

### Philips Cm 10 Tem Uwo

Raman imaging has long been used to probe the chemical nature of a sample, providing information on molecular orientation, symmetry and structure with sub-micron spatial resolution. Recent technical developments have pushed the limits of micro-Raman microscopy, enabling the acquisition of Raman spectra with unprecedented speed, and opening a pathway to fast chemical imaging for many applications from material science and semiconductors to pharmaceutical drug development and cell biology, and even art and forensic science. The promise of tip-enhanced raman spectroscopy (TERS) and near-field techniques is pushing the envelope even further by breaking the limit of diffraction and enabling nano-Raman microscopy.

Bioactive Polysaccharides offers a comprehensive review of the structures and bioactivities of bioactive polysaccharides isolated from traditional herbs, fungi, and seaweeds. It describes and discusses specific topics based on the authors' rich experience, including extraction technologies, practical techniques required for purification and fractionation, strategies and skills for elucidating the fine structures, in-vitro and in-vivo protocols, and methodologies for evaluating the specific bioactivities, including immune-modulating activities, anti-cancer activities, anti-oxidant activities, and others. This unique book also discusses partial structure-functionality (bioactivities) relationships based on conformational studies. This comprehensive work can be used as a handbook to explore potential applications in foods, pharmaceuticals, and nutraceutical areas for commercial interests. Serves as a comprehensive review on extraction technologies, and as a practical guide for the purification and fractionation of bioactive polysaccharides Brings step-by-step strategies for elucidating the fine structures and molecular characterizations of bioactive polysaccharides Includes detailed experimental design and methodologies for investigation bioactivities using both in-vitro and in-vivo protocols Clarifies how to extract, purify, and fractionate bioactive polysaccharides, also exploring health benefits Useful as a guide to explore the commercial potentials of bioactive polysaccharides as pharmaceuticals, medicine, and functional foods

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.

This book reviews understanding of the biological roles of extracellular molecular chaperones. It provides an overview of the structure and function of molecular chaperones, their role in the cellular response to stress and their disposition within the cell. It also questions the basic paradigm of molecular chaperone biology - that these proteins are first and foremost protein-folding molecules. Paradigms of protein secretion are reviewed and the evolving concept of proteins (such as molecular chaperones) as multi-functional molecules for which the term 'moonlighting proteins' has been introduced is discussed. The role of exogenous molecular chaperones as cell regulators is examined and the physiological and pathophysiological role that molecular chaperones play is described. In the final section, the potential therapeutic use of molecular chaperones is described and the final chapter asks the question - what does the future hold for the extracellular biology of molecular chaperones?

Digital Labour and Karl Marx  
Generative Programming and Component Engineering

Case Studies

Volume I

Kalimpong as a "Contact Zone"

Polymer Nanoparticles for Nanomedicines

*This book is the outcome of a series of discussions at the Philips Symposium on Intelligent Algorithms, held in Eindhoven in December 2004. It offers exciting and practical examples of the use of intelligent algorithms in ambient and biomedical computing. It contains topics such as bioscience computing, database design, machine consciousness, scheduling, video summarization, audio classification, semantic reasoning, machine learning, tracking and localization, secure computing, and communication.*

*This volume is the proceedings of the NATO Advanced Study Institute, "Diffusion in Materials", held at "Centre Paul Langevin", Aussois, during March 12-25, 1989. There were 105 participants of whom 24 were lecturers and members of the international advisory committee. In addition to the participants from NATO countries, a small number of participants came from Australia, Hungary, Poland and Tunisia. The principal aim of the organizing committee was to bring together scientists of wide interest and expertise in the field of diffusion and to familiarize the young workers in material science with the wide range of theoretical models and methods and of experimental techniques . The Institute was concerned with the study of diffusion and related phenomena in solids which are at the cutting edge of novel technologies. The discussion of basic theories of defects in solids and their transport, with their applications in the understanding of diffusion processes in "simple solids" was followed by the wide range of current theoretical models and methods, experimental techniques and their potential. The lectures on the diffusion in specific materials included : metals, dilute and concentrated alloys, simple and compound semiconductors, stoichiometric and non-stoichiometric oxides, high-Tc compounds, carbides, nitrides, silicates, conducting polymers and thin films, ionic, superionic, amorphous and irradiated materials.*

*Intelligent Algorithms in Ambient and Biomedical Computing*Springer Science & Business Media

*To you the reader, the joy of discovery begins, for We continue in our goal of providing a text which us the job is done. In this edition, we have corrected is useful, not only to the clinician, but of equal interest past deficiencies, added new topics, expanded infor- to the investigator. The selection of content has been mation regarding the pediatric age group, provided directed at topics of current interest rather than those up to date (March 2003) references, while remaining of historic contribution. We have stressed the cont- true to our concept of a multi-national author book. bution of cell biology and pathophysiology, were it We continue to believe that scientific information is an exists, believing it provides both a better understa- international commodity whose interpretation and ap- ing of toxic injury when known, and a rational dir- plication are strongly influenced by both the cultural tion for therapy and prevention. and ethnic background of the observer. The oppor- nity to share in the rich diversity of the international We are encouraged by the accumulation of rec- scientific community remains a fundamental goal of nized risk factors, which allow pre-treatment strati- this endeavor. To participate as equals leads to mu- cation of our patients' relative risk and allow us to - tual respect and peer appreciation. The sharing of in- cus our preventative techniques on the individuals tellectual resources fostered by this effort should and most likely to gain the greatest benefit.*

*Growth and Applications*

*Bioactive Polysaccharides*

*Carbyne and Carbynoid Structures*

*Agrobacterium Protocols*

*Project Management*

*Fundamentals of Hand Therapy*

As the emerging field of proteomics continues to expand at an extremely rapid rate, the relative quantification of proteins, targeted by their function, becomes its greatest challenge. Complex analytical strategies have been designed that allow comparative analysis of large proteomes, as well as in depth detection of the core proteome or the interaction network of a given protein of interest. In Functional Proteomics: Methods and Protocols, expert researchers describe the latest protocols being developed to address the problems encountered in high-throughput proteomics projects, with emphasis on the factors governing the technical choices for given applications. The case studies within the volume focus on the following three crucial aspects of the experimental design: 1) the strategy used for the selection, purification and preparation of the sample to be analyzed by mass spectrometry, 2) the type of mass spectrometer used and the type of data to be obtained from it, and 3) the method used for the interpretation of the mass spectrometry data and the search engine used for the identification of the proteins in the different types of sequence data banks available. As a part of the highly successful Methods in Molecular Biology™ series, the chapters compile step-by-step, readily reproducible laboratory protocols, lists of the necessary materials and reagents, and tips on troubleshooting and avoiding known pitfalls. Comprehensive and cutting-edge, Functional Proteomics: Methods and Protocols is an ideal resource for all scientists pursuing this developing field and its multitudinous data.

Sustainable Engineering: Principles and Implementation provides a comprehensive overview of the interdisciplinary field of sustainability as it applies to engineering and methods for implementation of sustainable practices. Due to increasing constraints on resources and on the environment and effects of climate change, engineers are being faced with new challenges. While it is generally believed that the concepts of sustainable design must be adhered to so that future generations may be protected, the execution and practice of these concepts are very difficult. It is therefore the focus of this book to give both a conceptual understanding as well as practical skills to apply sustainable engineering principles to engineering design. This book introduces relevant theory, principles, and ethical expectations for engineers, presents concepts related to industrial ecology, green engineering, and eco-design, and details frameworks that indicate the challenges and constraints of applying sustainable development principles. It describes the tools, protocols, and guidelines that are currently available through case studies and examples from around the world. The book is designed to be used by undergraduate and graduate students in any engineering program (with particular emphasis on civil, environmental and chemical engineering) and other programs in which sustainability is taught, in addition to practicing scientists and engineers and all others concerned with the sustainability of products, projects and processes. Specific Features: Discusses sources of contaminants and their impact on the environment Addresses sustainable assessment techniques, policies, protocols and guidelines Describes new tools and technologies for achieving sustainable engineering Includes social and economic sustainability dimensions Offers case studies demonstrating implementation of sustainable engineering practices

A practical manual covering the full spectrum of PET and PET/CT imaging, now in common clinical practice, this book includes images of normal variants, artifacts, and pathologic conditions. Indications for and the relative clinical value of PET in the armamentarium of diagnostic medical imaging are reviewed. The information in the book is organized to be brief, concise, easy-to-understand and readily accessed. This book is intended for all health practitioners who need a concise reference and review of PET imaging indications, protocols and clinical applications. It will be useful to radiologists, nuclear medicine physicians, and clinicians who refer their patients to PET Centers for diagnostic imaging, including neurologists, neurosurgeons, psychiatrists, cardiologists, internists, and oncologists. Radiologic and nuclear medicine technologists, and physicians in training will also benefit from this work.

A new edition of the most popular book of project management case studies, expanded to include more than 100 cases plus a "super case" on the Iridium Project Case studies are an important part of project management education and training. This Fourth Edition of Harold Kerzner's Project Management Case Studies features a number of new cases covering value measurement in project management. Also included is the well-received "super case," which covers all aspects of project management and may be used as a capstone for a course. This new edition: Contains 100-plus case studies drawn from real companies to illustrate both successful and poor implementation of project management Represents a wide range of industries, including medical and pharmaceutical, aerospace, manufacturing, automotive, finance and banking, and telecommunications Covers cutting-edge areas of construction and international project management plus a "super case" on the Iridium Project, covering all aspects of project management Follows and supports preparation for the Project Management Professional (PMP®) Certification Exam Project Management Case Studies, Fourth Edition is a valuable resource for students, as well as practicing engineers and managers, and can be used on its own or with the new Eleventh Edition of Harold Kerzner's landmark reference, Project Management: A Systems Approach to Planning, Scheduling, and Controlling. (PMP and Project Management Professional are registered marks of the Project Management Institute, Inc.)

Historic Resource Study for Muir Woods National Monument

Nanotechnology: Science and Computation

Functional Proteomics

Perinatal Psychopharmacology

Culturing, Biochemistry, Ecophysiology and Use in Biomonitoring

Clinical Nephrotoxins

Neuropeptides rank among the phylogenetically oldest interneuronal signal substances. In the concept of neuro-secretion they were identified as neurohormones by which - via the blood - the brain regulates peripheral functions. It is now evident that the neuropeptides act as neurotransmitters/-modulators, as (neuro-)hormones, and paracrine or autocrine signal substances in diverse parts of the body. This book reviews, in several comprehensive articles written by distinguished specialists, the state of the art in the field of neuropeptides and peptidergic neurons. Special topics concern molecular aspects of processing, release and degradaton of neuropeptides, receptors and signal transduction, comparative and behavioural aspects, and immunoregulatory effects of neuropeptides and their involvement on pathology of the central nervous system.

Carbon Nanotubes are among the strongest, toughest, and most stiff materials found on earth. Moreover, they have remarkable electrical and thermal properties, which make them suitable for many applications including nanocomposites, electronics, and chemical detection devices. This book is the effort of many scientists and researchers all over the world to bring an anthology of recent developments in the field of nanotechnology and more specifically CNTs. In this book you will find: - Recent developments in the growth of CNTs- Methods to modify the surfaces of CNTs and decorate their surfaces for specific applications- Applications of CNTs in biocomposites such as in orthopedic bone cement- Application of CNTs as chemical sensors- CNTs for fuelcells- Health related issues when using CNTs

This book constitutes the refereed proceedings of the Second International Conference on Generic Programming and Component Engineering, GPCE 2003, held in Erfurt, Germany in September 2003. The 21 revised full papers presented were carefully reviewed and selected from 62 submissions. The papers are organized in topical sections on domain-specific languages, staged programming, modeling to code, aspect-orientation, meta-programming and language extension, automating design-to-code transitions, principled domain-specific approaches, and generation and translation.

Gregarines are apicomplexans and exclusively parasites of invertebrates. After the basic publication in the *Traité de Zoologie* by Grassé in 1953, this second edition is proposed to update the knowledge with information provided by new technologies such as electron microscopy, biochemistry and molecular biology and to enlighten their high diversity of adaptation to invertebrate hosts living in a diversity of biotopes. Morphological features, life cycles, host-parasite interactions and taxonomical data are most informative for the understanding of the evolution of the phylum Apicomplexa.

Clinical Reasoning and Treatment Guidelines for Common Diagnoses of the Upper Extremity

Sustainability and New Opportunities

Applications of Chalcogenides: S, Se, and Te

Security, Privacy, and Trust in Modern Data Management

Principles of Polymer Chemistry

Carbon Nanotubes

How is labour changing in the age of computers, the Internet, and "social media" such as Facebook, Google, YouTube and Twitter? In Digital Labour and Karl Marx, Christian Fuchs attempts to answer that question, crafting a systematic critical theorisation of labour as performed in the capitalist ICT industry. Relying on a range of global case studies--from unpaid social media prosumers or Chinese hardware assemblers at Foxconn to miners in the Democratic Republic of Congo--Fuchs sheds light on the labour costs of digital media, examining the way ICT corporations exploit human labour and the impact of this exploitation on the lives, bodies, and minds of workers.

This is a book on one of the most fascinating and controversial areas in contemporary science of carbon, chemistry, and materials science. It concisely summarizes the state of the art in topical and critical reviews written by professionals in this and related fields.

In this highly praised and seminal work, Alan Merriam demonstrates that music is a social behavior--one worthy and available to study through the methods of anthropology. In it, he convincingly argues that ethnomusicology, by definition, cannot separate the sound-analysis of music from its cultural context of people thinking, acting, and creating. The study begins with a review of the various approaches in ethnomusicology. He then suggests a useful and simple research model: ideas about music lead to behavior related to music and this behavior results in musical sound. He explains many aspects and outcomes of this model, and the methods and techniques he suggests are useful to anyone doing field work. Further chapters provide a cross-cultural round-up of concepts about music, physical and verbal behavior related to music, the role of the musician, and the learning and composing of music. The Anthropology of Music illuminates much of interest to musicologists but to social scientists in general as well.

Gives concrete examples of how to justify the validity of every single digit of a numerical answer.

Molecular Chaperones and Cell Signalling

Secure Data Management

The Peptidergic Neuron

5th VLDB Workshop, SDM 2008, Auckland, New Zealand, August 24, 2008, Proceedings

The Early Branching Apicomplexa

Raman Imaging

This book introduces readers to a wide range of applications for elements in Group 16 of the periodic table, such as, optical fibers for communication and sensing, X-ray imaging, electrochemical sensors, data storage devices, biomedical applications, photovoltaics and IR detectors, the rationale for these uses, the future scope of their applications, and expected improvements to existing technologies. Following an introductory section, the book is broadly divided into three parts—dealing with Sulfur, Selenium, and Tellurium. The sections cover the basic structure of the elements and their compounds in bulk and nanostructured forms; properties that make these useful for various applications, followed by applications and commercial products. As the global technology revolution necessitates the search for new materials and more efficient devices in the electronics and semiconductor industry, Applications of Chalcogenides: S, Se, and Te is an ideal book for a wide range of readers in industry, government and academic research facilities looking beyond silicon for materials used in the electronic and optoelectronic industry as well as biomedical applications.

A significantly updated translation of Lichtabsorption und Photochemie Organischer Molekule, published by VCH in 1989. A graduate textbook that provides a qualitative description of electronic excitation in organic molecules and of the associated spectroscopy, photophysics, and photochemistry. The treatment is non- mathematical and emphasizes the use of simple qualitative models for developing an intuitive feeling for the course of photophysical and photochemical processes in terms of potential energy hypersurfaces. Special attention is paid to recent developments, particularly to the role of conical intersections. Annotation copyright by Book News, Inc., Portland, OR

The vision of ubiquitous computing and ambient intelligence describes a world of technology which is present anywhere, anytime in the form of smart, sensible devices that communicate with each other and provide personalized services. However, open interconnected systems are much more vulnerable to attacks and unauthorized data access. In the context of this threat, this book provides a comprehensive guide to security and privacy and trust in data management.

This book constitutes the refereed proceedings of the Fifth VLDB Workshop on Secure Data Management, SDM 2008, held in Auckland, New Zealand, on August 24, 2008, in conjunction with VLDB 2008. The 11 full papers were selected for publication in the book from 32 submissions. In addition, 3 position papers and a keynote paper are included. The papers are organized in topical sections on database security, trust management, privacy protection, and security and privacy in healthcare.

Diffusion in Materials

Biomedical Natural Language Processing

Advances in Information Retrieval

A Study in High-Accuracy Numerical Computing

Fish Processing

Sustainable Engineering

Nanoscale science and computing is becoming a major research area as today’s scientists try to understand the processes of natural and biomolecular computing. The field is concerned with the architectures and design of molecular self-assembly, nanostructures and molecular devices, and with understanding and exploiting the computational processes of biomolecules in nature. This book offers a unique and authoritative perspective on current research in nanoscale science, engineering and computing. Leading researchers cover the topics of DNA self-assembly in two-dimensional arrays and three-dimensional structures, molecular motors, DNA word design, molecular electronics, gene assembly, surface layer protein assembly, and membrane computing. The book is suitable for academic and industrial scientists and engineers working in nanoscale science, in particular researchers engaged with the idea of computing at a molecular level.

This successful textbook undergoes a change of character in the third edition. Where earlier editions covered organic polymer chemistry, the third edition covers both physical and organic chemistry. Thus kinetics and thermodynamics of polymerization reactions are discussed. This edition is also distinct from all other polymer textbooks because of its coverage of such currently hot topics as photonic polymers, electricity conducting polymers, polymeric materials for immobilization of reagents and drug release, organic solar cells, organic light emitting diodes. This textbook contains review questions at the end of every chapter, references for further reading, and numerous examples of commercially important processes.

This book focuses on recent advances in research and practical recommendations regarding the use of psychotropic drugs during pregnancy and lactation, two important social and psychological life events for women. In addition to the social context, including the addition of a new family member, many women experience the occurrence or recurrence of psychiatric disorders during the perinatal period. Psychiatric disorders during this period can have negative effects on the fetus, infant and other children in the family, and can result in functional impairment among mothers. The book offers a comprehensive overview of psychopharmacological treatments for nearly all specific psychiatric conditions (e.g. bipolar disorder, panic disorder, obsessive-compulsive disorder) and includes chapters on clinical approaches to treating these disorders. As such, it will appeal to a wide readership, including psychiatrists, obstetricians, gynecologists and pediatricians.

As an intricate association between a fungus and one or more green algae or cyanobacteria, lichens are one of the most successful examples of symbiosis. These fascinating organisms survive extreme desiccation and temperatures. They are adapted to a great variety of habitats, from deserts to intertidal zones, from tropical rain forests to the peaks of the Himalayas and to circumpolar ecosystems. Lichens are extremely efficient accumulators of atmospherically deposited pollutants, and are therefore widely used to monitor environmental pollution. Their wide range of secondary products show pharmaceutically interesting fungicidal, antibacterial and antiviral properties. Lichens are extremely difficult to culture. This manual provides well-tested tissue culture protocols, protocols for studying lichen ultrastructure, (eco)physiology, primary and secondary compounds, and for using lichens as bioindicators.

History of the Cherokee Indians and Their Legends and Folk Lore

Golden Gate National Recreation Area

Transcultural Encounters in the Himalayan Borderlands

Renal Injury from Drugs and Chemicals

Clinical PET and PET/CT

Gold Nanoparticles in Biomedical Applications

This volume serves as a valuable handbook for the development of nanomedicines made of polymer nanoparticles because it provides researchers, students, and entrepreneurs with all the material necessary to begin their own projects in this field. Readers will find protocols to prepare polymer nanoparticles using different methods, since these are based on the variety of experie encounter in the field. In addition, complex topics such as, the optimal characterization of polymer nanoparticles is discussed, as well as practical guidelines on how to formulate polymer nanoparticles into nanomedicines, and how to modify the properties of nanoparticles to give them the different functionalities required to become an efficient nanomedicine for different clinical book also discusses the translation of technology from research to practice, considering aspects related to industrialization of preparation and aspects of regulatory and clinical development.

This book discusses fabrication of functionalized gold nanoparticles (GNPs) and multifunctional nanocomposites, their optical properties, and applications in biological studies. This is the very first book of its kind to comprehensively discuss published data on in vitro and in vivo biodistribution, toxicity, and uptake of GNP by mammalian cells providing a systematization of data over and parameters, their surface functionalization, animal and cell models. As distinct from other related books, Gold Nanoparticles in Biomedical Applications discusses the immunological properties of GNPs and summarizes their applications as an antigen carrier and adjuvant in immunization for the preparation of antibodies in vivo. Although the potential of GNPs in nanobiotechnology recognized for the past decade, new insights into the unique properties of multifunctional nanostructures have recently emerged. With these developments in mind, this book unites ground breaking experimental data with a discussion of hybrid nanoparticle systems that combine different nanomaterials to create multifunctional structures. These novel hybrids constitute the mat

theranostics, bringing together the advanced properties of functionalized GNPs and composites into a single multifunctional nanostructure with simultaneous diagnostic and therapeutic functions. Such nanohybrids can be physically and chemically tailored for a particular organ, disease, and patient thus making personalized medicine available.

"Methods in Pulmonary Research" presents a comprehensive review of methods used to study physiology and the cell biology of the lung. The book covers the entire range of techniques from those that require cell cultures to those using in vivo experimental models. Up-to-date techniques such as intravital microscopy are presented. Yet standard methods such as classical short used to study tracheal transport are fully covered. This book will be extremely useful for all who work in pulmonary research, yet need a practical guide to incorporate other established methods into their research programs. Thus the book will prove to be a valuable resource for cell biologists who wish to use organs in their research programs as well biological scientists who a research programs into more cell related phenomena.

Emphasizes the development of clinical reasoning skills, describing the components of the evaluation process and addressing how to decide what to evaluate. Covers a broad array of common diagnoses seen in hand therapy, including shoulder and elbow disorders, peripheral nerve problems, wrist and hand fractures, tendonitis and tendonosis, finger sprains and deformities, tend arthritis, burns, infections, ganglion cysts, stiffness, Dupuytren's, -

Microwave Ferrites and Ferrimagnetics

Protocols in Lichenology

The SIAM 100-Digit Challenge

The Anthropology of Music

Second International Conference, GPCE 2003, Erfurt, Germany, September 22-25, 2003, Proceedings

*This book seeks to address the challenges facing the international seafood industry via a two pronged approach: by offering the latest information on established technologies and introducing new ideas and technologies. An introductory chapter sets the tone for the book by presenting the background against which fish processing will exist in the near future. Chapter two looks at the environmental and sustainability issues relating to conventional fish processing, including processing efficiency and better use of the outputs currently considered wastes. The impact of mechanisation and computerisation on environmental sustainability is also addressed. Subsequent chapters examine the latest developments in established fish processing technologies such as canning, curing, freezing and chilling, with an emphasis on the environmental aspects of packaging and the process itself. In addition, quality and processing parameters for specific species, including new species, are described. The second part of the book gives authors the opportunity to introduce the potential technologies and applications of the future to a wider audience. These include fermented products and their acceptance by a wider audience; the utilisation of fish processing by-products as aquaculture feeds; and the use of by-products for bioactive compounds in biomedical, nutraceutical, cosmetic and other applications.*

*Polysaccharide Nanoparticles: Preparation and Biomedical Applications provides detailed information on polysaccharides nanoparticles in terms of their synthesis and applications. Naturally occurring polysaccharides are widely used as food materials, particularly in Asia. Different kinds of polysaccharide materials are available from nature with various resources such as crustaceans and algae. The exploration and exploitation of polysaccharides nanoparticles from natural resource is at the heart of this book, which also explores the synthesis, preparation and applications of polysaccharides nanoparticles for tissue engineering and food applications. This is an important reference for materials scientists and bioengineers who are looking to gain a greater understanding on how polysaccharides nanoparticles are being used for a variety of biomedical applications. Explains the major synthesis and preparation methods of polysaccharide-based nanoparticles Demonstrates how polysaccharides nanoparticles are being used for a range of biomedical applications, including tissue engineering, drug delivery and biosensors Assesses the major challenges and risks of using polysaccharides nanoparticles safely and effectively*

*Agrobacterium tumefaciens is a soil bacterium that for more than a century has been known as a pathogen causing the plant crown gall disease. Unlike many other pathogens, Agrobacterium has the ability to deliver DNA to plant cells and permanently alter the plant genome. The discovery of this unique feature 30 years ago has provided plant scientists with a powerful tool to genetically transform plants for both basic research purposes and for agricultural development. Compared to physical transformation methods such as particle bomba- ment or electroporation, Agrobacterium-mediated DNA delivery has a number of advantages. One of the features is its propensity to generate a single or a low copy number of integrated transgenes with defined ends. Integration of a single transgene copy into the plant genome is less likely to trigger “gene silencing” often associated with multiple gene insertions. When the first edition of Agrobacterium Protocols was published in 1995, only a handful of plants could be routinely transformed using Agrobacterium. Agrobacterium-mediated transformation is now commonly used to introduce DNA into many plant species, including monocotyledon crop species that were previously considered non-hosts for Agrobacterium. Most remarkable are recent developments indicating that Agrobacterium can also be used to deliver DNA to non-plant species including bacteria, fungi, and even mammalian cells.*

*In Light Driven Micromachines, the fundamental principles and unique characteristics of light driven material structures, simple mechanisms and integrated machines are explored. Very small light driven systems provide a number of interesting features and unique design opportunities because streams of photons deliver energy into the system and provide the control signal used to regulate the response of the micron sized device. Through innovative material design and clever component fabrication, these optically powered tiny machines can be created to perform mechanical work when exposed to varying light intensity, wavelength, phase, and/or polarization. The book begins with the scientific background necessary to understand the nature of light and how light can initiate physical movement by inducing material deformation or altering the surrounding environment to impose micro-forces on the actuating mechanisms. The impact of physical size on the performance of light driven mechanisms and machines is discussed, and the nature of light-material interactions is reviewed. These interactions enable very small objects and mechanical components to be trapped and manipulated by a focused light beam, or produce local temperature gradients that force certain materials to undergo shape transformation. Advanced phase transition gels, polymers, carbon-based films and piezoelectric ceramics that exhibit direct light-to-mechanical energy conversion are examined from the perspective of designing optically driven actuators and mechanical systems. The ability of light to create photothermal effects that drive microfluidic processes and initiate the phase transformation of temperature sensitive shape memory materials are also explored in the book. This compendium seeks to inspire the next generation of scientists and engineers by presenting the fundamental principles of this emerging interdisciplinary technology and exploring how the properties of light can be exploited for microfluidic, microrobotic, biomedical and space applications.*

*Techniques and Applications*

*A Guide for their Design, Preparation and Development*

*Light Driven Micromachines*

*Methods and Protocols*

*Preparation and Biomedical Applications*

*Intelligent Algorithms in Ambient and Biomedical Computing*

This collaborative study investigates the hill station of Kalimpong and the larger Eastern Himalayan borderlands as a paradigmatic case of a llcontact zone. In the colonial and early post-colonial era, this space enabled a variety of encounters: between (British) India, Tibet, and China, but also Nepal and Bhutan; between Christian mission and Himalayan religions; between global flows of money and information and local markets and practices. Using a plethora of local and global historical sources, the contributing essays follow the pathways of people from diverse cultural backgrounds and investigate the new forms of knowledge and practice that resulted from their encounters and their shifting power relations. The volume provides not only a nuanced historiography of Kalimpong and its adjacent areas, but also a conceptual model for studying transcultural processes in borderland spaces and their colonial and post-colonial dynamics.

This two-volume set LNCS 12035 and 12036 constitutes the refereed proceedings of the 42nd European Conference on IR Research, ECIR 2020, held in Lisbon, Portugal, in April 2020.\* The 55 full papers presented together with 8 reproducibility papers, 46 short papers, 10 demonstration papers, 12 invited CLEF papers, 7 doctoral consortium papers, 4 workshop papers, and 3 tutorials were carefully reviewed and selected from 457 submissions. They were organized in topical sections named: Part I: deep learning I; entities; evaluation; recommendation; information extraction; deep learning II; retrieval; multimedia; deep learning III; queries; IR ll general; question answering, prediction, and bias; and deep learning IV. Part II: reproducibility papers; short papers; demonstration papers; CLEF organizers lab track; doctoral consortium papers; workshops; and tutorials. \*Due to the COVID-19 pandemic, this conference was held virtually.

42nd European Conference on IR Research, ECIR 2020, Lisbon, Portugal, April 14ll17, 2020, Proceedings, Part I

Treatise on Zoology - Anatomy, Taxonomy, Biology. The Gregarines (2 vols)

Methods in Pulmonary Research

Principles and Implementation

Polysaccharide Nanoparticles

Excited States and Photochemistry of Organic Molecules