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Nanotechnology Cookbook - Andrew Collins
2012-06-26

The peculiarities of materials at the nanoscale demand an interdisciplinary approach which can be difficult for students and researchers who are trained predominantly in a single field. A chemist might not have experience at working with cell cultures or a physicist may have no idea how to make the gold colloid they need for calibrating an atomic force microscope. The interdisciplinary approach of the book will help you to quickly synthesize information from multiple perspectives. Nanoscience research is also characterized by rapid movement within disciplines. The amount of time it takes wading through papers and chasing down academics is frustrating and wasteful and our reviewers seem to suggest this work would give an excellent starting point for their work. The current source of published data is either in journal articles, which requires highly advanced knowledge of background information, or books on the subject, which can skim over the essential details of preparations. Having a cookbook to hand to flick through and from which you may select a preparation acts as a good source of

contact both to researchers and those who supervise them alike. This book therefore supports fundamental nanoscience experimentation. It is by intention much more user-friendly than traditional published works, which too-frequently assumes state of the art knowledge. Moreover you can pick up this book and find a synthesis to suit your needs without digging through specialist papers or tracking someone down who eventually may or may not be able to help. Once you have used the recipe the book would then act as a reference guide for how to analyze these materials and what to look out for. 100+ detailed recipes for synthesis of basic nanostructured materials, enables readers to pick up the book and get started on a preparation immediately. High fidelity images show how preparations should look rather than vague schematics or verbal descriptions. Sequential and user-friendly by design, so the reader won't get lost in overly detailed theory or miss out a step from ignorance. A cookbook, by design and structure the work is easy to use, familiar and compact.

Genetically Engineered Crops - National Academies of Sciences, Engineering, and

Medicine 2017-01-28

Genetically engineered (GE) crops were first introduced commercially in the 1990s. After two decades of production, some groups and individuals remain critical of the technology based on their concerns about possible adverse effects on human health, the environment, and ethical considerations. At the same time, others are concerned that the technology is not reaching its potential to improve human health and the environment because of stringent regulations and reduced public funding to develop products offering more benefits to society. While the debate about these and other questions related to the genetic engineering techniques of the first 20 years goes on, emerging genetic-engineering technologies are adding new complexities to the conversation. *Genetically Engineered Crops* builds on previous related Academies reports published between 1987 and 2010 by undertaking a retrospective examination of the purported positive and adverse effects of GE crops and to anticipate what emerging genetic-engineering technologies hold for the future. This report indicates where there are uncertainties about the economic, agronomic, health, safety, or other impacts of GE crops and food, and makes recommendations to fill gaps in safety assessments, increase regulatory clarity, and improve innovations in and access to GE technology.

Handbook of Dialysis - John T. Daugirdas
2012-02-20

The revised, updated Fourth Edition of this popular handbook provides practical, accessible information on all aspects of dialysis, with emphasis on day-to-day management of patients. Chapters provide complete coverage of hemodialysis, peritoneal dialysis, special problems in dialysis patients, and problems pertaining to various organ systems. This edition reflects the latest guidelines of the National Kidney Foundation's Kidney Disease Outcomes Quality Initiative (KDOQI) on hemodialysis and peritoneal dialysis adequacy and on nutrition. New chapters cover chronic kidney disease management in predialysis patients, frequent daily or nocturnal hemodialysis, and hemodiafiltration. Chapters on venous and arteriovenous access have been completely revised. Each chapter provides references to

relevant Web sites.

The Third Wave of Science Studies - Harry M. Collins 2002

Adhesive Bonding of Aircraft Composite Structures - Welchy Leite Cavalcanti
2021-06-04

This book is open access under a CC BY 4.0 license. It presents the results of the ComBoNDT European project, which aimed at the development of more secure, time- and cost-saving extended non-destructive inspection tools for carbon fiber reinforced plastics, adhered surfaces and bonded joints. The book reports the optimal use of composite materials to allow weight savings, reduction in fuel consumptions, savings during production and higher cost efficiency for ground operations.

The Philosophy of Food - David M. Kaplan
2012-01-07

This book explores food from a philosophical perspective, bringing together leading philosophers to consider the most basic questions about food. Each essay analyses many contemporary debates in food studies. Slow Food, sustainability, food safety, and politics, and addresses such issues as happy meat, aquaculture, veganism, and table manners.

Experiment Earth - Jack Stilgoe 2015-02-20
Experiments in geoengineering - intentionally manipulating the Earth's climate to reduce global warming - have become the focus of a vital debate about responsible science and innovation. Drawing on three years of sociological research working with scientists on one of the world's first major geoengineering projects, this book examines the politics of experimentation. Geoengineering provides a test case for rethinking the responsibilities of scientists and asking how science can take better care of the futures that it helps bring about. This book gives students, researchers and the general reader interested in the place of science in contemporary society a compelling framework for future thinking and discussion.
Science as an Open Enterprise - The Royal Society / 1London 2012

The Science as an open enterprise report highlights the need to grapple with the huge deluge of data created by modern technologies in order to preserve the principle of openness

and to exploit data in ways that have the potential to create a second open science revolution. Exploring massive amounts of data using modern digital technologies has enormous potential for science and its application in public policy and business. The report maps out the changes that are required by scientists, their institutions and those that fund and support science if this potential is to be realised.

Management Information Systems - Kenneth C. Laudon 2004

Management Information Systems provides comprehensive and integrative coverage of essential new technologies, information system applications, and their impact on business models and managerial decision-making in an exciting and interactive manner. The twelfth edition focuses on the major changes that have been made in information technology over the past two years, and includes new opening, closing, and Interactive Session cases.

Responsible Conduct of Research - Adil E. Shamoo 2009-02-12

Recent scandals and controversies, such as data fabrication in federally funded science, data manipulation and distortion in private industry, and human embryonic stem cell research, illustrate the importance of ethics in science. Responsible Conduct of Research, now in a completely updated second edition, provides an introduction to the social, ethical, and legal issues facing scientists today.

Inorganic Nanoparticles - Claudia Altavilla 2017-12-19

Among the various nanomaterials, inorganic nanoparticles are extremely important in modern technologies. They can be easily and cheaply synthesized and mass produced, and for this reason, they can also be more readily integrated into applications. *Inorganic Nanoparticles: Synthesis, Applications, and Perspectives* presents an overview of these special materials and explores the myriad ways in which they are used. It addresses a wide range of topics, including: Application of nanoparticles in magnetic storage media Use of metal and oxide nanoparticles to improve performance of oxide thin films as conducting media in commercial gas and vapor sensors Advances in semiconductors for light-emitting devices and other areas related to the energy

sector, such as solar energy and energy storage devices (fuel cells, rechargeable batteries, etc.) The expanding role of nanosized particles in the field of catalysis, art conservation, and biomedicine The book's contributors address the growing global interest in the application of inorganic nanoparticles in various technological sectors. Discussing advances in materials, device fabrication, and large-scale production—all of which are urgently required to reduce global energy demands—they cover innovations in areas such as solid-state lighting, detailing how it still offers higher efficiency but higher costs, compared to conventional lighting. They also address the impact of nanotechnology in the biomedical field, focusing on topics such as quantum dots for bioimaging, nanoparticle-based cancer therapy, drug delivery, antibacterial agents, and more. Fills the informational gap on the wide range of applications for inorganic nanoparticles in areas including biomedicine, electronics, storage media, conservation of cultural heritage, optics, textiles, and cosmetics Assembling work from an array of experts at the top of their respective fields, this book delivers a useful analysis of the vast scope of existing and potential applications for inorganic nanoparticles. Versatile as either a professional research resource or textbook, this effective tool elucidates fundamentals and current advances associated with design, characterization, and application development of this promising and ever-evolving device.

Strategic Management and Business Policy - Thomas L. Wheelen 1998

Artificial Intelligence for Materials Science - Yuan Cheng 2021-03-26

Machine learning methods have lowered the cost of exploring new structures of unknown compounds, and can be used to predict reasonable expectations and subsequently validated by experimental results. As new insights and several elaborative tools have been developed for materials science and engineering in recent years, it is an appropriate time to present a book covering recent progress in this field. Searchable and interactive databases can promote research on emerging materials. Recently, databases containing a large number of high-quality materials properties for new

advanced materials discovery have been developed. These approaches are set to make a significant impact on human life and, with numerous commercial developments emerging, will become a major academic topic in the coming years. This authoritative and comprehensive book will be of interest to both existing researchers in this field as well as others in the materials science community who wish to take advantage of these powerful techniques. The book offers a global spread of authors, from USA, Canada, UK, Japan, France, Russia, China and Singapore, who are all world recognized experts in their separate areas. With content relevant to both academic and commercial points of view, and offering an accessible overview of recent progress and potential future directions, the book will interest graduate students, postgraduate researchers, and consultants and industrial engineers.

Fostering Integrity in Research - National Academies of Sciences, Engineering, and Medicine 2018-01-13

The integrity of knowledge that emerges from research is based on individual and collective adherence to core values of objectivity, honesty, openness, fairness, accountability, and stewardship. Integrity in science means that the organizations in which research is conducted encourage those involved to exemplify these values in every step of the research process. Understanding the dynamics that support "or distort" practices that uphold the integrity of research by all participants ensures that the research enterprise advances knowledge. The 1992 report *Responsible Science: Ensuring the Integrity of the Research Process* evaluated issues related to scientific responsibility and the conduct of research. It provided a valuable service in describing and analyzing a very complicated set of issues, and has served as a crucial basis for thinking about research integrity for more than two decades. However, as experience has accumulated with various forms of research misconduct, detrimental research practices, and other forms of misconduct, as subsequent empirical research has revealed more about the nature of scientific misconduct, and because technological and social changes have altered the environment in which science is conducted, it is clear that the

framework established more than two decades ago needs to be updated. *Responsible Science* served as a valuable benchmark to set the context for this most recent analysis and to help guide the committee's thought process. *Fostering Integrity in Research* identifies best practices in research and recommends practical options for discouraging and addressing research misconduct and detrimental research practices.

[Introduction to Materials Science for Engineers](#) - Shackelford 2007-09

This Text Provides A Balanced And Current Treatment Of The Full Spectrum Of Engineering Materials, Covering All The Physical Properties, Applications And Relevant Properties Associated With The Subject. It Explores All The Major Categories Of Materials While Offering Detailed Examinations Of A Wide Range Of New Materials With High-Tech Applications.

[Dynamic Light Scattering](#) - R. Pecora 2013-11-11

In the twenty years since their inception, modern dynamic light-scattering techniques have become increasingly sophisticated, and their applications have grown exceedingly diverse. Applications of the techniques to problems in physics, chemistry, biology, medicine, and fluid mechanics have proliferated. It is probably no longer possible for one or two authors to write a monograph to cover in depth the advances in scattering techniques and the main areas in which they have made a major impact. This volume, which we expect to be the first of a series, presents reviews of selected specialized areas by renowned experts. It makes no attempt to be comprehensive; it emphasizes a body of related applications to polymeric, biological, and colloidal systems, and to critical phenomena. The well-known monographs on dynamic light scattering by Berne and Pecora and by Chu were published almost ten years ago. They provided comprehensive treatments of the general principles of dynamic light scattering and gave introductions to a wide variety of applications, but naturally they could not treat the new applications and advances in older ones that have arisen in the last decade. The new applications include studies of interacting particles in solution (Chapter 4); scaling approaches to the dynamics of polymers, including polymers in semidilute solution

(Chapter 5); the use of both Fabry-Perot interferometry and photon correlation spectroscopy to study bulk polymers (Chapter 6); studies of micelles and microemulsions (Chapter 8); studies of polymer gels (Chapter 9). *Reality Is Broken* - Jane McGonigal 2011-01-20 "McGonigal is a clear, methodical writer, and her ideas are well argued. Assertions are backed by countless psychological studies." —The Boston Globe "Powerful and provocative . . . McGonigal makes a persuasive case that games have a lot to teach us about how to make our lives, and the world, better." —San Jose Mercury News "Jane McGonigal's insights have the elegant, compact, deadly simplicity of plutonium, and the same explosive force." —Cory Doctorow, author of *Little Brother* A visionary game designer reveals how we can harness the power of games to boost global happiness. With 174 million gamers in the United States alone, we now live in a world where every generation will be a gamer generation. But why, Jane McGonigal asks, should games be used for escapist entertainment alone? In this groundbreaking book, she shows how we can leverage the power of games to fix what is wrong with the real world—from social problems like depression and obesity to global issues like poverty and climate change—and introduces us to cutting-edge games that are already changing the business, education, and nonprofit worlds. Written for gamers and non-gamers alike, *Reality Is Broken* shows that the future will belong to those who can understand, design, and play games. Jane McGonigal is also the author of *SuperBetter: A Revolutionary Approach to Getting Stronger, Happier, Braver and More Resilient*.

Capabilities and Governance of Nanotechnology in the Developing World - Shilpanjali Deshpande Sarma 2013-05-24

The imperative for responsible innovation in the nanotechnology domain has inspired and provoked assorted views on its trajectory, potential implications as well as appropriate pathways for its development across a spectrum of stakeholders. These debates assume greater significance in the context of developing nations since harnessing the inherent potential of this transformational technology presumes the establishment of simultaneous capabilities to cutting-edge technological innovation as well as

risk governance, regulation and public engagement in an environment challenged by limited resources, weak innovation systems and inadequate abilities for risk management. This book seeks to examine developments, opportunities, concerns and challenges in nanotechnology from a developing country perspective raising complex questions and issues in the course of the responsible development of nanotechnology. It covers a range of issues such as potential R & D prospects, S&T capacities and innovation systems, issues of environment, health and safety, risk and regulatory preparedness, and prospective socio-economic and ethical repercussions, with a focus on Indian developments. Based on half a decade of interdisciplinary research and informed by multi-stakeholder insights on the aforementioned aspects, it proposes options for effective and inclusive governance for nanotechnology in India.

Nanostructured Materials - Heinrich Hofmann 2012-12-06

The articles in this book summarize the work presented at the mid-term workshop of the COST (European Cooperation in the Fields of Scientific and Technical Research) action on Nanostructured Materials, which was held in October 2001 in Limerick, Ireland. The collection gives an excellent overview of the state-of-the-art, topical research areas in this field, and the progress made by the coordinated research projects. The articles cover synthesis, physical properties and characterization of nanostructured materials, such as magnetic and ferroelectric nanoparticles, nanoparticles in biological systems, metallic nanoparticles, nanocomposites, particle-reinforced polymers, semiconductor nanoparticles and thin films.

Nanoparticles in Biology and Medicine - Mikhail Soloviev 2016-05-01

This *Methods in Molecular Biology* book covers all stages of nanoparticle manufacturing, modification, analysis and application. Includes materials lists, step-by-step, readily reproducible laboratory protocols, troubleshooting tips and avoiding pitfalls."

The Fourth Industrial Revolution - Klaus Schwab 2017-01-03

World-renowned economist Klaus Schwab, Founder and Executive Chairman of the World

Economic Forum, explains that we have an opportunity to shape the fourth industrial revolution, which will fundamentally alter how we live and work. Schwab argues that this revolution is different in scale, scope and complexity from any that have come before. Characterized by a range of new technologies that are fusing the physical, digital and biological worlds, the developments are affecting all disciplines, economies, industries and governments, and even challenging ideas about what it means to be human. Artificial intelligence is already all around us, from supercomputers, drones and virtual assistants to 3D printing, DNA sequencing, smart thermostats, wearable sensors and microchips smaller than a grain of sand. But this is just the beginning: nanomaterials 200 times stronger than steel and a million times thinner than a strand of hair and the first transplant of a 3D printed liver are already in development. Imagine “smart factories” in which global systems of manufacturing are coordinated virtually, or implantable mobile phones made of biosynthetic materials. The fourth industrial revolution, says Schwab, is more significant, and its ramifications more profound, than in any prior period of human history. He outlines the key technologies driving this revolution and discusses the major impacts expected on government, business, civil society and individuals. Schwab also offers bold ideas on how to harness these changes and shape a better future—one in which technology empowers people rather than replaces them; progress serves society rather than disrupts it; and in which innovators respect moral and ethical boundaries rather than cross them. We all have the opportunity to contribute to developing new frameworks that advance progress.

Preparing for Future Products of Biotechnology - National Academies of Sciences, Engineering, and Medicine 2017-07-28

Between 1973 and 2016, the ways to manipulate DNA to endow new characteristics in an organism (that is, biotechnology) have advanced, enabling the development of products that were not previously possible. What will the likely future products of biotechnology be over the next 5–10 years? What scientific capabilities, tools, and/or expertise may be needed by the

regulatory agencies to ensure they make efficient and sound evaluations of the likely future products of biotechnology? Preparing for Future Products of Biotechnology analyzes the future landscape of biotechnology products and seeks to inform forthcoming policy making. This report identifies potential new risks and frameworks for risk assessment and areas in which the risks or lack of risks relating to the products of biotechnology are well understood. Science and Moral Imagination - Matthew J. Brown 2020-11-17

The idea that science is or should be value-free, and that values are or should be formed independently of science, has been under fire by philosophers of science for decades. Science and Moral Imagination directly challenges the idea that science and values cannot and should not influence each other. Matthew J. Brown argues that science and values mutually influence and implicate one another, that the influence of values on science is pervasive and must be responsibly managed, and that science can and should have an influence on our values. This interplay, he explains, must be guided by accounts of scientific inquiry and value judgment that are sensitive to the complexities of their interactions. Brown presents scientific inquiry and value judgment as types of problem-solving practices and provides a new framework for thinking about how we might ethically evaluate episodes and decisions in science, while offering guidance for scientific practitioners and institutions about how they can incorporate value judgments into their work. His framework, dubbed “the ideal of moral imagination,” emphasizes the role of imagination in value judgment and the positive role that value judgment plays in science.

OECD Science, Technology and Innovation Outlook 2021 Times of Crisis and Opportunity - OECD 2021-01-12

In immediate responses to the COVID-19 crisis, science and innovation are playing essential roles in providing a better scientific understanding of the virus, as well as in the development of vaccines, treatments and diagnostics. Both the public and private sectors have poured billions of dollars into these efforts, accompanied by unprecedented levels of global cooperation.

Atomic Layer Deposition for Semiconductors - Cheol Seong Hwang

2013-10-18

Offering thorough coverage of atomic layer deposition (ALD), this book moves from basic chemistry of ALD and modeling of processes to examine ALD in memory, logic devices and machines. Reviews history, operating principles and ALD processes for each device.

UNESCO science report - UNESCO

2015-11-09

There are fewer grounds today than in the past to deplore a North-South divide in research and innovation. This is one of the key findings of the UNESCO Science Report: towards 2030. A large number of countries are now incorporating science, technology and innovation in their national development agenda, in order to make their economies less reliant on raw materials and more rooted in knowledge. Most research and development (R&D) is taking place in high-income countries, but innovation of some kind is now occurring across the full spectrum of income levels according to the first survey of manufacturing companies in 65 countries conducted by the UNESCO Institute for Statistics and summarized in this report. For many lower-income countries, sustainable development has become an integral part of their national development plans for the next 10-20 years. Among higher-income countries, a firm commitment to sustainable development is often coupled with the desire to maintain competitiveness in global markets that are increasingly leaning towards 'green' technologies. The quest for clean energy and greater energy efficiency now figures among the research priorities of numerous countries. Written by more than 50 experts who are each covering the country or region from which they hail, the UNESCO Science Report: towards 2030 provides more country-level information than ever before. The trends and developments in science, technology and innovation policy and governance between 2009 and mid-2015 described here provide essential baseline information on the concerns and priorities of countries that could orient the implementation and drive the assessment of the 2030 Agenda for Sustainable Development in the years to come.

Aulton's Pharmaceuticals - Michael E. Aulton 2013

"Pharmaceutics is the art of pharmaceutical preparations. It encompasses design of drugs, their manufacture and the elimination of micro-organisms from the products. This book encompasses all of these areas."--Provided by publisher.

Technology Ventures - Richard C. Dorf 2008
Technology Ventures is the first textbook to thoroughly examine a global phenomenon known as technology entrepreneurship. Now in its second edition, this book integrates the most valuable entrepreneurship and technology management theories from some of the world's leading scholars and educators with current examples of new technologies and an extensive suite of media resources. Dorf and Byers comprehensive collection of action-oriented concepts and applications provides both students and professionals with the tools necessary for success in starting and growing a technology enterprise. Technology Ventures details the critical differences between scientific ideas and true business opportunities.

The Politics of Evidence (Open Access) -

Justin Parkhurst 2016-10-04

The Open Access version of this book, available at <http://www.tandfebooks.com/>, has been made available under a Creative Commons Attribution-Non Commercial-No Derivatives 3.0 license. There has been an enormous increase in interest in the use of evidence for public policymaking, but the vast majority of work on the subject has failed to engage with the political nature of decision making and how this influences the ways in which evidence will be used (or misused) within political areas. This book provides new insights into the nature of political bias with regards to evidence and critically considers what an 'improved' use of evidence would look like from a policymaking perspective. Part I describes the great potential for evidence to help achieve social goals, as well as the challenges raised by the political nature of policymaking. It explores the concern of evidence advocates that political interests drive the misuse or manipulation of evidence, as well as counter-concerns of critical policy scholars about how appeals to 'evidence-based policy' can depoliticise political debates. Both concerns reflect forms of bias - the first representing technical bias, whereby evidence use violates

principles of scientific best practice, and the second representing issue bias in how appeals to evidence can shift political debates to particular questions or marginalise policy-relevant social concerns. Part II then draws on the fields of policy studies and cognitive psychology to understand the origins and mechanisms of both forms of bias in relation to political interests and values. It illustrates how such biases are not only common, but can be much more predictable once we recognise their origins and manifestations in policy arenas. Finally, Part III discusses ways to move forward for those seeking to improve the use of evidence in public policymaking. It explores what constitutes 'good evidence for policy', as well as the 'good use of evidence' within policy processes, and considers how to build evidence-advisory institutions that embed key principles of both scientific good practice and democratic representation. Taken as a whole, the approach promoted is termed the 'good governance of evidence' - a concept that represents the use of rigorous, systematic and technically valid pieces of evidence within decision-making processes that are representative of, and accountable to, populations served.

Nanofinishing of Textile Materials - Majid Montazer 2018-06-20

Nanofinishing of Textile Materials provides thorough coverage of existing, current and future developments in the field. Sections cover a wide range of nanofinishing mechanisms for improving the fundamental properties of textiles, such as bleaching, scouring, softening and surface activation. Other sections discuss high-performance properties and conventional attributes, such as waterproofing, fire-retardancy and novel applications, including conductivity and magnetism. With two highly regarded and experienced authors bringing together the latest information on nanofinishing technology, this book is essential reading for scientific researchers, engineers and R&D professionals working on the development of finishes for improving the properties of textiles. Explains nanofinishing mechanisms and processes with a view to their use in developing high-performance apparel and technical textiles Focuses on how nanofinishing can be used to confer important characteristics, such as self-

cleaning, hydrophobic, hydrophilic, magnetic and conductive attributes Explores novel techniques and methods for readers who require cutting-edge knowledge of developments in nanofinishing

Towards a New Enlightenment? - 2019-09-17

Addresses key issues in understanding the decade 2008-2018 and its impact on the societies of the future. Brings together the articles B28of twenty-two prestigious international experts in different fields of thought. Through an informative approach, the essays form a transversal view of today's thinking. This is the tenth title of the Open Mind essay collection published by BBVA. A27.0We are living through years of great importance, marked by the unstoppable evolution of technology, science and the information society. This book brings together twenty-two essays written by prestigious researchers from the world's leading universities on areas as diverse as crucial to our future: climate change, artificial intelligence, economics, cyber-security and geopolitics, democracy, anthropology, new media, astrophysics and cosmology, nanotechnology, biomedicine, globalisation, gender theory and the cities of the future.

Permissionless Innovation: The Continuing Case for Comprehensive Technological Freedom - Adam Thierer 2016-03-15

Will innovators be forced to seek the blessing of public officials before they develop and deploy new devices and services, or will they be generally left free to experiment with new technologies and business models? In this book, Adam Thierer argues that if the former disposition, "the precautionary principle," trumps the latter, "permissionless innovation," the result will be fewer services, lower-quality goods, higher prices, diminished economic growth, and a decline in the overall standard of living. When public policy is shaped by "precautionary principle" reasoning, it poses a serious threat to technological progress, economic entrepreneurialism, and long-run prosperity. By contrast, permissionless innovation has fueled the success of the Internet and much of the modern tech economy in recent years, and it is set to power the next great industrial revolution—if we let it.

Medicinal Inorganic Chemistry - Jonathan L.

Sessler 2005

This book, a compilation by experts in the field, is designed to provide an introduction to the area of medicinal inorganic chemistry and to summarize current, state-of-the-art developments in the field. Medicinal inorganic chemistry represents a key thrust area in medicine and biological inorganic chemistry. It is one of great current excitement and achievement. The field of metals in medicine represents an approximate \$3 billion dollar a year industry, with successes in the area of Tc- and Gd-based imaging agents and Pt-based cancer therapeutics being major contributors to this bottom line. It has become increasingly apparent, however, that metal-based pharmaceuticals can play a prominent role in areas outside of imaging and oncology, including in those associated with the diagnosis and treatment of metabolism- and genetic disorders, cardiovascular disease, gene therapy, inflammation, reperfusion injury, stroke, diabetes, ALS, malaria, and neurological disease to name but a few. A objective of this book, therefore, is to highlight these opportunities for future advances and to foster further interactions between those working in the metal-based drug development, including imaging agents, and those engaged in the more classic pharmaceutical industrie

UNESCO Science Report - UNESCO
2021-06-18

Films from the Future - Andrew Maynard
2018-11-15

“Deftly shows how a seemingly frivolous film genre can guide us in shaping tomorrow’s world.” —Seth Shostak, senior astronomer, SETI Institute Artificial intelligence, gene manipulation, cloning, and interplanetary travel are all ideas that seemed like fairy tales but a few years ago. And now their possibilities are very much here. But are we ready to handle these advances? This book, by a physicist and expert on responsible technology development, reveals how science fiction movies can help us think about and prepare for the social consequences of technologies we don’t yet have, but that are coming faster than we imagine. Films from the Future looks at twelve movies that take us on a journey through the worlds of

biological and genetic manipulation, human enhancement, cyber technologies, and nanotechnology. Readers will gain a broader understanding of the complex relationship between science and society. The movies mix old and new, and the familiar and unfamiliar, to provide a unique, entertaining, and ultimately transformative take on the power of emerging technologies, and the responsibilities they come with.

Ethics in Scientific Research - Cortney Weinbaum
2019-06-05

Scientific research ethics vary by discipline and by country, and this analysis sought to understand those variations. The authors reviewed literature and conducted interviews to provide researchers, government officials, and others who create, modify, and enforce ethics in scientific research around the world with an understanding of how ethics are created, monitored, and enforced across scientific disciplines and across international borders.

The Measurement of Scientific, Technological and Innovation Activities Frascati Manual 2015 Guidelines for Collecting and Reporting Data on Research and Experimental Development - OECD
2015-10-08

The internationally recognised methodology for collecting and using R&D statistics, the OECD's Frascati Manual is an essential tool for statisticians and science and innovation policy makers worldwide. It includes definitions of basic concepts, data collection guidelines, and classifications ...

[Geoengineering the Climate](#) - Royal Society (Great Britain) 2009

The Royal Society has published the findings of a major study into geoengineering the climate. The study, chaired by Professor John Shepherd FRS, was researched and written over a period of twelve months by twelve leading academics representing science, economics, law and social science. Man-made climate change is happening and its impacts and costs will be large, serious and unevenly spread. The impacts may be reduced by adaptation and moderated by mitigation, especially by reducing emissions of greenhouse gases. However, global efforts to reduce emissions have not yet been sufficiently successful to provide confidence that the

reductions needed to avoid dangerous climate change will be achieved. This has led to growing interest in geoengineering, defined here as the deliberate large-scale manipulation of the planetary environment to counteract anthropogenic climate change. However, despite this interest, there has been a lack of accessible, high quality information on the proposed geoengineering techniques which remain unproven and potentially dangerous. This study provides a detailed assessment of the various methods and considers the potential efficiency and unintended consequences they may pose. It divides geoengineering methods into two basic categories: 1. Carbon Dioxide Removal (CDR) techniques, which remove CO₂ from the atmosphere. As they address the root cause of climate change, rising CO₂ concentrations, they have relatively low uncertainties and risks. However, these techniques work slowly to reduce global temperatures. 2. Solar Radiation Management (SRM) techniques, which reflect a small percentage of the sun's light and heat back into space. These methods act quickly, and so may represent the only way to lower global temperatures quickly in the event of a climate crisis. However, they only reduce some, but not all, effects of climate change, while possibly creating other problems. They also do not affect CO₂ levels and therefore fail to address the wider effects of rising CO₂, including ocean acidification. The report recommends: Parties to the UNFCCC should make increased efforts towards mitigating and adapting to climate change and in particular to agreeing to global emissions reductions of at least 50% on 1990

levels by 2050 and more thereafter; CDR and SRM geoengineering methods should only be considered as part of a wider package of options for addressing climate change. CDR methods should be regarded as preferable to SRM methods. Relevant UK government departments, in association with the UK Research Councils, should together fund a 10 year geoengineering research programme at a level of the order of £10M per annum. The Royal Society, in collaboration with international science partners, should develop a code of practice for geoengineering research and provide recommendations to the international scientific community for a voluntary research governance framework. The Royal Society issued a call for submissions and convened a small ethics workshop as part of the evidence gathering process. More information is available in the main report.

Liquid Cell Electron Microscopy - Frances M. Ross 2017

2.6.2 Electrodes for Electrochemistry

Curriculum - Allan C. Ornstein 2013

The ideal resource for researchers, theoreticians, and practitioners of curriculum; a ready reference for teachers, supervisors, and administrators who participate in curriculum making; and a widely popular text for courses in curriculum planning, development, implementation, and evaluation, this book presents a comprehensive, thoroughly documented, balanced overview of the foundations, principles, and issues of curriculum today. The information presented encourages readers to consider choices and then formulate their own views on curriculum.