

Life Science Paper 1 November 2013 Memorandum

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. Monthly. Papers presented at recent meeting held all over the world by scientific, technical, engineering and medical groups. Sources are meeting programs and abstract publications, as well as questionnaires. Arranged under 17 subject sections, 7 of direct interest to the life scientist. Full programs of meetings listed under sections. Entry gives citation number, paper title, name, mailing address, and any ordering number assigned. Quarterly and annual indexes to subjects, authors, and programs (not available in monthly issues).

Mechanical Engineering

Routledge Handbook of Environmental Hazards and Society

Current Catalog

Who Wrote the Book of Life?

Reporter

God and Popular Culture: A Behind-the-Scenes Look at the Entertainment Industry's Most Influential Figure [2 volumes]

Describes the relationship between the environmental sciences and society.

Deep brain stimulation (DBS) is an established surgical therapy for movement disorders such as Parkinson's disease (PD) and essential tremor (ET). A thin electrode is implanted in a predefined area of the brain with the use of stereotactic neurosurgery. In the last few years new DBS electrodes and systems have been developed with possibilities for using more parameters for control of the stimulation volume. In this thesis, simulations using the finite element method (FEM) have been developed and used for investigation of the electric field (EF) extension around different types of DBS lead designs (symmetric, steering) and stimulation modes (voltage, current). The electrode surrounding was represented either with a homogeneous model or a patient-specific model based on individual preoperative magnetic resonance imaging (MRI). The EF was visualized and compared for different lead designs and operating modes. In Paper I, the EF was quantitatively investigated around two lead designs (3389 and 6148) simulated to operate in voltage and current mode under acute and chronic time points following implantation. Simulations showed a major impact on the EF extension between postoperative time points which may explain the clinical decisions to change the stimulation amplitude weeks after implantation. In Paper II, the simulations were expanded to include two leads having steering function (6180, Surestim1) and patient-specific FEM simulations in the zona incerta. It was found that both the heterogeneity of the tissue and the operating mode, influence the EF distribution and that equivalent contact configurations of the leads result in similar EF. The steering mode presented larger volumes in current mode when using equivalent amplitudes. Simulations comparing DBS and intraoperative stimulation test using a microelectrode recording (MER) system (Paper III), showed that several parallel MER leads and the presence of the non-active DBS contacts influence the EF distribution and that the DBS EF volume can cover, but also extend to, other anatomical areas. Paper IV introduces a method for an objective exploitation of intraoperative stimulation test data in order to identify the optimal implant position in the thalamus of the chronic DBS lead. Patient-specific EF simulations were related to the anatomy with the help of brain atlases and the clinical effects which were quantified by accelerometers. The first results indicate that the good clinical effect in ET is due to several structures around the ventral intermediate nucleus of the thalamus.

Biotechnology, Security and the Search for Limits

Decision Analysis in Medicine

Comparison of Lead Designs, Operating Modes and Tissue Conductivity

Canadiana

Emigration and Empire

Methods and Applications

Dual-use life science research and biosecurity in the 21st Century: Social, Technical, Policy, and Ethical Challenges

The technological advancement of our civilization has created a consumer society expanding faster than the planet's resources allow, with our resource and energy needs rising exponentially in the past century. Securing the future of the human race will require an improved understanding of the environment as well as of technological solutions, mindsets and behaviors in line with modes of development that the ecosphere of our planet can support. Sustainable development offers an approach that would be practical to fuse with the managerial strategies and assessment tools for policy and decision makers at the regional planning level.

This Special Issue on the Systematics and Phylogeny of Weevils presents 31 new research papers on one of the most diverse and successful groups of animals on Earth, the beetle superfamily Curculionoidea. It was in part inspired to commemorate the extraordinary life and scientific achievements of Guillermo ("Willy") Kuschel (1918–2017), who shaped this field of science over the last century like no other weevil systematist. The papers in this memorial issue span weevil faunas from all over the globe, including South and Central America, Africa, Europe and the Near East, South-East Asia, New Guinea, Australia and New Zealand. They include major advances on the phylogeny and classification of the "broad-nosed" weevils (Entiminae), on the weevils associated with American cycads and on the unique extinct weevil fauna preserved in the 100-million-year-old Burmese amber, when weevils started to diversify alongside the oldest angiosperm plants. They comprise a tribute to Willy Kuschel, the proceedings of a weevil symposium held in his honor in 2016 in Orlando, Florida, 24 systematic studies (including seven phylogenetic analyses) and five other contributions on the diversity, biology, distribution, evolution and fossil history of weevils. In the papers collated in this volume, 30 new genera and 92 new species of weevils are described and a new family of extinct weevils is recognized.

Conference Papers Index

The Journal of the American Society of Mechanical Engineers

The Environment and Science

Periodicals

Proceedings of the NATO Advanced Study Institute, held in Budapest, Hungary, 2001

Models and Simulations of the Electric Field in Deep Brain Stimulation

Systematics and Phylogeny of Weevils

First published in 1999. Routledge is an imprint of Taylor & Francis, an informa company.

This Handbook provides a state-of-the-science review of research and practice in the human dimensions of hazards field. The Routledge Handbook of Environmental Hazards and Society reviews and assesses existing knowledge and explores future research priorities in this growing field. It showcases the work of international experts, including established researchers, future stars in the field, and practitioners. Organised into four parts, all chapters have an international focus, and many include case studies from around the world. Part I explains geophysical and hydro-meteorological/climatological hazards, their impacts, and mitigation. Part II explores vulnerability, resilience, and equity. Part III explores preparedness, responses during environmental hazard events, impacts, and the recovery process. Part IV explores policy and practice, including governments, support provided during and after environmental hazard events, and provision of information. This Handbook will serve as an important resource for students, academics, practitioners, and policymakers working in the fields of environmental hazards and disaster risk reduction.

Catalog of Copyright Entries

The Spacelab Accomplishments Forum

1976: July-December

Safeguarding the Bioeconomy

Education and Ethics in the Life Sciences

Policy and Urban Development - Tourism, Life Science, Management and Environment

Scientific and Technical Aerospace Reports

Biotechnology, Security and the Search for Limits examines the post 9/11 security implications for life science research as well as the methodological issues associated with conducting social research. In doing so the book considers the place of biological and social research in creating and responding to societal problems.

This is a detailed history of one of the most important and dramatic episodes in modern science, recounted from the novel vantage point of the dawn of the information age and its impact on representations of nature, heredity, and society. Drawing on archives, published sources, and interviews, the author situates work on the genetic code (1953-70) within the history of life science, the rise of communication technosciences (cybernetics, information theory, and computers), the intersection of molecular biology with cryptanalysis and linguistics, and the social history of postwar Europe and the United States. Kay draws out the historical specificity in the process by which the central biological problem of DNA-based protein synthesis came to be metaphorically represented as an information code and a writing technology—and consequently as a “book of life.” This molecular writing and reading is part of the cultural production of the Nuclear Age, its power amplified by the centuries-old theistic resonance of the “book of life” metaphor. Yet, as the author points out, these are just metaphors: analogies, not ontologies. Necessary and productive as they have been, they have their epistemological limitations. Deploying analyses of language, cryptology, and information theory, the author persuasively argues that, technically speaking, the genetic code is not a code, DNA is not a language, and the genome is not an information system (objections voiced by experts as early as the 1950s). Thus her historical reconstruction and analyses also serve as a critique of the new genomic biopower. Genomic textuality has become a fact of life, a metaphor literalized, she claims, as human genome projects promise new levels of control over life through the meta-level of information: control of the word (the DNA sequences) and its editing and rewriting. But the author shows how the humbling limits of these scriptural metaphors also pose a challenge to the textual and material mastery of the genomic “book of life.”

A History of the Genetic Code

Nuclear Science Abstracts

Proceedings of the Annual Convention

An Inquiry into Research and Methods

Natural Hazards, People's Vulnerability and Disasters

Author, title

At Risk

The term 'natural disaster' is often used to refer to natural events such as earthquakes, hurricanes or floods. However, the phrase 'natural disaster' suggests an uncritical acceptance of a deeply engrained ideological and cultural myth. At Risk questions this myth and argues that extreme natural events are not disasters until a vulnerable group of people is exposed. The updated new edition confronts a further ten years of ever more expensive and deadly disasters and discusses disaster not as an aberration, but as a signal failure of mainstream 'development'. Two analytical models are provided as tools for understanding vulnerability. One links remote and distant 'root causes' to 'unsafe conditions' in a 'progression of vulnerability'. The other uses the concepts of 'access' and 'livelihood' to understand why some households are more vulnerable than others. Examining key natural events and incorporating strategies to create a safer world, this revised edition is an important resource for those involved in the fields of environment and development studies. Incidents of bioterrorism and biowarfare are likely to recur, leading to increased public concern and government action. The deficiencies of the Biological and Toxin Weapons Convention (BTWC) are in urgent need of attention: the BTWC is the central international agreement to prevent the proliferation of biological warfare programmes. Uniquely, this book is written by diplomats involved in the decade-long effort (1991-2001) in which State Parties to the BTWC tried to agree a Protocol to the Convention with legally binding measures to strengthen its effectiveness, and academics concerned with the negotiations. Just before negotiations foundered, when the Chairman's proposed text was virtually complete, the problems and proposed solutions were examined thoroughly, leading to this book. The book is wide-ranging in its review of the history of biological warfare, the reasons why the current biological revolution is of such concern, and the main features of the BTWC itself. The core of the book examines the key elements of the proposed protocol - declarations, visits, challenge-type investigations, and enhanced international cooperation - and the implications for government, industry and biodefence, giving us all a better understanding of what still remains to be done to avert a biowarfare catastrophe.

Resources in Education

Euro Abstracts

Politics and the Life Sciences

The Implementation of Legally Binding Measures to Strengthen the Biological and Toxin Weapons Convention

Bulletin of the International Research Center for Japanese Studies

Strengthening the Prohibition of Biological Weapons

World Meetings Outside United States and Canada

First Published in 1979, this book offers a full, comprehensive guide to making the right decisions in diagnoses and treatment in medicine. Carefully compiled and filled with a vast repertoire of notes, diagrams, and references this book serves as a useful reference for students of medicine, and other practitioners in their respective fields.

Research and innovation in the life sciences is driving rapid growth in agriculture, biomedical science, information science and computing, energy, and other sectors of the U.S. economy. This economic activity, conceptually referred to as the bioeconomy, presents many opportunities to create jobs, improve the quality of life, and continue to drive economic growth. While the United States has been a leader in advancements in the biological sciences, other countries are also actively investing in and expanding their capabilities in this area. Maintaining competitiveness in the bioeconomy is key to maintaining the economic health and security of the United States and other nations. Safeguarding the Bioeconomy evaluates preexisting and potential approaches for assessing the value of the bioeconomy and identifies intangible assets not sufficiently captured or that are missing from U.S. assessments. This study considers strategies for safeguarding and sustaining the economic activity driven by research and innovation in the life sciences. It also presents ideas for horizon scanning mechanisms to identify new technologies, markets, and data sources that have the potential to drive future development of the bioeconomy.

The Abstracting Journal of Scientific and Technical Publications of the Commission of the European Communities

Index-catalogue of Medical and Veterinary Zoology

National Library of Medicine Current Catalog

The Life of Maria S. Rye

Part 1

Japan Review

Authors

First multi-year cumulation covers six years: 1965-70.

Dual-use life science research and biosecurity in the 21st Century: Social, Technical, Policy, and Ethical ChallengesFrontiers Media SA

Life Sciences

Space Life Sciences

Social Impact and Interaction

The Journal of the Association for Politics and the Life Sciences

Volume 2

A Behind-the-Scenes Look at the Entertainment Industry's Most Influential Figure

Catalog of Copyright Entries. Third Series

At the start of the twenty-first century, warnings have been raised in some quarters about how - by intent or by mishap - advances in biotechnology and related fields could aid the spread of disease. Science academics, medical organisations, governments, security analysts, and others are among those that have sought to raise concern. EDUCATION AND ETHICS IN THE LIFE SCIENCES examines a variety of attempts to bring greater awareness to security concerns associated with the life sciences. It identifies lessons from practical initiatives across a wide range of national contexts as well as more general reflections about education and ethics. The eighteen contributors bring together perspectives from a diverse range of fields - including politics, virology, sociology, ethics, security studies, microbiology, and medicine - as well as their experiences in universities, think tanks and government. In offering their assessment about what must be done and by whom, each chapter addresses a host of challenging practical and conceptual questions. EDUCATION AND ETHICS IN THE LIFE SCIENCES will be of interest to those planning and undertaking training activities in other areas. In asking how education and ethics are being made to matter in an emerging area of social unease, it will also be of interest to those with more general concerns about professional conduct.

This contributed two-volume work tackles a fascinating topic: how and why God plays a central role in the modern world and profoundly influences politics, art, culture, and our moral reflection—even for nonbelievers. • Supplies a broad conception of "God" that provides readers with a fuller and more accurate portrait of a phenomenon that evolved substantially over time but also remains an enduring—and enduringly influential—element of popular culture • Explores not only how individuals grapple with the question of God, but also how God invariably and unintentionally enters people's thinking • Supplies direct examples of the key role that God plays in everyday life that readers will find compelling from both a personal and cultural perspective • Comprises essays from sociologists, theologians, cultural critics, and journalists that present a wide range of perspectives and approaches to this universally relevant topic

Sustainable Development

Search for Signatures of Life, and Space Flight Environmental Effects on the Nervous System

Applied Mechanics Reviews

Guide to Microforms in Print

Cumulative listing

The New York Daily Tribune Index

AIAA Bulletin