

Fysik Nanoteknologi Aau

The bestselling Scaffolding Language, Scaffolding Learning helped tens of thousands of mainstream elementary teachers ensure that their English language learners became full members of the school community with the language and content skills they needed for success. In the highly anticipated Second Edition, Pauline Gibbons updates her classic text with a multitude of practical ideas for the classroom, supported by the latest research in the field of ELL/ESL. With clear directions and classroom tested strategies for supporting students' academic progress, Gibbons shows how the teaching of language can be integrated seamlessly with the teaching of content, and how academic achievement can be boosted without sacrificing our own vision of education to the dictates of knee-jerk accountability. Rich examples of classroom discourse illustrate exactly how the scaffolding process works, while activities to facilitate conversation and higher-level thinking put the latest research on second language learning into action. Save with Bundles! 15 copies at 15% off.

This book is a comprehensive review of high-temperature polymer electrolyte membrane fuel cells (PEMFCs). PEMFCs are the preferred fuel cells for a variety of applications such as automobiles, cogeneration of heat and power units, emergency power and portable electronics. The first 5 chapters of the book describe rationalization and illustration of approaches to high temperature PEM systems. Chapters 6 - 13 are devoted to fabrication, optimization and characterization of phosphoric acid-doped polybenzimidazole membranes, the very first electrolyte system that has demonstrated the concept of and motivated extensive research activity in the field. The last 11 chapters summarize the state-of-the-art of technological development of high temperature-PEMFCs based on acid doped PBI membranes including catalysts, electrodes, MEAs, bipolar plates, modelling, stacking, diagnostics and applications.

Lebbeus Woods is widely regarded as the most exciting and original architectural visionary today. His body of theoretical work and extraordinary drawings have served as inspiration for architects, artists, and legions of students. Radical Reconstruction, now available in paperback for the first time, contains projects that address the relationships between architecture and war, political revolution/reaction, and natural disasters. These projects define new approaches to the reconstruction of buildings and urban fabric damaged by unpredictable and largely uncontrollable forces of both human and natural origin.

Famous Russian work discusses the application of cylinder functions and spherical harmonics; gamma function; probability integral and related functions; Airy functions; hyper-geometric functions; more. Translated by Richard Silverman.

This graduate-level textbook gives an introductory overview of the fundamentals of quantum nonlinear optics. It deals with the organization of radiation field, interaction between electronic system and radiation field, statistics of light, and mutual manipulation of light and matter. It also covers laser oscillation, dynamics of light, nonlinear optical response, and nonlinear spectroscopy, as well as ultrashort and ultrastrong laser pulse. In addition, latest results of the frontier of this science are presented. Problems and solutions help the reader to master and review the material.

The global energy system is moving closer to a historic transformation. This year's edition of the International Energy Agency (IEA)'s comprehensive publication on energy technology focuses on the opportunities and challenges of scaling and accelerating the deployment of clean energy technologies. This includes looking at more ambitious scenarios than the IEA has produced before. Improvements in technology continue to modify the outlook for the energy sector, driving changes in business models, energy demand and supply patterns as well as regulatory approaches. Energy security, air quality, climate change and economic competitiveness are increasingly being factored in by decision makers. Energy Technology Perspectives 2017 (ETP 2017) details these trends as well as the technological advances that will shape energy security and environmental sustainability for decades to come. For the first time, ETP 2017 looks at how far clean energy technologies could move the energy sector towards higher climate change ambitions if technological innovations were pushed to their maximum practical limits. The analysis shows that, while policy support would be needed beyond anything seen to date, such a push could result in greenhouse gas emission levels that are consistent with the mid-point of the target temperature range of the global Paris Agreement on climate change. The analysis also indicates that regardless of the pathway chosen for the energy sector transformation, policy action is needed to ensure that multiple economic, security and other benefits to the accelerated deployment of clean energy technologies are realised through a systematic and co-ordinated approach. ETP 2017 also features the annual IEA Tracking Clean Energy Progress report, which shows that the current progress in clean energy technology development and deployment remains sub-optimal. It highlights that progress has been substantial where policies have provided clear signals on the value of technology innovation. But many technology areas still suffer from a lack of financial and policy support.

The branch of economics which studies the issues related to the efficiency, value, behaviour, and effectiveness in the production and consumption of health and healthcare is known as health economics. It involves the study of the functioning of the healthcare systems and the health affecting behaviors. The maintenance and improvement of health by preventing, diagnosing and treating illness, injuries, and diseases is called health care. Government intervention, barriers to entry, asymmetric information, and the presence of a third-party agent are some of the main factors which distinguish health economics from other related branches. In healthcare, the physician is the third-party agent, who is responsible for making purchasing decisions including the prescription of medicines, tests and surgery. This book studies, analyzes and upholds the pillars of the economics of health and healthcare and its utmost significance in modern times. It explores all the important aspects of health economics and healthcare in the present day scenario. Students, researchers, experts and all associated with health economics and healthcare will benefit alike from this book.

The contributions in this volume were presented at a NATO Advanced Study Institute held in Erice, Italy, 4-19 July 2013. Many aspects of important research into nanophotonics, plasmonics, semiconductor materials and devices, instrumentation for bio sensing to name just a few, are covered in depth in this volume. The growing connection between optics and electronics, due to the increasing important role plaid by

semiconductor materials and devices, find their expression in the term photonics, which also reflects the importance of the photon aspect of light in the description of the performance of several optical systems. Nano-structures have unique capabilities that allow the enhanced performance of processes of interest in optical and photonic devices. In particular these structures permit the nanoscale manipulation of photons, electrons and atoms; they represent a very hot topic of research and are relevant to many devices and applications. The various subjects bridge over the disciplines of physics, biology and chemistry, making this volume of interest to people working in these fields. The emphasis is on the principles behind each technique and on examining the full potential of each technique.

This volume offers an introduction to the life and work of the 3rd-century-AD Greco-Roman senator and historian Cassius Dio, whose work, although imperfectly preserved in 80 books, is of fundamental importance to our understanding of Roman history. It is said that Dio is not one of the best ancient historians and his Roman history, due to its sheer size, is often imprecise and superficial in its analysis. It has also been assumed that there was no political agenda behind the work, and that Dio's principal value to us is as a reliable copyist, who mediated the works of other, and better sources. This introduction to his life and work offers a different picture. Here, Dio is presented through his Greek cultural lens as a politician with a clear vision for how Roman politics and government should be organized. Carefully selected examples will be the starting points for fresh critical analysis of Dio's work and its legacy, both in antiquity and through to the Enlightenment. The book assumes no familiarity with Cassius Dio, his writing or context. All text will be translated and suggested further reading will point readers towards avenues for more detailed study.

This book illustrates the practical workings of environmental transmission electron microscopy (ETEM) from history and instrument design through to solving practical problems. Aspects of instrument design, performance, and operating procedures are covered, together with common problems and pitfalls of the technique. Not only will a properly operated instrument and a carefully set up experiment provide new insight into your specimen, but the ability to observe the specimen in its natural habitat will be essential to meeting specific design criteria for the development of the next generation of materials. Over the past five decades, transmission electron microscopy (TEM) under environmental conditions relevant to a particular sample has been of increasing interest. Symposia dealing with the topic are now among the best attended at international microscopy conferences. Since typical operating modes for the ETEM require the sample be subjected to a harsh environment consisting of corrosive gases and high temperatures, the challenges of adapting and operating the instrument for observation under dynamic operating conditions are numerous. However, careful consideration of the interaction of the electrons with the gases and sample, as well as the gases with the microscope components, can lead to highly rewarding results. In Controlled Atmosphere Transmission Electron Microscopy, leading experts help you to perform successful experiments using the ETEM, and to interpret and understand the results.

Bridges the gap between the history and theory of twentieth-century architecture and cultural theories of modernity. In this exploration of the relationship between modernity, dwelling, and architecture, Hilde Heynen attempts to bridge the gap between the discourse of the modern movement and cultural theories of modernity. On one hand, she discusses architecture from the perspective of critical theory, and on the other, she modifies positions within critical theory by linking them with architecture. She assesses architecture as a cultural field that structures daily life and that embodies major contradictions inherent in modernity, arguing that architecture nonetheless has a certain capacity to adopt a critical

stance vis-à-vis modernity. Besides presenting a theoretical discussion of the relation between architecture, modernity, and dwelling, the book provides architectural students with an introduction to the discourse of critical theory. The subchapters on Walter Benjamin, Ernst Bloch, Theodor Adorno, and the Venice School (Tafuri, Dal Co, Cacciari) can be studied independently for this purpose.

Nano-Structures for Optics and Photonics
Optical Strategies for Enhancing Sensing, Imaging, Communication and Energy Conversion
Springer

Estate Landscapes in Northern Europe is the first study of the role of the landed estate as an agent in the shaping of landscapes and societies across northern Europe over the past five centuries. Leading us into the fascinating variations of manorial worlds, the present volume seeks to open the field to include a broader perspective on estate landscapes. Estate - or manorial - landscapes were distinctive elements within the historic landscape and created their own character. Marked by larger scale fields associated with the home or demesne farm as well as a higher proportion of woodland and timber trees the landscapes reflected the scale of the resources available to the landowner and the control they exerted over the local communities. But they also represented the performative aspects of life for the elite, such as their engagement with hunting. While existing works have tended to emphasize the economic and agricultural aspect of estate landscapes, this volume draws out the social, cultural and political impact of manors and estates on landscapes throughout northern Europe. The chapters provide insights into a broad range of histories, such as the social worlds of burghers and nobility in the Dutch Republic, or the relationship between the distribution of land and the agitation for electoral reform in nineteenth-century England. Elsewhere in Scandinavia the impact of the reformation and conquest in Norway is balanced against the continuity of ownership in Sweden, where developing the natural resources for industrial enterprise such as ironworks and sawmills brought in new owners. Estate Landscapes in Northern Europe is the first product of the collaboration of researchers from Norway, Germany, Sweden, the United Kingdom, Denmark, and the Netherlands, joined together in the European Network for Country House and Estate Research (ENCOUNTER).

This book constitutes the refereed proceedings of the 11th International Conference on Data Warehousing and Knowledge Discovery, DaWak 2009 held in Linz, Austria in August/September 2009. The 36 revised full papers presented were carefully reviewed and selected from 124 submissions. The papers are organized in topical sections on data warehouse modeling, data streams, physical design, pattern mining, data cubes, data mining applications, analytics, data mining, clustering, spatio-temporal mining, rule mining, and OLAP recommendation.

This comprehensive and didactic overview explores the nonlinear effects from a physical point of view and discusses the implications for signal capacity. Enriched with practical considerations and experimental results, the book offers special

chapters dealing with applications of nonlinear effects for signal processing, ultrafast-optical switching, wavelength conversion, nonlinear amplification, and optical phase-conjugation. Equipped with chapter-end summaries and problems, this valuable reference can also serve as a graduate-level textbook.

In the Frontier Territories of Carvecia, a bear fisherman stopping briefly along a river trade town has an unexpected encounter with a mysterious canine gentleman on the run from dangerous bounty hunters. Circumstance brings these two unlikely men together on their travels. Pursued by agents of a conspiracy born in International waters, facing the elements and their own limitations, they must decide for themselves what is worth fighting for in life - and what connections matter most.

Iterative processing is an important technique with numerous applications. Exploiting the power of factor graphs, this detailed survey provides a general framework for systematically developing iterative algorithms for digital receivers, and highlights connections between important algorithms. Starting with basic concepts in digital communications, progressively more complex ideas are presented and integrated resulting in the development of cutting-edge algorithms for iterative receivers. Real-world applications are covered in detail, including decoding for turbo and LDPC codes, and detection for multi-antenna and multi-user systems. This accessible framework will allow the reader to apply factor graphs to practical problems, leading to the design of new algorithms in applications beyond digital receivers. With many examples and algorithms in pseudo-code, this book is an invaluable resource for graduate students and researchers in electrical engineering and computer science, and for practitioners in the communications industry. Additional resources for this title are available online at www.cambridge.org/9780521873154.

PEM Water Electrolysis, a volume in the Hydrogen Energy and Fuel Cell Primers series presents the most recent advances in the field. It brings together information that has thus far been scattered in many different sources under one single title, making it a useful reference for industry professionals, researchers and graduate students. Volumes One and Two allow readers to identify technology gaps for commercially viable PEM electrolysis systems for energy applications and examine the fundamentals of PEM electrolysis and selected research topics that are top of mind for the academic and industry community, such as gas cross-over and AST protocols. The book lays the foundation for the exploration of the current industrial trends for PEM electrolysis, such as power to gas application and a strong focus on the current trends in the application of PEM electrolysis associated with energy storage. Presents the fundamentals and most current knowledge in proton exchange membrane water electrolyzers Explores the technology gaps and challenges for commercial deployment of PEM water electrolysis technologies Includes unconventional systems, such as ozone generators Brings together information from many different sources under one single title, making it a useful reference for industry professionals, researchers and graduate students alike

Growing from tiny tadpoles to massive master jumpers, frogs and their life cycles are fascinating. How far can frogs jump? Why do their eggs look slimy? Answer these questions and many more in this illustrated introduction to amphibians. With her signature bright, well-labeled diagrams and simple text, Gail Gibbons introduces the habitat and life cycles of frogs and gives an overview of common frog behaviors. Important biology vocabulary is introduced, defined, and reinforced with kid-friendly language and clear

illustrations--plus a page of intriguing frog trivia and clear diagrams that show how frogs are different from toads. Bonus material is included about the unique role frogs play in the environment.

The use of natural fibres as reinforcements in composites has grown in importance in recent years. *Natural Fibre Composites* summarises the wealth of significant recent research in this area. Chapters in part one introduce and explore the structure, properties, processing, and applications of natural fibre reinforcements, including those made from wood and cellulosic fibres. Part two describes and illustrates the processing of natural fibre composites. Chapters discuss ethical practices in the processing of green composites, manufacturing methods and compression and injection molding techniques for natural fibre composites, and thermoset matrix natural fibre-reinforced composites. Part three highlights and interprets the testing and properties of natural fibre composites including, non-destructive and high strain rate testing. The performance of natural fibre composites is examined under dynamic loading, the response of natural fibre composites to impact damage is appraised, and the response of natural fibre composites in a marine environment is assessed. *Natural Fibre Composites* is a technical guide for professionals requiring an understanding of natural fibre composite materials. It offers reviews, applications and evaluations of the subject for researchers and engineers. Introduces and explores the structure, properties, processing, and applications of natural fibre reinforcements, including those made from wood and cellulosic fibres Highlights and interprets the testing and properties of natural fibre composites, including non-destructive and high strain rate testing Examines performance of natural fibre composites under dynamic loading, the response of natural fibre composites to impact damage, and the response of natural fibre composites in a marine environment

Nearly all of this book is taken from an article prepared for a volume of the *Encyclopedia of Physics*. This article, in turn, is partly based on Dr. Norbert Rosenzweig's translation of an older article on the same subject, written by one of us (H.A.B.) about 25 years ago for the *Geiger-Scheel Handbuch der Physik*. To the article written last year we have added some Addenda and Errata. These Addenda and Errata refer back to some of the 79 sections of the main text and contain some misprint corrections, additional references and some notes. The aim of this book is two-fold. First, to act as a reference work on calculations pertaining to hydrogen-like and helium-like atoms and their comparison with experiments. However, these calculations involve a vast array of approximation methods, mathematical tricks and physical pictures, which are also useful in the application of quantum mechanics to other fields. In many sections we have given more general discussions of the methods and physical ideas than is necessary for the study of the H- and He-atom alone. We hope that this book will thus at least partly fulfill its second aim, namely to be of some use to graduate students who wish to learn "applied quantum mechanics". A basic knowledge of the principles of quantum mechanics, such as given in the early chapters of Schiff's or Bohm's book, is presupposed.

Volumes for 1877- include Beretning fra Carlsbergfondet (varies) for 1877- (Beretning for 1940/1941- issued as a separately paged pt. 2 of the Oversight).

How are mountains formed? Why are there old and young mountains? Why do the shapes of South America and Africa fit so well

together? Why is the Pacific surrounded by a ring of volcanoes and earthquake prone areas while the edges of the Atlantic are relatively peaceful? Frisch and Meschede and Blakey answer all these questions and more through the presentation and explanation of the geo-dynamic processes upon which the theory of continental drift is based and which have lead to the concept of plate tectonics.

There has been an increasing interest in recent years in Nanophotonics. Nanophotonics is a very broad field, encompassing aspects from both a fundamental point of view and with regard to future applications in photonic devices and materials. The scope of the book is to introduce concept, methods, and applications in nanophotonics.

They show how social and cultural movements, from the Renaissance of the late 15th century to the environmental and global justice movements of our time, have provided contexts, or sites, for mixing scientific knowledge and technical skills from different fields and social domains into new combinations, thus fostering what the authors term a "hybrid imagination." Such a hybrid imagination is especially important today, as a way to counter the competitive and commercial "hubris" that is so much taken for granted in contemporary science and engineering discourses and practices with a sense of cooperation and social responsibility. The book portrays the history of science and technology as an underlying tension between hubris - literally the ambition to "play god" on the part of many a scientist and engineer and neglect the consequences - and a hybrid imagination, connecting scientific "facts" and technological "artifacts" with cultural understanding. ^

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