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Engineering Heat Transfer Jones & Bartlett Learning Intended as a textbook for undergraduate courses in heat transfer for students of mechanical, chemical, aeronautical, and metallurgical engineering, or as a reference for professionals in industry, this book emphasizes the clear understanding of theoretical concepts followed by practical applications. Treating each subject analytically and then numerically, it provides step-by-step solutions of numerical problems through the use of systematic procedures by a prescribed format. With more than a million users in industry, MATLAB is the most popular computing programming language among engineers. This Second Edition has been updated to include discussions on how to develop programs that solve heat transfer problems using MATLAB, which allows the student to rapidly develop programs that involve complex numerical and engineering heat transfer computations. **A HEAT TRANSFER TEXTBOOK** Phlogiston Press **Engineering Heat and Mass Transfer** Firewall Media **Turn Down the Heat Climate Extremes, Regional Impacts, and the Case for Resilience** World Bank Publications This report focuses on the risks of climate change to development in Sub-Saharan Africa, South East Asia and South Asia. Building on the 2012 report, Turn Down the Heat: Why a 4°C Warmer World Must be Avoided, this new scientific analysis examines the likely impacts of present day, 2°C and 4°C warming on agricultural production, water resources, and coastal vulnerability. It finds many significant climate and development impacts are already being felt in some regions, and that as warming increases from present day (0.8°C) to 2°C and 4°C, multiple threats of increasing extreme heat waves, sea-level rise, more severe storms, droughts and floods are expected to have further severe negative implications for the poorest and most vulnerable. The report finds that agricultural yields will be affected across the three regions, with repercussions for food security, economic growth, and poverty reduction. In addition, urban areas have been identified as new clusters of vulnerability with urban dwellers, particularly the urban poor, facing significant vulnerability to climate change. In Sub-Saharan Africa, under 3°C global warming, savannas are projected to decrease from their current levels to approximately one-seventh of total land area and threaten pastoral livelihoods. Under 4°C warming, total hyper-arid and arid areas are projected to expand by 10 percent. In South East Asia, under 2°C warming, heat extremes that are virtually absent today would cover nearly 60-70 percent of total land area in northern-hemisphere summer, adversely impacting ecosystems. Under 4°C warming, rural populations would face mounting pressures from sea-level rise, increased tropical cyclone intensity, storm surges, saltwater intrusions, and loss of marine ecosystem services. In South Asia, the potential sudden onset of disturbances to the monsoon system and rising peak temperatures would put water and food resources at severe risk. Well before 2°C warming occurs, substantial reductions in the frequency of low snow years is projected to cause substantial reductions in dry season flow, threatening agriculture. Many of the worst climate impacts could still be avoided by holding warming below 2°C, but the window for action is closing rapidly. Urgent action is also needed to build resilience to a rapidly warming world that will pose significant risks to agriculture, water resources, coastal infrastructure, and human health.

Fundamentals of Heat and Mass Transfer John Wiley & Sons Completely updated, the seventh edition provides engineers with an in-depth look at the key concepts in the field. It incorporates new discussions on emerging areas of heat transfer, discussing technologies that are related to nanotechnology, biomedical engineering and alternative energy. The example problems are also updated to better show how to apply the material. And as engineers follow the rigorous and systematic problem-solving methodology, they'll gain an appreciation for the richness and beauty of the discipline. **Fundamentals of Heat and Mass Transfer** John Wiley & Sons This bestselling book in the field provides a complete introduction to the physical origins of heat and mass transfer. Noted for its crystal clear presentation and easy-to-follow problem solving methodology, Incropera and Dewitt's systematic approach to the first law develops reader confidence in using this essential tool for thermal analysis. Readers will learn the meaning of the terminology and physical principles of heat transfer as well as how to use requisite inputs for computing heat transfer rates and/or material temperatures. **Ultra-High Performance Liquid Chromatography and Its Applications** John Wiley & Sons Explores both the benefits and limitations of new UHPLC technology High performance liquid chromatography (HPLC) has been widely used in analytical chemistry and biochemistry to separate, identify, and quantify compounds for decades. The science of liquid chromatography, however, was revolutionized a few years ago with the advent of ultra-high performance liquid chromatography (UHPLC), which made it possible for researchers to analyze sample compounds with greater speed, resolution, and sensitivity. Ultra-High Performance Liquid Chromatography and Its Applications enables readers to maximize the performance of UHPLC as well as develop UHPLC methods tailored to their particular research needs. Readers familiar with HPLC methods will learn how to transfer these methods to a UHPLC platform and vice versa. In addition, the book explores a variety of UHPLC applications designed to support research in such fields as pharmaceuticals, food safety, clinical medicine, and environmental science. The book begins with discussions of UHPLC method development and method transfer between HPLC and UHPLC platforms. It then examines practical aspects of UHPLC. Next, the book covers: Coupling UHPLC with mass spectrometry Potential of shell particles in fast liquid chromatography Determination of abused drugs in human biological matrices Analyses of isoflavones and flavonoids Therapeutic protein characterization Analysis of illicit drugs The final chapter of the book explores the use of UHPLC in drug metabolism and pharmacokinetics studies for traditional Chinese medicine. With its frank discussions of UHPLC's benefits and limitations, Ultra-High Performance Liquid Chromatography and Its Applications equips analytical scientists with the skills and knowledge needed to take full advantage of this new separation technology. **Advances in Clean Energy Technologies Select Proceedings of ICET 2020** Springer Nature This book presents select proceedings of the international conference on Innovations in Clean Energy Technologies (ICET 2020) and examines a range of durable, energy efficient and next-generation smart green technologies for sustainable future by reflecting on the trends, advances and development taking place all across the globe. The topics covered include smart technologies based product, energy efficient systems, solar and wind energy, carbon sequestration, green transportation, green buildings, energy material, biomass energy, smart cities, hydro power, bio-energy and fuel cell. The book also discusses various performance attributes of these clean energy technologies and their workability and carbon footprint. The book will be a valuable reference for beginners, researchers and professionals interested in clean energy technologies. **World Development Indicators 2014** World Bank Publications World Development Indicators (WDI) is the World Bank's premier annual compilation of data about development. This year's print edition and e-book have been redesigned to allow users the convenience of easily linking to the latest data on-line. **Sea Ice** John Wiley & Sons As the Arctic perennial sea ice continues to disappear at an alarming rate, a full understanding of sea ice as a crucial global ecosystem, and the effects of its loss is vital for all those working with and studying global climate change. Building on the success of the previous edition, the second edition of Sea Ice, now much expanded and in full colour throughout, includes six completely new chapters with complete revisions of all the chapters included from the first edition. The Editors, Professor David Thomas and Dr Gerhard Dieckmann have once again drawn together an extremely impressive group of internationally respected contributing authors, ensuring a comprehensive worldwide coverage of this incredibly important topic. Sea Ice, second edition, is an essential purchase for oceanographers and marine scientists, environmental scientists, biologists, geochemists and geologists. All those involved in the study of global climate change will find this book to contain a wealth of important information. All libraries in universities and research establishments where these subjects are studied and taught will need multiple copies of this book on their shelves. truly multidisciplinary approach world leading authors and editors international in scope, covering both Arctic and Antarctic work of vital interest to all those involved in global warming and climate change research highly illustrated full colour book with colour images throughout **Rising Threats in Expert Applications and Solutions Proceedings of FICR-TEAS 2020** Springer Nature This book presents high-quality, peer-reviewed papers from the FICR International Conference on Rising Threats in Expert Applications and Solutions 2020, held at IIS University Jaipur, Rajasthan, India, on January 17-19, 2020. Featuring innovative ideas from researchers, academics, industry professionals and students, the book covers a variety of topics, including expert applications and artificial intelligence/machine learning; advanced web technologies, like IoT, big data, and cloud computing in expert applications; information and cybersecurity threats and solutions; multimedia applications in forensics, security and intelligence; advances in app development; management practices for expert applications; and social and ethical aspects of expert applications in applied sciences. **Proceedings of International Conference on Artificial Intelligence, Smart Grid and Smart City Applications AISGSC 2019** Springer Nature Due to the complexity, and heterogeneity of the smart grid and the high volume of information to be processed, artificial intelligence techniques and computational intelligence appear to be some of the enabling technologies for its future development and success. The theme of the book is "Making pathway for the grid of future" with the emphasis on trends in Smart Grid, renewable interconnection issues, planning-operation-control and reliability of grid, real time monitoring and protection, market, distributed generation and power distribution issues, power electronics applications, computer-IT and signal processing applications, power apparatus, power engineering education and industry-institute collaboration. The primary objective of the book is to review the current state of the art of the most relevant artificial intelligence techniques applied to the different issues that arise in the smart grid development. **Electronic Portable Instruments Design and Applications** CRC Press With the availability of advanced technologies, digital systems, and communications, portable instruments are rapidly evolving from simple, stand alone, low-accuracy measuring instruments to complex multifunctional, network integrated, high-performance digital devices with advanced interface capabilities. The relatively brief treatments these instruments receive in many books are no longer adequate. Designers, engineers and scientists need a comprehensive reference dedicated to electronic portable instruments that explains the state-of-art and future directions. Electronic Portable Instruments: Design and Applications introduces the basic measurement and instrumentation concepts, describes the operating principles, and discusses the typical specifications of three main groups of portable instruments: Portable and handheld instruments built for specific applications Intelligent sensor-based devices with few components and dedicated features, such as implantable medical devices Portable data systems containing fixed sensors and supporting mechanisms, but equipped with advanced communications capabilities, such as mobile weather stations The author discusses sensors suitable for these instruments, addresses how components are selected, and clearly shows that instrument design centers on trade-offs between costs, performance, size and weight, power consumption, interface options, ruggedness, and the ability to operate in a range of environments. A multitude of tables, formulae, and figures--many in full color--enhance the presentation. Numerous examples of applications demonstrate the current diversity of these devices and point the way to future trends in development and applications. **WHO Guidelines on Physical Activity and Sedentary Behaviour** This publication provides evidence-based public health recommendations for children, adolescents, adults and older adults on the amount of physical activity (frequency, intensity and duration) required to offer significant health benefits and mitigate health risks. For the first time, recommendations are provided on the associations between sedentary behaviour and health outcomes, as well as for subpopulations, such as pregnant and postpartum women, and people living with chronic conditions or disability. The guidelines are intended for policy-makers in high-, middle-, and low-income countries in ministries of health, education, youth, sport and/or social or family welfare; government officials responsible for developing national, sub regional or municipal plans to increase physical activity and reduce sedentary behaviour in population groups through guidance documents; people working in nongovernmental organizations, the education sector, private sector, research; and healthcare providers. **Intelligent Manufacturing and Energy Sustainability Proceedings of ICIMES 2019** Springer Nature This book includes selected, high-quality papers presented at the International Conference on Intelligent Manufacturing and Energy Sustainability (ICIMES 2019) held at the Department of Mechanical Engineering, Malla Reddy College of

Engineering & Technology (MRCET), Maisammaguda, Hyderabad, India, from 21 to 22 June 2019. It covers topics in the areas of automation, manufacturing technology and energy sustainability. **Thermal Energy Storage Systems and Applications** John Wiley & Sons The ability of thermal energy storage (TES) systems to facilitate energy savings, renewable energy use and reduce environmental impact has led to a recent resurgence in their interest. The second edition of this book offers up-to-date coverage of recent energy efficient and sustainable technological methods and solutions, covering analysis, design and performance improvement as well as life-cycle costing and assessment. As well as having significantly revised the book for use as a graduate text, the authors address real-life technical and operational problems, enabling the reader to gain an understanding of the fundamental principles and practical applications of thermal energy storage technology. Beginning with a general summary of thermodynamics, fluid mechanics and heat transfer, this book goes on to discuss practical applications with chapters that include TES systems, environmental impact, energy savings, energy and exergy analyses, numerical modeling and simulation, case studies and new techniques and performance assessment methods. **Handbook Of Renewable Energy Technology** World Scientific Effects of environmental, economic, social, political and technical factors have led to the rapid deployment of various sources of renewable energy-based power generation. The incorporation of these generation technologies have led to the development of a broad array of new methods and tools to integrate this new form of generation into the power system network. This book, arranged into six sections, highlights various renewable energy based generation technologies, and consists a series of papers written by experts in their respective fields of specialization. The Handbook of Renewable Energy Technology will be of great practical benefit to professionals, scientists and researchers in the relevant industries, and will be of interest to those of the general public wanting to know more about renewable energy technologies. **Severe Asthma** European Respiratory Society Severe asthma is a form of asthma that responds poorly to currently available medication, and its patients represent those with greatest unmet needs. In the last 10 years, substantial progress has been made in terms of understanding some of the mechanisms that drive severe asthma; there have also been concomitant advances in the recognition of specific molecular phenotypes. This ERS Monograph covers all aspects of severe asthma – epidemiology, diagnosis, mechanisms, treatment and management – but has a particular focus on recent understanding of mechanistic heterogeneity based on an analytic approach using various ‘omics platforms applied to clinically well-defined asthma cohorts. How these advances have led to improved management targets is also emphasised. This book brings together the clinical and scientific expertise of those from around the world who are collaborating to solve the problem of severe asthma. **Steam Tables S.** Chand Publishing The Favourable and warm reception, which the previous editions and reprints of this booklet have enjoyed at home and abroad, has been a matter of great satisfaction to me. **Pharmaceutical Manufacturing Handbook Production and Processes** John Wiley & Sons This handbook features contributions from a team of expert authors representing the many disciplines within science, engineering, and technology that are involved in pharmaceutical manufacturing. They provide the information and tools you need to design, implement, operate, and troubleshoot a pharmaceutical manufacturing system. The editor, with more than thirty years' experience working with pharmaceutical and biotechnology companies, carefully reviewed all the chapters to ensure that each one is thorough, accurate, and clear. **Theoretical, Computational, and Experimental Solutions to Thermo-Fluid Systems Select Proceedings of ICITFES 2020** Springer Nature This book presents select proceedings of the International Conference on Innovations in Thermo-Fluid Engineering and Sciences (ICITFES 2020). It covers topics in theoretical and experimental fluid dynamics, numerical methods in heat transfer and fluid mechanics, different modes of heat transfer, multiphase flow, fluid machinery, fluid power, refrigeration and air conditioning, and cryogenics. The book will be helpful to the researchers, scientists, and professionals working in the field of fluid mechanics and machinery, and thermal engineering. **Acute Heart Failure** Springer Science & Business Media For many years, there has been a great deal of work done on chronic congestive heart failure while acute heart failure has been considered a difficult to handle and hopeless syndrome. However, in recent years acute heart failure has become a growing area of study and this is the first book to cover extensively the diagnosis and management of this complex condition. The book reflects the considerable amounts of new data reported and many new concepts which have been proposed in the last 3-4 years looking at the epidemiology, diagnostic and treatment of acute heart failure. **Knowledge Sovereignty Among African Cattle Herders** UCL Press Beni-Amer cattle owners in the western part of the Horn of Africa are not only masters in cattle breeding, they are also knowledge sovereign, in terms of owning productive genes of cattle and the cognitive knowledge base crucial to sustainable development. The strong bonds between the Beni-Amer, their animals, and their environment constitute the basis of their ways of knowing, and much of their knowledge system is built on experience and embedded in their cultural practices. In this book, the first to study Beni-Amer practices, Zeremariam Fre argues for the importance of their knowledge, challenging the preconceptions that regard it as untrustworthy when compared to scientific knowledge from more developed regions. Empirical evidence suggests that there is much one could learn from the other, since elements of pastoralist technology, such as those related to animal production and husbandry, make a direct contribution to our knowledge of livestock production. It is this potential for hybridisation, as well as the resilience of the herders, at the core of the indigenous knowledge system. Fre also argues that indigenous knowledge can be viewed as a stand-alone science, and that a community's rights over ownership should be defended by government officials, development planners and policy makers, making the case for a celebration of the knowledge sovereignty of pastoralist communities Praise for Knowledge Sovereignty Among African Cattle Herders 'This book greatly contributes to the limited literature on theoretical discourses and practices on indigenous knowledge of livestock herding communities in the Horn of Africa. It discusses knowledge heritage and sovereignty through the presentation of valid empirical evidence, and its subsequent relevance in nurturing sustainability of knowledge systems to enhance lives of pastoralists in Africa and beyond.' Samuel Tefera PhD, Assistant Professor and Asian Desk Coordinator at the Centre for African and Oriental Studies, Associate Dean for Research and Technology Transfer, College of Social Sciences, Addis Ababa University 'The author has worked with our Beni-Amer pastoral communities in Eastern Sudan and Western Eritrea for over 30 years and this book is the first of its kind in documenting our practices, knowledge systems, heritage and way of life.' Mustafa Faid and Mohamed Ali, Leaders of the of the Pastoral and Environmental Association Kassala State (PEAKS) 'A riveting and rare book! Zeremariam Fre guides you along the sandy [dusty] tracks and grassy pastures that the Beni-Amer and their herds have been softly tracing over time all through the Horn of Africa. One of the virtues of the book is that it illustrates vividly and in clear language how their continuous self-built endogenous knowledge on agro-pastoral life is not only at the core of their survival and the survival of their herds, but more importantly a powerful weapon in facing and resisting multiple aggressions . . . Ground-breaking and a huge achievement.' Yves Cabannes, Emeritus Professor of Development Planning,, The Bartlett Development Planning Unit, UCL 'The book underlines the importance of enriching and utilizing the unrecognized, yet valuable scientific knowledge and practices that are deeply rooted in pastoral traditional expertise about their own environment and breeding practices. It is an important publication that reflects Dr Fre's expertise and long term research in the region and thus, it is a significant addition to the African library.' Hala Alkarib, Director of the Strategic Initiative for Women in the Horn of Africa (SIHA) 'This fascinating book not only gives a unique insight into the knowledge and practice of pastoralists in the Horn of Africa from the author's first-hand experience, it also provides an incisive critique of the multiple dimensions of knowledge, paying tribute to the sovereignty of indigenous knowledge. It has a timely relevance for global sustainability that will appeal to a wider readership.' Nicole Kenton, International Development Consultant, former long serving senior staff member of the International Institute for Environment and Development (IIED) 'The book covers several intertwined issues relevant to contemporary development policy and practice. It goes beyond the rural-urban and peasant-nomadic livelihoods dichotomy by shedding more light on the inter-linkages within the multiple livelihood systems within the Horn of Africa and globally. A rich evidence-based resource for academics, development partners and social movements for promoting and designing state policies that embrace pastoralist aspirations.' Bereket Tsegay MA, PhD candidate, Pastoral and Environmental Network in the Horn of Africa (PENHA) 'Dr Zeremariam Fre has done a wonderful job of placing at the centre of this book the Beni-Amer pastoralists, the world they inhabit and the knowledge they use to navigate and thrive in it. The lessons contained in this book go beyond pastoralism; it is a must read for anyone serious about understanding the importance of located knowledge in the innovation and development process.' Yusuf Dirie, PENHA Research Fellow and PhD researcher at the University of Sussex **Measurement, Analysis and Remediation of Environmental Pollutants** Springer Nature This book discusses contamination of water, air, and soil media. The book covers health effects of such contamination and discusses remedial measures to improve the situation. Contributions by experts provide a comprehensive discussion on the latest developments in the detection and analysis of contaminants, enabling researchers to understand the evolution of these pollutants in real time and develop more accurate source apportionment of these pollutants. The contents of this book will be of interest to researchers, professionals, and policy makers alike. **World Development Indicators 2013** World Bank Publications World Development Indicators is the premier annual compilation of data on development. This year's edition was redesigned to allow users the convenience of easily linking to the latest data online. **Soft Computing Applications Proceedings of the 8th International Workshop Soft Computing Applications (SOFA 2018), Vol. II** Springer Nature This book presents the proceedings of the 8th International Workshop on Soft Computing Applications, SOFA 2018, held on 13-15 September 2018 in Arad, Romania. The workshop was organized by Aurel Vlaicu University of Arad, in conjunction with the Institute of Computer Science, Iasi Branch of the Romanian Academy, IEEE Romanian Section, Romanian Society of Control Engineering and Technical Informatics – Arad Section, General Association of Engineers in Romania – Arad Section and BTM Resources Arad. The papers included in these proceedings, published post-conference, cover the research including Knowledge-Based Technologies for Web Applications, Cloud Computing, Security Algorithms and Computer Networks, Business Process Management, Computational Intelligence in Education and Modelling and Applications in Textiles and many other areas related to the Soft Computing. The book is directed to professors, researchers, and graduate students in area of soft computing techniques and applications. **Advances in Simulation, Product Design and Development Proceedings of AIMTDR 2018** Springer This volume comprises select proceedings of the 7th International and 28th All India Manufacturing Technology, Design and Research conference 2018 (AIMTDR 2018). The papers in this volume discuss simulations based on techniques such as finite element method (FEM) as well as soft computing based techniques such as artificial neural network (ANN), their optimization and the development and design of mechanical products. This volume will be of interest to researchers, policy makers, and practicing engineers alike. **Research, Action and Policy: Addressing the Gendered Impacts of Climate Change** Springer Science & Business Media Research, Action and Policy: Addressing the Gendered Impacts of Climate Change presents the voices of women from every continent, women who face vastly different climate events and challenges. The book heralds a new way of understanding climate change that incorporates gender justice and human rights for all. **The Discipline of Organizing: Professional Edition** "O'Reilly Media, Inc." Note about this ebook: This ebook exploits many advanced capabilities with images, hypertext, and interactivity and is optimized for EPUB3-compliant book readers, especially Apple's iBooks and browser plugins. These features may not work on all ebook readers. We organize things. We organize information, information about things, and information about information. Organizing is a fundamental issue in many professional fields, but these fields have only limited agreement in how they approach problems of organizing and in what they seek as their solutions. The Discipline of Organizing synthesizes insights from library science, information science, computer science, cognitive science, systems analysis, business, and other disciplines to create an Organizing System for understanding organizing. This framework is robust and forward-looking, enabling effective sharing of insights and design patterns between disciplines that weren't possible before. The Professional Edition includes new and revised content about the active resources of the "Internet of Things," and how the field of Information Architecture can be viewed as a subset of the discipline of organizing. You'll find: 600 tagged endnotes that connect to one or more of the contributing disciplines Nearly 60 new pictures and illustrations Links to cross-references and external citations Interactive study guides to test on key points The Professional Edition is ideal for practitioners and as a primary or supplemental text for graduate courses on information organization, content and knowledge management, and digital collections. FOR INSTRUCTORS: Supplemental materials (lecture notes, assignments, exams, etc.) are available at <http://disciplineoforganizing.org>. FOR STUDENTS: Make sure this is the edition you want to buy. There's a newer one and maybe your instructor has adopted that one instead. **Fundamentals Of Heat And Mass Transfer, 5Th Ed** John Wiley & Sons This best-selling book in the field provides a complete introduction to the physical origins of heat and mass transfer. Noted for its crystal clear presentation and easy-to-follow problem solving methodology, Incropera and Dewitt's systematic approach to the first law develop readers confidence in using this essential tool for thermal analysis. · Introduction to Conduction· One-Dimensional, Steady-State Conduction· Two-Dimensional, Steady-State Conduction· Transient Conduction· Introduction to Convection· External Flow· Internal Flow· Free Convection· Boiling and Condensation· Heat Exchangers· Radiation: Processes and Properties· Radiation Exchange Between Surfaces· Diffusion Mass Transfer **Securing the Internet of Things: Concepts, Methodologies, Tools, and Applications Concepts, Methodologies, Tools, and Applications** IGI Global The ubiquity of modern technologies has allowed for increased connectivity between people and devices across the globe. This connected infrastructure of networks creates numerous opportunities for applications and uses. As the applications of the internet of things continue to progress so do the security concerns for this technology. The study of threat prevention in the internet of things is necessary as security breaches in this field can ruin industries and lives. Securing the Internet of Things: Concepts, Methodologies, Tools, and Applications is a vital reference source that examines recent developments and emerging

trends in security and privacy for the internet of things through new models, practical solutions, and technological advancements related to security. Highlighting a range of topics such as cloud security, threat detection, and open source software, this multi-volume book is ideally designed for engineers, IT consultants, ICT procurement managers, network system integrators, infrastructure service providers, researchers, academics, and professionals interested in current research on security practices pertaining to the internet of things.

Aquaponics Food Production Systems Combined Aquaculture and Hydroponic Production Technologies for the Future Springer This open access book, written by world experts in aquaponics and related technologies, provides the authoritative and comprehensive overview of the key aquaculture and hydroponic and other integrated systems, socio-economic and environmental aspects. Aquaponic systems, which combine aquaculture and vegetable food production offer alternative technology solutions for a world that is increasingly under stress through population growth, urbanisation, water shortages, land and soil degradation, environmental pollution, world hunger and climate change.

Recent Advances in Scar Biology MDPI This book is a printed edition of the Special Issue "Recent Advances in Scar Biology" that was published in IJMS

Recent Trends in Manufacturing and Materials Towards Industry 4.0 Selected Articles from iM3F 2020, Malaysia Springer Nature This book presents part of the proceedings of the Manufacturing and Materials track of the iM3F 2020 conference held in Malaysia. This collection of articles deliberates on the key challenges and trends related to manufacturing as well as materials engineering and technology in setting the stage for the world in embracing the fourth industrial revolution. It presents recent findings with regards to manufacturing and materials that are pertinent towards the realizations and ultimately the embodiment of Industry 4.0, with contributions from both industry and academia.

Uncharted Waters The New Economics of Water Scarcity and Variability World Bank Publications The 21st century will witness the collision of two powerful forces - burgeoning population growth, together with a changing climate. With population growth, water scarcity will proliferate to new areas across the globe. And with climate change, rainfall will become more fickle, with longer and deeper periods of droughts and deluges. This report presents new evidence to advance understanding on how rainfall shocks coupled with water scarcity, impacts farms, firms, and families. On farms, the largest consumers of water in the world, impacts are channeled from declining yields to changing landscapes. In cities, water extremes especially when combined with unreliable infrastructure can stall firm production, sales, and revenue. At the center of this are families, who feel the impacts of this uncertainty on their incomes, jobs, and long-term health and welfare. Although a rainfall shock may be fleeting, its consequences can become permanent and shape the destiny of those who experience it. Pursuing business as usual will lead many countries down a 'parched path' where droughts shape destinies. Avoiding this misery in slow motion will call for fundamental changes to water policy around the globe. Building resilience to rainfall variability will require using different policy instruments to address the multifaceted nature of water. A key message of this report is that water has multiple economic attributes, each of which entail distinct policy responses. If water is not managed more prudently--from source, to tap, and back to source--the crises observed today will become the catastrophes of tomorrow.

Web Accessibility A Foundation for Research Springer Covering key areas of evaluation and methodology, client-side applications, specialist and novel technologies, along with initial appraisals of disabilities, this important book provides comprehensive coverage of web accessibility. Written by leading experts in the field, it provides an overview of existing research and also looks at future developments, providing a much deeper insight than can be obtained through existing research libraries, aggregations, or search engines.

Biopharmaceutical Manufacturing Principles, Processes, and Practices Walter de Gruyter GmbH & Co KG Biopharmaceuticals, medicines made by or from living organisms (including cells from living organisms), are extremely effective in treating a broad range of diseases. Their importance to human health has grown significantly over the years as more biopharmaceutical products have entered the market, and now the biggest selling drugs in the world are biopharmaceuticals. Biopharmaceutical Manufacturing: Principles, Processes and Practices provides concise, comprehensive, and up-to-date coverage of biopharmaceutical manufacturing. Written in a clear and informal style, the content has been influenced by the authors' substantial industry experience and teaching expertise. That expertise enables the authors to address the many questions posed over the years both by university students and professionals with experience in the field. Consequently, the book will appeal both to undergraduate or graduate students using it as a textbook and specialized industry practitioners seeking to understand the big picture of biopharmaceutical manufacturing. This book:

High Performance Silicon Imaging Fundamentals and Applications of CMOS and CCD sensors Elsevier High Performance Silicon Imaging covers the fundamentals of silicon image sensors, with a focus on existing performance issues and potential solutions. The book considers several applications for the technology as well. Silicon imaging is a fast growing area of the semiconductor industry. Its use in cell phone cameras is already well established, and emerging applications include web, security, automotive, and digital cinema cameras. Part one begins with a review of the fundamental principles of photosensing and the operational principles of silicon image sensors. It then focuses in on charged coupled device (CCD) image sensors and complementary metal oxide semiconductor (CMOS) image sensors. The performance issues considered include image quality, sensitivity, data transfer rate, system level integration, rate of power consumption, and the potential for 3D imaging. Part two then discusses how CMOS technology can be used in a range of areas, including in mobile devices, image sensors for automotive applications, sensors for several forms of scientific imaging, and sensors for medical applications. High Performance Silicon Imaging is an excellent resource for both academics and engineers working in the optics, photonics, semiconductor, and electronics industries. Covers the fundamentals of silicon-based image sensors and technical advances, focusing on performance issues Looks at image sensors in applications such as mobile phones, scientific imaging, TV broadcasting, automotive, and biomedical applications

Distillation: Fundamentals and Principles Academic Press Distillation: Fundamentals and Principles — winner of the 2015 PROSE Award in Chemistry & Physics — is a single source of authoritative information on all aspects of the theory and practice of modern distillation, suitable for advanced students and professionals working in a laboratory, industrial plants, or a managerial capacity. It addresses the most important and current research on industrial distillation, including all steps in process design (feasibility study, modeling, and experimental validation), together with operation and control aspects. This volume features an extra focus on the conceptual design of distillation. Winner of the 2015 PROSE Award in Chemistry & Physics from the Association of American Publishers Practical information on the newest development written by recognized experts Coverage of a huge range of laboratory and industrial distillation approaches Extensive references for each chapter facilitates further study

Emerging Trends in Expert Applications and Security Proceedings of ICETEAS 2018 Springer The book covers current developments in the field of expert applications and security, which employ advances of next-generation communication and computational technology to shape real-world applications. It gathers selected research papers presented at the ICETEAS 2018 conference, which was held at Jaipur Engineering College and Research Centre, Jaipur, India, on February 17–18, 2018. Key topics covered include expert applications and artificial intelligence; information and application security; advanced computing; multimedia applications in forensics, security and intelligence; and advances in web technologies; implementation and security issues.