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KEY=SCIENCE - CUNNINGHAM TRUJILLO

Triennial Review of the National Nanotechnology Initiative

National Academies Press **The National Nanotechnology Initiative (NNI) is a multiagency, multidisciplinary federal initiative comprising a collection of research programs and other activities funded by the participating agencies and linked by the vision of "a future in which the ability to understand and control matter at the nanoscale leads to a revolution in technology and industry that benefits society." As first stated in the 2004 NNI strategic plan, the participating agencies intend to make progress in realizing that vision by working toward four goals. Planning, coordination, and management of the NNI are carried out by the interagency Nanoscale Science, Engineering, and Technology (NSET) Subcommittee of the National Science and Technology Council (NSTC) Committee on Technology (CoT) with support from the National Nanotechnology Coordination Office (NNCO). Triennial Review of the National Nanotechnology Initiative is the latest National Research Council review of the NNI, an assessment called for by the 21st Century Nanotechnology Research and Development Act of 2003. The overall objective of the review is to make recommendations to the NSET Subcommittee and the NNCO that will improve the NNI's value for basic and applied research and for development of applications in nanotechnology that will provide economic, societal, and national security benefits to the United States. In its assessment, the committee found it**

important to understand in some detail-and to describe in its report-the NNI's structure and organization; how the NNI fits within the larger federal research enterprise, as well as how it can and should be organized for management purposes; and the initiative's various stakeholders and their roles with respect to research. Because technology transfer, one of the four NNI goals, is dependent on management and coordination, the committee chose to address the topic of technology transfer last, following its discussion of definitions of success and metrics for assessing progress toward achieving the four goals and management and coordination. Addressing its tasks in this order would, the committee hoped, better reflect the logic of its approach to review of the NNI. Triennial Review of the National Nanotechnology Initiative also provides concluding remarks in the last chapter.

A Guide to Asian High Yield Bonds Financing Growth Enterprises, + Website

John Wiley & Sons An up-to-date, comprehensive analysis of the high-yield bond market in Asia Beginning with a general definition of high-yield bond products and where they reside within the corporate capital structure, this newly updated guide looks at the development of high-yield bonds in the United States and Europe before analysing this sector in Asia. It covers issuer countries and industries, ratings, and size distributions, and also covers the diversification of the high-yield issuer universe. It includes a thorough technical analysis of high-yield bond structures commonly employed in Asian transactions, including discussion of the respective covenants and security packages that vary widely across the region. Chapters and sections new to this edition cover such subjects as high-yield bond restructuring, the new high-yield "Dim Sum" market, and the high-yield placement market shutdown of 2008 - 2009. Finally, the book looks at the new characteristics of Asian economies for indicators on how the high-yield market will develop there are the near future. Offers an extremely detailed analysis of Asia's high-yield bond market Features new and updated material, including new coverage of the key differences between Asian structures and United States structures Ideal for CFOs of companies contemplating high-yield issuance, as well as investment bankers, bank credit analysts, portfolio managers, and institutional investors

The United States Government

Manual 2012

U.S. Government Printing Office **Known as the Official handbook of the Federal Government. This annual resource provides comprehensive information on the agencies of the legislative, judicial, and executive branches, as well as quasi-official agencies, international organizations in which the United States participates, boards, commissions, and committees. Each agency's description consists of a list of principal officials; a summary statement of the agency's purpose and role in the Federal Government; a brief history of the agency, including its legislative or executive authority; and a description of consumer activities, contracts and grants, employment, and publications.**

United States Code 2012 Edition

Supplement V

Federal Register

Levees and the National Flood

Insurance Program

Improving Policies and Practices

National Academies Press **The Federal Emergency Management Agency's (FEMA) Federal Insurance and Mitigation Administration (FIMA) manages the National Flood Insurance Program (NFIP), which is a cornerstone in the U.S. strategy to assist communities to prepare for, mitigate against, and recover from flood disasters. The NFIP was established by Congress with passage of the National Flood Insurance Act in 1968, to help reduce future flood damages through NFIP community floodplain regulation that would control development in flood hazard areas, provide insurance for a premium to property owners, and reduce federal expenditures for disaster assistance. The flood insurance is available only to owners of insurable property located in communities that participate in the NFIP. Currently, the program has 5,555,915 million policies in 21,881 communities³ across the United States. The NFIP defines the one percent annual chance flood (100-year or base flood) floodplain as a Special Flood Hazard Area (SFHA). The SFHA is delineated on FEMA's Flood Insurance Rate Maps (FIRM's) using topographic, meteorologic, hydrologic, and hydraulic information. Property owners with a federally back mortgage within the SFHAs are required to**

purchase and retain flood insurance, called the mandatory flood insurance purchase requirement (MPR). Levees and floodwalls, hereafter referred to as levees, have been part of flood management in the United States since the late 1700's because they are relatively easy to build and a reasonable infrastructure investment. A levee is a man-made structure, usually an earthen embankment, designed and constructed in accordance with sound engineering practices to contain, control, or divert the flow of water so as to provide protection from temporary flooding. A levee system is a flood protection system which consists of a levee, or levees, and associated structures, such as closure and drainage devices, which are constructed and operated in accordance with sound engineering practices. Recognizing the need for improving the NFIP's treatment of levees, FEMA officials approached the National Research Council's (NRC) Water Science and Technology Board (WSTB) and requested this study. The NRC responded by forming the ad hoc Committee on Levee and the National Flood Insurance Program: Improving Policies and Practices, charged to examine current FEMA treatment of levees within the NFIP and provide advice on how those levee-related policies and activities could be improved. The study addressed four broad areas, risk analysis, flood insurance, risk reduction, and risk communication, regarding how levees are considered in the NFIP. Specific issues within these areas include current risk analysis and mapping procedures behind accredited and non-accredited levees, flood insurance pricing and the mandatory flood insurance purchase requirement, mitigation options to reduce risk for communities with levees, flood risk communication efforts, and the concept of shared responsibility. The principal conclusions and recommendations are highlighted in this report.

Strengthening Forensic Science in the United States

A Path Forward

National Academies Press **Scores of talented and dedicated people serve the forensic science community, performing vitally important work. However, they are often constrained by lack of adequate resources, sound policies, and national support. It is clear that change and advancements, both systematic and scientific, are needed in a number of forensic science disciplines to ensure the reliability of work, establish enforceable standards, and promote best practices with consistent application. Strengthening Forensic Science in the United States: A Path Forward provides a detailed plan for addressing these needs and suggests the creation of a new government entity, the National Institute of Forensic Science, to establish and enforce standards within the forensic science community. The benefits of improving and regulating the forensic science**

disciplines are clear: assisting law enforcement officials, enhancing homeland security, and reducing the risk of wrongful conviction and exoneration. **Strengthening Forensic Science in the United States** gives a full account of what is needed to advance the forensic science disciplines, including upgrading of systems and organizational structures, better training, widespread adoption of uniform and enforceable best practices, and mandatory certification and accreditation programs. While this book provides an essential call-to-action for congress and policy makers, it also serves as a vital tool for law enforcement agencies, criminal prosecutors and attorneys, and forensic science educators.

United States Government Manual 2012

The Official Handbook of the Federal Government

Simon and Schuster **The United States Government Manual 2011-2012** provides up-to-date information about the activities of federal agencies, as well as the names of top officials in the Obama administration and U.S. senators and U.S. representatives. You'll find information on the legislative, judicial, and executive branches, a list federal acronyms, and more. This special edition includes the contact information for each agency for employment, government contracts, publications, films, and other public services.

Building capability in the Senior Civil Service to meet today's challenges

Stationery Office **The Government now accepts the urgent need for a leadership group that can think across departmental boundaries and lead change but there is still a long way to go to change the long-standing culture of the Senior Civil Service. The NAO watchdog welcomed the ambition of the Civil Service Reform Plan and emphasised the urgent need to make progress, given that the plan underpinned the Government's chances of achieving further efficiency savings. At present there are significant skills shortages, particularly in the areas of commerce, project management, digital delivery and change leadership. In December 2012, only four out of 15 Permanent Secretaries at major delivery departments**

had significant operational delivery and commercial experience. The 24 professional networks in the civil service lack influence across departmental 'silos' and may not be the right groupings to meet the needs of the modern service. The Government intends to open up the service, with more internal transfers and free flow of skills to and from the private sector, and build on an approach already in place for the top 200. But the proportion of new recruits from the private sector fell in 2009-10 as departments cut spending, and has yet to recover. Promotion to the Senior Civil Service is becoming so financially unattractive as to put off talented people. The NAO warns that the latest moves to increase pay flexibility and offer incentives for business critical roles may not be enough to recruit, motivate and retain the right people.

The Biologist's Imagination Innovation in the Biosciences

Oxford University Press, USA "Scholars and policymakers alike agree that innovation in the biosciences is key to future growth. The field continues to shift and expand, and it is certainly changing the way people live their lives in a variety of ways. But despite the lion's share of federal research dollars being devoted to innovation in the biosciences, the field has yet to live up to its billing as a source of economic productivity and growth. With vast untapped potential to imagine and innovate in the biosciences, adaptation of the innovative model is needed. In *The Biologist's Imagination*, William Hoffman and Leo Furcht examine the history of innovation in the biosciences, tracing technological innovation from the late eighteenth century to the present and placing special emphasis on how and where technology evolves. Place is key to innovation, from the early industrial age to the rise of the biotechnology industry in the second half of the twentieth century. The book uses the distinct history of bioscientific innovation to discuss current trends as they relate to medicine, agriculture, biofuels, stem-cell research, neuroscience, and more. Ultimately, Hoffman and Furcht argue that, as things currently stand, we fall short in our efforts to innovate in the biosciences; our system of innovation is itself in need of innovation. It needs to adapt to the massive changes brought about by converging technologies, globalization in higher education as well as in finance, and increases in entrepreneurship. *The Biologist's Imagination* is both an analysis of past models for bioscience innovation and a forward-looking, original argument for how future models should be developed"--

Energy Medicine Technologies Ozone Healing, Microcrystals, Frequency Therapy, and the Future of Health

Simon and Schuster **New and suppressed breakthroughs in energy medicine, ways to combat toxins and electromagnetic fields, and the importance of non-GMO foods • Explores the use of microcrystals, ozone and hydrogen peroxide therapy, and how to tap in to healing antioxidant electrons from the Earth • Reveals the scientifically proven health risks of genetically modified foods • Examines the suppressed cancer-curing electromedicine of Royal Raymond Rife and Nobel laureate Albert Szent-Györgi Natural, nontoxic, inexpensive, and effective alternatives to conventional medicine exist, yet they have been suppressed by the profit-driven medical-pharmaceutical complex. Presenting a compendium of some of the most revolutionary yet still widely unknown discoveries in health and energy medicine, this book edited by Finley Eversole, Ph.D., explores the use of microcrystals to harmonize the energies of body, mind, and environment; the healing effects of ozone and hydrogen peroxide therapy; ways to combat electromagnetic fields and environmental toxins; sources of disruptive energy that cause stress and health problems, including other people's negative emotions; and how to tap in to healing antioxidant electrons from the Earth. The book reveals the scientifically proven health risks of genetically modified foods--the first irreversible technology in human history with still unknown consequences. It looks at the link between industrial farming and the precipitous rise in heart disease, cancer, diabetes, and Alzheimer's over the past 100 years, providing a 10-point Low-Toxin Program to reduce your risk. It explores the cancer-curing electromedicine of Royal Raymond Rife and its suppression by the medical establishment as well as Nobel laureate Albert Szent-Györgi's follow-up discovery of Frequency Therapy. Offering a window into the holistic future of medicine, the book shows the body not simply as a biological machine to be patched and repaired but as a living organism made up of cells dynamically linked to their inner and outer environments.**

Medical Data Privacy Handbook

Springer **This handbook covers Electronic Medical Record (EMR) systems, which enable the storage, management, and sharing of massive amounts of demographic, diagnosis, medication, and genomic information. It presents privacy-preserving methods for medical data, ranging from**

laboratory test results to doctors' comments. The reuse of EMR data can greatly benefit medical science and practice, but must be performed in a privacy-preserving way according to data sharing policies and regulations. Written by world-renowned leaders in this field, each chapter offers a survey of a research direction or a solution to problems in established and emerging research areas. The authors explore scenarios and techniques for facilitating the anonymization of different types of medical data, as well as various data mining tasks. Other chapters present methods for emerging data privacy applications and medical text de-identification, including detailed surveys of deployed systems. A part of the book is devoted to legislative and policy issues, reporting on the US and EU privacy legislation and the cost of privacy breaches in the healthcare domain. This reference is intended for professionals, researchers and advanced-level students interested in safeguarding medical data.

An Assessment of the Prospects for Inertial Fusion Energy

National Academies Press The potential for using fusion energy to produce commercial electric power was first explored in the 1950s. Harnessing fusion energy offers the prospect of a nearly carbon-free energy source with a virtually unlimited supply of fuel. Unlike nuclear fission plants, appropriately designed fusion power plants would not produce the large amounts of high-level nuclear waste that requires long-term disposal. Due to these prospects, many nations have initiated research and development (R&D) programs aimed at developing fusion as an energy source. Two R&D approaches are being explored: magnetic fusion energy (MFE) and inertial fusion energy (IFE). *An Assessment of the Prospects for Inertial Fusion Energy* describes and assesses the current status of IFE research in the United States; compares the various technical approaches to IFE; and identifies the scientific and engineering challenges associated with developing inertial confinement fusion (ICF) in particular as an energy source. It also provides guidance on an R&D roadmap at the conceptual level for a national program focusing on the design and construction of an inertial fusion energy demonstration plant.

The Neutron's Children

Nuclear Engineers and the Shaping

of Identity

OUP Oxford **The first nuclear engineers emerged from the Manhattan Project in the USA, UK and Canada, but remained hidden behind security for a further decade. Cosseted and cloistered by their governments, they worked to explore applications of atomic energy at a handful of national labs. This unique bottom-up history traces how the identities of these unusually voiceless experts - forming a uniquely state-managed discipline - were shaped in the context of pre-war nuclear physics, wartime industrial management, post-war politics and utopian energy programmes. Even after their eventual emergence at universities and companies, nuclear workers carried the enduring legacy of their origins. Their shared experiences shaped not only their identities, but our collective memories of the late twentieth century. And as illustrated by the Fukushima accident seven decades after the Manhattan project began, this book explains why they are still seen conflictingly as selfless heroes or as mistrusted guardians of a malevolent genie.**

Smart Citizens, Smarter State

The Technologies of Expertise and the Future of Governing

Harvard University Press **Governments make too little use of the skills and experience of citizens. New tools—what Beth Simone Noveck calls technologies of expertise—are making it possible to match citizen expertise to the demand for it in government. She offers a vision of participatory democracy rooted not in voting or crowdsourcing but in people’s knowledge and know-how.**

Basics of Qualitative Research

Techniques and Procedures for Developing Grounded Theory

SAGE Publications, Incorporated **The Second Edition of this best-selling textbook continues to offer immensely practical advice and technical expertise that will aid researchers in analyzing and interpreting their collected data, and ultimately build theory from it. The authors provide a step-by-step guide to the research act. Full of definitions and illustrative examples, the book presents criteria for evaluating a study as well as**

responses to common questions posed by students of qualitative research.

Treaties in Force

A List of Treaties and Other
International Agreements of the
United States in Force on ...

Russia's Changing Economic and
Political Regimes

The Putin Years and Afterwards

Routledge The book reveals the interconnection between social, cultural and political protest movements and social and economic changes in a post-communist country like Russia still dominated by bureaucratic rulers and "oligarchs" controlling all basic industries and mining activities. Those interests are also dominating Russia's foreign policy and explain why Russia did not succeed in becoming an integral part of Europe. The latter is, at least, wished by many Russian citizens.

The Oxford Handbook of Sound
Studies

OUP USA Written by the world's leading scholars and researchers in the emerging field of sound studies, *The Oxford Handbook of Sound Studies* offers new and fully engaging perspectives on the significance of sound in its material and cultural forms. The book considers sounds and music as experienced in such diverse settings as shop floors, laboratories, clinics, design studios, homes, and clubs, across an impressively broad range of historical periods and national and cultural contexts. Science has traditionally been understood as a visual matter, a study which has historically been undertaken with optical technologies such as slides, graphs, and telescopes. This book questions that notion powerfully by showing how listening has contributed to scientific practice. Sounds have always been a part of human experience, shaping and transforming the world in which we live in ways that often go unnoticed. Sounds and music, the authors argue, are embedded in the fabric of everyday life, art,

commerce, and politics in ways which impact our perception of the world. Through an extraordinarily diverse set of case studies, authors illustrate how sounds -- from the sounds of industrialization, to the sounds of automobiles, to sounds in underwater music and hip-hop, to the sounds of nanotechnology -- give rise to new forms listening practices. In addition, the book discusses the rise of new public problems such as noise pollution, hearing loss, and the "end" of the amateur musician that stem from the spread and appropriation of new sound- and music-related technologies, analog and digital, in many domains of life. Rich in vivid and detailed examples and compelling case studies, and featuring a companion website of listening samples, this remarkable volume boldly challenges readers to rethink the way they hear and understand the world.

Treaties in Force

A List of Treaties and Other International Agreements of the United States in Force on January 1, 2013

Government Printing Office **Treaties in Force** is prepared by the Department of State for the purpose of providing information on treaties and other international agreements to which the United States has become a party and which are carried on the records of the Department of State as being in force as of its stated publication date, January 1, 2013. With respect to treaties and agreements in force as of January 1, 2013, information regarding status is up to date as of the date indicated as authoritative. The term "treaty" as a matter of U.S. constitutional law denotes international agreements made by the President with the advice and consent of the Senate in accordance with Article II, section 2 of the Constitution of the United States. In addition to such "treaties", this publication covers international agreements in force that have been concluded by the Executive (a) pursuant to or in accordance with existing legislation or a prior treaty; (b) subject to congressional approval or implementation, and/or (c) under and in accordance with the President's constitutional powers. **Treaties in Force** is arranged in two sections. Section 1 includes bilateral treaties and other international agreements listed by country or other international entity with subject headings under each entry. Arrangements with territorial possessions of a country appear at the end of the entry for that country. In some cases, treaties and international agreements applicable to a territory prior to its independence are included

in the entry for that country on the basis of its assumption of treaty obligations upon becoming independent, as noted at the beginning of the entry for that country. For convenience, some treaties and agreements concluded with countries whose name or statehood status has changed continue to be listed under the name in use at the time the agreement was concluded, if the title of the treaty or agreement has not been formally amended. Section 2 lists multilateral treaties and other international agreements to which the United States is a party, arranged by subject. The depositary is the authoritative source for a current list of parties and information on other matters concerning the status of the agreement, and status information often changes. Information is provided on the depositary for the agreement in question, and contact information, including an Internet site is provided for the depositary where available.

The Engineer

Developing E-Government Projects: Frameworks and Methodologies

Frameworks and Methodologies

IGI Global The emergence of e-government allows for effective governance, increased transparency, better management, and efficient services through the use of the internet and information and communication technologies. Therefore, world governments are mobilizing large amounts of resources in order to implement and promote the use of e-government. **Developing E-Government Projects: Frameworks and Methodologies** presents frameworks and methodologies for strategies towards the design, implementation, and adoption of e-government projects. By providing best practices in the successful adoption of e-government, this book is essential for policy makers, practitioners, researchers, and students interested in the approaches utilized for the successful implementation of e-government projects.

A Lever Long Enough

A History of Columbia's School of Engineering and Applied Science

Since 1864

Columbia University Press In this comprehensive social history of Columbia University's School of Engineering and Applied Science (SEAS), Robert McCaughey combines archival research with oral testimony and contemporary interviews to build a critical and celebratory portrait of one of the oldest engineering schools in the United States. McCaughey follows the evolving, occasionally rocky, and now integrated relationship between SEAS's engineers and the rest of the Columbia University student body, faculty, and administration. He also revisits the interaction between the SEAS staff and the inhabitants and institutions of the City of New York, where the school has resided since its founding in 1864. McCaughey compares the historical struggles and achievements of the school's engineers with their present-day battles and accomplishments, and he contrasts their teaching and research approaches with those of their peers at other free-standing and Ivy League engineering schools. What begins as a localized history of a school striving to define itself within a university known for its strengths in the humanities and the social sciences becomes a wider story of the transformation of the applied sciences into a critical component of American technology and education.

Simulation-Based Usability Evaluation of Spoken and Multimodal Dialogue Systems

Springer This book describes an extension of the user behaviour simulation (UBS) of an existing tool for automatic usability evaluation (AUE). This extension is based upon a user study with a smart home system. It uses technical-sociological methods for the execution of the study and the analysis of the collected data. A comparison of the resulting UBS with former UBSs, as well as the empirical data, shows that the new simulation approach outperforms the former simulation. The improvement affects the prediction of dialogue metrics that are related to dialogue efficiency and dialogue effectiveness. Furthermore, the book describes a parameter-based data model, as well as a related framework. Both are used to uniformly describe multimodal human-computer interactions and to provide such descriptions for usability evaluations. Finally, the book proposes a new two-stage method for the evaluation of UBSs. The method is based on the computation of a distance measures between two dialogue corpora and the pair-wise comparison of distances among several dialogue corpora.

Translational Regenerative Medicine

Academic Press **Translational Regenerative Medicine** is a reference book that outlines the life cycle for effective implementation of discoveries in the dynamic field of regenerative medicine. By addressing science, technology, development, regulatory, manufacturing, intellectual property, investment, financial, and clinical aspects of the field, this work takes a holistic look at the translation of science and disseminates knowledge for practical use of regenerative medicine tools, therapeutics, and diagnostics. Incorporating contributions from leaders in the fields of translational science across academia, industry, and government, this book establishes a more fluid transition for rapid translation of research to enhance human health and well-being. Provides formulaic coverage of the landscape, process development, manufacturing, challenges, evaluation, and regulatory aspects of the most promising regenerative medicine clinical applications Covers clinical aspects of regenerative medicine related to skin, cartilage, tendons, ligaments, joints, bone, fat, muscle, vascular system, hematopoietic /immune system, peripheral nerve, central nervous system, endocrine system, ophthalmic system, auditory system, oral system, respiratory system, cardiac system, renal system, hepatic system, gastrointestinal system, genitourinary system Identifies effective, proven tools and metrics to identify and pursue clinical and commercial regenerative medicine

Respiratory Health Effects of Airborne Hazards Exposures in the Southwest Asia Theater of Military Operations

National Academies Press **More than 3.7 million U.S. service members have participated in operations taking place in the Southwest Asia Theater of Military Operations since 1990. These operations include the 1990-1991 Persian Gulf War, a post-war stabilization period spanning 1992 through September 2001, and the campaigns undertaken in the wake of the September 11, 2001, attacks. Deployment to Iraq, Kuwait, Saudi Arabia, Bahrain, Gulf of Aden, Gulf of Oman, Oman, Qatar, the United Arab Emirates, and Afghanistan exposed service members to a number of airborne hazards, including oil-well fire smoke, emissions from open burn pits, dust and sand suspended in the air, and exhaust from diesel vehicles.**

The effects of these were compounded by stressors like excessive heat and noise that are inevitable attributes of service in a combat environment. **Respiratory Health Effects of Airborne Hazards Exposures in the Southwest Asia Theater of Military Operations** reviews the scientific evidence regarding respiratory health outcomes in veterans of the Southwest Asia conflicts and identifies research that could feasibly be conducted to address outstanding questions and generate answers, newly emerging technologies that could aid in these efforts, and organizations that the Veterans Administration might partner with to accomplish this work.

Iran's Rocket and Missile Forces and Strategic Options

Rowman & Littlefield **Iran's rocket and missile forces serve a wide range of Iranian strategic objectives. This study examines how Iran's forces and systems are steadily evolving.**

Open Access

MIT Press **A concise introduction to the basics of open access, describing what it is (and isn't) and showing that it is easy, fast, inexpensive, legal, and beneficial. The Internet lets us share perfect copies of our work with a worldwide audience at virtually no cost. We take advantage of this revolutionary opportunity when we make our work "open access": digital, online, free of charge, and free of most copyright and licensing restrictions. Open access is made possible by the Internet and copyright-holder consent, and many authors, musicians, filmmakers, and other creators who depend on royalties are understandably unwilling to give their consent. But for 350 years, scholars have written peer-reviewed journal articles for impact, not for money, and are free to consent to open access without losing revenue. In this concise introduction, Peter Suber tells us what open access is and isn't, how it benefits authors and readers of research, how we pay for it, how it avoids copyright problems, how it has moved from the periphery to the mainstream, and what its future may hold. Distilling a decade of Suber's influential writing and thinking about open access, this is the indispensable book on the subject for researchers, librarians, administrators, funders, publishers, and policy makers.**

United States Department of State Treaties in Force; A List of Treaties

and Other International Agreements of the United States in Force on January 1, 2018

Assured Destruction

Building the Ballistic Missile Culture of the U.S. Air Force

Naval Institute Press **Assured Destruction: Building the Ballistic Missile Culture of the U.S. Air Force** documents the rapid development of nuclear ballistic missiles in the United States and their equally swift demise after the Cuban Missile Crisis, revealing how these drastic changes negatively influenced both the Air Force and the missile community. David W. Bath contends that the struggle to create and control nuclear ballistic missiles threatened both the dominance of the United States during an intensifying Cold War and the strategic airpower mission of the newly created Air Force. The book details the strenuous efforts required to create and prepare a missile arsenal before the Cuban Missile Crisis, which occurred only five years after the first missile was declared operational. It uses the personal recollections of former missileers and the professional military education theses they wrote to highlight some of the concerns that have faced the missileers who operated and worked on these powerful weapons from 1957 to the present. The highlight of the book, however, is the personal stories of the missileers who served during the missile crisis, revealing the efforts that they went to in order to prepare these unique and untried weapons for what many thought might become the third world war.

Engineering Ethics: Concepts and Cases

Cengage Learning **Bridging the gap between theory and practice, ENGINEERING ETHICS, Fifth Edition, will help you quickly understand the importance of your conduct as a professional and how your actions can affect the health, safety, and welfare of the public. ENGINEERING ETHICS, Fifth Edition, provides dozens of diverse engineering cases and a proven and structured method for analyzing them; practical application of the**

Engineering Code of Ethics; focus on critical moral reasoning as well as effective organizational communication; and in-depth treatment of issues such as sustainability, acceptable risk, whistle-blowing, and globalized standards for engineering. Additionally, a new companion website offers study questions, self-tests, and additional case studies. Available with InfoTrac Student Collections <http://gocengage.com/infotrac>. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version.

21st Century Homestead: Nitrogen-Fixing Crops

Lulu.com

Clearer Structure, Cleaner Water Improving Performance and Outcomes at the (California) State Water Boards

DIANE Publishing **Clean water is a cornerstone of California's economic and environmental well-being. As the state's lead water quality guardians, the State Water Resources Control Board and the nine Regional Water Quality Control Boards play a critical role in the state's health. Their job is to protect and improve the state's aquifers, rivers, lakes and shoreline. However, the boards today must rely on regulatory tools that are not adequate to address modern threats to water quality, resulting in a system that has lost the confidence of the population. The Calif. gov. and legis. must reform the current system into one that assures transparency, consistency and accountability. The report includes recommend. for strengthening ties and solving problems. Graphs and charts.**

Chariots for Apollo

The NASA History of Manned Lunar Spacecraft to 1969

Courier Corporation **This illustrated history by a trio of experts is the definitive reference on the Apollo spacecraft and lunar modules. It traces**

the vehicles' design, development, and operation in space. More than 100 photographs and illustrations.

The Ethics of Nanotechnology, Geoengineering, and Clean Energy

Routledge Nanotechnology, clean technology, and geoengineering span the scale of human ingenuity, from the imperceptibly small to the unimaginably large. Yet they are united by a commonality of ethics that permeates how and why they are developed, and how the resulting consequences are managed. The articles in this volume provide a comprehensive account of current thinking around the ethics of development and use within each of the technological domains, and addresses challenges and opportunities that cut across all three. In particular, the collection provides unique insights into the ethics of 'noumenal' technologies - technologies that are impossible to see or detect or conceive of with human senses or conventional tools. This collection will be of relevance to anyone who is actively involved with ensuring the responsible and sustainable development of nanotechnology, geoengineering or clean technology.

Social Science Research

Principles, Methods, and Practices

CreateSpace This book is designed to introduce doctoral and graduate students to the process of conducting scientific research in the social sciences, business, education, public health, and related disciplines. It is a one-stop, comprehensive, and compact source for foundational concepts in behavioral research, and can serve as a stand-alone text or as a supplement to research readings in any doctoral seminar or research methods class. This book is currently used as a research text at universities on six continents and will shortly be available in nine different languages.

Advanced Dam Engineering for Design, Construction, and Rehabilitation

Springer Science & Business Media The present state of the art of dam engineering has been ronmental, and political factors, which, though

important, attained by a continuous search for new ideas and methods are covered in other publications. while incorporating the lessons of the past. In the last 20 The rapid progress in recent times has resulted from the years particularly there have been major innovations, due combined efforts of engineers and associated scientists, as largely to a concerted effort to blend the best of theory and exemplified by the authorities who have contributed to this practice. Accompanying these achievements, there has been book. These individuals have brought extensive knowledge a significant trend toward free interchange among the pro to the task, drawn from experience throughout the world. fessional disciplines, including open discussion of prob With the convergence of such distinguished talent, the op lems and their solutions. The inseparable relationships of portunity for accomplishment was substantial. I gratefully hydrology, geology, and seismology to engineering have acknowledge the generous cooperation of these writers, and been increasingly recognized in this field, where progress am indebted also to other persons and organizations that is founded on interdisciplinary cooperation. have allowed reference to their publications; and I have This book presents advances in dam engineering that attempted to acknowledge this obligation in the sections have been achieved in recent years or are under way. At where the material is used. These courtesies are deeply ap tention is given to practical aspects of design, construction, preciated.

Robotics in STEM Education

Redesigning the Learning Experience

Springer This book describes recent approaches in advancing STEM education with the use of robotics, innovative methods in integrating robotics in school subjects, engaging and stimulating students with robotics in classroom-based and out-of-school activities, and new ways of using robotics as an educational tool to provide diverse learning experiences. It addresses issues and challenges in generating enthusiasm among students and revamping curricula to provide application focused and hands-on approaches in learning . The book also provides effective strategies and emerging trends in using robotics, designing learning activities and how robotics impacts the students' interests and achievements in STEM related subjects. The frontiers of education are progressing very rapidly. This volume brought together a collection of projects and ideas which help us keep track of where the frontiers are moving. This book ticks lots of contemporary boxes: STEM, robotics, coding, and computational thinking among them. Most educators interested in the STEM phenomena will find many ideas in this book which

challenge, provide evidence and suggest solutions related to both pedagogy and content. Regular reference to 21st Century skills, achieved through active collaborative learning in authentic contexts, ensures the enduring usefulness of this volume. John Williams Professor of Education and Director of the STEM Education Research Group Curtin University, Perth, Australia

Science as an Open Enterprise

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.

Unsteady Computational Fluid Dynamics in Aeronautics

Springer Science & Business Media The field of Large Eddy Simulation (LES) and hybrids is a vibrant research area. This book runs through all the potential unsteady modelling fidelity ranges, from low-order to LES. The latter is probably the highest fidelity for practical aerospace systems modelling. Cutting edge new frontiers are defined. One example of a pressing environmental concern is noise. For the accurate prediction of this, unsteady modelling is needed. Hence computational aeroacoustics is explored. It is also emerging that there is a critical need for coupled simulations. Hence, this area is also considered and the tensions of utilizing such simulations with the already expensive LES. This work has relevance to the general field of CFD and LES and to a wide variety of non-aerospace aerodynamic systems (e.g. cars, submarines, ships, electronics, buildings). Topics treated include unsteady flow techniques; LES and hybrids; general numerical methods; computational aeroacoustics; computational aeroelasticity; coupled simulations and turbulence and its modelling (LES, RANS, transition, VLES, URANS). The volume concludes by pointing forward to future horizons and in particular the industrial use of LES. The writing style is accessible and useful to both academics and industrial practitioners. From the reviews: "Tucker's volume provides a very welcome, concise discussion of current capabilities for simulating and modelling unsteady aerodynamic flows. It covers the various possible numerical techniques in good, clear detail and presents a very wide range of practical applications; beautifully illustrated in many cases. This book thus provides a valuable text for practicing engineers, a rich source of

background information for students and those new to this area of Research & Development, and an excellent state-of-the-art review for others. A great achievement." Mark Savill FHEA, FRAeS, C.Eng, Professor of Computational Aerodynamics Design & Head of Power & Propulsion Sciences, Department of Power & Propulsion, School of Engineering, Cranfield University, Bedfordshire, U.K. "This is a very useful book with a wide coverage of many aspects in unsteady aerodynamics method development and applications for internal and external flows." L. He, Rolls-Royce/RAEng Chair of Computational Aerothermal Engineering, Oxford University, U.K. "This comprehensive book ranges from classical concepts in both numerical methods and turbulence modelling approaches for the beginner to latest state-of-the-art for the advanced practitioner and constitutes an extremely valuable contribution to the specific Computational Fluid Dynamics literature in Aeronautics. Student and expert alike will benefit greatly by reading it from cover to cover."

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