In the spirit of The Right Stuff, updated for the 21st century, Test Gods is an epic story about extreme bravery and sacrifice, about the thin line between lunacy and genius. Most of all, it is a story about the pursuit of meaning in our lives—and the fulfillment of our dreams. Working from exclusive inside reporting, New Yorker writer Nicholas Schmidle tells the remarkable story of the test pilots,
engineers, and visionaries behind Virgin Galactic’s campaign to build a space tourism company. Schmidle follows a handful of characters—Mark Stucky, Virgin’s lead test pilot; Richard Branson, the eccentric billionaire funding the venture; Mike Moses, the grounded, unflappable president; Mike Alsbury, the test pilot killed in a fatal crash; and others—through personal and professional dramas, in pursuit of their collective goal: to make space tourism a reality. Along the way, Schmidle weaves his relationship with his father—a former fighter pilot and decorated war hero—into the tragedies and triumphs that Branson’s team confronts out in the Mojave desert as they design, build, and test-fly their private rocket ship. Gripping and novelistic, Test Gods leads us, through human drama, into a previously unseen world—and beyond.

DNA typing -- the analysis of a biological sample for a person's genetic signature - has led to the unprecedented exoneration of hundreds of wrongfully convicted people. And every day we hear stories about how police used DNA to capture a dangerous rapist or killer. Reading these accounts, it is hard not to think of DNA typing as an unmitigated good. Who can argue with a technology that helps catch bad guys and correct law enforcement mistakes? But there is a darker side to this story -- a version less likely to play out on dramatic television shows. InInside the Cell, Erin Murphy shows how DNA typing can be subject to subject to misuse, mistake, and error, and lead to a police state run amok. Murphy shows the perils of a society in which stop-and-frisk” becomes stop-and-spit,” or in which police pose undercover to get a DNA sample from your discarded lunch. Already, police can collect DNA when making an arrest, sometimes before charging a person with a crime. The government is building a massive DNA database, stockpiling samples from a third of the population, and the laws regulating what they can and cannot do with them are weak. Murphy shows how this invites the riskiest kind of genetic surveillance imaginable. Just because DNA testing is good science does not mean that it is foolproof. Faulty forensic science is the number two factor leading to wrongful conviction, and yet we have done little to improve the use of science in criminal justice. Forensic labs are largely unregulated and lacking in meaningful oversight standards, as evidenced by the involvement of nearly every major forensic lab in a DNA-related scandal. We have
invested hundreds of millions of dollars to collect DNA samples from convicted offenders. But we have spent far less to hire analysts to wade through huge backlogs, and virtually nothing to ensure that evidence will ever even collected from the crime scene. We are at a critical moment in time for forensic DNA testing programs. We may continue on the road we are on now, with our blind faith and limitless enthusiasm for handing over our genetic secrets to the police for them to use at their unfettered discretion. Or, as Murphy advises here, we can pause to take stock of our failures and our successes, appreciate what is truly at stake and what is truly to be gained, and change course toward a smarter DNA policy that is in everybody's interest.

The decay product of the medical isotope molybdenum-99 (Mo-99),
technetium-99m (Tc-99m), and associated medical isotopes iodine-131 (I-131) and xenon-133 (Xe-133) are used worldwide for medical diagnostic imaging or therapy. The United States consumes about half of the world’s supply of Mo-99, but there has been no domestic (i.e., U.S.-based) production of this isotope since the late 1980s. The United States imports Mo-99 for domestic use from Australia, Canada, Europe, and South Africa. Mo-99 and Tc-99m cannot be stockpiled for use because of their short half-lives. Consequently, they must be routinely produced and delivered to medical imaging centers. Almost all Mo-99 for medical use is produced by irradiating highly enriched uranium (HEU) targets in research reactors, several of which are over 50 years old and are approaching the end of their operating lives. Unanticipated and extended shutdowns of some of these old reactors have resulted in severe Mo-99 supply shortages in the United States and other countries. Some of these shortages have disrupted the delivery of medical care. Molybdenum-99 for Medical Imaging examines the production and utilization of Mo-99 and associated medical isotopes, and provides recommendations for medical use.

Legionnaires' disease, a pneumonia caused by the Legionella bacterium, is the leading cause of reported waterborne disease outbreaks in the United States. Legionella occur naturally in water from many different environmental sources, but grow rapidly in the warm, stagnant conditions that can be found in engineered water systems such as cooling towers, building plumbing, and hot tubs. Humans are primarily exposed to Legionella through inhalation of contaminated aerosols into the respiratory system. Legionnaires’ disease can be fatal, with between 3 and 33 percent of Legionella infections leading to death, and studies show the incidence of Legionnaires' disease in the United States increased five-fold from 2000 to 2017. Management of Legionella in Water Systems reviews the state of science on Legionella contamination of water systems, specifically the ecology and diagnosis. This report explores the process of transmission via water systems, quantification, prevention and control, and policy and training issues that affect the incidence of Legionnaires' disease. It also analyzes existing knowledge gaps and recommends research priorities moving forward.
The first holistic and thematic study of EU health law, and its implications, through its own internal logics.

The updated and expanded third edition of this book focuses on the multi-disciplinary coupling between flight-vehicle hardware alternatives and enabling propulsion systems. It discusses how to match near-term and far-term aerospace vehicles to missions and provides a comprehensive overview of the subject, directly contributing to the next-generation space infrastructure, from space tourism to space exploration. This holistic treatment defines a mission portfolio addressing near-term to long-term space transportation needs covering sub-orbital, orbital and escape flight profiles. In this context, a vehicle configuration classification is introduced covering alternatives starting from the dawn of space access. A best-practice parametric sizing approach is introduced to correctly design the flight vehicle for the mission. This technique balances required mission with the available vehicle solution space and is an essential capability sought after by technology forecasters and strategic planners alike.

This book explores the concept of "occupation" in disability well beyond traditional clinical formulations of disability: it considers disability not in terms of pathology or impairment, but as a range of unique social identities and experiences that are shaped by visible or invisible diagnoses/impairments, socio-cultural perceptions and environmental barriers and offers innovative ideas on how to apply theoretical training to real world contexts. Inspired by disability justice and “Disability Occupy Wall Street / Decolonize Disability” movements in the US and related movements abroad, this book builds on politically engaged critical approaches to disability that intersect occupational therapy, disability studies and anthropology. "Occupying Disability" will provide a discursive space where the concepts of disability, culture and occupation meet critical theory, activism and the creative arts. The concept of “occupation” is intentionally a moving target in this book. Some chapters discuss occupying spaces as a form of protest or alternatively, protesting against territorial occupations. Others present occupations as framed or problematized within the fields of occupational therapy and occupational science and anthropology as engagement in
meaningful activities. The contributing authors come from a variety of professional, academic and activist backgrounds to include perspectives from theory, practice and experiences of disability. Emergent themes include: all the permutations of the concept of "occupy," disability justice/decolonization, marginalization and minoritization, technology, struggle, creativity and change. This book will engage clinicians, social scientists, activists and artists in dialogues about disability as a theoretical construct and lived experience.

This book is a unique guide to emerging stem cell technologies and the opportunities for their commercialisation. It provides in-depth analyses of the science, business, legal, and financing fundamentals of stem cell technologies, offering a holistic assessment of this emerging and dynamic segment of the field of regenerative medicine. • Reviews the very latest advances in the technology and business of stem cells used for therapy, research, and diagnostics • Identifies key challenges to the commercialisation of stem cell technology and avenues to overcome problems in the pipeline • Written by an expert team with extensive experience in the business, basic and applied science of stem cell research This comprehensive volume is essential reading for researchers in cell biology, biotechnology, regenerative medicine, and tissue engineering, including scientists and professionals, looking to enter commercial biotechnology fields.

The tech sectors are the least understood portion of the healthcare system, but the ones that supply most of the innovation in healthcare services and generate most revenue. Fully updated for this third edition, The Business of Healthcare Innovation is a wide-ranging analysis of business models and trends in the tech sectors of the healthcare industry. It provides a thorough overview of and introduction to the innovative sectors that fuel improvements in healthcare: pharmaceuticals, biotechnology, life science startups, medical devices and information technology. For each sector, the book examines the trends in scientific innovation, the science behind that innovation, the business and revenue models pursued to commercialize that innovation, the regulatory constraints within which each sector must operate and the growing issues posed by activist payers and consumers. From a combination of academic and
industry perspectives, the authors show why healthcare sectors are such an important source of growth in any nation’s economy.

This book examines ways in which formerly prosperous regions can renew their economy during and after a period of industrial and economic recession. Using New York’s Capital Region (i.e., Albany, Troy, Schenectady, etc.) as a case study, the authors show how entrepreneurship, innovation, investment in education, research and political collaboration are critical to achieving regional success. In this way, the book provides other regions and nations with a real-life model for successful economic development. In the past half century, the United States and other nations have seen an economic decline of formerly prosperous regions as a result of new technology and globalization. One of the hardest-hit United States regions is Upstate New York or “the Capital Region”; it experienced a demoralizing hemorrhage of manufacturing companies, jobs and people to other regions and countries. To combat this, the region, with the help of state leaders, mounted a decades-long effort to renew and restore the region’s economy with a particular focus on nanotechnology. As a result, New York’s Capital Region successfully added thousands of well-paying, skill-intensive manufacturing jobs. New York’s success story serves as a model for economic development for policy makers that includes major public investments in educational institutions and research infrastructure; partnerships between academia, industry and government; and creation of frameworks for intra-regional collaboration by business, government, and academic actors. Featuring recommendations for best practices in regional development policy, this book is appropriate for scholars, students, researchers and policy makers in regional development, innovation, R&D policy, economic development and economic growth.

Preface -- Introduction : hedging in and out -- From financial steward to flash boy -- Pathways to the working rich -- Getting the job -- Inside the firm -- Moving up the ranks -- Reaching the top -- View from the top -- Conclusion : picking winners and losers -- Methodological appendix : studying up.

This Springer Handbook provides, for the first time, a complete and
consistent overview over the methods, applications, and products in the field of marine biotechnology. A large portion of the surface of the earth (ca. 70%) is covered by the oceans. More than 80% of the living organisms on the earth are found in aquatic ecosystems. The aquatic systems thus constitute a rich reservoir for various chemical materials and (bio-)chemical processes. Edited by a renowned expert with a longstanding experience, and including over 60 contributions from leading international scientists, the Springer Handbook of Marine Biotechnology is a major authoritative desk reference for everyone interested or working in the field of marine biotechnology and bioprocessing - from undergraduate and graduate students, over scientists and teachers, to professionals. Marine biotechnology is concerned with the study of biochemical materials and processes from marine sources, that play a vital role in the isolation of novel drugs, and to bring them to industrial and pharmaceutical development. Today, a multitude of bioprocess techniques is employed to isolate and produce marine natural compounds, novel biomaterials, or proteins and enzymes from marine organisms, and to bring them to applications as pharmaceuticals, cosmeceuticals or nutraceuticals, or for the production of bioenergy from marine sources. All these topics are addressed by the Springer Handbook of Marine Biotechnology. The book is divided into ten parts. Each part is consistently organized, so that the handbook provides a sound introduction to marine biotechnology - from historical backgrounds and the fundamentals, over the description of the methods and technology, to their applications - but it can also be used as a reference work. Key topics include: - Marine flora and fauna - Tools and methods in marine biotechnology - Marine genomics - Marine microbiology - Bioenergy and biofuels - Marine bioproducts in industrial applications - Marine bioproducts in medical and pharmaceutical applications - and many more

In today’s technological world, biotechnology is one of the most innovative and highly invested-in industries for research, in the field of science. This book analyses the forms and limitations of patent protection recognition for biotechnological inve

Shortlisted for the 2018 Royal Society Investment Science Book Prize A look inside the algorithms that are shaping our lives and the
dilemmas they bring with them. If you were accused of a crime, who would you rather decide your sentence—a mathematically consistent algorithm incapable of empathy or a compassionate human judge prone to bias and error? What if you want to buy a driverless car and must choose between one programmed to save as many lives as possible and another that prioritizes the lives of its own passengers? And would you agree to share your family’s full medical history if you were told that it would help researchers find a cure for cancer? These are just some of the dilemmas that we are beginning to face as we approach the age of the algorithm, when it feels as if the machines reign supreme. Already, these lines of code are telling us what to watch, where to go, whom to date, and even whom to send to jail. But as we rely on algorithms to automate big, important decisions—in crime, justice, healthcare, transportation, and money—they raise questions about what we want our world to look like. What matters most: Helping doctors with diagnosis or preserving privacy? Protecting victims of crime or preventing innocent people being falsely accused? Hello World takes us on a tour through the good, the bad, and the downright ugly of the algorithms that surround us on a daily basis. Mathematician Hannah Fry reveals their inner workings, showing us how algorithms are written and implemented, and demonstrates the ways in which human bias can literally be written into the code. By weaving in relatable, real world stories with accessible explanations of the underlying mathematics that power algorithms, Hello World helps us to determine their power, expose their limitations, and examine whether they really are improvement on the human systems they replace.

Scientific arguments—and indeed arguments in most disciplines—depend on visuals and other nontextual elements; however, most models of argumentation typically neglect these important resources. In Assembling Arguments, Jonathan Buehl offers a concentrated study of scientific argumentation that is sensitive to both the historical and theoretical possibilities of multimodal persuasion as it advances two related claims. First, rhetorical theory—when augmented with methods for reading nonverbal representations—can provide the analytical tools needed to understand and appreciate multimodal scientific arguments. Second, science—an inherently multimodal enterprise—offers ideal
subjects for developing general theories of multimodal rhetoric applicable across fields. In developing these claims, Buehl offers a comprehensive account of scientific persuasion as a multimodal process and develops a simple but productive framework for analyzing and teaching multimodal argumentation. Comprising five case studies, the book provides detailed treatments of argumentation in specific technological and historical contexts: argumentation before World War I, when images circulated by hand and by post; argumentation during the mid-twentieth century, when computers were beginning to bolster scientific inquiry but images remained hand-crafted products; and argumentation at the turn of the twenty-first century—an era of digital revolutions and digital fraud. Each study examines the rhetorical problems and strategies of specific scientists to investigate key issues regarding visualization and argument: 1) establishing new instruments as reliable sources of visual evidence; 2) creating novel arguments from reliable visual evidence; 3) creating novel arguments with unreliable visual evidence; 4) preserving the credibility of visualization practices; and 5) creating multimodal artifacts before and in the era of digital circulation. Given the growing enterprise of rhetorical studies and the field’s contributions to communication practices in all disciplines, rhetoricians need a comprehensive rhetoric of science—one that accounts for the multimodal arguments that change our relation to reality. Assembling Arguments argues that such rhetoric should enable the interpretation of visual scientific arguments and improve science-writing instruction.

From 2013 to 2015, over 11,000 people across West Africa lost their lives to the deadliest outbreak of the Ebola virus in history. Crucially, this epidemic marked the first time the virus was able to spread beyond rural areas to major cities, overturning conventional assumptions about its epidemiology. With backgrounds ranging from development to disease control, the contributors to this volume—some of them based in countries affected by the Ebola epidemic—consider the underlying factors that shaped this unprecedented outbreak. While championing the heroic efforts of local communities and aid workers in halting the spread of the disease, the contributors also reveal deep structural problems in both the countries and humanitarian agencies involved, which hampered the efforts to contain the epidemic. Alarmingly, they show that little has been
learned from these events, with health provision remaining underfunded and poorly equipped to deal with future outbreaks. Such issues, they argue, reflect the wider challenges we face in tackling epidemic disease in an increasingly interconnected world.

Plain English for Doctors shows how to write about medical science in a clear and vivid way. It can help a medical writer at any level, from beginner to veteran, since it gives specific, practical advice. Writing in plain English can help your writing reach a wider audience, including people in other specialties, levels of training, other fields, and other countries around the world. What makes medical writing hard to read? Is it complex science or complex grammar? This book shows how to keep good science but avoid complex grammar. It describes the symptoms of medicus incomprehensibilis, those over-used writing habits that tend to make medical writing hard to read. It shows how to treat each symptom using a proven plain English writing tip. Each tip is easy to apply and comes with exercises. The exercises are based on excerpts from articles published in leading medical journals. Model revisions vastly improve reading ease and grade level. The book looks at medical writing from three angles. Concept 1, Take charge of your reading ease score, shows how to manage reading ease. Concept 2, Write vividly, shows how to write more vividly by focusing on real world objects and actions. Concept 3, Present logical reasoning clearly, gives tips on how to choose a clear narrative pathway and forge a strong chain of logical reasoning. This book is a must for anyone who writes about medical science. The ability to express complex ideas in simple language is not a remedial skill. Rather, it can only be seen as a sign of mastery.

Sports betting has become a truly global phenomenon, facilitated by new communication technologies. As a result, the development of deviances, from match-fixing to money laundering, has accelerated. This new reality has numerous implications, for both the regulation of this billion-dollar industry and the very integrity of sport, sport financing and betting operations. Written by an international team of academic researchers and industry professionals, International Sports Betting explores the central concepts of integrity and deviance, governance and policy, as well as perennial issues linked to the gambling sector, such as regulatory responsibilities and the
fight against gambling addiction. Unlike other treatments of the gambling industry, the book offers a multi-disciplinary sociological and managerial critique that goes beyond a traditional focus on law and regulation. This is fascinating reading for any student, researcher or practitioner working in the areas of sport business, international business, international regulation, policy studies or gambling studies.

This book develops a general theory of autonomous teaching by examining a mysterious educational idea: the teachable moment. By formulating an understanding of the teachable moment as predicated upon ‘educational energy,’ this book takes up John Dewey’s view of teaching to articulate a law-like, scientifically oriented pedagogical theory. By offering a testable hypothesis about effective teaching through an innovative reading of Dewey’s law, this book also provides insights into changes in school practice and schooling policy consonant with an understanding of teaching as a science.

Intellectual property (IP) is a key component of the life sciences, one of the most dynamic and innovative fields of technology today. At the same time, the relationship between IP and the life sciences raises new public policy dilemmas. The Research Handbook on Intellectual Property and the Life Sciences comprises contributions by leading experts from academia and industry to provide in-depth analyses of key topics including pharmaceuticals, diagnostics and genes, plant innovations, stem cells, the role of competition law and access to medicines. The Research Handbook focuses on the relationship between IP and the life sciences in Europe and the United States, complemented by country-specific case studies on Australia, Brazil, China, India, Japan, Kenya, South Africa and Thailand to provide a truly international perspective.

This two-volume book unveils trends, strengths, weaknesses and overall dynamics and implications of social entrepreneurship in the Middle East region, whilst identifying both opportunities and threats facing social entrepreneurship and supplements through a wealth of insights and examples inspired from practice and current applications.
Paradigms in Computing: Making, Machines, and Models for Design Agency in Architecture brings together critical, theoretical, and practical research and design that illustrates the plurality of computing approaches within the broad spectrum of design and mediated practices. It is an interrogation of our primary field of architecture through the lens of computing, and yet one that realizes a productive expanding of our métier’s definition and boundaries. It is a compilation that purposefully promotes architecture’s disciplinary reach and incorporations beyond the design and construction of buildings and cities. The book offers a glimpse into the wide range of positions and experiences that are shaping practice and discourse today. The work included in Paradigms in Computing is evidence that models for enquiry are many and proliferating. As digitalization and computation continue to infuse our processes with new tools and new design environments, some of the trends collected in this book will continue to be central to the production and speculation of architecture, and others will, in retrospect, be recognized as the seeds of new, or perhaps multiple, paradigms. Included are essays and projects, from; Alisa Andrasek, Rachel Armstrong, Philip Beesley, Tom Bessai, Shajay Bhooshan, Brad Cantrel, Matias Del Campo, Pablo Eiroa, Marc Fornes, David Jason Gerber, Maria Paz Gutierrez, Alvin Huang, Jason Kelly Johnson, Simon Kim, Neil Leach, Greg Lynn, Elena and Anna Maria Manferdini, Alex McDowell, Phillipe Morel, Nick Puckett, Casey Reas, Alex Robinson, Jenny Sabin, Jose Sanchez, Patrik Schumacher, Kyle Steinfeld, Satoru Sugihara, Orkan Telhan, Kathy Velikov and Geoffrey Thun, Tom Verebes, Leire Asensio Villoria and David Mah, Jenny Wu, Eric Howeler and Meejin Yoon, and Zaha Hadid Architects.

Hayes' Principles and Methods of Toxicology has long been established as a reliable reference to the concepts, methodologies, and assessments integral to toxicology. The new sixth edition has been revised and updated while maintaining the same high standards that have made this volume a benchmark resource in the field. With new authors and new chap

A Library Journal Starred Review "An intriguing anthology of essaysfascinatingacademics and readers who enjoy Gaiman's books will appreciate the care put into this impressive collection"--Library
Journal "There is joy in seeing such diverse perspectives excavating Neil Gaiman’s efforts. Not unexpectedly, the years of his work warrant endless analysis, and this volume is a keen example of such. It's a pleasure to be a part of it."--JH Williams III, New York Times bestselling comic book artist and writer. Neil Gaiman has emerged as one of the most influential literary figures of the 21st century. To borrow a phrase from his viral 2012 University of the Arts commencement speech, Gaiman "makes good art," from his graphic novels to his social media collaborations, award-winning fantasy fiction and beloved children’s books. This collection of new essays examines a range of Gaiman's prolific output, with readings of the novels American Gods, Anansi Boys, The Graveyard Book and The Ocean at the End of the Lane. Children's books The Wolves in the Walls and Blueberry Girl and the online short story collection A Calendar of Tales are discussed. Gaiman’s return to the serial comic book form with Sandman: Overture is covered, and Artist J.H. Williams III contributes an exclusive interview about his collaboration with Gaiman on Sandman. Cartoonist Judd Winick offers a personal essay on how contemporary artists have been influenced by Gaiman’s work.

In September 2011, scientists announced new experimental findings that would not only threaten the conduct and publication of influenza research, but would have significant policy and intelligence implications. The findings presented a modified variant of the H5N1 avian influenza virus (hereafter referred to as the H5N1 virus) that was transmissible via aerosol between ferrets. These results suggested a worrisome possibility: the existence of a new airborne and highly lethal H5N1 virus that could cause a deadly global pandemic. In response, a series of international discussions on the nature of dual-use life science arose. These discussions addressed the complex social, technical, political, security, and ethical issues related to dual-use research. This Research Topic will be devoted to contributions that explore this matrix of issues from a variety of case study and international perspectives.

"Louise Stephen's powerful, no-holds-barred demolition of Big Food dissects the profit motive that has filled our food supply with toxic oils and sugar, and shows us how money is destroying our health." DAVID GILLESPIE Our diet has changed radically in the space of 100
years. We have swapped home-cooked food made with whole ingredients for processed food made from sugar, seed oils and refined wheat. Modern-day food is cheap, convenient and accessible, but also hugely destructive to our health. Former business consultant Louise Stephen developed an autoimmune disease in her early thirties, which led to renal failure and a kidney transplant. As a middle-class professional from a wealthy Western country, she was perplexed as to how she had become so ill. She started to investigate, using her business and research skills to find out what she could about diet and how it relates to health. What she uncovered will change the way you think about processed food - frozen dinners, breakfast cereals, packaged snacks, dips, flavoured drinks, bottled sauces - and the industry that is profiting from the commodification and toxification of our food supply. Stephen shows us how Big Food is picking up where Big Tobacco left off, employing skilful marketing to nudge us towards increasingly processed food, while hoping we'll fail to notice the commensurate rise in obesity and decline in health. Stephen reveals how governments and peak health bodies are often powerless to intervene and, even worse, are sometimes complicit in convincing us to ditch our wholefood ingredients for factory-made products. This is not a diet book. Meticulously researched and compellingly argued, Eating Ourselves Sick shines a light on the powerful forces that stand between us and a healthy diet.

This lively book explains why we need the humanities. It shows how society has long relied on humanities scholarship to address important public policy issues. Donald Drakeman, an entrepreneur and educator, builds a compelling case for the practical importance of the humanities in helping governments make decisions about controversial issues affecting our lives in fields as diverse as healthcare and civil liberties. Bold, compelling, and accessibly written, Why We Need the Humanities sets out a fascinating case for the importance of humanities research in the modern world.

This fifth volume of PISA 2012 results presents an assessment of student performance in problem solving, which measures students’ capacity to respond to non-routine situations in order to achieve their potential as constructive and reflective citizens.
From the early 1990s, allegations that servicemen had been duped into taking part in trials with toxic agents at top-secret Allied research facilities throughout the twentieth century featured with ever greater frequency in the media. In Britain, a whole army of over 21,000 soldiers had participated in secret experiments between 1939 and 1989. Some remembered their stay as harmless, but there were many for whom the experience had been all but pleasant, sometimes harmful, and in isolated cases deadly. Secret Science traces, for the first time, the history of chemical and biological weapons research by the former Allied powers, particularly in Britain, the United States, and Canada. It charts the ethical trajectory and culture of military science, from its initial development in response to Germany's first use of chemical weapons in the First World War to the ongoing attempts by the international community to ban these types of weapons once and for all. It asks whether Allied and especially British warfare trials were ethical, safe, and justified within the prevailing conditions and values of the time. By doing so, it helps to explain the complex dynamics in top-secret Allied research establishments: the desire and ability of the chemical and biological warfare corps, largely comprised of military officials, scientists, and expert civil servants, to construct and identify a never-ending stream of national security threats which served as flexible justification strategies for the allocation of enormous resources to conducting experimental research with some of the most deadly agents known to man. Secret Science offers a nuanced, non-judgemental analysis of the contributions made by servicemen, scientists, and civil servants to military research in Britain and elsewhere, not as passive, helpless victims 'without voices', or as laboratory and desk perpetrators 'without a conscience', but as history's actors and agents of their own destiny. As such it also makes an important contribution to the burgeoning literature on the history and culture of memory.

Running can encompass the absolute extremes of human performance, from speed to endurance. Running Science uncovers the fundamental science that underpins this ubiquitous sport, bringing together the study of biomechanics, nutrition, psychology, health and injury prevention, and the technical development of shoes and running surfaces: it’s a complete reference.
"Freeman Dyson has designed nuclear reactors and bomb-powered spacecraft; he has studied the origins of life and the possibilities for the long-term future; he showed quantum mechanics to be consistent with electrodynamics and started cosmological eschatology; he has won international recognition for his work in science and for his work in reconciling science to religion; he has advised generals and congressional committees. An STS (Science, Technology, Society) curriculum or discussion group that engages topics such as nuclear policies, genetic technologies, environmental sustainability, the role of religion in a scientific society, and a hard look towards the future, would count itself privileged to include Professor Dyson as a class participant and mentor. In this book, STS topics are not discussed as objectified abstractions, but through personal stories. The reader is invited to observe Dyson’s influence on a generation of young people as they wrestle with issues of science, technology, society, life in general and our place in the universe. The book is filled with personal anecdotes, student questions and responses, honest doubts and passions"--

This book examines the much-debated question of how to unleash the potential of young people with promising intellectual abilities and motivation. It looks at the increasingly important topic of excellence in education, and the shift in focus towards the provision of programs to support talented students in higher education. It provides a systematic overview of programs for talented students at northern European higher education institutions (HEIs). Starting in the Netherlands, where nearly all HEIs have developed honors programs over the past two decades, the book explores three clusters of countries: the Benelux, the Nordic and the German-speaking countries. For each of these countries, it discusses the local culture towards excellence, the structure of the education system, and the presence of honors programs. In total, the book reviews the special talent provisions for nearly four million students at 303 higher education institutions in eleven countries. In addition, it offers an analysis of the reasons to develop such programs, a look into the future of honors education and a practical list of suggestions for further research. The Sirius Program assignedMarca Wolfensberger to carry out this research.

Fifth grade students researched four planets and wrote articles
about each one. They utilized googledocs to create footnotes and a bibliography. Knowing they were writing for a “real” audience made this project super exciting. We hope that you appreciate the effort put forth and you find them interesting and informative.

Biodegradation mediated by indigenous microbial communities is the ultimate fate of the majority of oil hydrocarbon that enters the marine environment. The aim of this Research Topic is to highlight recent advances in our knowledge of the pathways and controls of microbially-catalyzed hydrocarbon degradation in marine ecosystems, with emphasis on the response of microbial communities to the Deepwater Horizon oil spill in the Gulf of Mexico. In this Research Topic, we encouraged original research and reviews on the ecology of hydrocarbon-degrading bacteria, the rates and mechanisms of biodegradation, and the bioremediation of discharged oil under situ as well as near in situ conditions.

Alan Turing has long proved a subject of fascination, but following the centenary of his birth in 2012, the code-breaker, computer pioneer, mathematician (and much more) has become even more celebrated with much media coverage, and several meetings, conferences and books raising public awareness of Turing’s life and work. This volume will bring together contributions from some of the leading experts on Alan Turing to create a comprehensive guide to Turing that will serve as a useful resource for researchers in the area as well as the increasingly interested general reader. The book will cover aspects of Turing’s life and the wide range of his intellectual activities, including mathematics, code-breaking, computer science, logic, artificial intelligence and mathematical biology, as well as his subsequent influence.

Copyright code : 35fe0f98e13ca9c6a428a9faee27fe3a