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Business Model Management Bernd W. Wirtz 2020-09-30 "How are business models purposeful designed and structured? How can the models be implemented professionally and managed successfully and sustainably? In what ways can existing business models be adapted to the constantly changing conditions? In this clearly structured reference work, Bernd W. Wirtz gives an answer to all these issues and provides the reader with helpful guidance. Although, 'Business Model Management' is first and foremost a scientific reference book, which comprehensively addresses the theory of business models, with his book Bernd W. Wirtz also turns to practitioners. Not least, the many clearly analyzed case studies of companies in different industries contribute to this practical relevance. My conclusion: 'Business Model Management' is an informative and worthwhile read, both for students of business administration as a textbook as well as for experienced strategists and decision makers in the company as a fact-rich, practical compendium." Matthias Müller, Chief Executive Officer Porsche AG (2010-2015), Chief Executive Officer (2015-2018) Volkswagen AG "In dynamic and complex markets a well thought out business model can be a critical factor for the success of a company. Bernd Wirtz vividly conveys how business models can be employed for strategic competition and success analysis. He structures and explains the major theoretical approaches in the literature and practical solutions in an easy and understandable way. Numerous examples from business practice highlight the importance of business models in the context of strategic management. The book has the potential to become a benchmark on the topic business models in the German-speaking world." Hermann-Josef Lamberti, Member of the Board Deutsche Bank AG 1999-2012/ Member of the Board of Directors, Airbus Group "The business environment has become increasingly complex. Due to changing conditions, the executive board of a company is confronted with growing challenges and increasing uncertainty. Thus, a holistic understanding of the corporate production and performance systems is becoming more and more important. At this point, Bernd W. Wirtz introduces and presents the concept of the structured discussion of the own business model. Business models present operational service processes in aggregated form. This holistic approach channels the attention of management, supports a sound understanding of relationships and facilitates the adaptation of the business to changing conditions. The management of business models is thus an integrated management concept. Through the conceptual presentation of complex issues the author makes a valuable contribution to the current literature. In particular, the referenced case studies from various industries make the book clear and very applicable to practice." Dr. Lothar Steinebach, Member of the Board, Henkel AG 2007-2012/ Supervisory Board, ThyssenKrupp AG

Circulating Tumor Cells Mark Jesus M. Magbanua 2018-08-03 This volume explores various approaches for enrichment, detection, isolation, and molecular profiling of circulating tumor cells (CTCs). Each chapter provides comprehensive descriptions and guidelines on how to perform innovative experiments in CTC research. Included are protocols for capture of CTCs via filtration and density gradient centrifugation; microfluidic and immunomagnetic separation of CTCs; detection of CTCs by immunocytochemistry, fluorescence in situ hybridization, and flow cytometry; assays designed for genomic characterization and functional analyses of CTCs, and many more. Written in the highly successful Methods in Molecular Biology series format, the chapters in this book include introductions to their respective topics, lists of the necessary materials and reagents, step-by-step, readily reproducible laboratory protocols, and tips on troubleshooting and avoiding known pitfalls. Cutting-edge and authoritative, Circulating Tumor Cells: Methods and Protocols is a valuable resource for laboratory researchers and clinicians who are interested in furthering their studies on CTCs.

POWER8 High-performance Computing Guide IBM Power System S822LC (8335-GTB) Edition Dino Quintero 2017-08-04 This IBM®

Redbooks® publication documents and addresses topics to provide step-by-step customizable application and programming solutions to tune application and workloads to use IBM Power Systems™ hardware architecture. This publication explores, tests, and documents the solution to use the architectural technologies and the software solutions that are available from IBM to help solve challenging technical and business problems. This publication also demonstrates and documents that the combination of IBM high-performance computing (HPC) solutions (hardware and software) delivers significant value to technical computing clients who are in need of cost-effective, highly scalable, and robust solutions. First, the book provides a high-level overview of the HPC solution, including all of the components that makes the HPC cluster: IBM Power System S822LC (8335-GTB), software components, interconnect switches, and the IBM Spectrum™ Scale parallel file system. Then, the publication is divided in three parts: Part 1 focuses on the developers, Part 2 focuses on the administrators, and Part 3 focuses on the evaluators and planners of the solution. The IBM Redbooks publication is targeted toward technical professionals (consultants, technical support staff, IT Architects, and IT Specialists) who are responsible for delivering cost-effective HPC solutions that help uncover insights from vast amounts of client's data so they can optimize business results, product development, and scientific discoveries.

Sustainability in Energy and Buildings 2021 John R. Littlewood 2021-09-28 Chapter "A Multi-functional Design Approach to Deal with New Urban Challenges" is available open access under a Creative Commons Attribution 4.0 International License via link.springer.com. **Tennis Medicine** Giovanni Di Giacomo 2019-01-08 This book will serve as a key resource for all clinicians working in orthopedics, sports medicine, and rehabilitation for the sport of tennis. It provides clinically useful information on evaluation and treatment of the tennis player, covering the entire body and both general medical and orthopedic musculoskeletal topics. Individual sections focus on tennis-related injuries to the shoulder, the elbow, wrist, and hand, the lower extremities, and the core/spine, explaining treatment and rehabilitation approaches in detail. Furthermore, sufficient sport science information is presented to provide the clinical reader with extensive knowledge of tennis biomechanics and the physiological aspects of training and rehabilitation. Medical issues in tennis players, such as nutrition and hydration, are also discussed, and a closing section focuses on other key topics, including movement dysfunction, periodization, core training, and strength and conditioning specifics. The expansive list of worldwide contributors and experts coupled with the comprehensive and far-reaching chapter provision make this the highest-level tennis medicine book ever published. **Modern Perl Chromatic** 2015-10-29 A Perl expert can solve a problem in a few lines of well-tested code. Now you can unlock these powers for yourself. Modern Perl teaches you how Perl really works. It's the only book that explains Perl thoroughly, from its philosophical roots to the pragmatic decisions that help you solve real problems--and keep them solved. You'll understand how the language fits together and discover the secrets used by the global Perl community. This beloved guide is now completely updated for Perl 5.22. When you have to solve a problem now, reach for Perl. When you have to solve a problem right, reach for Modern Perl. Discover how to scale your skills from one-liners to asynchronous Unicode-aware web services and everything in between. Modern Perl will take you from novice to proficient Perl hacker. You'll see which features of modern Perl will make you more productive, and which features of this well-loved language are best left in the past. Along the way, you'll take advantage of Perl to write well-tested, clear, maintainable code that evolves with you. Learn how the language works, how to take advantage of the CPAN's immense trove of time-tested solutions, and how to write clear, concise, powerful code that runs everywhere. Specific coverage explains how to use Moose, how to write testable code, and how to deploy and maintain real-world Perl applications. This new edition covers the new features of Perl 5.20 and Perl 5.22, including all the new

operators, standard library changes, bug and security fixes, and productivity enhancements. It gives you what you need to use the most up-to-date Perl most effectively, all day, every day. What You Need: Perl 5.16 or newer (Perl 5.20 or 5.22 preferred). Installation/upgrade instructions included.

Morphology of Condensed Matter Klaus R. Mecke 2002-12-10 The morphology of spatially structured materials is a rapidly growing field of research at the interface of statistical physics, applied mathematics and materials science. A wide spectrum of applications encompasses the flow through porous and composite materials as well as microemulsions and foams. Written as a set of lectures and tutorial reviews leading up to the forefront of research, this book will be both a compendium for the experienced researcher as well as a high level introductory text for postgraduate students and nonspecialist researchers working in related areas.

White and Pharoah's Oral Radiology E-Book Stuart C. White 2018-09-12 Written specifically for dentists, White and Pharoah's Oral Radiology: Principles and Interpretation 8th Edition incorporates over 1,500 high-quality radiographic images and illustrations to demonstrate core concepts and essential principles and techniques of oral and maxillofacial radiology. The new edition of this bestselling book delivers with state-of-the-art information on oral radiology principles and techniques, and image interpretation. Dental student will gain a solid foundation in radiation physics, radiation biology, and radiation safety and protection before introducing including specialized techniques such as MRI and CT. As well, students will learn how to recognize the key radiographic features of pathologic conditions and interpret radiographs accurately. The 8th edition also includes new chapters on Radiologic Anatomy, Beyond 3D Imaging, and Diseases Affecting the Structure of Bone. A practical guide to using today's technology, this unique text helps your students provide state-of-the-art care! Over 1,500 high quality dental radiographs, full color photos, and illustrations clearly demonstrate core concepts and reinforce the essential principles and techniques of oral and maxillofacial radiology. Updated Extensive coverage of all aspects of oral and maxillofacial radiology includes the entire predoctoral curriculum. A wide array of radiographic images including advanced imaging such as MRI and CT. An easy-to-follow format simplifies the key radiographic features of each pathologic condition, including location, periphery, shape, internal structure, and effects on surrounding structures — placed in context with clinical features, differential diagnosis, and management. Expert contributors include many authors with worldwide reputations. Case studies apply imaging concepts to real-world scenarios. NEW! New editors Sanjay Mallya and Ernest Lam along with new contributors bring a fresh perspective on oral radiology. NEW! Chapter! Beyond 3D Imaging introduces applications of 3D imaging such as stereolithic models. NEW! Chapter Radiological Anatomy includes all radiological anatomy content allowing you to better visualize and understand normal appearances of structures on conventional and contemporary imaging, side-by-side. NEW! Coverage of Diseases Affecting the Structure of Bone consolidated into one chapter to simplify foundational basic science information and its applications to radiologic interpretation.

Infrasound Monitoring for Atmospheric Studies Alexis Le Pichon 2010-01-19 The use of infrasound to monitor the atmosphere has, like infrasound itself, gone largely unheard of through the years. But it has many applications, and it is about time that a book is being devoted to this fascinating subject. Our own involvement with infrasound occurred as graduate students of Prof. William Donn, who had established an infrasound array at the Lamont-Doherty Geological Observatory (now the Lamont-Doherty Earth Observatory) of Columbia University. It was a natural outgrowth of another major activity at Lamont, using seismic waves to explore the Earth's interior. Both the atmosphere and the solid Earth feature velocity (seismic or acoustic) gradients in the vertical which act to refract the respective waves. The refraction in turn allows one to calculate the respective background structure in these mediums, indirectly exploring locations that are hard to observe otherwise. Monitoring these signals also allows one to discover various phenomena, both natural and man-made (some of which have military applications).

Data Driven Approach Towards Disruptive Technologies T P Singh 2021-04-06 This book is a compilation of peer-reviewed papers presented at the International Conference on Machine Intelligence and Data Science Applications, organized by the School of Computer Science, University of Petroleum & Energy Studies, Dehradun, India, during 4-5 September 2020. The book addresses the algorithmic aspect of machine intelligence which includes the framework and optimization of various

states of algorithms. Variety of papers related to wide applications in various fields like data-driven industrial IoT, bioinformatics, network and security, autonomous computing and various other aligned areas. The book concludes with interdisciplinary applications like legal, health care, smart society, cyber-physical system and smart agriculture. All papers have been carefully reviewed. The book is of interest to computer science engineers, lecturers/researchers in machine intelligence discipline and engineering graduates.

Toxic Chemical and Biological Agents Giovanni Sindona 2021-10-21 This book critically assesses the current state of knowledge on new and important detection technologies, e.g. mass spectrometry, tandem mass spectrometry, biosensor detection and tissue imaging, in connection with toxic chemical and biological agents. In general, the main topics discussed concern the risks and consequences of chemical and biological agents for human health in general, with special emphasis on all biochemical and metabolic pathways including the reproductive system. The exposome, genetic risks and the environment, various health hazard agents, risk assessment, environmental assessment and preparedness, and analysis of sub-lethal effects at the molecular level are also discussed. In closing, the book provides comprehensive information on the diagnosis of exposure, and on health concerns related to toxic chemical and biological agents.

Polymer Morphology Qipeng Guo 2016-05-16 With a focus on structure-property relationships, this book describes how polymer morphology affects properties and how scientists can modify them. The book covers structure development, theory, simulation, and processing; and discusses a broad range of techniques and methods. • Provides an up-to-date, comprehensive introduction to the principles and practices of polymer morphology • Illustrates major structure types, such as semicrystalline morphology, surface-induced polymer crystallization, phase separation, self-assembly, deformation, and surface topography • Covers a variety of polymers, such as homopolymers, block copolymers, polymer thin films, polymer blends, and polymer nanocomposites • Discusses a broad range of advanced and novel techniques and methods, like x-ray diffraction, thermal analysis, and electron microscopy and their applications in the morphology of polymer materials

Principles of Elemental Chemostratigraphy Neil Craigie 2018-01-11 This book provides the reader with a comprehensive understanding of the applications of chemostratigraphy. The first chapter of the book offers an introduction to the technique. This is followed by a chapter detailing sample preparation and analytical techniques. Chapter 3 focuses on the techniques utilised to establish the mineralogical affinities of elements, while the general principles of how to build a chemostratigraphic scheme are covered in Chapter 4. Chapters 5, 6 and 7 provide information on the applications of chemostratigraphy to clastic, carbonate and unconventional reservoirs respectively, and various case studies are presented. Wellsite applications, a discussion and conclusion section form the latter part of the book. The book will appeal to graduate and post graduate students of geology and professionals working in the hydrocarbon sector as a key reference text in chemostratigraphy.

A Practical Introduction to Hardware/Software Codesign Patrick R. Schaumont 2010-09-09 This is a practical book for computer engineers who want to understand or implement hardware/software systems. It focuses on problems that require one to combine hardware design with software design – such problems can be solved with hardware/software codesign. When used properly, hardware/software co- sign works better than hardware design or software design alone: it can improve the overall performance of digital systems, and it can shorten their design time. Hardware/software codesign can help a designer to make trade-offs between the flexibility and the performance of a digital system. To achieve this, a designer needs to combine two radically different ways of design: the sequential way of decomposition in time, using software, with the parallel way of decomposition in space, using hardware. Intended Audience This book assumes that you have a basic understanding of hardware that you are familiar with standard digital hardware components such as registers, logic gates, and components such as multiplexers and arithmetic operators. The book also assumes that you know how to write a program in C. These topics are usually covered in an introductory course on computer engineering or in a combination of courses on digital design and software engineering.

High Performance Computing for Intelligent Medical Systems Varun Bajaj 2021 Modern medicine and healthcare are highly dependent on engineering, employing instrumentation and computer systems to aid investigation, diagnosis, treatment and patient management. The significant developments in the field of computational intelligence,

combined with the emergence of high-performance computing is impacting society in many ways, and the health sector is no exception. The interface of high-performance computing, computational intelligence and medical science, has seen the emergence of intelligent medical systems. These systems can provide a deeper insight into many healthcare and medical problems. They can also aid in controlling, analyzing and the management of medical applications and can provide significant improvement in the quality of life and efficacy of clinical treatment. However, the successful application of high-performance computing in medicine requires in-depth knowledge and understanding of medical systems. This book focuses on the advances and applications of high-performance computing for medical systems and provides an insight into the latest developments in the field. It will help readers to understand the high-performance computing research domain as related to intelligent medical systems, its effect on our lives and its present limitations. Part of IOP Series in Next Generation Computing.

Mosby's Comprehensive Review of Radiography - E-Book William J. Callaway 2016-07-05 Prepare for success on the ARRT certification exam! Mosby's Comprehensive Review of Radiography: The Complete Study Guide & Career Planner, 7th Edition offers a complete, outline-style review of the major subject areas covered on the ARRT exam in radiography. Each review section is followed by a set of questions testing your knowledge of that subject area. Two mock ARRT exams are included in the book, and over 1,400 online review questions may be randomly combined to generate a virtually limitless number of practice exams. From noted radiography educator and lecturer William J. Callaway, this book is also an ideal study guide for the classroom and an expert resource for use in launching your career. Over 2,400 review questions are provided in the book and online, offering practice in a multiple-choice format similar to the ARRT exam. Outline-style review covers the major subject areas covered on the ARRT exam, and helps you focus on the most important information. Coverage of digital imaging reflects the increased emphasis of this topic on the Registry exam. Career planning advice includes examples of resumes and cover letters, interviewing tips, a look at what employers expect, online submission of applications, salary negotiation, career advancement, and continuing education requirements. Online mock exams let you answer more than 1,400 questions in study mode — with immediate feedback after each question, or in exam mode — with feedback only after you complete the entire test. Key Review Points are included in every chapter, highlighting the 'need to know' content for exam and clinical success. Rationales for correct and incorrect answers are included in the appendix. Electronic flashcards are available online, to help you memorize formulas, key terms, and other key information. Online test scores are date-stamped and stored, making it easy to track your progress. UPDATES reflect the latest ARRT exam changes, providing the content that you need to know in order to pass the exam. NEW! Image labeling exercises prepare you for the labeling questions on the ARRT exam. NEW! Colorful design highlights essential information and makes the text easier to read.

Photoacoustic Tomography Minghua Xu 2014-09-30

Computational Intelligence Methods in COVID-19: Surveillance, Prevention, Prediction and Diagnosis Khalid Raza 2020-10-16 The novel coronavirus disease 2019 (COVID-19) pandemic has posed a major threat to human life and health. This book is beneficial for interdisciplinary students, researchers, and professionals to understand COVID-19 and how computational intelligence can be used for the purpose of surveillance, control, prevention, prediction, diagnosis, and potential treatment of the disease. The book contains different aspects of COVID-19 that includes fundamental knowledge, epidemic forecast models, surveillance and tracking systems, IoT- and IoMT-based integrated systems for COVID-19, social network analysis systems for COVID-19, radiological images (CT, X-ray) based diagnosis system, and computational intelligence and in silico drug design and drug repurposing methods against COVID-19 patients. The contributing authors of this volume are experts in their fields and they are from various reputed universities and institutions across the world. This volume is a valuable and comprehensive resource for computer and data scientists, epidemiologists, radiologists, doctors, clinicians, pharmaceutical professionals, along with graduate and research students of interdisciplinary and multidisciplinary sciences.

Wearable Electronics and Embedded Computing Systems for Biomedical Applications Enzo Pasquale Scilingo 2018-04-03 This book is a printed edition of the Special Issue "Wearable Electronics and Embedded Computing Systems for Biomedical Applications" that was published in *Electronics*

Physics and Engineering of Radiation Detection Syed Naeem Ahmed 2014-11-20 *Physics and Engineering of Radiation Detection* presents an overview of the physics of radiation detection and its applications. It covers the origins and properties of different kinds of ionizing radiation, their detection and measurement, and the procedures used to protect people and the environment from their potentially harmful effects. The second edition is fully revised and provides the latest developments in detector technology and analyses software. Also, more material related to measurements in particle physics and a complete solutions manual have been added. Discusses the experimental techniques and instrumentation used in different detection systems in a very practical way without sacrificing the physics content Provides useful formulae and explains methodologies to solve problems related to radiation measurements Contains many worked-out examples and end-of-chapter problems Detailed discussions on different detection media, such as gases, liquids, liquefied gases, semiconductors, and scintillators Chapters on statistics, data analysis techniques, software for data analysis, and data acquisition systems

Automotive Handbook Robert Bosch 1996 A pocket-sized technical reference designed to provide reliable data, at a practical level, for automotive engineers and mechanics.

Cryopreservation and Freeze-Drying Protocols John G. Day 2007-06-05 In addition to outlining the fundamental principles associated with the conservation of biological resources, freeze-drying and cryopreservation, this text is a compilation of cryopreservation and freeze-drying methodologies applicable to different biological materials, developed by expert laboratories.

Applied Surface Thermodynamics Jan Spelt 1996-06-27 Offers a treatment of applied surface dynamics in relation to contact angles and surface tensions, providing a foundation for the subject and detailed presentations of recent techniques. The work supplies a theoretical framework for the study and measurement of surface tensions and contact angles, and acts as a day-to-day guide for laboratory practice

Fundamentals of Physics David Halliday 2011-01-04 ♦ 200 page study companion to WileyPLUS ♦ Online code to WileyPLUS which contains: o Dynamic integrated online version of the full textbook o Animations based on key illustrations in each chapter o Office Hour videos, created by Jearl Walker, including: video problem-solving help, video mini-lectures of key concepts and topics, and math help videos o Concept simulations and questions o All end of chapter problems coded and available for assignment o Additional problems not found in the text made available at the instructor's discretion. o Question assistance for every problem made available at the instructor's discretion in the form of one or more of the following: Link to Office Hour Videos, Guided Online (GO) Tutorials, Interactive LearningWare, Link to Flying Circus, Link to Additional Sample Problems, Hints, Solutions, Answers o Chapter 0 MathSkills review of algebra and calculus o Physics demonstration videos

Inferential Models Ryan Martin 2015-09-25 A New Approach to Sound Statistical Reasoning Inferential Models: Reasoning with Uncertainty introduces the authors' recently developed approach to inference: the inferential model (IM) framework. This logical framework for exact probabilistic inference does not require the user to input prior information. The authors show how an IM produces meaning

Advanced Security Solutions for Multimedia Irshad Ahmad Ansari 2021-09-17 Modern internet-enabled devices and fast communication technologies have ushered in a revolution in sharing of digital images and video. This may be for social reasons or for commercial and industrial applications, where the data is more likely to include sensitive personal or confidential information. In any event, the shared imagery is intended only for the end-user. Attackers can steal this data or manipulate it for their own uses, causing financial and emotional damage to the owners. Many applications generate important information in the form of images and video, where efficient security is critical. This drives the need for advanced security solutions and the need to continuously develop and maintain security measures in an ever-evolving battle against fraud and malicious intent. There are various techniques employed in protecting digital media and information, such as digital watermarking, cryptography, stenography, data encryption, etc., In addition, sharing platforms and connected nodes themselves may be open to vulnerabilities and can suffer from security breaches. This book reviews present state-of-the-art research related to the security of digital imagery and video, including developments in machine learning applications. It is particularly suited for those that bridge the academic world and industry, and allows readers to understand the security

concerns in the multimedia domain by reviewing present and evolving security solutions, their limitations, and future research directions. Key Features Latest trends in the multimedia security domain Includes Machine Learning for multimedia security Insight to different security concerns (attacks) Reviews present challenges & future opportunities Potential & promising solution to the security concerns

Untouchable Randall Sullivan 2012-11-06 The investigative biography of Michael Jackson's final years: "A tale of family, fame, lost childhood, and startling accusations never heard before" (ABC Nightline). When Michael Jackson died on June 25, 2009, millions of fans around the world were shocked. But the outpouring of emotion that followed his loss was bittersweet. Dogged by scandal for years and undone by financial mismanagement, Jackson had become untouchable in many quarters. *Untouchable* pulls back the curtain Jackson's public person to introduce a man who, despite his immense fame, spent his entire life utterly alone; who, in the wake of a criminal trial that left him briefly hospitalized, abandoned Neverland to wander the globe before making one final—and fatal—attempt to recover his wealth and reputation. The Jackson that emerges in these pages is both naïve and cunning, a devoted father whose parenting became an international scandal, a shrewd businessman whose failures nearly brought down a megacorporation, and an inveterate narcissist who craved a quiet, normal life. Randall Sullivan delivers never-before-reported information about Jackson's business dealings, his relationship with his family, and the pedophilia allegations that derailed his life and mar his legacy today, as well as the suspicious nature of his death. Based on exclusive access to Jackson's inner circle, *Untouchable* is an intimate, unflinching portrait of the man who continues to reign as the King of Pop. "A dishy Michael Jackson biography that makes the exhaustively covered King of Pop fascinating all over again." —People

CMBEBIH 2019 Almir Badnjevic 2019-05-10 This volume gathers the proceedings of the International Conference on Medical and Biological Engineering, which was held from 16 to 18 May 2019 in Banja Luka, Bosnia and Herzegovina. Focusing on the goal to 'Share the Vision', it highlights the latest findings, innovative solutions and emerging challenges in the field of Biomedical Engineering. The book covers a wide range of topics, including: biomedical signal processing, medical physics, biomedical imaging and radiation protection, biosensors and bioinstrumentation, bio-micro/nano technologies, biomaterials, biomechanics, robotics and minimally invasive surgery, and cardiovascular, respiratory and endocrine systems engineering. Further topics include bioinformatics and computational biology, clinical engineering and health technology assessment, health informatics, e-health and telemedicine, artificial intelligence and machine learning in healthcare, as well as pharmaceutical and genetic engineering. Given its scope, the book provides academic researchers, clinical researchers and professionals alike with a timely reference guide to measures for improving the quality of life and healthcare.

Oral Radiology Stuart C. White 2009 With more than 1,000 high-quality radiographs and illustrations, *Oral Radiology: Principles and Interpretation*, 7th Edition visually demonstrates the basic principles of oral and maxillofacial radiology along with their clinical application. First, you'll gain a solid foundation in radiation physics, radiation biology, and radiation safety and protection. Then you'll learn intraoral and extraoral imaging techniques, including specialized techniques such as MRI and CT. The second half of the book focuses on how to recognize the radiographic features of pathologic conditions and interpret radiographs accurately. This edition also includes new chapters on forensics and cone-beam imaging. Written by oral radiology experts Stuart White and Michael Pharoah, this bestselling book helps you provide state-of-the-art care! An easy-to-follow format simplifies the key radiographic features of each pathologic condition, including location, periphery, shape, internal structure, and effects on surrounding structures - placed in context with clinical features, differential diagnosis, and management. UPDATED information addresses the etiology and diagnosis of diseases and pathologic conditions in the orofacial region. Updated coverage of all aspects of oral radiology includes the entire predoctoral curriculum. A wide array of radiographs including advanced imaging such as MRI and CT. Hundreds of drawings are updated and rendered in full color. Case studies apply imaging concepts to real-world scenarios. Expert contributors include many authors with worldwide reputations. Chapter bibliographies and suggested readings make it easier to conduct further research. NEW chapter on cone-beam imaging keeps you current with emerging field requirements. NEW coverage of cone beam computed tomography

(CBCT) includes more of the normal anatomy of cross-sectional images of the maxilla and mandible along with variations of normal anatomy. NEW! An eBook version makes the content interactive and portable, and shows radiographs in high resolution.

Atom-Probe Tomography Michael K. Miller 2014-07-31

Nanocharacterization by Atom Probe Tomography is a practical guide for researchers interested atomic level characterization of materials with atom probe tomography. Readers will find descriptions of the atom probe instrument and atom probe tomography technique, field ionization, field evaporation and field ion microscopy. The fundamental underlying physics principles are examined, in addition to data reconstruction and visualization, statistical data analysis methods and specimen preparation by electropolishing and FIB-based techniques. A full description of the local electrode atom probe - a new state-of-the-art instrument - is also provided, along with detailed descriptions and limitations of laser pulsing as a method to field evaporate atoms. Valuable coverage of the new ionization theory is also included, which underpins the overall technique.

Industry 4.0 for SMEs Dominik T. Matt 2020-01-03 This open access book explores the concept of Industry 4.0, which presents a considerable challenge for the production and service sectors. While digitization initiatives are usually integrated into the central corporate strategy of larger companies, smaller firms often have problems putting Industry 4.0 paradigms into practice. Small and medium-sized enterprises (SMEs) possess neither the human nor financial resources to systematically investigate the potential and risks of introducing Industry 4.0.

Addressing this obstacle, the international team of authors focuses on the development of smart manufacturing concepts, logistics solutions and managerial models specifically for SMEs. Aiming to provide methodological frameworks and pilot solutions for SMEs during their digital transformation, this innovative and timely book will be of great use to scholars researching technology management, digitization and small business, as well as practitioners within manufacturing companies.

Aerosol Science Ian Colbeck 2014-01-30 Aerosols influence many areas of our daily life. They are at the core of environmental problems such as global warming, photochemical smog and poor air quality. They can also have diverse effects on human health, where exposure occurs in both outdoor and indoor environments. However, aerosols can have beneficial effects too; the delivery of drugs to the lungs, the delivery of fuels for combustion and the production of nanomaterials all rely on aerosols. Advances in particle measurement technologies have made it possible to take advantage of rapid changes in both particle size and concentration. Likewise, aerosols can now be produced in a controlled fashion.

Reviewing many technological applications together with the current scientific status of aerosol modelling and measurements, this book includes:

- Satellite aerosol remote sensing
- The effects of aerosols on climate change
- Air pollution and health
- Pharmaceutical aerosols and pulmonary drug delivery
- Bioaerosols and hospital infections
- Particle emissions from vehicles
- The safety of emerging nanomaterials
- Radioactive aerosols: tracers of atmospheric processes

With the importance of this topic brought to the public's attention after the eruption of the Icelandic volcano Eyjafjallajökull, this book provides a timely, concise and accessible overview of the many facets of aerosol science.

Medical Modelling Richard Bibb 2014-12-13 Medical modelling and the principles of medical imaging, Computer Aided Design (CAD) and Rapid Prototyping (also known as Additive Manufacturing and 3D Printing) are important techniques relating to various disciplines - from biomaterials engineering to surgery. Building on the success of the first edition, *Medical Modelling: The application of Advanced Design and Rapid Prototyping techniques in medicine* provides readers with a revised edition of the original text, along with key information on innovative imaging techniques, Rapid Prototyping technologies and case studies. Following an overview of medical imaging for Rapid Prototyping, the book goes on to discuss working with medical scan data and techniques for Rapid Prototyping. In this second edition there is an extensive section of peer-reviewed case studies, describing the practical applications of advanced design technologies in surgical, prosthetic, orthotic, dental and research applications. Covers the steps towards rapid prototyping, from conception (modelling) to manufacture (manufacture) Includes a comprehensive case studies section on the practical application of computer-aided design (CAD) and rapid prototyping (RP) Provides an insight into medical imaging for rapid prototyping and working with medical scan data

Submarine Mass Movements and their Consequences Geoffroy Lamarche 2015-10-02 This book is a comprehensive collection of state-of-the-art

studies of seafloor slope instability and their societal implications. The volume captures the most recent and exciting scientific progress made in this research field. As the world's climate and energy needs change, the conditions under which slope instability occurs and needs to be considered, are also changing. The science and engineering of submarine - or more widely subaqueous - mass movements is greatly benefiting from advances in seafloor and sub-seafloor surveying technologies. Ultra-high-resolution seafloor mapping and 3D seismic reflection cubes are becoming commonly available datasets that are dramatically increasing our knowledge of the mechanisms and controls of subaqueous slope failure. Monitoring of slope deformation, repeat surveying and deep drilling, on the other hand, are emerging as important new techniques for understanding the temporal scales of slope instability. In essence, rapid advances in technology are being readily incorporated into scientific research and as a result, our understanding of submarine mass movements is increasing at a very fast rate. The volume also marks the beginning of the third IGCP project for the submarine mass movement research community, IGCP-640 S4SLIDE (Significance of Modern and Ancient Submarine Slope LandSLIDES). The Submarine Mass Movements and Their Consequences symposium is the biannual meeting under the IGCP umbrella.

Medical and Healthcare Textiles Subhash C. Anand 2010-07-15
Medical textiles remain one of the most dynamic areas of research in textiles. Medical and healthcare textiles is the fourth in a series of conferences held at the University of Bolton. Like its predecessors, it has attracted papers from some of the leading international centres of expertise in the field. Contributors cover a range of topics including emerging textile-based biomaterials, hygienic textiles, the use of textiles in infection control and as barrier materials, bandaging and pressure garments for managing chronic infections such as ulcers, the role of textiles in the management of burns and wounds, textile-based implantable devices such as tissue scaffolds and sutures, and intelligent textiles. Provides a comprehensive overview of medical textiles from the risk of infection control and barrier materials through to directives, regulations and standards shaping the medical device industry Explores developments in healthcare and hygiene products, including odor and pH control as well as protective and disposable fabrics Reviews development in the area of implantable materials featuring vascular grafts, knee implants and scaffolds

Characterization of Porous Solids H. Kral 1988-04-01 The importance of porosity has long been recognized by scientists and engineers. Porous solids are widely encountered in industry and everyday life and their behaviour, e.g. chemical reactivity, adsorptive capacity, and catalytic activity is dependent on their pore structure. A considerable amount of work on porous solids has been undertaken both in academic and in industrial laboratories. However, all this activity is in urgent need of a critical appraisal. To undertake this task, a number of leading experts in the field of adsorption, porosimetry, X-ray and neutron scattering, optical and electron microscopy, calorimetry and fluid permeation, were brought together at the 1987 IUPAC (COPS I) Symposium. This proceedings volume provides an up-to-date overall review of the theoretical foundations for modelling and characterizing porous systems. It deals with most of the techniques in current use as applied to both model systems and porous solids of industrial importance. The reader will find the description and discussion of a number of novel techniques as well as

a critical appraisal and comparison of the more established methods. All those concerned with the characterization of porous solids in academic and industrial laboratories will find much to interest them in this volume. It should be on the bookshelf of applied research centres involved in adsorption, catalysis, purification of gases and liquids, pigments, fillers, building materials, etc.

GIS LATAM Miguel Felix Mata-Rivera 2020-09-21 This book constitutes the refereed proceedings of the First GIS LATAM Conference, GIS LATAM 2020, held in September 2020. Due to the COVID-19 pandemic the conference was held online. The 9 full papers and 2 short papers were thoroughly reviewed and selected from 29 submissions. The papers are focused on the GIS applications in data analytics in spheres of health, environment, government, public, and education.

Mass Spectrometry-Based Lipidomics Fong-Fu Hsu 2022-05-20 This detailed volume covers conventional MS-based "shotgun lipidomics" by which samples are introduced by infusion or loop injection, as well as LC-MS-based lipidomics, which are becoming increasingly important due to the ever-increasing demand for a complete and precise lipid analysis of the complex and diversified lipids in nature. The volume features protocols applying chemical reactions, the on-line photochemical reactions combined with various MS methods for comprehensive characterization of various lipid classes, and quantification of specific and rare lipids. Written for the highly successful Methods in Molecular Biology series, chapters include introductions to their respective topics, lists of the necessary materials and reagents, step-by-step, readily reproducible laboratory protocols, and tips on troubleshooting and avoiding known pitfalls. Authoritative and practical, Mass Spectrometry-Based Lipidomics: Methods and Protocols serves as an invaluable guide for biochemists and mass spectroscopists who are interested in lipid studies.

Radiation Detection W. H. Tait 1980

Implementing an IBM High-Performance Computing Solution on IBM Power System S822LC Dino Quintero 2016-07-25 This IBM® Redbooks® publication demonstrates and documents that IBM Power Systems™ high-performance computing and technical computing solutions deliver faster time to value with powerful solutions. Configurable into highly scalable Linux clusters, Power Systems offer extreme performance for demanding workloads such as genomics, finance, computational chemistry, oil and gas exploration, and high-performance data analytics. This book delivers a high-performance computing solution implemented on the IBM Power System S822LC. The solution delivers high application performance and throughput based on its built-for-big-data architecture that incorporates IBM POWER8® processors, tightly coupled Field Programmable Gate Arrays (FPGAs) and accelerators, and faster I/O by using Coherent Accelerator Processor Interface (CAPI). This solution is ideal for clients that need more processing power while simultaneously increasing workload density and reducing datacenter floor space requirements. The Power S822LC offers a modular design to scale from a single rack to hundreds, simplicity of ordering, and a strong innovation roadmap for graphics processing units (GPUs). This publication is targeted toward technical professionals (consultants, technical support staff, IT Architects, and IT Specialists) responsible for delivering cost effective high-performance computing (HPC) solutions that help uncover insights from their data so they can optimize business results, product development, and scientific discoveries