Physical Sciences Mst Paper 2014

In Mining Engineering operations, mines act as sources of constant danger and risk to the miners and may result in disasters unless mining is done with safety legislations and practices in place. Mine safety engineers promote and enforce mine safety and health by complying with the established safety standards, policies, guidelines and regulations. These innovative and practical methods for ensuring safe mining operations are discussed in this book including technological advancements in the field. It will prove useful as reference for engineering and safety professionals working in the mining industry, regulators, researchers, and students in the field of mining engineering.

Improving and Accelerating Therapeutic Development for Nervous System Disorders is the summary of a workshop convened by the IOM Forum on Neuroscience and Nervous System Disorders to examine opportunities to accelerate early phases of drug development for nervous system drug discovery. Workshop participants discussed challenges in neuroscience research for enabling faster entry of potential treatments into first-in-human trials, explored how new and emerging tools and technologies may improve the efficiency of research, and considered mechanisms to facilitate a more effective and efficient development pipeline. There are several challenges to the current drug development pipeline for nervous system disorders. The fundamental etiology and pathophysiology of many nervous system disorders are unknown and the brain is inaccessible to study, making it difficult to develop accurate models. Patient heterogeneity is high, disease pathology can occur years to decades before becoming clinically apparent, and diagnostic and treatment biomarkers are lacking. In addition, the lack of

validated targets, limitations related to the predictive validity of animal models - the extent to which the model predicts clinical efficacy - and regulatory barriers can also impede translation and drug development for nervous system disorders. Improving and Accelerating Therapeutic Development for Nervous System Disorders identifies avenues for moving directly from cellular models to human trials, minimizing the need for animal models to test efficacy, and discusses the potential benefits and risks of such an approach. This report is a timely discussion of opportunities to improve early drug development with a focus toward preclinical trials.

This book presents selected and extended papers from the largest conference on artificial intelligence in Japan, which was expanded into an internationalized event for the first time in 2019: the 33rd Annual Conference of the Japanese Society for Artificial Intelligence (JSAI 2019), held on June 4–June 7, 2019 at TOKI MESSE in Niigata, Japan. The book's content has been divided into six major sections, on (I) knowledge engineering, (II) agents, (III) education and culture, (IV) natural language processing, (V) machine learning and data mining, and (VI) cyber physics. Given its scope, the book offers a valuable reference guide for professionals, undergraduate and graduate students engaged in disciplines, fields, technologies, or philosophies relevant to AI, e.g., computer/data science, robotics, linguistics, and physics, introducing them to recent advances in this area and discussing the human society of tomorrow.

This book constitutes the refereed proceedings of the International Conference on Brain and Health Informatics, BHI 2016, held in Omaha, USA, in October 2016. The 37 revised full papers, including two workshop papers from BAI 2016, presented were carefully reviewed and selected for inclusion in the book. The papers are organized in topical sections on cognitive

and computational foundations of brain science; investigations of human information processing systems; brain big data analytics, curation and management; new methodologies for brain and mental health; brain-inspired intelligence and computing; brain and artificial intelligence.

Materials in a nuclear environment are exposed to extreme conditions of radiation, temperature and/or corrosion, and in many cases the combination of these makes the material behavior very different from conventional materials. This is evident for the four major technological challenges the nuclear technology domain is facing currently: (i) long-term operation of existing Generation II nuclear power plants, (ii) the design of the next generation reactors (Generation IV), (iii) the construction of the ITER fusion reactor in Cadarache (France), (iv) and the intermediate and final disposal of nuclear waste. In order to address these challenges, engineers and designers need to know the properties of a wide variety of materials under these conditions and to understand the underlying processes affecting changes in their behavior, in order to assess their performance and to determine the limits of operation. Comprehensive Nuclear Materials 2e provides broad ranging, validated summaries of all the major topics in the field of nuclear material research for fission as well as fusion reactor systems. Attention is given to the fundamental scientific aspects of nuclear materials: fuel and structural materials for fission reactors, waste materials, and materials for fusion reactors. The articles are written at a level that allows undergraduate students to understand the material, while providing active researchers with a ready reference resource of information. Most of the chapters from the first Edition have been revised and updated and a significant number of new topics are covered in completely new material. During the ten years between the two editions,

the challenge for applications of nuclear materials has been significantly impacted by world events, public awareness, and technological innovation. Materials play a key role as enablers of new technologies, and we trust that this new edition of Comprehensive Nuclear Materials has captured the key recent developments. Critically reviews the major classes and functions of materials, supporting the selection, assessment, validation and engineering of materials in extreme nuclear environments Comprehensive resource for up-to-date and authoritative information which is not always available elsewhere, even in journals Provides an in-depth treatment of materials modeling and simulation, with a specific focus on nuclear issues Serves as an excellent entry point for students and researchers new to the field

This textbook introduces advanced classical electrodynamics using modern mathematical techniques, with an emphasis on physical concepts. Connections to field theory and general relativity are highlighted while the book still serves as the basis for a one- or two-semester course on electrodynamics within the graduate curriculum. Request Inspection Copy

This 2-volume set constitutes the thoroughly refereed post-conference proceedings of the 10th International Conference on Security and Privacy in Communication Networks, SecureComm 2014, held in Beijing, China, in September 2014. The 27 regular and 17 short papers presented were carefully reviewed. It also presents 22 papers accepted for four workshops (ATCS, SSS, SLSS, DAPRO) in conjunction with the conference, 6 doctoral symposium papers and 8 poster papers. The papers are grouped in the following topics: security and privacy in wired, wireless, mobile, hybrid, sensor, ad hoc networks; network intrusion detection and prevention, firewalls, packet filters; malware, and distributed denial of service; communication privacy and anonymity; network and internet forensics techniques; public key

infrastructures, key management, credential management; secure routing, naming/addressing, network management; security and privacy in pervasive and ubiquitous computing; security & privacy for emerging technologies: VoIP, peer-to-peer and overlay network systems; security & isolation in data center networks; security & isolation in software defined networking.

Graduate Programs in Business, Education, Information Studies, Law & Social Work 2015 contains helpful facts and figures on more than 11,000 graduate programs. The comprehensive directory includes more than 1,850 institutions and their programs in all of the relevant disciplines such as accounting and finance, business management, education, law, library and information sciences, marketing, social work, and many more. Informative data profiles feature facts and figures on accreditation, degree requirements, application deadlines, contact information, financial support, faculty, and student body profiles. Two-page in-depth descriptions, written by featured institutions, offer complete details on specific graduate program, school, or department as well as information on faculty research. Comprehensive directories list programs in this volume, as well as others in the graduate series.

This book synthesizes current literature and research on scientific inquiry and the nature of science in K-12 instruction. Its presentation of the distinctions and overlaps of inquiry and nature of science as instructional outcomes are unique in contemporary literature. Researchers and teachers will find the text interesting as it carefully explores the subtleties and challenges of designing curriculum and instruction for integrating inquiry and nature of science.

A survey of computational methods for understanding, generating, and manipulating human language, which offers a synthesis of classical representations and algorithms with contemporary machine learning techniques. This textbook provides a technical perspective on

natural language processing—methods for building computer software that understands, generates, and manipulates human language. It emphasizes contemporary data-driven approaches, focusing on techniques from supervised and unsupervised machine learning. The first section establishes a foundation in machine learning by building a set of tools that will be used throughout the book and applying them to word-based textual analysis. The second section introduces structured representations of language, including sequences, trees, and graphs. The third section explores different approaches to the representation and analysis of linguistic meaning, ranging from formal logic to neural word embeddings. The final section offers chapter-length treatments of three transformative applications of natural language processing: information extraction, machine translation, and text generation. End-of-chapter exercises include both paper-and-pencil analysis and software implementation. The text synthesizes and distills a broad and diverse research literature, linking contemporary machine learning techniques with the field's linguistic and computational foundations. It is suitable for use in advanced undergraduate and graduate-level courses and as a reference for software engineers and data scientists. Readers should have a background in computer programming and college-level mathematics. After mastering the material presented, students will have the technical skill to build and analyze novel natural language processing systems and to understand the latest research in the field.

This book constitutes the refereed proceedings of the First International Conference on Digital Image Processing and Pattern Recognition, DPPR 2011, held in Tirunelveli, India, in September 2011. The 48 revised full papers were carefully reviewed and selected from about 400 submissions. The conference brought together leading researchers, engineers and

scientists in the domain of Digital Image Processing and Pattern Recognition. The papers cover all theoretical and practical aspects of the field and present new advances and current research results in two tracks, namely: digital image processing and pattern recognition, and computer science, engineering and information technology.

Peterson's Graduate Programs in Business, Education, Information Studies, Law & Social Work 2014 contains comprehensive profiles of more than 11,000 graduate programs in disciplines such as, accounting & finance, business administration & management, education, human resources, international business, law, library & information studies, marketing, social work, transportation management, and more. Up-to-date info, collected through Peterson's Annual Survey of Graduate and Professional Institutions, provides valuable data on degree offerings, professional accreditation, jointly offered degrees, part-time & evening/weekend programs, postbaccalaureate distance degrees, faculty, students, requirements, expenses, financial support, faculty research, and unit head and application contact information. There are helpful links to in-depth descriptions about a specific graduate program or department, faculty members and their research, and more. Also find valuable articles on financial assistance, the graduate admissions process, advice for international and minority students, and facts about accreditation, with a current list of accrediting agencies.

This text blends traditional introductory physics topics with an emphasis on human applications and an expanded coverage of modern physics topics, such as the existence of atoms and the conversion of mass into energy. Topical coverage is combined with the author's lively, conversational writing style, innovative features, the direct and clear manner of presentation, and the emphasis on problem solving and practical applications.

Human Fatigue Risk Management: Improving Safety in the Chemical Processing Industry teaches users everything they need to know to mitigate the risk of fatigued workers in a plant or refinery. As human fatigue has been directly linked to several major disasters, the book explores the API RP 755 guidelines that were released to reduce these types of incidents. This book will help users follow API RP 755 and/or implement a fatigue risk management system in their organization. Susan Murray, a recognized expert in the field of sleep deprivation and its relation to high hazard industries, has written this book to be useful for HSE managers, plant and project managers, occupational safety professionals, and engineers and managers in the chemical processing industry. As scheduling of shifts is an important factor in reducing fatigue and accident rates, users will learn the benefits of more frequent staff rotation and how to implement an ideal scheduling plan. The book goes beyond API RP 755, offering more detailed understanding of why certain measures for managing fatigue are beneficial to a company, including examples of how theory can be put into practice. It is a simple, digestible book for managers who are interested in addressing human factor issues at their workplace in order to raise safety standards. Covers sleep, sleep disorders, and the consequences of fatigue as related to high-hazard industries Helps improve safety standards at the plant level Provides information on how to comply with API RP 755 and related OSHA 29CFR1910 articles Relates fatigue and human performance to accidents, helping readers make a case for implementing a human fatigue risk management policy, which, in turn, prevents loss of property and life

In this chapter, we introduce a new algorithm for finding a minimum spanning tree (MST) of an undirected neutrosophic weighted connected graph whose edge weights are represented by

an interval valued neutrosophic number.

This handbook reflects on quality-of-life in societies on the continent of Africa. It provides a widely interdisciplinary text with insights on quality-of-life from a variety of scientific perspectives. The handbook is structured into sections covering themes of social context, culture and community; the environment and technology; health; education; and family. It is aimed at scholars who are working towards sustainable development at the intersections of multiple scientific fields and it provides measures of both objective and subjective quality-of-life. The scholarly contributions in the text are based on original research and it spans fields of research such as cultures of positivity, wellbeing, literacy and multilinguism, digital and mobile technologies, economic growth, food and nutrition, health promotion, community development, teacher education and family life. Some chapters take a broad approach and report on research findings involving thousands, and in one case millions, of participants. Other chapters zoom in and illustrate the importance of specificity in quality-of-life studies. Collectively, the handbook illuminates the particularity of quality-of-life in Africa, the unique contextual challenges and the resourcefulness with which challenges are being mediated. This handbook provides empirically grounded conceptualizations about life in Africa that also encapsulate the dynamic, ingenious ways in which we, as Africans, enhance our quality-of-life.

Corrosion of Aluminium, Second Edition, highlights the practical and general aspects of the corrosion of aluminium alloys. Chapters help readers new to the topic understand the metallurgical, chemical and physical features of aluminium alloys. Author Christian Vargel adopts a practitioner styled approach that is

based on the expertise he has gained during a 40-year career in aluminium corrosion. The book assesses the corrosion resistance of aluminium, a key metric recognized as one of the main conditions for the development of many uses of aluminium in transport, construction, power transmission, and more. Features 600 bibliographic references, providing a comprehensive guide to over 100 years of related study Includes numerous illustrations to enhance study Presents practical applications across many industries Provides an accessible reference for both beginners and experts

Personalized Cancer Chemotherapy separately describes and addresses "individualized cancer chemotherapy" (ICC) strategies new and old, to provide readers with new insights into their characteristics and techniques, as well as key debates and future trends in this area. The book devotes chapters to drug sensitivity testing, cancer biomarkers and bioinformatics detection, pharmacogenetics, individualized antimetastatic therapy, drug combinations, assistant chemotherapy, and cost-effectiveness considerations. A major obstacle to controlling cancer growth and metastases in patients is the inappropriate use of anticancer and antimetastatic drugs. Researchers and clinicians are now beginning to focus on ICC also called "personalized cancer chemotherapy" (PCC), to improve therapeutic quality and outcomes by selecting and prescribing

the most appropriate and effective drugs. Using genetic, molecular, and bioinformatics data and modern experimental techniques, known tumor genes can be detected more easily than ever before; the average speed of genetic sequencing has increased 15,000 to 50,000 times since the Human Geonme Project was completed. This book will help readers understand the pros and cons of each individualized cancer chemotherapy strategy from different angles so as to make good judgments and predictions of drug responses and clinical outcomes. Explores the central components of cancer treatment Investigates new developments in cancer treatment Discusses the many strategies of individualized cancer chemotherapy

STEM Integration in K-12 Education examines current efforts to connect the STEM disciplines in K-12 education. This report identifies and characterizes existing approaches to integrated STEM education, both in formal and after- and out-of-school settings. The report reviews the evidence for the impact of integrated approaches on various student outcomes, and it proposes a set of priority research questions to advance the understanding of integrated STEM education. STEM Integration in K-12 Education proposes a framework to provide a common perspective and vocabulary for researchers, practitioners, and others to identify, discuss, and investigate specific integrated STEM initiatives within the

K-12 education system of the United States. STEM Integration in K-12 Education makes recommendations for designers of integrated STEM experiences, assessment developers, and researchers to design and document effective integrated STEM education. This report will help to further their work and improve the chances that some forms of integrated STEM education will make a positive difference in student learning and interest and other valued outcomes. Advances in Nuclear Science and Technology, Volume 8 discusses the development of nuclear power in several countries throughout the world. This book discusses the world's largest program of land-based electricity production in the United States. Organized into six chapters, this volume begins with an overview of the phenomenon of quasi-exponential behavior by examining two mathematical models of the neutron field. This text then discusses the finite element method, which is a method for obtaining approximate solutions to integral or differential equations. Other chapters consider the status of the accuracy of nuclear data used for reactor calculations and the target accuracies required by reactor physics. This book discusses as well the role of integral experiments for the improvement of nuclear data and the different approaches taken to enhance them. The final chapter deals with the manufacture and application of coated particles. This book is a valuable resource for reactor

physicists, engineers, scientists, and research workers.

Graduate Programs in the Physical Sciences, Mathematics, Agricultural Sciences, the Environment & Natural Resources 2015 contains more than 3,000 graduate programs in the relevant disciplines-including agriculture and food sciences, astronomy and astrophysics, chemistry, physics, mathematics, environmental sciences and management, natural resources, marine sciences, and more. Informative data profiles for more than 3,000 graduate programs at nearly 600 institutions are included, complete with facts and figures on accreditation, degree requirements, application deadlines and contact information, financial support, faculty, and student body profiles. Two-page in-depth descriptions, written by featured institutions, offer complete details on specific graduate programs, schools, or departments as well as information on faculty research. Comprehensive directories list programs in this volume, as well as others in the graduate series.

This book constitutes the thoroughly refereed post-conference proceedings of the 8th International Conference on Learning and Optimization, LION 8, which was held in Gainesville, FL, USA, in February 2014. The 33 contributions presented were carefully reviewed and selected for inclusion in this book. A large variety of topics are covered, such as algorithm configuration; multiobjective optimization;

metaheuristics; graphs and networks; logistics and transportation; and biomedical applications.

Maps capture data expressing the economic complexity of countries from Albania to Zimbabwe, offering current economic measures and as well as a guide to achieving prosperity Why do some countries grow and others do not? The authors of The Atlas of Economic Complexity offer readers an explanation based on "Economic Complexity," a measure of a society's productive knowledge. Prosperous societies are those that have the knowledge to make a larger variety of more complex products. The Atlas of Economic Complexity attempts to measure the amount of productive knowledge countries hold and how they can move to accumulate more of it by making more complex products. Through the graphical representation of the "Product Space," the authors are able to identify each country's "adjacent possible," or potential new products, making it easier to find paths to economic diversification and growth. In addition, they argue that a country's economic complexity and its position in the product space are better predictors of economic growth than many other well-known development indicators, including measures of competitiveness, governance, finance, and schooling. Using innovative visualizations, the book locates each country in the product space, provides complexity and growth potential rankings for 128

countries, and offers individual country pages with detailed information about a country's current capabilities and its diversification options. The maps and visualizations included in the Atlas can be used to find more viable paths to greater productive knowledge and prosperity.

This book is designed to introduce the reader to the field of NMR/MRI at very low magnetic fields, from milli-Tesla to micro-Tesla, the ultra-low field (ULF) regime. The book is focused on applications to imaging the human brain, and hardware methods primarily based upon pre-polarization methods and SQUID-based detection. The goal of the text is to provide insight and tools for the reader to better understand what applications are best served by ULF NMR/MRI approaches. A discussion of the hardware challenges, such as shielding, operation of SQUID sensors in a dynamic field environment, and pulsed magnetic field generation are presented. One goal of the text is to provide the reader a framework of understanding the approaches to estimation and mitigation of low signal-to-noise and long imaging time, which are the main challenges. Special attention is paid to the combination of MEG and ULF MRI, and the benefits and challenges presented by trying to accomplish both with the same hardware. The book discusses the origin of unique relaxation contrast at ULF, and special considerations for image artifacts and how to correct them (i.e.

concomitant gradients, ghost artifacts). A general discussion of MRI, with special consideration to the challenges of imaging at ULF and unique opportunities in pulse sequences, is presented. The book also presents an overview of some of the primary applications of ULF NMR/MRI being pursued.

Seidel's Guide to Physical Examination 9th Edition offers a uniquely interprofessional, patient-centered, lifespan approach to physical examination and health assessment. This new edition features an increased focus on patient safety, clinical reasoning, and evidence-based practice, along with an emphasis on the development of good communication skills and effective hands-on examination techniques. Each core chapter is organized into four sections – Anatomy and Physiology, Review of Related History, Examination and Findings, and Abnormalities – with lifespan content integrated into each area. Written by an author team comprised of advance practice nurses and physicians with specialties in the care of adults, older adults, and children, this one-of-a-kind textbook addresses health assessment and physical examination for a wide variety of disciplines. UNIQUE! Interprofessional, interdisciplinary approach, written by two advanced practice nurses and three physicians, with expertise in both pediatric and adult-geriatric health. UPDATED! Infectious outbreak content addresses the growing problem of global infectious disease outbreaks such as

Zika and Ebola and the need for infection precautions. UNIQUE! Cross-references to Dains et al:Advanced Health Assessment & Clinical Diagnosis in Primary Care help you take "the next step" in your clinical reasoning abilities and provides a more seamless user experience. UNIQUE! Compassionate, patient-centered approach emphasizes developing good communication skills, use of effective hands-on examination techniques, and reliance on clinical reasoning and clinical decision-making. Integrated lifespan content includes separate sections in each chapter on Infants and Children, Adolescents, Pregnant Women, and Older Adults. NEW! Emphasis on clinical reasoning provides insights and clinical expertise to help you develop clinical judgment skills. NEW! Enhanced emphasis on patient safety and healthcare quality, particularly as it relates to sports participation. NEW! Content on documentation has been updated with a stronger focus on electronic charting (EHR/EMR). NEW! Enhanced social inclusiveness and patient-centeredness incorporates LGBTQ patients and providers, with special a emphasis on cultural competency, history-taking, and special considerations for examination of the breasts, female and male genitalia, reproductive health, thyroid, and anus/rectum/prostate. NEW! Telemedicine, virtual consults, and video interpreters content added to the Growth, Measurement, and Nutrition chapter. NEW! Improved readability with a clear,

straightforward, and easy-to-understand writing style. NEW! Updated drawing, and photographs enhance visual appeal and clarify anatomical content and exam techniques.
The 4th International Conference on Electronic, Communications and Networks (CECNet2014) inherits the fruitfulness of the past three conferences and lays a foundation for the forthcoming next year in Shanghai. CECNet2014 was hosted by Hubei University of Science and Technology, China, with the main objective of providing a comprehensive global foru
"The epic story of the rise and fall of the empire of cotton, its centrality in the world economy, and its making and remaking of global capitalism. Sven Beckert's rich, fascinating book tells the story of how, in a remarkably brief period, European entrepreneurs and powerful statesmen recast the world's most significant manufacturing industry combining imperial expansion and slave labor with new machines and wage workers to change the world. Here is the story of how, beginning well before the advent of machine production in 1780, these men created a potent innovation (Beckert calls it war capitalism, capitalism based on unrestrained actions of private individuals; the domination of masters over slaves, of colonial capitalists over indigenous inhabitants), and crucially affected the disparate realms of cotton that had existed for millennia. We see how this thing

called war capitalism shaped the rise of cotton, and then was used as a lever to transform the world. The empire of cotton was, from the beginning, a fulcrum of constant global struggle between slaves and planters, merchants and statesmen, farmers and merchants, workers and factory owners. In this as in so many other ways, Beckert makes clear how these forces ushered in the modern world. The result is a book as unsettling and disturbing as it is enlightening: a book that brilliantly weaves together the story of cotton with how the present global world came to exist"--Résumé de l'éditeur.

The first section of the book includes the following topics: fusion-based additive manufacturing (AM) processes of titanium alloys and their numerical modelling, mechanism of ?-case formation mechanism during investment casting of titanium, genesis of gas-containing defects in cast titanium products. Second section includes topics on behavior of the (? + ?) titanium alloys under extreme pressure and temperature conditions, hot and super plasticity of titanium (? + ?) alloys and some machinability aspects of titanium alloys in drilling. Finally, the third section includes topics on different surface treatment methods including nanotube-anodic layer formation on two phase titanium alloys in phosphoric acid for biomedical applications, chemico-thermal treatment of titanium alloys applying nitriding process for improving corrosion resistance of titanium alloys.

This book contributes to broadening the interdisciplinary knowledge basis for the description, analysis and assessment of land use practices. It presents conceptual advances grounded in empirical case studies on four main themes: distal drivers, competing demands on different scales, changing food regimes and land-water competition. Competition over land ownership and use is one of the key contexts in which the effects of global change on social-ecological systems unfold. As such, understanding these rapidly changing dynamics is one of the most pressing challenges of global change research in the 21st century. This book contributes to a deeper understanding of the manifold interactions between land systems, the economics of resource production, distribution and use, as well as the logics of local livelihoods and cultural contexts. It addresses a broad readership in the geosciences, land and environmental sciences, offering them an essential reference guide to land use competition.
Radar-related technology is mainly processed within the time and frequency domains but, at the same time, is a multi-dimensional integrated system including a spatial domain for transmitting and receiving electromagnetic waves. As a result of the enormous technological advancements of the pioneers actively discussed in this book, research and development in multi-dimensional undeveloped areas is expected to continue. This book contains state-of-the-art

work that should guide your research.

This book constitutes the thoroughly refereed post-conference proceedings of the 4th and 5th International Congress on Sports Science Research and Technology Support, icSPORT 2016 and 2017, held respectively in Porto, Portugal, on November 7-9, 2016 and in Funchal, Madeira, Portugal, on October 30-31, 2017. The 13 revised full papers (7 papers in 2016 and 6 papers in 2017) along with 1 short paper presented were carefully reviewed and selected from 93 submissions (53 in 2016 and 40 in 2017). The papers cover the following topics: signal processing and motor behavior; neuromuscular physiology; sports medicine and support technology; physiotherapy and rehabilitation; health, sports performance and support technology; applied physiology and exercise; computer systems in sports; computer supported training and decision support systems.

This comprehensive handbook serves as a professional reference as well as a practitioner's guide to today's most complete and concise view of nanoscale networking and communications. It offers in-depth coverage of theory, technology, and practice as they relate to established technologies and recent advancements. It explores practical solutions to a wide range of nanoscale networking and communications issues. Individual chapters, authored by leading experts in the field, address the immediate and long-term challenges in the

authors' respective areas of expertise.

Iron Will lays bare the role of extractivist policies and efforts to resist these policies through a deep ethnographic exploration of globally important iron ore mining in Brazil and India. Markus Kröger addresses resistance strategies to extractivism and tracks their success, or lack thereof, through a comparison of peaceful and armed resource conflicts, explaining how different means of resistance arise. Using the distinctly different contexts and political systems of Brazil and India highlights the importance of local context for resistance. For example, if there is an armed conflict at a planned mining site, how does this influence the possibility to use peaceful resistance strategies? To answer such questions, Kröger assesses the inter-relations of contentious, electoral, institutional, judicial, and private politics that surround conflicts and interactions, offering a new theoretical framework of "investment politics" that can be applied generally by scholars and students of social movements, environmental studies, and political economy, and even more broadly in Social Scientific and Environmental Policy research. By drawing on a detailed field research and other sources, this book explains precisely which resistance strategies are able to influence both political and economic outcomes. Kröger expands the focus of traditionally Latin American extractivism research to other contexts such as India and the growing extractivist movement in the Global North. In addition, as the book is a multi-sited political ethnography, it will appeal to sociologists, political scientists, anthropologists, geographers, and others using field research among other methods to understand globalization and global political interactions. It is the most comprehensive book on the political economy and ecology of iron ore and steel. This is astonishing, given the fact that iron ore is the second-most important commodity in the world after oil.

A New York Times Notable Book of 2020 A Bloomberg Best Non-Fiction Book of 2020 A Behavioral Scientist Notable Book of 2020 A Human Behavior & Evolution Society Must-Read Popular Evolution Book of 2020 A bold, epic account of how the co-evolution of psychology and culture created the peculiar Western mind that has profoundly shaped the modern world. Perhaps you are WEIRD: raised in a society that is Western, Educated, Industrialized, Rich, and Democratic. If so, you're rather psychologically peculiar. Unlike much of the world today, and most people who have ever lived, WEIRD people are highly individualistic, self-obsessed, control-oriented, nonconformist, and analytical. They focus on themselves—their attributes, accomplishments, and aspirations—over their relationships and social roles. How did WEIRD populations become so psychologically distinct? What role did these psychological differences play in the industrial revolution and the global expansion of Europe during the last few centuries? In The WEIRDest People in the World, Joseph Henrich draws on cutting-edge research in anthropology, psychology, economics, and evolutionary biology to explore these questions and more. He illuminates the origins and evolution of family structures, marriage, and religion, and the profound impact these cultural transformations had on human psychology. Mapping these shifts through ancient history and late antiquity, Henrich reveals that the most fundamental institutions of kinship and marriage changed dramatically under pressure from the Roman Catholic Church. It was these changes that gave rise to the WEIRD psychology that would coevolve with impersonal markets, occupational specialization, and free competition—laying the foundation for the modern world. Provocative and engaging in both its broad scope and its surprising details, The WEIRDest People in the World explores how culture, institutions, and psychology shape one another, and explains what this means for both

our most personal sense of who we are as individuals and also the large-scale social, political, and economic forces that drive human history. Includes black-and-white illustrations. Intended for algebra-based introductory physics courses. An accessible, problem-solving approach to physics, grounded in real-world applications James Walker's Physics provides students with a solid conceptual understanding of physics that can be expressed quantitatively and applied to the world around them. Instructors and students praise Walker's Physics for its friendly voice, the author's talent for making complex concepts understandable, an inviting art program, and the range of excellent homework problems and example-types that provide guidance with problem solving. The Fifth Edition includes new "just-in-time" learning aids such as "Big Ideas" to quickly orient students to the overarching principles of each chapter, new Real-World Physics and Biological applications, and a wealth of problem-solving support features to coach students through the process of applying logic and reasoning to problem solving.TheFifth Editionis accompanied by MasteringPhysics, the leading online homework, tutorial, and assessment system. Also Available with MasteringPhysics MasteringPhysics from Pearson is the leading online homework, tutorial, and assessment system, designed to improve results by engaging students before, during, and after class with powerful content. Instructors ensure students arrive ready to learn by assigning educationally effective content before class and encourage critical thinking and retention with in-class resources such as Learning Catalytics. Students can further master concepts after class through traditional and adaptive homework assignments that provide hints and answer-specific feedback. The Mastering gradebook records scores for all automatically graded assignments in one place, while diagnostic tools give instructors access to rich data to assess student understanding and

misconceptions. Mastering brings learning full circle by continuously adapting to each student and making learning more personal than ever--before, during, and after class. Note: You are purchasing a standalone product; MasteringPhysics does not come packaged with this content. Students, if interested in purchasing this title with MasteringPhysics, ask your instructor for the correct package ISBN and Course ID. Instructors, contact your Pearson representative for more information. If you would like to purchase both the physical text and MasteringPhysics, search for: 0321993764 / 9780321993762 Physics Plus MasteringPhysics with eText -- Access Card Package, 5/e Package consists of: 0321976444 / 9780321976444 Physics, 5/e 0321980395 / 9780321980397 MasteringPhysics with Pearson eText -- ValuePack Access Card -- for Physics, 5/e

Advanced Classical ElectrodynamicsGreen Functions, Regularizations, Multipole DecompositionsWorld Scientific Publishing Company

This book constitutes the thoroughly refereed post-conference proceedings of the 40th International Workshop on Graph-Theoretic Concepts in Computer Science, WG 2014, held in Nouan-le-Fuzelier, France, in June 2014. The 32 revised full papers presented were carefully reviewed and selected from 80 submissions. The book also includes two invited papers. The papers cover a wide range of topics in graph theory related to computer science, such as design and analysis of sequential, parallel, randomized, parameterized and distributed graph and network algorithms; structural graph theory with algorithmic or complexity applications; computational complexity of graph and network problems; graph grammars, graph rewriting systems and graph modeling; graph drawing and layouts; computational geometry; random graphs and models of the web and scale-free networks; and support of these concepts by

suitable implementations and applications.

Volcanic eruptions are common, with more than 50 volcanic eruptions in the United States alone in the past 31 years. These eruptions can have devastating economic and social consequences, even at great distances from the volcano. Fortunately many eruptions are preceded by unrest that can be detected using ground, airborne, and spaceborne instruments. Data from these instruments, combined with basic understanding of how volcanoes work, form the basis for forecasting eruptionsâ€"where, when, how big, how long, and the consequences. Accurate forecasts of the likelihood and magnitude of an eruption in a specified timeframe are rooted in a scientific understanding of the processes that govern the storage, ascent, and eruption of magma. Yet our understanding of volcanic systems is incomplete and biased by the limited number of volcanoes and eruption styles observed with advanced instrumentation. Volcanic Eruptions and Their Repose, Unrest, Precursors, and Timing identifies key science questions, research and observation priorities, and approaches for building a volcano science community capable of tackling them. This report presents goals for making major advances in volcano science.

This book offers valuable guidance for science teacher educators looking for ways to facilitate preservice and inservice teachers' pedagogy relative to teaching students from underrepresented and underserved populations in the science classroom. It also provides solutions that will better equip science teachers of underrepresented student populations with effective strategies that challenge the status quo, and foster classrooms environment that promotes equity and social justice for all of their science students. Multicultural Science Education illuminates historically persistent, yet unresolved issues in science teacher

education from the perspectives of a remarkable group of science teacher educators and presents research that has been done to address these issues. It centers on research findings on underserved and underrepresented groups of students and presents frameworks, perspectives, and paradigms that have implications for transforming science teacher education. In addition, the chapters provide an analysis of the socio-cultural-political consequences in the ways in which science teacher education is theoretically conceptualized and operationalized in the United States. The book provides teacher educators with a framework for teaching through a lens of equity and social justice, one that may very well help teachers enhance the participation of students from traditionally underrepresented and underserved groups in science, technology, engineering, and mathematics (STEM) areas and help them realize their full potential in science. Moreover, science educators will find this book useful for professional development workshops and seminars for both novice and veteran science teachers. "Multicultural Science Education: Preparing Teachers for Equity and Social Justice directly addresses the essential role that science teacher education plays for the future of an informed and STEM knowledgeable citizenry. The editors and authors review the beginnings of multicultural science education, and then highlight findings from studies on issues of equity, underrepresentation, cultural relevancy, English language learning, and social justice. The most significant part of this book is the move to the policy level—providing specific recommendations for policy development, implementation, assessment and analysis, with calls to action for all science teacher educators, and very significantly, all middle and high school science teachers and prospective teachers. By emphasizing the important role that multicultural science education has played in providing the knowledge base and understanding

of exemplary science education, Multicultural Science Education: Preparing Teachers for Equity and Social Justice gives the reader a scope and depth of the field, along with examples of strategies to use with middle and high school students. These classroom instructional strategies are based on sound science and research. Readers are shown the balance between research-based data driven models articulated with successful instructional design. Science teacher educators will find this volume of great value as they work with their pre-service and in-service teachers about how to address and infuse multicultural science education within their classrooms. For educators to be truly effective in their classrooms, they must examine every component of the learning and teaching process. Multicultural Science Education: Preparing Teachers for Equity and Social Justice provides not only the intellectual and research bases underlying multicultural studies in science education, but also the pragmatic side. All teachers and teacher educators can infuse these findings and recommendations into their classrooms in a dynamic way, and ultimately provide richer learning experiences for all students." Patricia Simmons, North Carolina State University, Raleigh, USA "This provocative collection of chapters is a presentation in gutsiness. Ingenious in construction and sequencing, this book will influence science teacher educators by introducing them to issues of equity and social justice directly related to women and people of color. The authors unflinchingly interrogate issues of equity which need to be addressed in science education courses. "This provocative collection of chapters is a presentation in gutsiness. Ingenious in construction and sequencing, this book will influence science teacher educators by introducing them to issues of equity and social justice directly related to women and people of color. The authors unflinchingly interrogate issues of equity which need to be addressed in science education courses. It

begins with setting current cultural and equity issue within a historic frame. The first chapter sets the scene by moving the reader through 400 years in which African-American's were 'scientifically excluded from science'. This is followed by a careful review of the Jim Crow era, an analysis of equity issues of women and ends with an examination of sociocultural consciousness and culturally responsive teaching. Two chapters comprise the second section. Each chapter examines the role of the science teacher in providing a safe place by promoting equity and social justice in the classroom. The three chapters in the third section focus on secondary science teachers. Each addresses issues of preparation that provides new teachers with understanding of equity and provokes questions of good teaching. Section four enhances and expands the first section as the authors suggest cultural barriers the impact STEM engagement by marginalized groups. The last section, composed of three chapters, interrogates policy issues that influence the science classroom." Molly Weinburgh, Texas Christian University, Fort Worth, USA

The two volumes LNCS 8814 and 8815 constitute the thoroughly refereed proceedings of the 11th International Conference on Image Analysis and Recognition, ICIAR 2014, held in Vilamoura, Portugal, in October 2014. The 107 revised full papers presented were carefully reviewed and selected from 177 submissions. The papers are organized in the following topical sections: image representation and models; sparse representation; image restoration and enhancement; feature detection and image segmentation; classification and learning methods; document image analysis; image and video retrieval; remote sensing; applications; action, gestures and audio-visual recognition; biometrics; medical image processing and analysis; medical image segmentation; computer-aided diagnosis; retinal image analysis; 3D imaging;

motion analysis and tracking; and robot vision.

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