

Papermaking Science And Technology Cepi

This book presents the aspects of cellulose obtained in correlation with its integration into the new concept of biorefining. The authors detail the individual steps of pulp manufacture as well as properties and fiber characterization techniques for paper, cellulose derivatives and processing by-products. This book is of interest to scientists and advanced students working in the fields of renewable resources and biorefining.

The definitive industry reference on the paper and paperboardpackaging sector. Now in a fully revised and updated second edition, this bookdiscusses all the main types of packaging based on paper andpaperboard. It considers the raw materials, the manufacture ofpaper and paperboard, and the basic properties and features onwhich packaging made from these materials depends for itsappearance and performance. The manufacture of twelve types ofpaper- and paperboard-based packaging is described, together withtheir end-use applications and the packaging machinery involved.The importance of pack design is stressed, as well as how thesematerials offer packaging designers opportunities for imaginativeand innovative design solutions. Environmental factors, includingresource sustainability, societal and waste management issues areaddressed in a dedicated chapter. The book is directed at readers based in companies whichmanufacture packaging grades of paper and paperboard, companiesinvolved in the design, printing and production of packaging, andcompanies which manufacture inks, coatings, adhesives and packagingmachinery. It will be essential reading for students of packagingtechnology and technologists working in food manufacturing who areusers of paper and paperboard packaging products. Praise for the First Edition 'This book is a valuable addition to the library of anyforward-looking company by providing in-depth coverage of allaspects of packaging which involve the most ecologically acceptablematerial, namely paper and paperboard.'—InternationalJournal of Dairy Technology '...a welcome contribution to a field where coverage waspreviously limited to subject-specific books... or to singlechapters in textbooks on broader aspects of packagingtechnology.'—Packaging Technology and Science

This publication provides and introductory text to the subject of paper science and manufacture. The chapter headings include: the uses and types of paper and the principle converting process; the measurement of the properties of paper; factors affecting the properties of paper; stock preparation; headbox forming; pressing and drying; surface treatment; claendering; winding.

High-Tech Applications

Paper Technology
Paper
Wood and Fiber Science
Pulp and Paper Processing

Winner of the International Solid Waste Association's 2014 Publication Award, Handbook of Recycling is an authoritative review of the current state-of-the-art of recycling, reuse and reclamation processes commonly implemented today and how they interact with one another. The book addresses several material flows, including iron, steel, aluminum and other metals, pulp and paper, plastics, glass, construction materials, industrial by-products, and more. It also details various recycling technologies as well as recovery and collection techniques. To completely round out the picture of recycling, the book considers policy and economic implications, including the impact of recycling on energy use, sustainable development, and the environment. With contemporary recycling literature scattered across disparate, unconnected articles, this book is a crucial aid to students and researchers in a range of disciplines, from materials and environmental science to public policy studies. Portrays recent and emerging technologies in metal recycling, by-product utilization and management of post-consumer waste Uses life cycle analysis to show how to reclaim valuable resources from mineral and metallurgical wastes Uses examples from current professional and industrial practice, with policy and economic implications

Black Liquor Gasification (BLG) is a first of its kind to guide chemical engineers, students, operators of paper plants, technocrats, and entrepreneurs on practical guidelines and a holistic techno-enviro-economic perspective applicable to their future or existing projects based on the treatment of black liquor for energy production. BLG describes the gasification process as a more efficient alternative to current processes for the conversion of black liquor biomass into energy. BLG operates largely in sync with other methods to improve pulp-making efficiency. This book explains how BLG offers a way to generate electricity and to reclaim pulping chemicals from black liquor, and why BLG would replace the Tomlinson recovery boiler for the recovery of spent chemicals and energy. Describes the utilization of black liquor as a source of energy Provides a detailed account of black liquor gasification processes for the production of energy and chemicals from black liquor Provides guidelines to chemical engineers for the treatment of black liquor

Over time, the increased use of fresh water for agriculture and industry together with contamination from discharges of pollutants, mean that ever more areas of the planet are becoming water-stressed. Because of the competing needs of communities and industry for fresh water, industry will be challenged to meet its growing demands for water, which is essential for producing the goods and services that would boost human welfare. Thus industry will need to learn how to cost-effectively purify and recycle its wastewater for reuse, ultimately approaching a net zero-discharge condition. The chapters in this book, written by international experts, treat the technical issues of such treatment and water management, and also provide guidance on technologies, either existing or in development, that can potentially achieve the goal of recycle-reuse. The book will serve as a useful reference for academics, government and industry professionals alike.

Pulp Production and Processing

Volume 2: Paper and Board Making

Handbook of Paper and Board

Energy Conservation

Pulping Chemistry and Technology

Hungarian R&D Articles

The production of forestry products is based on a complex chain of knowledge in which the biological material wood with all its natural variability is converted into a variety of fiber-based products, each one with its detailed and specific quality requirements. This four volume set covers the entire spectrum of pulp and paper chemistry and technology from starting material to processes and products including market demands. Supported by a grant from the Ljungberg Foundation, the Editors at the Royal Institute of Technology, Stockholm, Sweden coordinated over 30 authors from university and industry to create this comprehensive overview. This work is essential for all students of wood science and a useful reference for those working in the pulp and paper industry or on the chemistry of renewable resources.

International list of library associations.

Pulp and Paper Industry: Chemical Recovery examines the scientific and technical advances that have been made in chemical recovery, including the very latest developments. It looks at general aspects of the chemical recovery process and its significance, black liquor

evaporation, black liquor combustion, white liquor preparation, and lime reburning. The book also describes the technologies for chemical recovery of nonwood black liquor, as well as direct alkali regeneration systems in small pulp mills. In addition, it includes a

discussion of alternative chemical recovery processes, i.e. alternative causticization and gasification processes, and the progress being made in the recovery of filler, coating color, and pigments. Furthermore, it discusses the utilization of new value streams (fuels and chemicals) from residuals and spent pulping liquor, including related environmental challenges. Offers thorough and in-depth coverage of scientific and technical advances in chemical recovery in pulp making Discusses alternative chemical recovery processes, i.e.,

alternative causticization and gasification processes Covers the progress being made in the recovery of filler, coating color, and pigments Examines utilization of new value streams (fuels and chemicals) from residuals and spent pulping liquor Discusses environmental challenges (air emissions, mill closure) Presents ways in which the economics, energy efficiency, and environmental protection associated with the recovery process can be improved

Industrial Tree Plantations and the World Paper Economy

Paper and Board Grades

Appita Journal

Prices of Paper

Environmental Management in Practice

Official Journal of the Paper Industry Technical Association

Pulp and Paper Industry: Energy Conservation presents a number of energy-efficient technologies and practices that are cost-effective and available for implementation today. Emerging energy-efficient technologies and future prospects in this field are also dealt with. Qualitative and quantitative results/data on energy savings for various s specific book on this topic. This will be a comprehensive reference in the field. Thorough and in-depth coverage of energy-efficient technologies and practices in paper and pulp industry Presents cost-effective and available for implementation today technologies Discusses Biotechnological processes, especially enzymatic processes in the pulp and paper industry Improve the product quality Presents qualitative and quantitative results/data on energy savings for various steps of pulp and paper making process

This book will focus on lignocellulosic fibres as a raw material for several applications. It will start with wood chemistry and morphology. Then, some fibre isolation processes will be given, before moving to composites, panel and paper manufacturing, characterization and aging.

Pulp Production and ProcessingHigh-Tech ApplicationsWalter de Gruyter GmbH & Co KG

Waste

Biermann's Handbook of Pulp and Paper

Trends and Perspectives

Management of Pulp and Paper Mill Waste

Forest Systems

A Series of 19 Books Covering the Latest Technology and Future Trends

In recent years the topic of environmental management has become very common. In sustainable development conditions, central and local governments much more often notice the need of acting in ways that diminish negative impact on environment. Environmental management may take place on many different levels - starting from global level, e.g. climate changes, through national and regional level to local level. This book presents a series of 19 books covering the latest technology and future trends in environmental management. The diversity of presented aspects within environmental management and approaching the subject from the perspective of various countries contributes greatly to the development of environmental management field of research.

Implementing Cleaner Production in the pulp and paper industry The large—and still growing—pulp and paper industry is a capital- and resource-intensive industry that contributes to many environmental problems, including global warming, human toxicity, ecotoxicity, photochemical oxidation, acidification, nitrification, and solid wastes. This important reference for professionals in the pulp and paper industry that not only cut down on the emission of pollutants but also increase productivity and decrease costs. Environmentally Friendly Production of Pulp and Paper guides professionals in the pulp and paper industry to implement the internationally recognized process of Cleaner Production (CP). It provides updated information on CP measures in: Raw material storage and preparation Pulping process Papermaking Emission treatment and recycled fiber processing In addition, the book includes a discussion on recent cleaner technologies and their implementation status and benefits in the pulp and paper industry. Covering every aspect of pulping and papermaking essential to the subject of reducing pollution, this is a must-have for paper and bioprocess engineers, environmental engineers, and researchers.

Data from some countries, however, suggest that sustainable forest management practices can be effective in keeping forest carbon stocks stable over time.

Security of Industrial Water Supply and Management

Handbook of Paper and Paperboard Packaging Technology

Pulp and Paper Industry

World Guide to Special Libraries: Libraries M-Z. Index

Material Recycling

New and Renewable Technologies for Sustainable Development

The Conference Theme was: "Moving Africa forward through Engineering, Technology and Innovation". The conference brought together academics, researchers and industrialists from many disciplines, in particular those that have the most impact on Africa's Development. Most conferences on the continent have covered limited disciplines and therefore the opportunity has been lost sharing information, results and knowledge in a way which can solve the many contentious issues, most of which can be solved through a multidisciplinary approach.

Papermaking is a fascinating art and technology. The second edition of this successful 2 volume handbook provides a comprehensive view on the technical, economic, ecologic and social background of paper and board. It has been updated, revised and largely extended in depth and width including the further use of paper and board in converting and printing. A wide knowledge basis is a prerequisite in evaluating and optimizing the whole process chain to ensure efficient paper and board production. The same is true in their application and end use. The book covers a wide range of topics:
* Raw materials required for paper and board manufacturing such as fibers, chemical additives and fillers
* Processes and machinery applied to prepare the stock and to produce the various paper and board grades including automation and trouble shooting
* Paper converting and printing processes, book preservation
* The different paper and board grades as well as testing and analysing fiber suspensions, paper and board products, and converted or printed matters
* Environmental and energy factors as well as safety aspects. The handbook will provide professionals in the field, e. g. papermakers as well as converters and printers, laymen, students, politicians and other interested people with the most up-to-date and comprehensive information on the state-of- the-art techniques and aspects involved in paper making, converting and printing.

Pulp and paper mill industries are always associated with the disposal problem of highly contaminated sludge or bio-solids. The development of innovative systems to maximize recovery of useful materials and/or energy in a sustainable way has become necessary. The management of wastes, in particular of industrial waste, in an economically and environmentally acceptable manner is one of the most critical issues facing modern industry, mainly due to the increased difficulties in properly locating disposal works and complying with even more stringent environmental quality requirements imposed by legislation. This book presents a general Introduction on waste management in the pulp and paper industry and contains topics on the generation of waste in pulp and paper mills, waste composition, methods of sludge pre-treatment, processes and technologies for conversion of pulp and paper mill waste into valuable products, waste reduction techniques employed in the pulp and paper Industry worldwide and future trends.

Papermaking Science and Technology

Journal of the Society of Wood Science and Technology

Paper Manufacture and Paper Science

World Guide to Special Libraries

Environmentally Friendly Production of Pulp and Paper

Biotechnology for Pulp and Paper Processing

Paper recycling in an increasingly environmentally conscious world is gaining importance. Increased recycling activities are being driven by robust overseas markets as well as domestic demand. Recycled fibers play a very important role today in the global paper industry as a substitute for virgin pulps. Paper recovery rates continue to increase year after year Recycling technologies have been improved in recent years by advances in pulping, flotation deinking and cleaning/screening, resulting in the quality of paper made from secondary fibres approaching that of virgin paper. The process is a lot more eco-friendly than the virgin-papermaking process, using less energy and natural resources, produce less solid waste and fewer atmospheric emissions, and helps to preserve natural resources and landfill space. Currently more than half of the paper is produced from recovered papers. Most of them are used to produce brown grades paper and board but for the last two decades, there is a substantial increase in the use of recovered papers to produce, through deinking, white grades such as newsprint, tissue, market pulp. By using recycled paper, companies can take a significant step toward reducing their overall environmental impacts. This study deals with the scientific and technical advances in recycling and deinking including new developments. Covers in great depth all the aspects of recycling technologies Covers the latest science and technology in recycling Provides up-to-date, authoritative information and cites many mills experiences and pertinent research

Includes the use of biotech methods for deinking, refining, and improving drainage
The expansion of the pulp and paper industry is one of the most important causes of land and water conflicts in the South. This book examines the threat to livelihood, soil and biodiversity generated by large-scale pulpwood plantations in the South.

Biermann's Handbook of Pulp and Paper: Paper and Board Making, Third Edition provides a thorough introduction to paper and board making, providing paper technologists recent information. The book emphasizes principles and concepts behind papermaking, detailing both the physical and chemical processes. It has been

updated, revised and extended. Several new chapters have been added. Papermaking chemistry has found an adequate scope covering this important area by basics and practical application. Scientific and technical advances in refining, including the latest developments have been presented. The process of stock preparation describes the unit processes. An exhaustive overview of Chemical additives in Pulp and Paper Industry is included. Paper and pulp processing and additive chemicals are an integral part of the total papermaking process from pulp slurry, through sheet formation, to effluent disposal. Water circuits with loop designs and circuit closure are presented. The chapter on paper and board manufacture covers the different sections in the paper machine and also fabrics, rolls and roll covers, and describes the different types of machines producing the various paper and board grades. Coating is dealt with in a separate chapter covering color formulation and preparation and also coating application. Paper finishing gives an insight into what happens at roll slitting and handling. The chapter on environmental impact includes waste water treatment and handling, air emissions, utilization and solid residue generation and mitigation . The major paper and board grades and their properties, are described. Biotechnological methods for paper processing are also presented. This handbook is essential reading for Applied Chemists, Foresters, Chemical Engineers, Wood Scientists, and Pulp and Paper technologist/ Engineers, and anyone else interested or involved in the pulp and paper industry. Provides comprehensive coverage on all aspects of papermaking Covers the latest science and technology in papermaking Includes traditional and biotechnological methods, a unique feature of this book Presents the environmental impact of papermaking industries Sets itself apart as a valuable reference that every pulp and papermaker/engineer/chemist will find extremely useful

A Handbook for Management

Chemical Recovery

Food Packaging Technology

Recycling and Deinking of Recovered Paper

Handbook of Sustainable Polymers

Black Liquor Gasification

The presently common practice of wastes' land-filling is undesirable due to legislation pressures, rising costs and the poor biodegradability of commonly used materials. Therefore, recycling seems to be the best solution. The purpose of this book is to present the state-of-the-art for the recycling methods of several materials, as well as to propose potential uses of the recycled products. It targets professionals, recycling companies, researchers, academics and graduate students in the fields of waste management and polymer recycling in addition to chemical engineering, mechanical engineering, chemistry and physics. This book comprises 16 chapters covering areas such as, polymer recycling using chemical, thermo-chemical (pyrolysis) or mechanical methods, recycling of waste tires, pharmaceutical packaging and hardwood kraft pulp and potential uses of recycled wastes.

Sustainable polymers play an indispensable role in the emergence of green materials, and the 21st century is an era of sustainable polymeric materials. Sustainable polymer-based materials have attracted considerable interest because of the energy crisis and ecological concerns as well as the potential to substitute certain petroleum-derived materials. This book covers the fundamentals of sustainable polymers and presents guidelines in a logical and clear manner for students and researchers to follow. It is a milestone that will help accelerate the progress and advancement in the field of sustainable polymers. The text explores the structure and chemistry of various sustainable polymers, such as cellulose, hemicellulose, lignin, chitosan, starch, guar gum, pectin, and protein, for the possible development of green sustainable materials.

This book gives emphasis to wood fiber raw materials, alternative sources of fibers for paper production, environmental issues, paper quality improvement and cost of paper production. Varieties of non-wood raw materials, including kenaf, rice straw, empty fruit bunches of palm trees, bamboo, bagasse, etc., are considered in this book. The process of fiber treatment also varied to meet paper quality improvement. Different organosolv processes of fiber treatment are discussed. Considering contemporary issues, one particular chapter analyzes the environmentally friendly way of processing non-wood fibers for paper production. The book also contains a chapter on the by-product raw materials of paper production and their profitable applications.

Paper and Timber

Ulrich's Periodicals Directory

Impact of the Global Forest Industry on Atmospheric Greenhouse Gases

State-of-the-art for Practitioners, Analysts, and Scientists

Renewable Materials for Today's Environment

The Chemical Engineer

The book provides the most up-to-date information available on various biotechnological processes useful in the pulp and paper industry. The first edition was published in 2011, covering a specific biotechnological process or technique, discussing the advantages, limitations, and prospects of the most important and popular processes used in the industry. Many new developments have taken place in the last five years, warranting a second edition on this topic. The new edition contains about 35% new material covering topics in Laccase application in fibreboard; biotechnology in forestry; pectinases in papermaking; stickies control with pectinase; products from hemicelluloses; value added products from biorefinery lignin; use of enzymes in mechanical pulping.

The protection and preservation of a product, the launch of new products or re-launch of existing products, perception of added-value to products or services, and cost reduction in the supply chain are all objectives of food packaging. Taking into consideration the requirements specific to different products, how can one package successfully meet all of these goals? Food Packaging Technology provides a contemporary overview of food processing and packaging technologies. Covering the wide range of issues you face when developing innovative food packaging, the book includes: Food packaging strategy, design, and development Food biodeterioation and methods of preservation Packaged product quality and shelf life Logistical packaging for food marketing systems Packaging materials and processes The battle rages over which type of container should be used for which application. It is therefore necessary to consider which materials, or combination of materials and processes will best serve the market and enhance brand value. Food Packaging Technology gives you the tools to determine which form of packaging will meet your business goals without compromising the safety of your product.

Sustainable development encompasses economic, social, and ecological perspectives of conservation and change in natural resources. It is generally defined as development that meets the needs of the present without compromising the ability of future generations to meet their own needs. This definition is based on the ethical imperative of equity within and between generations. Moreover, apart from meeting; "the basic needs of all"; sustainable development implies sustaining the natural life support systems on Earth, and extending to all the opportunity to satisfy their aspirations for a better life. Hence, sustainable development is more precisely defined as a process of change in which the exploitation of resources, the direction of investments, the orientation of technological development, and institutional change are all in harmony and enhance both current and future potential to meet human needs and aspiration. To date, various definitions and stationary-state criteria of sustainability have been proposed. Many authors have been concerned with only part of the problem, such as the technological assumptions, the ability to substitute natural resources in economic transformation processes, and the resilience and importance of ecological processes. But, the social dimension did not receive the same attention, and has not been adequately integrated into formal analysis. The engineering community has to play an important role in sustainable development with appropriate evaluation of the engineering systems. In this respect energy, water and environment systems require multi-criteria evaluation methods for the assessment of the economic, environmental and social aspect of the systems.

EAI International Conference for Research, Innovation and Development for Africa

Journal of the Technical Association of the Australian and New Zealand Pulp and Paper Industry

ACRID 2017

Lignocellulosic Fibers and Wood Handbook

Structure and Chemistry

Science and technology

Waste: A Handbook for Management, Second Edition, provides information on a wide range of hot topics and developing areas, such as hydraulic fracturing, microplastics, waste management in developing countries, and waste-exposure-outcome pathways. Beginning with an overview of the current waste landscape, including green engineering, processing principles and regulations, the book then outlines waste streams and treatment methods for over 25 different types of waste and reviews best practices and management, challenges for developing countries, risk assessment, contaminant pathways and risk tradeoffs. With an overall focus on waste recovery, reuse, prevention and lifecycle analysis, the book draws on the experience of an international team of expert contributors to provide reliable guidance on how best to manage wastes for scientists, managers, engineers and policymakers in both the private and public sectors. Covers the assessment and treatment of different waste streams in a single book Provides a hands-on report on each type of waste problem as written by an expert in the field Highlights new findings and evolving problems in waste management via discussion boxes

Handbook of Recycling

Pulping the South