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Handbook of Electronics V. K. Puri 1994

Handbook of Operational Amplifier Circuit Design David F. Stout 1976 Introduction to operational amplifiers. Fundamentals of circuit design using op amps. Feedback stability. Amplifiers. Comparators. Converters. Demodulators and discriminators. Detectors. Differential amplifiers. Low-pass filters. High-pass filters. Bandpass filters. Bandstop filters. Frequency control. Integrators and differentiators. Limiters and rectifiers. Logarithmic circuits. Modulators. Oscillators. Parameter enhancement and simulation. Power circuits. Regulators. Sampling circuits. Time and phase circuits. Waveform generators. Appendix: Operational amplifier parameters. Operational amplifier maximum ratings. Circuit fabrication techniques. Notation used in handbook. Decibel calculations. RC circuit characteristics.

Innovative Pest Management Approaches for the 21st Century Akshay Kumar Chakravarthy 2020-03-20 Several Integrated Pest Management (IPM) approaches are available for managing pests of varied kinds, including individual and integrated methods for pest suppression. Recently the focus has shifted to pest management tools that act on insect systems selectively, are compatible with the environment, and are not harmful for ecosystems. Other approaches target specific biochemical and physiological aspects of insect metabolism, and involve biotechnological and genetic manipulation. Still other approaches include the use of nanotechnology, endophytes, optical and sonic manipulation to detect and control pest insects. Unfortunately, conventional forms of pest management do not focus on technology transfer to the ground level workers and farmers. As a result, farmers are incurring huge losses of crops and revenues. This book highlights the importance of using communication tools in pest management and demonstrates some success stories of utilizing automated unmanned technologies in this context. The content is divided into three sections, the first of which, "Pest Population Monitoring: Modern Tools," covers long and short-range pest population monitoring techniques and tools such as satellites, unmanned aerial vehicles/drones, remote sensing, digital tools like GIS, GPS for mapping, lidar, mobile apps, software systems, artificial diet designs and functional diversity of info-chemicals. The second section of the book is devoted to "Emerging Areas in Pest Management" and offers a glimpse of diversified tactics that have been developed to contain and suppress pest populations such as endophytes, insect vectors of phytoplasma, Hymenopterans parasitoids, mass production and utilization of NPV etc. In turn, the third section focuses on "Integrated Pest Management" and presents farming situations that illustrate how research in diversified aspects has helped to find solutions to specific pest problems, and how some new and evolving tactics can be practically implemented. Given its scope, the book offers a valuable asset for entomology and plant pathology researchers, students of zoology and plant protection, and readers whose work involves agriculture, horticulture, forestry and other ecosystems.

Computational Collective Intelligence Ngoc Thanh Nguyen 2019-10-04 This two-volume set (LNAI 11683 and LNAI 11684) constitutes the refereed proceedings of the 11th International Conference on Computational Collective Intelligence, ICCCI 2019, held in Hendaye France, in September 2019. The 117 full papers presented were carefully reviewed and selected from 200 submissions. The papers are grouped in topical sections on: computational collective intelligence and natural language processing; machine learning in real-world data; distributed collective intelligence for smart manufacturing; collective intelligence for science and technology; intelligent management information systems; intelligent sustainable smart cities; new trends and challenges in education: the university 4.0; intelligent processing of multimedia in web systems; and big data streaming, applications and security.

Optimal Planning of Smart Grid With Renewable Energy Resources Jain, Naveen 2021-12-10 Understanding the

recent developments in renewable energy is crucial for a range of fields in today's society. As environmental awareness and the need for a more sustainable future continues to grow, the uses of renewable energy, particularly in areas such as smart grid, must be considered and studied thoroughly to be implemented successfully and move society toward a more sustainable future. *Optimal Planning of Smart Grid With Renewable Energy Resources* offers a detailed guide to the new problems and opportunities for sustainable growth in engineering by focusing on modeling diverse problems occurring in science and engineering as well as novel effective theoretical methods and robust optimization theories, which can be used to analyze and solve multiple types of problems. Covering topics such as electric drives and energy systems, this publication is ideal for researchers, academicians, industry professionals, engineers, scholars, instructors, and students.

*Oncothermia: Principles and Practices* Andras Szasz 2010-11-23 Oncothermia is the next generation medical innovation that delivers selective, controlled and deep energy for cancer treatment. The basic principles for oncothermia stem from oncological hyperthermia, the oldest approach to treating cancer. Nevertheless, hyperthermia has been wrought with significant controversy, mostly stemming from shortcomings of controlled energy delivery. Oncothermia has been able to overcome these insufficiencies and prove to be a controlled, safe and efficacious treatment option. This book is the first attempt to elucidate the theory and practice of oncothermia, based on rigorous mathematical and biophysical analysis, not centered on the temperature increase. It is supported by numerous in-vitro and in-vivo findings and twenty years of clinical experience. This book will help scientists, researchers and medical practitioners in understanding the scientific and conceptual underpinnings of oncothermia and will add another valuable tool in the fight against cancer. Professor Andras Szasz is the inventor of oncothermia and the Head of St Istvan University's Biotechnics Department in Hungary. He has published over 300 papers and lectured at various universities around the world. Dr. Oliver Szasz is the managing director of Oncotherm, the global manufacturer and distributor of medical devices for cancer treatment used in Europe & Asia since the late 1980s. Dr. Nora Szasz is currently a management consultant in healthcare for McKinsey & Co.

*Recent Trends in Computational Intelligence* Ali Sadollah 2020-05-06 Traditional models struggle to cope with complexity, noise, and the existence of a changing environment, while Computational Intelligence (CI) offers solutions to complicated problems as well as reverse problems. The main feature of CI is adaptability, spanning the fields of machine learning and computational neuroscience. CI also comprises biologically-inspired technologies such as the intellect of swarm as part of evolutionary computation and encompassing wider areas such as image processing, data collection, and natural language processing. This book aims to discuss the usage of CI for optimal solving of various applications proving its wide reach and relevance. Bounding of optimization methods and data mining strategies make a strong and reliable prediction tool for handling real-life applications.

*Platform Chemical Biorefinery* Satinder Kaur Brar 2016-06-02 *Platform Chemical Biorefinery: Future Green Chemistry* provides information on three different aspects of platform chemical biorefinery. The book first presents a basic introduction to the industry beneficial for university students, then provides engineering details of existing or potential platform chemical biorefinery processes helpful to technical staff of biorefineries. Finally, the book presents a critical review of the entire platform chemical biorefinery process, including extensive global biorefinery practices and their potential environmental and market-related consequences. Platform chemicals are building blocks of different valuable chemicals. The book evaluates the possibility of renewable feedstock-based platform chemical production and the fundamental challenges associated with this objective. Thus, the book is a useful reference for both academic readers and industry technical workers. The book guides the research community working in the field of platform chemical biorefinery to develop new pathways and technologies in combination with their market value and desirability. Offers comprehensive coverage of platform chemicals biorefineries, recent advances and technology developments, potential issues for preventing commercialization, and solutions Discusses existing technologies for platform chemicals production, highlighting benefits as well their possible adverse effects on the environment and food security Includes a global market analysis of platform chemicals and outlines industry opportunities Serves as a useful reference for both academic readers and industry technical workers

*Looptail* Bruce Poon Tip 2013-09-24 Can a company be cool, socially responsible ... and still make money? Welcome to the looptail. This is the extraordinary true story of Bruce Poon Tip and how, with nothing more than two credit cards and a burning desire to create an authentic, sustainable travel experience like nothing the world had ever seen, he created G Adventures, the world's most successful adventure travel company. G Adventures operates in more than 100 countries, on all seven continents, serves more than 100,000 customers every year - and is now a significant player in Australia. In this unique first-person account, Poon Tip reveals his unusual management secrets that allowed him to keep growing his company, his employees fully engaged and energised, and his customers extremely happy. This is a singularly stunning story of why community, culture and karma matter in business, and how one man's desire to do the right thing and generate profits can be blended into a win-win for all involved. In this special Australian edition, Bruce Poon Tip writes about the unique

experiences and lessons learned which have fuelled the growth of his Australian business, and also about how Australia really could be better at presenting itself to the world's travellers. [www.gadventures.com.au](http://www.gadventures.com.au)

**Diseases of Ear, Nose & Throat Mohan Bansal 2018-05-31** This book is a complete guide to the diagnosis and management of ENT diseases for undergraduate medical students and trainees in otolaryngology. Divided into nine sections, the text begins with an overview of the anatomy and physiology of each part of the otolaryngologic system and explains bacteria, antibiotics, fungi and viruses, and HIV. The following sections cover numerous diseases and disorders in each otolaryngologic region – ear, nose and sinuses, oral cavity and salivary glands, pharynx and oesophagus, larynx, trachea and bronchus; and neck. The final chapters discuss surgical procedures, imaging, radio- and chemotherapy, anaesthesia, and laser surgery. The second edition has been fully revised to provide students with the latest information, and features many new topics, including a clinical highlights section to assist preparation for examinations, and a comprehensive appendix of 101 clinical secrets, problem-oriented clinical cases, and miscellaneous key points. The book is accompanied by a complimentary online resource featuring the full text as an ebook, MCQs with image-based questions, live surgery videos, and animation. Key points Fully revised, second edition providing comprehensive guide to ENT diseases Includes clinical highlights section and comprehensive appendix to assist with exam preparation Accompanied by free online resource featuring ebook, MCQs, and surgical videos Previous edition (9789350259436) published in 2012

**The Comprehensive Cancer Center Mahmoud Aljurf 2021-10-29** This open access book provides a valuable resource for hospitals, institutions, and health authorities worldwide in their plans to set up and develop comprehensive cancer care centers. The development and implementation of a comprehensive cancer program allows for a systematic approach to evidence-based strategies of prevention, early detection, diagnosis, treatment, and palliation. Comprehensive cancer programs also provide a nexus for the running of clinical trials and implementation of novel cancer therapies with the overall aim of optimizing comprehensive and holistic care of cancer patients and providing them with the best opportunity to improve quality of life and overall survival. This book's self-contained chapter format aims to reinforce the critical importance of comprehensive cancer care centers while providing a practical guide for the essential components needed to achieve them, such as operational considerations, guidelines for best clinical inpatient and outpatient care, and research and quality management structures. Intended to be wide-ranging and applicable at a global level for both high and low income countries, this book is also instructive for regions with limited resources. The Comprehensive Cancer Center: Development, Integration, and Implementation is an essential resource for oncology physicians including hematologists, medical oncologists, radiation oncologists, surgical oncologists, and oncology nurses as well as hospitals, health departments, university authorities, governments and legislators.

**Laser-induced Graphene Ruquan Ye 2020-11-30** LIG is a revolutionary technique that uses a common CO<sub>2</sub> infrared laser scribe, like the one used in any machine shop, for the direct conversion of polymers into porous graphene under ambient conditions. This technique combines the preparation and patterning of 3D graphene in a single step, without the use of wet chemicals. The ease in the structural engineering and excellent mechanical properties of the 3D graphene obtained have made LIG a versatile technique for applications across many fields. This book compiles cutting-edge research on LIG by different research groups all over the world. It discusses the strategies that have been developed to synthesize and engineer graphene, including controlling its properties such as porosity, composition, and surface characteristics. The authors are pioneers in the discovery and development of LIG and the book will appeal to anyone involved in nanotechnology, chemistry, environmental sciences, and device development, especially those with an interest in the synthesis and applications of graphene-based materials.

**Catalysis for Clean Energy and Environmental Sustainability K. K. Pant 2022-04-12** This book is part of a two-volume work that offers a unique blend of information on realistic evaluations of catalyst-based synthesis processes using green chemistry principles and the environmental sustainability applications of such processes for biomass conversion, refining, and petrochemical production. The volumes provide a comprehensive resource of state-of-the-art technologies and green chemistry methodologies from researchers, academics, and chemical and manufacturing industrial scientists. The work will be of interest to professors, researchers, and practitioners in clean energy catalysis, green chemistry, chemical engineering and manufacturing, and environmental sustainability. This volume focuses on the potentials, recent advances, and future prospects of catalysis for biomass conversion and value-added chemicals production via green catalytic routes. Readers are presented with a mechanistic framework assessing the development of product selective catalytic processes for biomass and biomass-derived feedstock conversion. The book offers a unique combination of contributions from experts working on both lab-scale and industrial catalytic processes and provides insight into the use of various catalytic materials (e.g., mineral acids, heteropolyacid, metal catalysts, zeolites, metal oxides) for clean energy production and environmental sustainability.

**First International Conference on Artificial Intelligence and Cognitive Computing Raju Surampudi Bapi 2018-11-04** This book presents original research works by researchers, engineers and practitioners in the field of artificial intelligence and cognitive computing. The book is divided into two parts, the first of which focuses on artificial

intelligence (AI), knowledge representation, planning, learning, scheduling, perception-reactive AI systems, evolutionary computing and other topics related to intelligent systems and computational intelligence. In turn, the second part focuses on cognitive computing, cognitive science and cognitive informatics. It also discusses applications of cognitive computing in medical informatics, structural health monitoring, computational intelligence, intelligent control systems, bio-informatics, smart manufacturing, smart grids, image/video processing, video analytics, medical image and signal processing, and knowledge engineering, as well as related applications.

**Recent Findings in Intelligent Computing Techniques** Pankaj Kumar Sa 2019 This three volume book contains the Proceedings of 5th International Conference on Advanced Computing, Networking and Informatics (ICACNI 2017). The book focuses on the recent advancement of the broad areas of advanced computing, networking and informatics. It also includes novel approaches devised by researchers from across the globe. This book brings together academic scientists, professors, research scholars and students to share and disseminate information on knowledge and scientific research works related to computing, networking, and informatics to discuss the practical challenges encountered and the solutions adopted. The book also promotes translation of basic research into applied investigation and convert applied investigation into practice.

**The Costs and Benefits of Ownership** Sanford J. Grossman 1984

**Methodologies in Amine Synthesis** Alfredo Ricci 2021-02-23 Provides a unique overview of efficient synthetic routes to one of the most important compound classes in organic and pharmaceutical chemistry! Amines are among the most important compounds in organic chemistry due to their wide occurrence in natural products, drugs, crop protection compounds, and advanced materials. For example, the majority of drugs are amines or contain functional groups derived from amines. Powerful and efficient methods for the introduction of the amino group are therefore of great importance to synthetic chemists in academia and industry. **Methodologies in Amine Synthesis ? Challenges and Applications** presents powerful and state-of-the-art methods for the efficient preparation of amines. It summarizes recent advances in the electrophilic amination reaction, hydroamination, C-H amination as well as newly developed photocatalytic approaches. It further describes organocatalytic and enzymatic routes to the generation of amines under mild and environmentally friendly conditions. In addition, it highlights the relevance of the amino function in bioactive molecules, drugs, and in the engineering of smart materials. Finally, the application of palladium-catalyzed aromatic amination in industrial context is critically discussed. \* Only up-to-date and comprehensive book on the preparation of amines ? one of the most frequently occurring compound classes found in natural products, bioactive molecules, and advanced materials. \* Presents efficient and useful synthetic methods, highlights opportunities/ challenges as well as applications in pharmaceutical chemistry and materials science. \* Chapters are compiled by well-known experts in the field. One of them edited the previous books ?Modern Amination Methods? (2001) and ?Amino Group Chemistry? (2007). The book **Methodologies in Amine Synthesis ? Challenges and Applications** is a musthave for chemists in academia and industry working in the field of organic synthesis and catalysis, natural product chemistry, drug synthesis and pharmaceutical chemistry, as well as materials science.

**Electronic Circuits (Sie) 3E** Neamen 2007

**Solid State Physics and Electronics** RK Puri | VK Babbar 2008 The present edition is brought up to incorporate the useful suggestions from a number of readers and teachers for the benefit of students. A topic on common-collector configuration is added to the chapter XIII. A new chapter on logic gates is introduced at the end. Keeping in view the present style of university Question papers, a number of very short, short and long thoroughly revised and corrected to remove the errors which crept into earlier editions.

**Handbook of Biomass Valorization for Industrial Applications** Shahid UI-Islam 2022-02-23 **HANDBOOK of BIOMASS VALORIZATION for INDUSTRIAL APPLICATIONS** The handbook provides a comprehensive view of cutting-edge research on biomass valorization, from advanced fabrication methodologies through useful derived materials, to current and potential application sectors. Industrial sectors, such as food, textiles, petrochemicals and pharmaceuticals, generate massive amounts of waste each year, the disposal of which has become a major issue worldwide. As a result, implementing a circular economy that employs sustainable practices in waste management is critical for any industry. Moreover, fossil fuels, which are the primary sources of fuel in the transportation sector, are also being rapidly depleted at an alarming rate. Therefore, to combat these global issues without increasing our carbon footprint, we must look for renewable resources to produce chemicals and biomaterials. In that context, agricultural waste materials are gaining popularity as cost-effective and abundantly available alternatives to fossil resources for the production of a variety of value-added products, including renewable fuels, fuel components, and fuel additives. **Handbook of Biomass Valorization for Industrial Applications** investigates current and emerging feedstocks, as well as provides in-depth technical information on advanced catalytic processes and technologies that enable the development of all possible alternative energy sources. The 22 chapters of this book comprehensively cover the valorization of agricultural wastes and their various uses in value-added applications like energy, biofuels, fertilizers, and wastewater treatment. Audience The book is intended for a very broad audience working in the fields of materials sciences, chemical engineering,

nanotechnology, energy, environment, chemistry, etc. This book will be an invaluable reference source for the libraries in universities and industrial institutions, government and independent institutes, individual research groups, and scientists working in the field of valorization of biomass.

Unmanned Aerial Vehicles for Internet of Things (IoT) Vandana Mohindru 2021-08-03 The 15 chapters in this book explore the theoretical as well as a number of technical research outcomes on all aspects of UAVs. UAVs has widely differing applications such as disaster management, structural inspection, goods delivery, transportation, localization, mapping, pollution and radiation monitoring, search and rescue, farming, etc. The advantages of using UAVs are countless and have led the way for the full integration of UAVs, as intelligent objects into the IoT system. The book covers cover such subjects as: Efficient energy management systems in UAV based IoT networks IoE enabled UAVs Mind-controlled UAV using Brain-Computer Interface (BCI) The importance of AI in realizing autonomous and intelligent flying IoT Blockchain-based solutions for various security issues in UAV-enabled IoT The challenges and threats of UAVs such as hijacking, privacy, cyber-security, and physical safety.

Proceedings of International Conference on Recent Advancement on Computer and Communication Basant Tiwari 2018-04-18 The book is a compilation of best papers presented at International Conference on Recent Advancement in Computer and Communication (ICRAC 2017) organized by IMPLab Research and Innovation Foundation, Bhopal, India. The book covers all aspects of computers and communication techniques including pervasive computing, distributed computing, cloud computing, sensor and adhoc network, image, text and speech processing, pattern recognition and pattern analysis, digital signal processing, digital electronics, telecommunication technologies, robotics, VLSI technologies, embedded system, satellite communication, digital signal processing, and digital communication. The papers included are original research works of experts from industry, government centers and academic institutions; experienced in engineering, design and research.

Advanced Informatics for Computing Research Ashish Kumar Luhach 2019-09-16 This two-volume set (CCIS 1075 and CCIS 1076) constitutes the refereed proceedings of the Third International Conference on Advanced Informatics for Computing Research, ICAICR 2019, held in Shimla, India, in June 2019. The 78 revised full papers presented were carefully reviewed and selected from 382 submissions. The papers are organized in topical sections on computing methodologies; hardware; information systems; networks; software and its engineering.

COVID-19 Moones Rahmandoust 2021-08-13 This book highlights the overview of the COVID-19 pandemic from both the scientific and the social perspectives. The scientific part presents key facts of COVID-19, including the structure of the virus and the techniques for the diagnosis, treatment, and vaccine development against the disease, covering state-of-the-art findings and achievements worldwide. The social part is written by WHO professionals who worked on the frontier of the fight against the disease. It covers the global security situation during the pandemic, the WHO and governmental-level risk management measures, and the estimated impact that COVID-19 will eventually create on social life after it is globally controlled.

N-Heterocyclic Carbenes in Organocatalysis Akkattu T. Biju 2019-04-01 Summarizing the emerging field of N-heterocyclic carbenes used in organocatalysis, this is an excellent overview of the synthesis and applications of NHCs focusing on carbon-carbon and carbon-heteroatom bond formation. Alongside comprehensive coverage of the synthesis, characteristics and applications, this handbook and ready reference also includes chapters on NHCs for polymerization reactions and natural product synthesis.

Ambient Communications and Computer Systems Gregorio Martinez Perez 2018-03-20 This book includes high-quality, peer-reviewed papers from the International Conference on Recent Advancement in Computer, Communication and Computational Sciences (RACCCS-2017), held at Aryabhata College of Engineering & Research Center, Ajmer, India on September 2–3, 2017, presenting the latest developments and technical solutions in computational sciences. Data science, data- and knowledge engineering require networking and communication as a backbone and have a wide scope of implementation in engineering sciences. Keeping this ideology in mind, the book offers insights that reflect the advances in these fields from upcoming researchers and leading academicians across the globe. Covering a variety of topics, such as intelligent hardware and software design, advanced communications, intelligent computing technologies, advanced software engineering, the web and informatics, and intelligent image processing, it helps those in the computer industry and academia use the advances of next-generation communication and computational technology to shape real-world applications.

Biomedical Natural Language Processing Kevin Bretonnel Cohen 2014-02-15 Biomedical Natural Language Processing is a comprehensive tour through the classic and current work in the field. It discusses all subjects from both a rule-based and a machine learning approach, and also describes each subject from the perspective of both biological science and clinical medicine. The intended audience is readers who already have a background in natural language processing, but a clear introduction makes it accessible to readers from the fields of bioinformatics and computational biology, as well. The book is suitable as a reference, as well as a text

for advanced courses in biomedical natural language processing and text mining.

**Dietary Phytochemicals** Chukwuebuka Egbuna 2021-08-20 This book presents comprehensive coverage on the importance of good nutrition in the treatment and management of obesity, cancer and diabetes. Naturally occurring bioactive compounds are ubiquitous in most dietary plants available to humans and provide opportunities for the management of diseases. The text provides information about the major causes of these diseases and their association with nutrition. The text also covers the role of dietary phytochemicals in drug development and their pathways. Later chapters emphasize novel bioactive compounds as anti-diabetic, anti-cancer and anti-obesity agents and describe their mechanisms to regulate cell metabolism. Written by global team of experts, *Dietary Phytochemicals: A Source of Novel Bioactive Compounds for the Treatment of Obesity, Cancer and Diabetes* describes the potentials of novel phytochemicals, their sources, and underlying mechanism of action. The chapters were drawn systematically and incorporated sequentially to facilitate proper understanding. This book is intended for nutritionists, physicians, medicinal chemists, drug developers in research and development, postgraduate students and scientists in area of nutrition and life sciences.

**Advanced Informatics for Computing Research** Dharm Singh 2017-07-21 This book constitutes the refereed proceedings of the First International Conference on Advanced Informatics for Computing Research , ICAICR 2017, held in Jalandhar, India, in March 2017. The 32 revised full papers presented were carefully reviewed and selected from 312 submissions. The papers are organized in topical sections on computing methodologies, information systems, security and privacy, network services.

**Chemical Catalysts for Biomass Upgrading** Mark Crocker 2020-01-28 A comprehensive reference to the use of innovative catalysts and processes to turn biomass into value-added chemicals *Chemical Catalysts for Biomass Upgrading* offers detailed descriptions of catalysts and catalytic processes employed in the synthesis of chemicals and fuels from the most abundant and important biomass types. The contributors?noted experts on the topic?focus on the application of catalysts to the pyrolysis of whole biomass and to the upgrading of bio-oils. The authors discuss catalytic approaches to the processing of biomass-derived oxygenates, as exemplified by sugars, via reactions such as reforming, hydrogenation, oxidation, and condensation reactions. Additionally, the book provides an overview of catalysts for lignin valorization via oxidative and reductive methods and considers the conversion of fats and oils to fuels and terminal olefins by means of esterification/transesterification, hydrodeoxygenation, and decarboxylation/decarbonylation processes. The authors also provide an overview of conversion processes based on terpenes and chitin, two emerging feedstocks with a rich chemistry, and summarize some of the emerging trends in the field. This important book: -Provides a comprehensive review of innovative catalysts, catalytic processes, and catalyst design -Offers a guide to one of the most promising ways to find useful alternatives for fossil fuel resources -Includes information on the most abundant and important types of biomass feedstocks -Examines fields such as catalytic cracking, pyrolysis, depolymerization, and many more Written for catalytic chemists, process engineers, environmental chemists, bioengineers, organic chemists, and polymer chemists, *Chemical Catalysts for Biomass Upgrading* presents deep insights on the most important aspects of biomass upgrading and their various types.

**Clinical Bioinformatics** Ronald J. A. Trent 2016-08-23 In *Clinical Bioinformatics, Second Edition*, leading experts in the field provide a series of articles focusing on software applications used to translate information into outcomes of clinical relevance. Recent developments in omics, such as increasingly sophisticated analytic platforms allowing changes in diagnostic strategies from the traditional focus on single or small number of analytes to what might be possible when large numbers or all analytes are measured, are now impacting patient care. Covering such topics as gene discovery, gene function (microarrays), DNA sequencing, online approaches and resources, and informatics in clinical practice, this volume concisely yet thoroughly explores this cutting-edge subject. Written in the successful *Methods in Molecular Biology* series format, chapters include introductions to their respective topics, lists of the necessary materials and reagents, step-by-step, readily reproducible protocols, and notes on troubleshooting and avoiding known pitfalls. Authoritative and easily accessible, *Clinical Bioinformatics, Second Edition* serves as an ideal guide for scientists and health professionals working in genetics and genomics.

**Biomass Valorization** Davide Ravelli 2021-06-08 *Biomass Valorization* Explore the potential of biomass-based chemicals with this comprehensive new reference from leading voices in the field With the depletion of fossil raw materials a readily ascertainable inevitability, the exploitation of biomass-based renewable derivatives becomes ever more practical and realistic. In *Biomass Valorization: Sustainable Methods for the Production of Chemicals*, accomplished researchers and authors Davide Ravelli and Chiara Samori deliver a thorough compilation of state-of-the-art techniques and most advanced strategies used to convert biomass into useful building blocks and commodity chemicals. Each chapter in this collection of insightful papers begins by detailing the core components of the described technology, along with a fulsome description of its advantages and limitations, before moving on to a discussion of recent advancements in the field. The discussions are grouped by the processed biomass, such as terrestrial biomass, aquatic biomass, and biomass-deriving waste. Readers will also benefit from the inclusion of: A thorough introduction to the role of biomass in the production of chemicals An

exploration of biomass processing via acid, base and metal catalysis, as well as biocatalysis A practical discussion of biomass processing via pyrolysis and thermochemical-biological hybrid processes A concise treatment of biomass processing assisted by ultrasound and via electrochemical, photochemical and mechanochemical means Perfect for chemical engineers, catalytic chemists, biotechnologists, and polymer chemists, Biomass Valorization: Sustainable Methods for the Production of Chemicals will also earn a place in the libraries of environmental chemists and professionals working with organometallics and natural products chemists.

Advances in Computing and Data Sciences Mayank Singh 2017-07-19 This book constitutes the refereed proceedings of the First International Conference on Advances in Computing and Data Sciences, ICACDS 2016, held in Ghaziabad, India, in November 2016. The 64 full papers were carefully reviewed and selected from 502 submissions. The papers are organized in topical sections on Advanced Computing; Communications; Informatics; Internet of Things; Data Sciences.

Computing, Communication and Signal Processing Brijesh Iyer 2018-09-14 This book highlights cutting-edge research on various aspects of human–computer interaction (HCI). It includes selected research papers presented at the Third International Conference on Computing, Communication and Signal Processing (ICASP 2018), organized by Dr. Babasaheb Ambedkar Technological University in Lonere-Raigad, India on January 26–27, 2018. It covers pioneering topics in the field of computer, electrical, and electronics engineering, e.g. signal and image processing, RF and microwave engineering, and emerging technologies such as IoT, cloud computing, HCI, and green computing. As such, the book offers a valuable guide for all scientists, engineers and research students in the areas of engineering and technology.

Proceedings of the International Conference on Recent Cognizance in Wireless Communication & Image Processing Nitin Afzalpulkar 2016-04-28 This volume comprises the proceedings of the International Conference on Recent Cognizance in Wireless Communication & Image Processing. It brings together content from academicians, researchers, and industry experts in areas of Wireless Communication and Image Processing. The volume provides a snapshot of current progress in computational creativity and a glimpse of future possibilities. The proceedings include two kinds of paper submissions: (i) regular papers addressing foundation issues, describing original research on creative systems development and modeling; and (ii) position papers describing work-in-progress or research directions for computational creativity. This work will be useful to professionals and researchers working in the core areas of wireless communications and image processing.

The Case for Marriage Linda Waite 2002-03-05 A groundbreaking look at marriage, one of the most basic and universal of all human institutions, which reveals the emotional, physical, economic, and sexual benefits that marriage brings to individuals and society as a whole. The Case for Marriage is a critically important intervention in the national debate about the future of family. Based on the authoritative research of family sociologist Linda J. Waite, journalist Maggie Gallagher, and a number of other scholars, this book's findings dramatically contradict the anti-marriage myths that have become the common sense of most Americans. Today a broad consensus holds that marriage is a bad deal for women, that divorce is better for children when parents are unhappy, and that marriage is essentially a private choice, not a public institution. Waite and Gallagher flatly contradict these assumptions, arguing instead that by a broad range of indices, marriage is actually better for you than being single or divorced— physically, materially, and spiritually. They contend that married people live longer, have better health, earn more money, accumulate more wealth, feel more fulfillment in their lives, enjoy more satisfying sexual relationships, and have happier and more successful children than those who remain single, cohabit, or get divorced. The Case for Marriage combines clearheaded analysis, penetrating cultural criticism, and practical advice for strengthening the institution of marriage, and provides clear, essential guidelines for reestablishing marriage as the foundation for a healthy and happy society. "A compelling defense of a sacred union. The Case for Marriage is well written and well argued, empirically rigorous and learned, practical and commonsensical." -- William J. Bennett, author of The Book of Virtues "Makes the absolutely critical point that marriage has been misrepresented and misunderstood." -- The Wall Street Journal [www.broadwaybooks.com](http://www.broadwaybooks.com)

Rising Threats in Expert Applications and Solutions Vijay Singh Rathore 2020-10-01 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.

Advances in Communication, Devices and Networking Rabinranath Bera 2018-05-23 The book provides insights of International Conference in Communication, Devices and Networking (ICCDN 2017) organized by the Department of Electronics and Communication Engineering, Sikkim Manipal Institute of Technology, Sikkim, India during 3 – 4 June, 2017. The book discusses latest research papers presented by researchers, engineers,

academicians and industry professionals. It also assists both novice and experienced scientists and developers, to explore newer scopes, collect new ideas and establish new cooperation between research groups and exchange ideas, information, techniques and applications in the field of electronics, communication, devices and networking.

**Heterogeneous Catalysts** Wey Yang Teoh 2021-06-08 Presents state-of-the-art knowledge of heterogeneous catalysts including new applications in energy and environmental fields This book focuses on emerging techniques in heterogeneous catalysis, from new methodology for catalysts design and synthesis, surface studies and operando spectroscopies, ab initio techniques, to critical catalytic systems as relevant to energy and the environment. It provides the vision of addressing the foreseeable knowledge gap unfilled by classical knowledge in the field. **Heterogeneous Catalysts: Advanced Design, Characterization and Applications** begins with an overview on the evolution in catalysts synthesis and introduces readers to facets engineering on catalysts; electrochemical synthesis of nanostructured catalytic thin films; and bandgap engineering of semiconductor photocatalysts. Next, it examines how we are gaining a more precise understanding of catalytic events and materials under working conditions. It covers bridging pressure gap in surface catalytic studies; tomography in catalysts design; and resolving catalyst performance at nanoscale via fluorescence microscopy. Quantum approaches to predicting molecular reactions on catalytic surfaces follows that, along with chapters on Density Functional Theory in heterogeneous catalysis; first principles simulation of electrified interfaces in electrochemistry; and high-throughput computational design of novel catalytic materials. The book also discusses embracing the energy and environmental challenges of the 21st century through heterogeneous catalysis and much more. Presents recent developments in heterogeneous catalysis with emphasis on new fundamentals and emerging techniques Offers a comprehensive look at the important aspects of heterogeneous catalysis Provides an applications-oriented, bottoms-up approach to a high-interest subject that plays a vital role in industry and is widely applied in areas related to energy and environment **Heterogeneous Catalysts: Advanced Design, Characterization and Applications** is an important book for catalytic chemists, materials scientists, surface chemists, physical chemists, inorganic chemists, chemical engineers, and other professionals working in the chemical industry.

**Lignin Valorization** Gregg T. Beckham 2018-03-29 A comprehensive, interdisciplinary picture of how lignocellulosic biorefineries could potentially employ lignin valorization technologies.