop, held in Los Angeles, May 20-22, 1987
Controversies in Neuro-oncology
Strategies to Enhance the Therapeutic Ratio of Radiation as a Cancer Treatment
CT Scanning
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A comprehensive, multidisciplinary resource for the entire radiation oncology team, Gunderson & Tepper's Clinical Radiation Oncology, 5th Edition, thoroughly covers all aspects of this complex and dynamic field. Concise, templated chapters cover the basic biology of oncologic disease processes as well as updated treatment algorithms, the latest clinical guidelines, and state-of-the-art

techniques and modalities. More than 1,000 images—detailed anatomy drawings, radiographic images, and more—provide outstanding visual support for every area of the text. Divides content into three distinct sections for quick access to information: Scientific Foundations, Techniques and Modalities, and Disease Sites. Disease Site chapters include overviews summarizing the most important issues and concluding discussions on controversies and problems. Features new and expanded content on molecular and cellular biology and its relevance in individualized treatment approaches, stereotactic radiation therapy, radiosurgery, proton therapy, biologic therapy, precision radiation therapy, targeted radiation, dosing guidelines for better quality of life and improved patient outcomes, and more. Includes new chapters on Radiation Physics: Particle Therapy, Interventional Radiology, Radiation Therapy in the Elderly, Palliative Care, Quality and Safety, and Immunotherapy with Radiotherapy. Provides guidance on single-modality and combined-modality approaches, as well as outcome data including disease control, survival, and treatment tolerance. Includes access to videos on Intraoperative Irradiation, Prostate Brachytherapy, Penile Brachytherapy, and Ocular Melanoma.

This book provides a first comprehensive summary of the basic principles, instrumentation, methods, and clinical applications of three-dimensional dosimetry in modern radiation therapy treatment. The presentation reflects the major growth in the field as a result of the widespread use of more sophisticated radiotherapy approaches such as intensity-modulated radiation therapy and

proton therapy, which require new 3D dosimetric techniques to determine very accurately the dose distribution. It is intended as an essential guide for those involved in the design and implementation of new treatment technology and its application in advanced radiation therapy, and will enable these readers to select the most suitable equipment and methods for their application. Chapters include numerical data, examples, and case studies.

This book, now in an extensively revised and updated second edition, provides a comprehensive overview of both machine learning and deep learning and their role in oncology, medical physics, and radiology. Readers will find thorough coverage of basic theory, methods, and demonstrative applications in these fields. An introductory section explains machine and deep learning, reviews learning methods, discusses performance evaluation, and examines software tools and data protection. Detailed individual sections are then devoted to the use of machine and deep learning for medical image analysis, treatment planning and delivery, and outcomes modeling and decision support. Resources for varying applications are provided in each chapter, and software code is embedded as appropriate for illustrative purposes. The book will be invaluable for students and residents in medical physics, radiology, and oncology and will also appeal to more experienced practitioners and researchers and members of applied machine learning communities. .

Metamaterials represent a new emerging innovative field of research which has shown rapid acceleration over the last couple of years. In this handbook, we

present the richness of the field of metamaterials in its widest sense, describing artificial media with sub-wavelength structure for control over wave propagation in four volumes. Volume 1 focuses on the fundamentals of electromagnetic metamaterials in all their richness, including metasurfaces and hyperbolic metamaterials. Volume 2 widens the picture to include elastic, acoustic, and seismic systems, whereas Volume 3 presents nonlinear and active photonic metamaterials. Finally, Volume 4 includes recent progress in the field of nanoplasmonics, used extensively for the tailoring of the unit cell response of photonic metamaterials. In its totality, we hope that this handbook will be useful for a wide spectrum of readers, from students to active researchers in industry, as well as teachers of advanced courses on wave propagation. Contents: Volume 1: Electromagnetic Metamaterials (Ekaterina Shamonina): PrefaceElectromagnetic Metamaterials: Homogenization and Effective Properties of Mixtures (Ari Sihvola)Effective Medium Theory of Electromagnetic and Quantum Metamaterials (Mário G Silveirinha)Hyperbolic Metamaterials (Igor I Smolyaninov)Circuit and Analytical Modelling of Extraordinary Transmission Metamaterials (Francisco Medina, Francisco Mesa, Raul Rodríguez-Berral and Carlos Molero)Electromagnetic Metasurfaces: Synthesis, Realizations and Discussions (Karim Achouri and Christophe Caloz)Metasurfaces for General Control of Reflection and Transmission (Sergei Tretyakov, Viktar Asadchy and Ana Díaz-Rubio)Scattering at the Extreme with Metamaterials and Plasmonics (Francesco Monticone and Andrea Alù)All-Dielectric Nanophotonics: Fundamentals,

Fabrication, and Applications (Alexander Krasnok, Roman Savelev, Denis Baranov and Pavel Belov)Tunable Metamaterials (Ilya V Shadrivov and Dragomir N Neshev)Spatial Solitonic and Nonlinear Plasmonic Aspects of Metamaterials (Allan D Boardman, Alesandro Alberucci, Gaetano Assanto, Yu G Rapoport, Vladimir V Grimalsky, Vasyl M Ivchenko and Eugen N Tkachenko)Metamaterial Catheter Receivers for Internal Magnetic Resonance Imaging (Richard R A Syms, Ian R Young and Laszlo Solymar)Microwave Sensors Based on Symmetry Properties and Metamaterial Concepts (Jordi Naqui, Ali K Horestani, Christophe Fumeaux and Ferran Martín)Volume 2: Elastic, Acoustic, and Seismic Metamaterials (Richard Craster and Sébastien Guenneau): PrefaceDynamic Homogenization of Acoustic and Elastic Metamaterials and Phononic Crystals (Richard Craster, Tryfon Antonakakis and Sébastien Guenneau)Acoustic Metamaterial (Nicholas Fang, Jun Xu, Navid Nemati, Nicolas Viard and Denis Lafarge)Flat Lens Focusing of Flexural Waves in Thin Plates (Patrick Sebbah and Marc Dubois)Space–Time Cloaking (Martin W McCall and Paul Kinsler)Soda Cans Metamaterial: Homogenization and Beyond (Fabrice Lemoult, Geoffroy Lerosey, Nadège Kaïna and Mathias Fink)New Trends Toward Locally-Resonant Metamaterials at the Mesoscopic Scale (Philippe Roux, Matthieu Rupin, Fabrice Lemoult, Geoffroy Lerosey, Andrea Colombi, Richard Craster, Sébastien Guenneau, William A Kuperman and Earl G Williams)Seismic Metamaterials: Controlling Surface Rayleigh Waves Using Analogies with Electromagnetic Metamaterials (Stéphane Brûlé, Stefan Enoch, Sébastien Guenneau and

A/S/M SOA Exam IFM
Shipbuilding and Marine Engineering in Japan
Monolithic Silicas in Separation Science
Online Adaptive MR-guided Radiotherapy
XIIIth International Conference Heidelberg, Germany May 22–25, 2000

This is the second, completely updated edition of a comprehensive book in which many of the world's leading lung cancer specialists discuss the recent advances in the radiation oncology of lung cancer and reflect on the latest research findings. The first three sections cover the basic science of lung cancer, clinical investigations, including histology and staging, and a wide range of fundamental treatment considerations. Current treatment strategies for small cell and non-small cell lung cancer are then explained and evaluated in detail, with due attention to novel approaches that promise further improvements in outcome. The various types of treatment-related toxicity are discussed, and quality of life studies and prognostic factors are also considered. After evaluating the latest technological and biological advances, including IMRT, IMAT, cyber knife treatment, and tomotherapy, the book concludes by thorough consideration of specific aspects of clinical research in lung cancer.

This book gives a comprehensive overview on the use of image-guided radiation therapy

(IGRT) in the treatment of lung cancer, covering step-by-step guidelines for clinical implementations, fundamental principles and key technical advances. It covers benefits and limitations of techniques as well as quality and safety issues related to IGRT practice. Addresses imaging simulation, treatment planning, verification, and delivery Discusses important quality assurance issues Describes current methods using specialized machines and technologies Jing Cai, PhD, is an Associate Professor of Radiation Oncology at Duke University Medical Center. Joe Y. Chang, MD, PhD, is Professor in the Department of Radiation Oncology at The University of Texas MD Anderson Cancer Center in Houston. Fang-Fang Yin, PhD, is Chief of the Division of Radiation Physics, Professor of Radiation Oncology, and Director of the Medical Physics program at Duke University.

Clinical conformal radiotherapy is the holy grail of radiation treatment and is now becoming a reality through the combined efforts of physical scientists and engineers, who have improved the physical basis of radiotherapy, and the interest and concern of imaginative radiotherapists and radiographers. Intensity-Modulated Radiation Therapy describes in detail the physics germane to the development of a particular form of clinical conformal radiotherapy called intensity modulated radiation therapy (IMRT). IMRT has become a topic of tremendous importance in recent years and is now being seriously investigated for its potential to improve the outcome of radiation therapy. The

book collates the state-of-the-art literature together with the author's personal research experience and that of colleagues in the field to produce a text suitable for new research workers, Ph.D. students, and practicing radiation physicists that require a thorough introduction to IMRT. Fully illustrated, indexed, and referenced, the book has been prepared in a form suitable for supporting a teaching course.
Comprehensive Biomedical Physics is a new reference work that provides the first point of entry to the literature for all scientists interested in biomedical physics. It is of particularly use for graduate and postgraduate students in the areas of medical biophysics. This Work is indispensable to all serious readers in this interdisciplinary area where physics is applied in medicine and biology. Written by leading scientists who have evaluated and summarized the most important methods, principles, technologies and data within the field, Comprehensive Biomedical Physics is a vital addition to the reference libraries of those working within the areas of medical imaging, radiation sources, detectors, biology, safety and therapy, physiology, and pharmacology as well as in the treatment of different clinical conditions and bioinformatics. This Work will be valuable to students working in all aspect of medical biophysics, including medical imaging and biomedical radiation science and therapy, physiology, pharmacology and treatment of clinical conditions and bioinformatics. The most comprehensive work on biomedical physics ever published Covers one of the fastest growing areas in the

physical sciences, including interdisciplinary areas ranging from advanced nuclear physics and quantum mechanics through mathematics to molecular biology and medicine Contains 1800 illustrations, all in full color
Handbook of Robotic and Image-Guided Surgery
Canadian Journal of Physiology and Pharmacology
The Use of Computers in Radiation Therapy
Leibel and Phillips Textbook of Radiation Oncology - E-Book
Contemporary IMRT
Location-Based Information Systems