The Science And Technology Of Civil Engineering Materials

Can Science and Technology Save China? assesses the intimate connections between science and society in China, offering an in-depth look at how an array of sciences and technologies are being made, how they are interfacing with society, and with what effects. Focusing on critical domains of daily life, the chapters explore how scientists, technicians, surgeons, therapists, and other experts create practical knowledges and innovations, as well as how ordinary people take them up as they pursue the good life. Editors Greenhalgh and Zhang offer a rare, up-close view of the politics of Chinese science-making, showing how everyday logics, practices, and ethics of science, medicine, and technology are profoundly reshaping contemporary China. By foregrounding the notion of "governing through science," and the contested role of science and technology as instruments of change, this timely book addresses important questions regarding what counts as science in China, what science and technology can do to transform China, as well as their limits and unintended consequences.

This book is written for all research scientists and engineers who have an interest in particle accelerator based light sources. It is the first book to be written in this field by a single author and so has the advantage of a completely clear and consistent approach to the whole subject. Extensive use of examples and illustrations make it accessible to all levels of the community.

The science and technology of materials in automotive engines provides an introductory text on the nature of the materials used in automotive engines. It focuses on reciprocating engines, both four and two stroke, with particular emphasis on their characteristics and the types of materials used in their construction. The book considers the engine in terms of each specific part: the cylinder, piston, camshaft, valves, crankshaft, connecting rod and catalytic converter. The materials used in automotive engines are required to fulfil a multitude of functions. It is a subtle balance between material properties, essential design and high performance characteristics. The science and technology of materials in automotive engines describes the metallurgy, chemical composition, manufacturing, heat treatment and surface modification of these materials. It also includes supplementary notes that support the core text. The book is essential reading for engineers and designers of engines, as well as lecturers and graduate students in the fields of automotive engineering, machine design and materials science looking for a concise, expert analysis of automotive materials. Provides a detailed introduction to the nature of materials used in automotive engines Essential reading for engineers, designers, lecturers and students in automotive engineering Written by a renowned expert in the field

How do we objectively measure scientific activities? What proportion of economic activities should a society devote to research and development? How can public-

sector and private-sector research best be directed to achieve social goals? Governments and researchers from industrial countries have been measuring science and technology for more than eighty years. This book provides the first comprehensive account of the attempts to measure science and technology activities in Western countries and the successes and shortcomings of statistical systems. Godin guides readers through the historical moments that led to the development of statistics on science and technology and also examines the socio-political dynamics behind social measurement. This enlightening account will be of interest to students and academics investigating science measurement as well as policy makers working in this burgeoning field.

Book Features: • 24 pages, 10 inches x 8 inches • Ages 6-9, Grades 1-3 leveled readers • Simple, easy-to-read pages with illustrations • Features vocabulary and comprehension and extension activities • Includes reading tips, a timeline, and a glossary The Magic Of Reading: Prepare to take off into a reading adventure that is out of this world with Women in Science and Technology: Katherine Johnson—a 24-page biography of the NASA mathematician who helped launch some of the first space flights. Hands-On Reading Adventure: The first launch into space was nothing short of extraordinary, and neither was NASA mathematician Katherine Johnson. Follow along on Katherine's journey, paving the way for the first flights and exploration into space. Features: More than just an exciting book about space exploration, this kids book also includes a vocabulary list, reading tips for interaction and engagement, and extension and comprehension activities. A glossary and timeline are also included. Leveled Books: Vibrant illustrations and leveled text work together to engage readers and promote reading comprehension skills. This leveled book engages 1st—3rd graders through new vocabulary and high-interest topics like space exploration. Why Rourke Educational Media: Since 1980, Rourke Publishing Company has specialized in publishing engaging and diverse non-fiction and fiction books for children in a wide range of subjects that support reading success on a level that has no limits.

In October 2003 the U.S. Agency for International Development (USAID) and the National Research Council (NRC) entered into a cooperative agreement. The agreement called for the NRC to examine selected aspects of U.S. foreign assistance activities-primarily the programs of the USAID-that have benefited or could benefit from access to strong science, technology, and medical capabilities in the United States or elsewhere. After considering the many aspects of the role of science and technology (S&T) in foreign assistance, the study led to the publication of The Fundamental Role of Science and Technology in International Development. In the book special attention is devoted to partnerships that involve the USAID together with international, regional, U.S. governmental, and private sector organizations in fields such as heath care, agriculture and nutrition, education and job creation, and energy and the environment. This book explores specific programmatic, organizational, and personnel reforms that would increase

the effective use of S&T to meet the USAID's goals while supporting larger U.S. foreign policy objectives.

DIVA collection of foundational and contemporary essays in postcolonial science studies./div

"This set of books represents a detailed compendium of authoritative, research-based entries that define the contemporary state of knowledge on technology"--Provided by publisher.

Based on the concept of "firsts," offers approximately four thousand entries divided into twelve broad topics, such as agriculture and everyday life, communications, computers, physics, and transportation.

A science biography that examines the life and work of Leonardo da Vinci and offers kids the opportunity to make their own designs and inventions with hands-on activities! Leonardo da Vinci is famous for the Mona Lisa and other works of art. His other claim to fame? Being an inventor! During the Renaissance, inventors and other creative thinkers designed and constructed many new things. It was a time of discovery, wonder, and exploration. And one of the people on the forefront of that awakening was Leonardo da Vinci. In The Science and Technology of Leonardo da Vinci, readers ages 9 through 12 explore the life of one of the world"s most amazing minds. They discover what it might have been like to live in the seventeenth century, when work, entertainment, medicine, travel, and food were very different. They ponder the same kinds of questions that drove Leonardo to tinker and experiment endlessly, even while creating artwork that influenced entire generations who came after him. What is the inside of the body like? How might humans fly? How can geometry be used to design strong buildings? His dedication to invention, experimentation, and art, along with his insatiable curiosity, gave the world new insight into anatomy, botany, engineering, and much more. Kids gain these same insights through hands-on STEM activities, essential questions, text-to-world connections, and links to online resources, including primary sources, that encourage readers to take a closer look at the world of the Renaissance. Projects use materials already found in most homes, reimagining and repurposing everyday items, as well as those found in the recycling bin. Make career connections in the fields of engineering, art, medicine, and more! Aligns with Common Core State Standards Projects include Designing a parachute, Making a camera obscura, Working with perspective, Designing a water clock. Addresses disciplinary core ideas (e.g., "Structure and Properties of Matter") and crosscutting concepts (e.g., "Energy and Matter;" "Influence of Engineering, Technology, and Science on Society and the Environment") for NSTA"s NGSS curriculum. Numerous, direct connections to Dimension 2 of the C3 Framework ("History" Grades 3-5), providing opportunities for young readers to explore how a historically significant person evolved in context and engendered both scientific and social change. Additional materials include a glossary, a list of media for further learning, a selected bibliography, and index. About the Build It Science Biographies set and Nomad Press The Science and Technology of Leonardo da Vinci is part of a set of three Build It Science Biographies that capture the curiosity of three science revolutionaries who were able to glimpse beyond the limits of human experience and make discoveries that continue to resonate today. Other titles in this set include The Science and Technology of Ben Franklin and The Science and Technology of Marie Curie. Nomad Press books in the Build It series integrate content with participation. Combining content with inquiry-based projects stimulates learning and makes it active and alive. Nomad"s unique approach simultaneously grounds kids in factual knowledge while allowing them the space to be curious, creative, and critical thinkers. All books are leveled for Guided Reading level and Lexile and align with Common Core State Standards and Next Generation Science Standards. All titles are available in paperback, hardcover, and ebook formats.

The Science and Technology of Growing YoungAn Insider's Guide to the Breakthroughs that Will Dramatically Extend Our Lifespan . . . and What You Can Do Right NowBenBella Books
Carbon Nanotubes (CNT) is the material lying between fullerenes and graphite as a new member of carbon allotropes. The study of CNT has gradually become more and more independent from that of fullerenes. As a novel carbon material, CNTs will be far more useful and important than fullerenes from a practical point of view, in that they will be directly related to an ample field of nanotechnology. This book presents a timely, second-generation monograph covering as far as practical, application of CNT as the newest science of these materials. Most updated summaries for preparation, purification and structural characterisation of single walled CNT and multi walled CNT are given. Similarly, the most recent developments in the theoretical treatments of electronic structures and vibrational structures are covered. The newest magnetic, optical and electrical solid-state properties providing a vital base to actual application technologies are described. Explosive research trends towards application of CNTs, including the prospect for large-scale synthesis, are also introduced. It is the most remarkable feature of this monograph that it devotes more than a half of the whole volume to practical aspects and offers readers the newest developments of the science and technological aspects of CNTs.
Advances in Science and Technology of Mn+1AXn Phases presents a comprehensive review of synthesis, microstructures, properties, ab-initio calculations and applications of Mn+1AXn phases and targets the continuing research of advanced materials and ceramics. An overview of the current status, future directions, challenges and opportunities of Mn+1AXn phases that exhibit some of the best attributes of metals and ceramics is included. Students of materials science and engineering at postgraduate level will value this book as a reference source at an international level for both teaching and research in materials science and engineering. In addition to students the principal audiences of this book are ceramic researchers, materials scientists and engineers, materials physicists and chemists. The book is also an invaluable reference for the professional materials and ceramics societies. The most up-to-date and comprehensive research data on MAX phases is presented Written by highly knowledgeable and well-respected researchers in the field Discusses new and unusual properties
Comprehensive yet accessible, this key Handbook provides an up-to-date overview of the fast growing and increasingly important area of ‘public communication of science and technology’, from both research and practical perspectives. As well as introducing the main issues, arenas and professional perspectives involved, it presents the findings of earlier research and the conclusions previously drawn. Unlike most existing books on this topic, this unique volume couples an overview of the practical problems faced by practitioners with a thorough review of relevant literature and research. The practical Handbook format ensures it is a student-friendly resource, but its breadth of scope and impressive contributors means that it is also ideal for practitioners and professionals working in the field. Combining the contributions of different disciplines (media and journalism studies, sociology and history of science), the perspectives of different geographical and cultural contexts, and by selecting key contributions from appropriate and well-respected authors, this original text provides an interdisciplinary as well as a global approach to public communication of science and technology.
Publisher description
With over 11,000 authoritative and up-to-date entries, this best-selling dictionary covers all branches of psychology including psychoanalysis and psychiatry. Clear, concise descriptions for each entry offer extensive coverage of key areas including cognition, sensation and perception, emotionand motivation, learning and skills, language, mental disorder, and research methods. Entries are extensively cross-referenced for ease of use, and cover word origins and derivations as well as definitions. Over 80 illustrations complement the text. In addition to the alphabetical entries, the dictionary also includes appendices covering over 800

commonly used abbreviations and symbols, as well as a list of phobias and phobic stimuli, with definitions. Now containing a list of recommended web links, accessible via the Dictionary of Psychologywebsite, this dictionary is loaded with more useful and up-to-date information than any other dictionary of its kind. Comprehensive and jargon-free, the Dictionary of Psychology is an invaluable work of reference for students of psychology and related disciplines, professionals, and the generalreader with an interest in the workings of the mind.

The Science and Technology of Particle Accelerators provides an accessible introduction to the field, and is suitable for advanced undergraduates, graduate students, and academics, as well as professionals in national laboratories and facilities, industry, and medicine who are designing or using particle accelerators. Providing integrated coverage of accelerator science and technology, this book presents the fundamental concepts alongside detailed engineering discussions and extensive practical guidance, including many numerical examples. For each topic, the authors provide a description of the physical principles, a guide to the practical application of those principles, and a discussion of how to design the components that allow the application to be realised. Features: Written by an interdisciplinary and highly respected team of physicists and engineers from the Cockcroft Institute of Accelerator Science and Technology in the UK Accessible style, with many numerical examples Contains an extensive set of problems, with fully worked solutions available Rob Appleby is an academic member of staff at the University of Manchester, and Chief Examiner in the Department of Physics and Astronomy. Graeme Burt is an academic member of staff at the University of Lancaster, and previous Director of Education at the Cockcroft Institute. James Clarke is head of Science Division in the Accelerator Science and Technology Centre at STFC Daresbury Laboratory. Hywel Owen is an academic member of staff at the University of Manchester, and Director of Education at the Cockcroft Institute. All authors are researchers within the Cockcroft Institute of Accelerator Science and Technology and have extensive experience in the design and construction of particle accelerators, including particle colliders, synchrotron radiation sources, free electron lasers, and medical and industrial accelerator systems.

Science and technology plays an increasingly important role in the continued development of international economic law. This book brings together well-known and rising scholars to explore the status and interaction of science, technology and international economic law. The book reviews the place of science and technology in the development of international economic law with a view to ensure a balance between the promotion of trade and investment liberalisation and decision-making based on a sound scientific process without hampering technological development. The book features chapters from a range of experts – including Lukasz Gruszczynski, Jürgen Kurtz, Andrew Mitchell and Peter K. Yu – who examine a wide range of issues such as investment law, international trade law, and international intellectual property. By bringing together these issues, the book asks how international trade and investment regimes utilise science and technology, and whether they do so fairly and in the interest of broader public policies. This book will be of great interest to researchers of international economic law, health law, technology law and international intellectual property law.

In the interest of reducing financial support some policy makers in Washington and in state capitols are questioning the contributions of science to society. Or they believe research can be made more useful if it is controlled and directed by government to

solve specific problems. The authors disagree with both these strategies and discuss how understanding nature (that is, science) is the underpinning of humankind's progress in improved comforts, economic progress, and health. In making their case they also address the primary requirement of ensuring a pool of competent scientists, mathematicians, and engineers as well as the need for educating non-scientists about science.

There is an important overlap between science and design. The most significant technological developments cannot be produced without designers to conceptualize them. By the same token, designers cannot do their job properly without a good understanding of the scientific or technical principles that are being developed within the product. Science in Design: Solidifying Design with Science and Technology reveals the significance of the essential yet understudied intersection of design and scientific academic research and encompasses technological development, scientific principles, and the point of overlap between science and design. Encourages readers to comprehend the role of science in all facets of design Discusses the fundamental involvement of science required for engineering and design irrespective of whether the design is from an individual, business, or social perspective Covers the ontology, characteristics, and application of science in major fields of design education and design research, with an introduction of emerging practices transforming sustainable growth through applied behavioral models Depicts the art and science of material selection using new design techniques and technology advances like augmented reality, AI, and decision-support toolkits This unique book will benefit scientists, technologists, and engineers, as well as designers and professionals, across a variety of industries dealing with scientific analysis of design research methodology, design lifecycle, and problem solving.

R&D Leadership: Mastering the Fundamentals for Engineers and Scientists lays out practical strategies for improving personal, team, and organizational performance in technology organizations. The roles of leadership, management, and coaching have been defined and integrated with examples from technology organizations. Examples include assessing one’s leadership skills for adding value to an organization; making the transition from "me" to "we" in taking on a supervisory position; and avoiding the dual traps of micro-management and macro-management, by engaging direct reports in an "active management" process. A complete set of instrucrional PowerPoint slides will accompany the text.

Lavishly illustrated, Exploring Music: The Science and Technology of Tones and Tunes explains in a nonmathematical way the underlying science of music, musical instruments, tones, and tunes. The author explores the magical quality and science of music, facilitating pleasure and the understanding in both young and older readers. Based primarily on the highly successful series of Christmas lectures given by the author in 1989-1990 at the Royal Institution, this book contains an expanded version of what he demonstrated to live audiences in excess of 2,000 as well as over 10 million television viewers.

Organic farming is not only a philosophy; it is also a well-researched science. The second edition of The Science and Technology of Organic Farming presents the scientific basis of organic farming and the methods of application needed to achieve adequate yields through plant nutrition and protection. Organic farming is a scientifically

derived method of improving soil fertility to increase agricultural yields with limited chemical inputs. As such, it can meet public demand for reduced chemical inputs in agriculture and play a key role in meeting the needs of a growing world population. The new edition of this highly regarded book gives clear and comprehensive details on how soil fertility can be maintained and how plants can be nourished in organic agriculture. Chapters on soil fertility and plant nutrition explain the chemistry of the plant, the soil, and the soil solution and outline the importance of plant macronutrients and micronutrients. The book offers practical information on using of green manures, composts and lime to maintain soil fertility; introduces methods of tillage of land; provides organic methods of controlling weeds, insects, and diseases; and suggests how food produce can be stored without refrigeration. The text provides information on how to assess and govern the nutritional status of crops and the fertility and condition of soil and presents guidelines, recommendations, and procedures for determining the best fertility recommendations for individual situations. This edition includes an entirely new chapter on hydroponics that explains organic approaches to hydroponic crop production. With a full bibliography of references, this text is a practical guide for anyone interested in organic farming, from farmers and agricultural advisers to teachers, soil scientists, plant scientist, entomologists and students of other biological and environmental sciences.

Investigations of how the global Cold War shaped national scientific and technological practices in fields from biomedicine to rocket science. The Cold War period saw a dramatic expansion of state-funded science and technology research. Government and military patronage shaped Cold War technoscientific practices, imposing methods that were project oriented, team based, and subject to national-security restrictions. These changes affected not just the arms race and the space race but also research in agriculture, biomedicine, computer science, ecology, meteorology, and other fields. This volume examines science and technology in the context of the Cold War, considering whether the new institutions and institutional arrangements that emerged globally constrained technoscientific inquiry or offered greater opportunities for it. The contributors find that whatever the particular science, and whatever the political system in which that science was operating, the knowledge that was produced bore some relation to the goals of the nation-state. These goals varied from nation to nation; weapons research was emphasized in the United States and the Soviet Union, for example, but in France and China scientific independence and self-reliance dominated. The contributors also consider to what extent the changes to science and technology practices in this era were produced by the specific politics, anxieties, and aspirations of the Cold War. Contributors Elena Aronova, Erik M. Conway, Angela N. H. Creager, David Kaiser, John Krige, Naomi Oreskes, George Reisch, Sigrid Schmalzer, Sonja D. Schmid, Matthew Shindell, Asif A. Siddiqi, Zuoyue Wang, Benjamin Wilson

'Read this book to learn, but also to honour the man. We shall never see his like again.' - Sunday Times See the world. Then make it better. 'I am 94. I've had an extraordinary life. It's only now that I appreciate how extraordinary. As a young man, I felt I was out there in the wild, experiencing the untouched natural world - but it was an illusion. The tragedy of our time has been happening all around us, barely noticeable from day to day - the loss of our planet's wild places, its biodiversity. I have been witness to this decline. A Life on Our Planet is my witness statement, and my vision for the future. It is

the story of how we came to make this, our greatest mistake - and how, if we act now, we can yet put it right. We have one final chance to create the perfect home for ourselves and restore the wonderful world we inherited.' All we need is the will to do so.'
An Introduction to High-Pressure Science and Technology provides you with an understanding of the connections between the different areas involved in the multidisciplinary science of high pressure. The book reflects the deep interdisciplinary nature of the field and its close relationship with industrial applications.Thirty-nine specialists in high
High pressure has become a basic variable in many areas of science and engineering. It extends from disciplines of geophysics and astrophysics through chemistry and physics to those of modern biology, electrical and chemical engineering. This breadth has been recognized for some time, but it was not until the early 1960's that an international group of scientists and engineers established the Association Internationale for Research and Advancement of High Pressure Science and Technology (AIRAPT) for bringing these various aspects of high pressure together at an international conference. The First AIRAPT International High Pressure Conference was held in 1965 in France and has been convened at approximately two to three year intervals since that time. The past four AIRAPT International High Pressure Conferences have been held in Germany, Scotland, Japan and the U.S.S.R. Since the first meeting of this kind, our understanding of high pressure behavior of physical systems has increased greatly.
Wall Street Journal, USA Today, and Publishers Weekly bestseller The prospect of living to 200 years old isn’t science fiction anymore. A leader in the emerging field of longevity offers his perspective on what cutting-edge breakthroughs are on the horizon, as well as the practical steps we can take now to live healthily to 100 and beyond. In The Science and Technology of Growing Young, industry investor and insider Sergey Young demystifies the longevity landscape, cutting through the hype and showing readers what they can do now to live better for longer, and offering a look into the exciting possibilities that await us. By viewing aging as a condition that can be cured, we can dramatically revolutionize the field of longevity and make it accessible for everyone. Join Sergey as he gathers insights from world-leading health entrepreneurs, scientists, doctors, and inventors, providing a comprehensive look into the future of longevity in two horizons: • The Near Horizon of Longevity identifies the technological developments that will allow us to live to 150—some of which are already in use—from AI-based diagnostics to gene editing and organ regeneration. • The Far Horizon of Longevity offers a tour of the future of age reversal, and the exciting technologies that will allow us to live healthily to 200, from Internet of Bodies to digital avatars to AI-brain integration. In a bonus chapter, Sergey also showcases 10 longevity choices that we already know and can easily implement to live to 100, distilling the science behind diet, exercise, sleep, mental health, and our environments into attainable habits and lifestyle hacks that anyone can adopt to vastly improve their lives and workplaces. Combining practical advice with an incredible overview of the brave new world to come, The Science and Technology of Growing Young redefines what it means to be human and to grow young.
Explorations of science, technology, and innovation in Africa not as the product of “technology transfer” from elsewhere but as the working of African knowledge. In the

STI literature, Africa has often been regarded as a recipient of science, technology, and innovation rather than a maker of them. In this book, scholars from a range of disciplines show that STI in Africa is not merely the product of “technology transfer” from elsewhere but the working of African knowledge. Their contributions focus on African ways of looking, meaning-making, and creating. The chapter authors see Africans as intellectual agents whose perspectives constitute authoritative knowledge and whose strategic deployment of both endogenous and inbound things represents an African-centered notion of STI. “Things do not (always) mean the same from everywhere,” observes Clapperton Chakanetsa Mavhunga, the volume's editor. Western, colonialist definitions of STI are not universalizable. The contributors discuss topics that include the trivialization of indigenous knowledge under colonialism; the creative labor of chimurenga, the transformation of everyday surroundings into military infrastructure; the role of enslaved Africans in America as innovators and synthesizers; the African ethos of “fixing”; the constitutive appropriation that makes mobile technologies African; and an African innovation strategy that builds on domestic capacities. The contributions describe an Africa that is creative, technological, and scientific, showing that African STI is the latest iteration of a long process of accumulative, multicultural knowledge production. Contributors Geri Augusto, Shadreck Chirikure, Chux Daniels, Ron Eglash, Ellen Foster, Garrick E. Louis, D. A. Masolo, Clapperton Chakanetsa Mavhunga, Neda Nazemi, Toluwalogo Odumosu, Katrien Pype, Scott Remer

This new approach to the study of multiculturalism focuses on its applications to science and technology. It explores new studies that describe the role of culture and power in the making of theories, facts and machines.

With the recent influx of spaceflight and satellite launches, the region of outer space has become saturated with vital technology used for communication and surveillance and the functioning of business and government. But what would happen if these capabilities were disrupted or even destroyed? How would we react if faced with a full-scale blackout of satellite communications? What can and has happened following the destruction of a satellite? In the short term, the aftermath would send thousands of fragments orbiting Earth as space debris. In the longer term, the ramifications of such an event on Earth and in space would be alarming, to say the least. This book takes a look at such crippling scenarios and how countries around the world might respond in their wake. It describes the aggressive actions that nations could take and the technologies that could be leveraged to gain power and control over assets, as well as to initiate war in the theater of outer space. The ways that a country's vital capabilities could be disarmed in such a setting are investigated. In addition, the book discusses our past and present political climate, including which countries currently have these abilities and who the aggressive players already are. Finally, it addresses promising research and space technology that could be used to protect us from those interested in destroying the world's vital systems.

The fourth edition of an authoritative overview, with all new chapters that capture the state of the art in a rapidly growing field. Science and Technology Studies (STS) is a flourishing interdisciplinary field that examines the transformative power of science and technology to arrange and rearrange contemporary societies. The Handbook of Science and Technology Studies provides a comprehensive and authoritative overview

of the field, reviewing current research and major theoretical and methodological approaches in a way that is accessible to both new and established scholars from a range of disciplines. This new edition, sponsored by the Society for Social Studies of Science, is the fourth in a series of volumes that have defined the field of STS. It features 36 chapters, each written for the fourth edition, that capture the state of the art in a rich and rapidly growing field. One especially notable development is the increasing integration of feminist, gender, and postcolonial studies into the body of STS knowledge. The book covers methods and participatory practices in STS research; mechanisms by which knowledge, people, and societies are coproduced; the design, construction, and use of material devices and infrastructures; the organization and governance of science; and STS and societal challenges including aging, agriculture, security, disasters, environmental justice, and climate change.

This book provides a comprehensive and up-to-date review of recent trends of green science and technology. Worldwide deterioration of environment and global warming threaten our lifestyle and the survival of all creatures. In order to weather these problems, we need to construct a multidisciplinary approach involving the fusion of various advanced researches. The book begins with an overview on fundamental research about generation and utilization of renewable energy, protection of the earth's ecosystem for better coexistence with nature, development of artificial intelligence-based agriculture and molecular recognitionbased welfare and covers a wide range of innovative research on green science and technology.

An Introduction to Science and Technology Studies, Second Edition reflects the latest advances in the field while continuing to provide students with a road map to the complex interdisciplinary terrain of science and technology studies. Distinctive in its attention to both the underlying philosophical and sociological aspects of science and technology Explores core topics such as realism and social construction, discourse and rhetoric, objectivity, and the public understanding of science Includes numerous empirical studies and illustrative examples to elucidate the topics discussed Now includes new material on political economies of scientific and technological knowledge, and democratizing technical decisions Other features of the new edition include improved readability, updated references, chapter reorganization, and more material on medicine and technology

The Science and Technology of Flexible Packaging: Multilayer Films from Resin and Process to End Use provides a comprehensive guide to the use of plastic films in flexible packaging, covering scientific principles, properties, processes, and end use considerations. The book brings the science of multilayer films to the practitioner in a concise and impactful way, presenting the fundamental understanding required to improve product design, material selection, and processes, and includes information on why one material is favored over another for a particular application, or how the film or coating affects material properties. Detailed descriptions and analysis of the key properties of packaging films are provided from both an engineering and scientific perspective. End-use effects are

also covered in detail, providing key insights into the way the products being packaged influence film properties and design. The book bridges the gap between key scientific literature and the practical challenges faced by the flexible packaging industry, providing essential scientific insights, best practice techniques, environmental sustainability information, and key principles of structure design to enable engineers and scientists to deliver superior products with reduced development time and cost. Provides essential information on all aspects of multilayer films in flexible packaging Aids in material selection and processing, shortening development times and delivering stronger products Bridges the gap between scientific principles and key challenges in the packaging industry, with practical explanations to assist practitioners in overcoming those challenges

This reader provides an introduction to the gendering of science and the impact women are making in laboratories around the world. The republished essays included in this collection are both personal tales from women scientists and essays on the nature of science itself, covering such controversial issues like the under-representation of women in science, reproductive technology, sociobiology, evolutionary theory, and the notion of objective science.

The international perspective of this wide-ranging handbook embraces temperate and tropical woods, as well as first-time coverage of uses of bark.

Unsteady-state operations of catalytic reactors provide plentiful opportunities for research and commercial realization of efficient heterogeneous catalytic processes. Forced unsteady state conditions generate unique distributions of process parameters and catalyst states often unattainable with traditional, steady-state operation. The unsteady-states can be created by periodic changes in input flow parameters, such as changes in inlet temperature and composition, catalyst circulation through reaction and regeneration zones, or periodic flow reversals through fixed catalyst bed. This can result in increased productivity, selectivity, capital savings and operating cost reduction (higher energy efficiency). Efficient environmental technologies for treatment of toxic emissions, acid rain and greenhouse gas emissions can also be developed using the unsteady-state concept. The Proceedings communicate recent progress in these areas of research and promote future development. The aims are to establish relations between academia, industry, engineers and scientists from all over the world, to stimulate new catalytic technologies as well as fundamental research, and to create new concepts for the development of effective catalytic systems. It presents the most up-to-date research in catalysis. - contains the most recent developments in catalytic research - includes research finding as well as their application to industry - a thorough source of information on the latest developments of industrial catalysis in Japan

Education in science, technology, engineering and mathematics (STEM) is crucial for taking advantage of the prospects of new scientific discoveries initiating or promoting technological changes, and managing opportunities and

risks associated with innovations. This book explores the emerging perspectives and methodologies of STEM education and its relationship to the cultural understanding of science and technology in an international context. The authors provide a unique perspective on the subject, presenting materials and experiences from non-European industrialized as well as industrializing countries, including China, Japan, South Korea, India, Egypt, Brazil and the USA. The chapters offer a wide scope of interpretations and comparative reviews of STEM education by including narrative elements about cultural developments, considering the influence of culture and social perceptions on technological and social change, and applying innovative tools of qualitative social research. The book represents a comprehensive and multidisciplinary review of the current status and future challenges facing STEM education across the world, including issues such as globalization, interdependencies of norms and values, effects on equity and social justice as well as resilience. Overall the volume provides valuable insights for a broad and comprehensive international comparison of STEM philosophies, approaches and experiences.