

Scientific Journals Impact Factors 2010

Information engineering and applications is the field of study concerned with constructing information computing, intelligent systems, mathematical models, numerical solution techniques, and using computers and other electronic devices to analyze and solve natural scientific, social scientific and engineering problems. Information engineering is an important underpinning for techniques used in information and computational science and there are many unresolved problems worth studying. The Proceedings of the 2nd International Conference on Information Engineering and Applications (IEA 2012), which was held in Chongqing, China, from October 26-28, 2012, discusses the most innovative research and developments including technical challenges and social, legal, political, and economic issues. A forum for engineers and scientists in academia, industry, and government, the Proceedings of the 2nd International Conference on Information Engineering and Applications presents ideas, results, works in progress, and experience in all aspects of information engineering and applications.

"This 10-volume compilation of authoritative, research-based articles contributed by thousands of researchers and experts from all over the world emphasized modern issues and the presentation of potential opportunities, prospective solutions, and future directions in the field of information science and technology"--Provided by publisher.

The new edition upholds the premise that knowledge about research process and design is mandatory in today's health care arena, and that all nurses and midwives need to understand research findings and their implication for changing practice. It is completely revised with many new chapters. The text has been restructured into three sections. Section 1 Research Awareness sets the scene for the importance of nursing and midwifery research and provides an overview of research theory and practice as processes. Chapters on searching for and reviewing the literature provide detailed advice for undergraduates and facilitate access to research articles online. One of the new chapters discusses ethical issues in Australia and New Zealand. Section 2 Appreciation and Application provides a detailed discussion of qualitative, quantitative and mixed methods research approaches with many useful examples from the clinical area. Section 3 Conducting primary research is new and is designed to accommodate both undergraduate and postgraduate students in their research effort. Writing research proposals may be a requirement for undergraduates in their research program and postgraduates will find the information useful for undertaking a higher degree or applying for university or external funding. This final Section is also useful as a guide on disseminating and publishing conducted research findings. Combined Australian and New Zealand editorship ensures greater trans-Tasman coverage, awareness and relevance. Contributions from international luminaries are balanced by a heightened focus on research conducted within Australia and New Zealand. New edition conscientiously recognises midwifery research as related to but independent from nursing. The research process-driven approach is directed towards 'consumers' of research, and the comprehensive coverage extends from undergraduate through to a postgraduate level of knowledge. Expanded pedagogy includes Key Terms and Learning Outcomes at the beginning of each chapter; Icons throughout that direct readers to web-based material; Evidence-based Tips, Research in Brief boxes and Points to Ponder for constant reinforcement that links evidence to practice. Integrated Tutorial Triggers with suggested answers provided and Multiple Choice Questions enable students to assess their understanding of key points. Evolve Website provides True/False questions and access to journal articles cited in the text, with additional reflective questions. Australian adaptation of Nursing Research: Lobiondo-Wood & Haber This volume provides a roadmap for libraries seeking to establish their own Academic Commons, complete with suggestions regarding physical structure and software/hardware options and information regarding the latest technological advances.

Research publications have always been key to building a successful career in science, yet little if any formal guidance is offered to young scientists on how to get research papers peer reviewed, accepted, and published by leading scientific journals. With What Editors Want, Philippa J. Benson and Susan C. Silver, two well-respected editors from the science publishing community, remedy that situation with a clear, straightforward guide that will be of use to all scientists. Benson and Silver instruct readers on how to identify the journals that are most likely to publish a given paper, how to write an effective cover letter, how to avoid common pitfalls of the submission process, and how to effectively navigate the all-important peer review process, including dealing with revisions and rejection. With supplemental advice from more than a dozen experts, this book will equip scientists with the knowledge they need to usher their papers through publication.

Research Ethics for Scientists is about best practices in all the major areas of research management and practice that are common to scientific researchers, especially those in academia. Aimed towards the younger scientist, the book critically examines the key areas that continue to plague even experienced and well-meaning science professionals. For ease of use, the book is arranged in functional themes and units that every scientist recognizes as crucial for sustained success in science; ideas, people, data, publications and funding. These key themes will help to highlight the elements of successful and ethical research as well as challenging the reader to develop their own ideas of how to conduct themselves within their work. Tackles the ethical issues of being a scientist rather than the ethical questions raised by science itself Case studies used for a practical approach Written by an experienced researcher and PhD mentor Accessible, user-friendly advice Indispensable companion for students and young scientists

The present study attempts to examine the numerical correlation between web ranking of electronic scientific journals and impact factor of these journals using the method of regression analysis. Regression analysis allows the option of investigating and predicting the numerical relationship between website ranking of scientific journals on the World Wide Web and the value of impact factor of the journals. A sample of 57 publishers with 6,272 scientific journals and 50 standalone scientific journals was analyzed during research procedure. In this study, two different indicators about websites classification on World Wide Web were examined separately for 57 publishers and 50 standalone journals, Alexa rank and Statscrop rank. The electronic databases through the internet constitute the main information resources of this study about the impact factors. The general conclusion that arises is that the impact factor of electronic scientific journals illustrates a very strong positive correlation with classification of websites on the World Wide Web. Furthermore, it is concluded that the change of web ranking as a function of impact factor is governed by a Gaussian function or rational function with lower Pearson coefficient and presents non-linearly correlation. Even if there is very strong correlation between impact factor and web rank for electronic journals, the prediction of impact factor from web rank is not possible and presents many divergences.

Across a variety of disciplines, data and statistics form the backbone of knowledge. To ensure the reliability and validity of data, appropriate measures must be taken in conducting studies and reporting findings. *Research Methods: Concepts, Methodologies, Tools, and Applications* compiles chapters on key considerations in the management, development, and distribution of data. With its focus on both fundamental concepts and advanced topics, this multi-volume reference work will be a valuable addition to researchers, scholars, and students of science, mathematics, and engineering.

This book explores effective approaches for communicating science to the public in developing countries. Offering multiple perspectives on this important topic, it features 17 chapters that represent the efforts of 23 authors from eight countries: Australia, Bangladesh, India, Ireland, New Zealand, USA, Singapore and South Africa. Inside, readers will find a diversity of approaches to communicate science to the public. The book also highlights some of the challenges that science communicators, science policy makers, science teachers, university academics in the sciences and even entrepreneurs may face in their attempts to boost science literacy levels in their countries. In addition, it shares several best practices from the developed world that may help readers create communication initiatives that can lead to increased engagement with science in communities in the Asia Pacific region and beyond. Given the pervasive influence of science and technology in today's society, their impact will only increase in the years to come as the world becomes more globalized and the economies of countries become more inter-linked. This book will be a useful source of reference for developing countries looking to tap into the potential of science for nation building and effectively engage their communities to better understand science and technology. Supported by the Pacific Science Association, Hawaii.

For faculty to advance their careers in higher education, publishing is essential. A competitive marketplace, strict research standards, and scrupulous tenure committees are all challenges academicians face in publishing their research and achieving tenure at their institutions. *The Handbook of Research on Scholarly Publishing and Research Methods* assists researchers in navigating the field of scholarly publishing through a careful analysis of multidisciplinary research topics and recent trends in the industry. With its broad, practical focus, this handbook is of particular use to researchers, scholars, professors, graduate students, and librarians.

As the academic and scholarly landscape are continuously enhanced by the advent of new technology, librarians must be aware and informed to develop and implement best practices. Effective administration of libraries is a crucial part of delivering library services to patrons and ensuring that information resources are disseminated efficiently.

Advanced Methodologies and Technologies in Library Science, Information Management, and Scholarly Inquiry provides emerging information on modern knowledge management and effective means of sharing research through libraries. While highlighting the importance of digital literacy and information resources, readers will also learn new methods in information retrieval and research methods in quality scholarly inquiry. This book is an important resource for librarians, administrators, information science professionals, information technology specialists, students, and researchers seeking current information on the importance of effective library science technology.

This book is a very concise introduction to the basic knowledge of scientific publishing. It starts with the basics of writing a scientific paper, and recalls the different types of scientific documents. It gives an overview on the major scientific publishing companies and different business models. The book also introduces to abstracting and indexing services and how they can be used for the evaluation of science, scientists, and institutions. Last but not least, this short book faces the problem of plagiarism and publication ethics.

There is consistent pressure on all academics to publish, publish, publish. But not unless they have been awarded their PhD - considered by most to be the starting step of an academic career. So while the pressure is on to obtain the title, and then obtain a permanent position, and then publish journal articles, there is little support available to researchers in the nascent stage of their careers. *Publishing from Your PhD* precisely focuses on providing early career researchers with emotional and collegial support that is often not available in academe. It seeks to dispel nepotistic notions of superiority that places Professors and such on a pedestal. It specifically clarifies the difficulty in having written the PhD thesis and then rewriting it to suit the genre of journal articles. It does not deal with the 'how' of academic writing in general. This book endeavours to shed light on the path one must take to navigate the jungles of academia. This is an untrodden path which is unique to every researcher - especially those who employ abstract or critical theories in their research - and each journey through the jungle is different. However, because there is little literature about this embryonic journey, this book illuminates the processes and difficulties of publishing in journals and culling one's finely honed thesis into small chunks - a difficult task to which few admit.

At last, the first systematic guide to the growing jungle of citation indices and other bibliometric indicators. Written with the aim of providing a complete and unbiased overview of all available statistical measures for scientific productivity, the core of this reference is an alphabetical dictionary of indices and other algorithms used to evaluate the importance and impact of researchers and their institutions. In 150 major articles, the authors describe all indices in strictly mathematical terms without passing judgement on their relative merit. From widely used measures, such as the journal impact factor or the h-index, to highly specialized indices, all indicators currently in use in the sciences and humanities are described, and their application explained. The introductory section and the appendix contain a wealth of valuable supporting information on data sources, tools and techniques for bibliometric and scientometric analysis - for individual researchers as well as their funders and publishers.

A good research paper is more than just a clear, concise, scientific expose. It is a document that needs to go beyond the science to attract attention. There are both strict and less definable norms for doing this, but many authors are unaware as to what they are or their use. Publishing is rapidly changing, and needs to be explained with a fresh perspective. Simply writing good, clear, concise, science is no longer enough-there is a different mind-set now required that students need to adopt if they are to succeed. The purpose of this book is to provide the foundations of this new approach for both young scientists at the start of their careers, as well as for more experienced scientists to teach

the younger generation. Most importantly, the book will make the reader think in a fresh, creative, and novel way about writing and publishing science. This is an introductory guide suitable for advanced undergraduates, graduate students, and professional researchers in both the life and physical sciences.

"This book offers insight into practical and methodological issues related to collaborative e-research and furthers readers understanding of current and future trends in online research and the types of technologies involved"--Provided by publisher.

A scientific publication system needs to provide two basic services: access and evaluation. The traditional publication system restricts the access to papers by requiring payment, and it restricts the evaluation of papers by relying on just 2-4 pre-publication peer reviews and by keeping the reviews secret. As a result, the current system suffers from a lack of quality and transparency of the peer-review evaluation process, and the only immediately available indication of a new paper's quality is the prestige of the journal it appeared in. Open access is now widely accepted as desirable and is slowly beginning to become a reality. However, the second essential element, evaluation, has received less attention. Open evaluation, an ongoing post-publication process of transparent peer review and rating of papers, promises to address the problems of the current system. However, it is unclear how exactly such a system should be designed. The evaluation system steers the attention of the scientific community and, thus, the very course of science. For better or worse, the most visible papers determine the direction of each field and guide funding and public policy decisions. Evaluation, therefore, is at the heart of the entire endeavor of science. As the number of scientific publications explodes, evaluation and selection will only gain importance. A grand challenge of our time, therefore, is to design the future system, by which we evaluate papers and decide which ones deserve broad attention. So far scientists have left the design of the evaluation process to journals and publishing companies. However, the steering mechanism of science should be designed by scientists. The cognitive, computational, and brain sciences are best prepared to take on this task, which will involve social and psychological considerations, software design, and modeling of the network of scientific papers and their interrelationships. This Research Topic in *Frontiers in Computational Neuroscience* collects visions for a future system of open evaluation. Because critical arguments about the current system abound, these papers will focus on constructive ideas and comprehensive designs for open evaluation systems. Design decisions include: Should the reviews and ratings be entirely transparent, or should some aspects be kept secret? Should other information, such as paper downloads be included in the evaluation? How can scientific objectivity be strengthened and political motivations weakened in the future system? Should the system include signed and authenticated reviews and ratings? Should the evaluation be an ongoing process, such that promising papers are more deeply evaluated? How can we bring science and statistics to the evaluation process (e.g. should rating averages come with error bars)? How should the evaluative information about each paper (e.g. peer ratings) be combined to prioritize the literature? Should different individuals and organizations be able to define their own evaluation formulae (e.g. weighting ratings according to different criteria)? How can we efficiently transition toward the future system? Ideally, the future system will derive its authority from a scientific literature on community-based open evaluation. We hope that these papers will provide a starting point.

A how-to guide to mastering the skills you need to navigate the murky waters of an academic science career effectively.

?This book contributes to the current discussion in society, politics and higher education on innovation capacity and the financial and non-financial incentives for researchers. The expert contributions in the book deal with implementation of incentive systems at higher education institutions in order to foster innovation. On the other hand, the book also discusses the extent to which governance structures from economy can be transferred to universities and how scientific performance can be measured and evaluated. This book is essential for decision-makers in knowledge-intensive organizations and higher-educational institutions dealing with the topic of performance management.

World University rankings were announced by Thomas Reuters and The Times. As an Indian, besides being one teaching for nearly five decades, I was eager to know the results of the announcement. I showed enough concern. Where have our good Indian universities/higher educational institutions been placed? I set my eyes on top ranks, and it didn't give me anything to be proud of. My eyes crossed over more than two hundred and fifty names of universities of the world, including those of some not so "developed countries." But I came across no name of Indian institutions/universities. This upsets me. What made the Indian educational scenario virtually get eclipsed by the scenarios of the rest of the world? I drew a comparison between the higher education in India with that of many other countries. The World Education scene in general occupied a higher level of degree in research and publication than that of the Indian Education scene. Research flourishes when research is brought to light through publication. I always advocate sound growth in Indian Education. This can be achieved if we improve journal publication. This awareness has resulted in this book. Therefore, Journal Publishing is a Cultural Imperative. This -book is designed to help readers understand what a journal is, the people who are responsible for the creation and production of this journal, how a journal is published, where a journal flourishes, and why it is mandatory in education development. I have taken materials from all over the world and all these sources have been acknowledged in the references, but for them, this book would not have been a reality.

As in volume 1 of this series, this volume presents information on stem cells and cancer stem cells; Therapeutic Applications in disease and tissue/organ injury. Methodologies of regenerative medicine and tissue engineering are major components of this volume. Specific stem cells discussed are: human embryonic stem cells, hematopoietic stem cells, cord blood stem cells, human pluripotent stem cells, gliosarcoma stem cells, induced pluripotent stem cells, intestinal stem cells, human thyroid cancer stem cells, tumor stem cells, menstrual stem-like cells, neural stem cells, breast cancer stem cells, allogeneic mesenchymal stem cells, fetal membrane-derived mesenchymal stem cells, and omental stem cells. The method for isolating bone marrow stromal cells is explained. Method for generating marmoset-induced pluripotent stem cells, using transcription factors, is also explained. Use of stem cell lines in therapeutic applications is discussed. Programming of stem cells is described. Methods for transplantation of stem cells are presented. Use of various types of stem cells for conditions such as stroke, ischemia, heart diseases, Alzheimer's disease, and neurodegenerative diseases in general, is explained. For example, generation of human cardiac muscle cells from adipose-derived stem cells is included. Another example is repairing bone defects using mesenchymal stem cells and mesenchymal-derived endothelial cells. Differentiation of new neurons from neural stem cells is described. Method for repairing retina condition using human embryonic stem cells is explained; these cells can induce neural differentiation. Treatment of graft-versus-host disease resulting from hematopoietic stem cell transplantation is elaborated.

This Handbook is a very timely contribution to organization and business studies. Most calls for longitudinal research are made in sections of published work that deal with limitations of the study or suggestions for further research. This book places longitudinal research methods at center stage. With its practical, hands-on approach it guides us how to design a longitudinal study in and around organizations whether qualitative or quantitative and how to implement it. I warmly recommend this Handbook to ambitious senior and junior researchers. It makes the commonly presented excuses for not undertaking longitudinal research completely redundant. Rebecca Piekkari, Aalto University, School of Business in Helsinki, Finland This is a very timely book that fills an important gap in the field of research methods. So far very little attention has been paid to longitudinal research methods, while the usefulness of this type of research has often been discussed in many papers and conferences. Insights provided by scholars who have been doing this type of research provide useful guidelines for anyone interested in research methods from senior scholars to young researchers and PhD candidates. This volume will serve as an excellent complement to the existing range of books on research methods. Pervez Ghauri, Kings College London, UK This innovative Handbook demonstrates that there is no single best approach to conducting longitudinal studies. At their best, longitudinal research designs yield rich, contextualised, multilevel and deep understanding of the studied phenomenon. The lack of resources in terms of time, funding and people can pose a serious challenge to conducting longitudinal research. This book tackles many of these challenges and discusses the role of longitudinal research programmes in overcoming such obstacles. This book shows how longitudinal research methods enable the understanding of dynamics, mechanisms, causalities and interrelationships of organizational and business concepts in context and in relation to time. It discusses the richness and versatility of longitudinal research and offers, to students and experienced scholars alike, numerous viewpoints, reflections and personal accounts about conducting longitudinal research, from planning and fieldwork to reporting and managing of research projects.

Characterization of Semiconductor Heterostructures and Nanostructures is structured so that each chapter is devoted to a specific characterization technique used in the understanding of the properties (structural, physical, chemical, electrical etc..) of semiconductor quantum wells and superlattices. An additional chapter is devoted to ab initio modeling. The book has two basic aims. The first is educational, providing the basic concepts of each of the selected techniques with an approach understandable by advanced students in Physics, Chemistry, Material Science, Engineering, Nanotechnology. The second aim is to provide a selected set of examples from the recent literature of the TOP results obtained with the specific technique in understanding the properties of semiconductor heterostructures and nanostructures. Each chapter has this double structure: the first part devoted to explain the basic concepts, and the second to the discussion of the most peculiar and innovative examples. The topic of quantum wells, wires and dots should be seen as a pretext of applying top level characterization techniques in understanding the structural, electronic etc properties of matter at the nanometer (and even sub-nanometer) scale. In this respect it is an essential reference in the much broader, and extremely hot, field of Nanotechnology. Comprehensive collection of the most powerful characterization techniques for semiconductors heterostructures and nanostructures Most of the chapters are authored by scientists that are world-wide among the top-ten in publication ranking of the specific field Each chapter starts with a didactic introduction on the technique The second part of each chapters deals with a selection of top examples highlighting the power of the specific technique to analyse the properties of semiconductors heterostructures and nanostructures

This book provides a comprehensive review of the current knowledge on writing and publishing scientific research papers and the social contexts. It deals with both English and non-Anglophone science writers, and presents a global perspective and an international focus. The book collects and synthesizes research from a range of disciplines, including applied linguistics, the sociology of science, sociolinguistics, bibliometrics, composition studies, and science education. This multidisciplinary approach helps the reader gain a solid understanding of the subject. Divided into three parts, the book considers the context of scientific papers, the text itself, and the people involved. It explains how the typical sections of scientific papers are structured. Standard English scientific writing style is also compared with science papers written in other languages. The book discusses the strengths and challenges faced by people with different degrees of science writing expertise and the role of journal editors and reviewers.

Reputation can be a pivotal factor to potential success throughout one's academic career. By utilizing available technological assets and tools, professionals can effectively manage their personal brands. Digital Tools for Academic Branding and Self-Promotion is an authoritative reference source for the latest research on the interrelationship between digital branding and academic reputation. Showcasing relevant digital platforms and techniques, this book is a compendium of vital material for academics, professionals, practitioners, and marketers interested in effective reputation management.

With the encroachment of the Internet into nearly all aspects of work and life, it seems as though information is everywhere. However, there is information and then there is correct, appropriate, and timely information. While we might love being able to turn to Wikipedia® for encyclopedia-like information or search Google® for the thousands of links on a topic, engineers need the best information, information that is evaluated, up-to-date, and complete. Accurate, vetted information is necessary when building new skyscrapers or developing new prosthetics for returning military veterans While the award-winning first edition of Using the Engineering Literature used a roadmap analogy, we now need a three-dimensional analysis reflecting the complex and dynamic nature of research in the information age. Using the Engineering Literature, Second Edition provides a guide to the wide range of resources available in all fields of engineering. This second edition has been thoroughly revised and features new sections on nanotechnology as well as green engineering. The information age has greatly impacted the way engineers find information. Engineers have an effect, directly and indirectly, on almost all aspects of our lives, and it is vital that they find the right information at the right time to create better products and processes. Comprehensive and up to date, with expert chapter authors, this book fills a gap in the literature, providing critical information in a user-friendly format.

This book deals with methods to evaluate scientific productivity. In the book statistical methods, deterministic and stochastic models and numerous indexes are discussed that will help the reader to understand the nonlinear science dynamics and to be able to develop or construct systems for appropriate evaluation of research productivity and management of research groups and organizations. The dynamics of science structures and systems is complex, and the evaluation of research productivity requires a combination of qualitative and quantitative methods and measures. The book has three parts. The first part is devoted to mathematical models describing the importance of science for economic growth and systems for the evaluation of research organizations of different size. The second part contains descriptions and discussions of numerous indexes for the evaluation of the productivity of researchers and groups of researchers of different size (up to the comparison of research productivities of research communities of nations). Part three contains discussions of non-Gaussian laws connected to scientific productivity and presents various deterministic and stochastic models of science dynamics and research productivity. The book shows that many famous fat tail distributions as well as many deterministic and stochastic models and processes, which are well known from physics, theory of extreme events or population dynamics, occur also in the description of dynamics of scientific systems and in the description of the characteristics of research productivity. This is not a surprise as scientific systems are nonlinear, open and dissipative.

A new theoretical analysis of the rise of Donald Trump, Marine le Pen, Nigel Farage, Geert Wilders, Silvio Berlusconi, and Viktor Orbán.

This handbook presents the state of the art of quantitative methods and models to understand and assess the science and technology system. Focusing on various aspects of

the development and application of indicators derived from data on scholarly publications, patents and electronic communications, the individual chapters, written by leading experts, discuss theoretical and methodological issues, illustrate applications, highlight their policy context and relevance, and point to future research directions. A substantial portion of the book is dedicated to detailed descriptions and analyses of data sources, presenting both traditional and advanced approaches. It addresses the main bibliographic metrics and indexes, such as the journal impact factor and the h-index, as well as altmetric and webometric indicators and science mapping techniques on different levels of aggregation and in the context of their value for the assessment of research performance as well as their impact on research policy and society. It also presents and critically discusses various national research evaluation systems. Complementing the sections reflecting on the science system, the technology section includes multiple chapters that explain different aspects of patent statistics, patent classification and database search methods to retrieve patent-related information. In addition, it examines the relevance of trademarks and standards as additional technological indicators. The Springer Handbook of Science and Technology Indicators is an invaluable resource for practitioners, scientists and policy makers wanting a systematic and thorough analysis of the potential and limitations of the various approaches to assess research and research performance. The revised edition of this renowned and bestselling title is the most comprehensive single text on all aspects of biomaterials science. It provides a balanced, insightful approach to both the learning of the science and technology of biomaterials and acts as the key reference for practitioners who are involved in the applications of materials in medicine. Over 29,000 copies sold, this is the most comprehensive coverage of principles and applications of all classes of biomaterials: "the only such text that currently covers this area comprehensively" - Materials Today Edited by four of the best-known figures in the biomaterials field today; fully endorsed and supported by the Society for Biomaterials Fully revised and expanded, key new topics include of tissue engineering, drug delivery systems, and new clinical applications, with new teaching and learning material throughout, case studies and a downloadable image bank

Competition-based models for research policy and management have an increasing influence throughout the research process, from attracting funding to publishing results. The introduction of quality control methods utilizing various forms of performance indicators is part of this development. The authors presented in this volume deal with the following questions: What counts as 'quality' and how can this be assessed? What are the possible side effects of current quality control systems on research conducted in the European Research Area, especially in the social sciences and the humanities?

Issues in General Science and Scientific Theory and Method: 2011 Edition is a ScholarlyEditions™ eBook that delivers timely, authoritative, and comprehensive information about General Science and Scientific Theory and Method. The editors have built Issues in General Science and Scientific Theory and Method: 2011 Edition on the vast information databases of ScholarlyNews.™ You can expect the information about General Science and Scientific Theory and Method in this eBook to be deeper than what you can access anywhere else, as well as consistently reliable, authoritative, informed, and relevant. The content of Issues in General Science and Scientific Theory and Method: 2011 Edition has been produced by the world's leading scientists, engineers, analysts, research institutions, and companies. All of the content is from peer-reviewed sources, and all of it is written, assembled, and edited by the editors at ScholarlyEditions™ and available exclusively from us. You now have a source you can cite with authority, confidence, and credibility. More information is available at <http://www.ScholarlyEditions.com/>.

Introduction to Scientific Publishing Backgrounds, Concepts, Strategies Springer Science & Business Media

A comprehensive, state-of-the-art examination of the changing ways we measure scholarly performance and research impact.

Modern information and communication technologies, together with a cultural upheaval within the research community, have profoundly changed research in nearly every aspect. Ranging from sharing and discussing ideas in social networks for scientists to new collaborative environments and novel publication formats, knowledge creation and dissemination as we know it is experiencing a vigorous shift towards increased transparency, collaboration and accessibility. Many assume that research workflows will change more in the next 20 years than they have in the last 200. This book provides researchers, decision makers, and other scientific stakeholders with a snapshot of the basics, the tools, and the underlying visions that drive the current scientific (r)evolution, often called 'Open Science.'

The series, Contemporary Perspectives on Data Mining, is composed of blind refereed scholarly research methods and applications of data mining. This series will be targeted both at the academic community, as well as the business practitioner. Data mining seeks to discover knowledge from vast amounts of data with the use of statistical and mathematical techniques. The knowledge is extracted from this data by examining the patterns of the data, whether they be associations of groups or things, predictions, sequential relationships between time order events or natural groups. Data mining applications are in finance (banking, brokerage, and insurance), marketing (customer relationships, retailing, logistics, and travel), as well as in manufacturing, health care, fraud detection, homeland security, and law enforcement.

The congress's unique structure represents the two dimensions of technology and medicine: 13 themes on science and medical technologies intersect with five challenging main topics of medicine to create a maximum of synergy and integration of aspects on research, development and application. Each of the congress themes was chaired by two leading experts. The themes address specific topics of medicine and technology that provide multiple and excellent opportunities for exchanges.

Nursing and Midwifery Research: methods and appraisal for evidence-based practice 5th edition has been fully revised and updated to include the latest developments in Australian and New Zealand nursing and midwifery practice. It is an essential guide to developing research skills, critically appraising research literature and applying research outcomes to practice. Visit <http://>

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This Research Topic eBook includes articles from Volume I and II of The Future of Physiology: 2020 and Beyond series: Research Topic "The Future of Physiology: 2020 and Beyond, Volume I" Research Topic "The Future of Physiology: 2020 and Beyond, Volume II" The term Physiology was introduced in the 16th century by Jean Francois Fernel to describe the study of the normal function of the body as opposed to pathology, the study of disease. Over the ensuing centuries, the concept of physiology has evolved and a central tenet that unites all the various sub-disciplines of physiology has emerged: the quest to understand how the various components of an organism from the sub-cellular and cellular domain to tissue and organ levels work together to maintain a steady state in the face of constantly changing and often hostile environmental conditions. It is only by understanding normal bodily function that the disruptions that leads to disease can be identified and corrected to restore the healthy state. During the summer of 2009, I was invited by Dr. Henry Markram, one of the founders of the "Frontiers In" series of academic journals, to serve as the Field Chief Editor and to launch a new Open-access physiology journal that would provide a forum for the free exchange of ideas and would also meet the challenge of integrating function from molecules to the intact organism. In considering the position, I needed to answer two questions: 1) What exactly is Open-access publishing?; and 2) What could Frontiers in Physiology add to the already crowded group of physiology related journals? As a reminder, the traditional model of academic publishing "is a process by which academic scholars provide material, reviewing, and editing expertise for publication, free of charge, then pay to publish their work" and, to add insult to injury, they and their colleagues must pay the publisher a fee (either directly or via an institutional subscription) to read their published work [slightly modified from the "The Devil's Dictionary of Publishing" Physiology News (the quarterly newsletter of the Physiological Society) Spring 2019: Issue 114, page 8]. In the traditional model, the publisher, not the authors, owns the copyright such that the author must seek permission and may even be required to pay a fee to re-use their own material (such as figures) in other scholarly articles (reviews, book chapters, etc.). In contrast, individuals are never charged a fee to read articles published in open-access journals. Thus, scholars and interested laymen can freely access research results (that their tax dollars paid for!) even if their home institution does not have the resources to pay the often exorbitant subscription fees. Frontiers takes the open-access model one step further by allowing authors (rather than the publisher) to retain ownership (i.e., the copyright) of their intellectual property. Having satisfied the first question, I then considered whether a new physiology journal was necessary. At that point in time there were no open-access physiology journals, and further, many aspects of physiology were not covered in the existing journals. Frontiers afforded the unique opportunity to provide a home for more specialized sections under the general field journal, Frontiers in Physiology, with each section having an independent editor and editorial board. I therefore agreed to assume the duties of Field Chief Editor in November 2009. Frontiers in Physiology was launched in early 2010 and the first articles were published in April 2010. Since these initial publications, we have published over 10,000 articles and have become the most cited physiology journal. Clearly we must be fulfilling a critical need. Now that it has been over a decade since Frontiers in Physiology was launched, it is time to reflect upon what has been accomplished in the last decade and what questions and issues remain to be addressed. Therefore, it is the goal of this book to evaluate the progress made during the past decade and to look forward to the next. In particular, the major issues and expected developments in many of the physiology sub-disciplines will be explored in order to inspire and to inform readers and researchers in the field of physiology for the year 2020 and beyond. A brief summary of each chapter follows: In chapter 1, Billman provides a historical overview of the evolution of the concept of homeostasis. Homeostasis has become the central unifying concept of physiology and is defined as a self-regulating process by which a living organism can maintain internal stability while adjusting to changing external conditions. He emphasizes that homeostasis is not static and unvarying but, rather, it is a dynamic process that can change internal conditions as required to survive external challenges and can be said to be the very basis of life. He further discusses how the concept of homeostasis has important implications with regards to how best to understand physiology in intact organisms: the need for more holistic approaches to integrate and to translate this deluge of information obtained in vitro into a coherent understanding of function in vivo. In chapter 2, Aldana and Robeva explore the emerging concept of the holobiont: the idea that every individual is a complex ecosystem consisting of the host organism and its microbiota. They stress the need for multidisciplinary approaches both to investigate the symbiotic interactions between microbes and multicellular organisms and to understand how disruptions in this relationship contributes to disease. This concept is amplified in chapter 3 in which Pandol addresses the future of gastrointestinal physiology ,emphasizing advances that have been made by understanding the role that the gut microbiome plays in both health and in disease. Professor Head, in chapter 4, describes areas in the field of integrative physiology that remain to be examined, as well as the potential for genetic techniques to reveal physiological processes. The significant challenges of developmental physiology are enumerated by Burggren in chapter 5. In particular, he analyzes the effects of climate change (environmentally induced epigenetic modification) on phenotype expression. In chapter 6, Ivell and Annad-Ivell highlight the major differences between the reproductive system and other organ systems. They conclude that the current focus on molecular detail is impeding our understanding of the processes responsible for the function of the reproductive organs, echoing and amplifying the concepts raised in chapter 1. In chapter 7, Costa describes the role of both circadian and non-circadian biological "clocks" in health and disease, thereby providing additional examples of integrated physiological regulation. Coronel, in chapter 8, provides a brief history of the development of cardiac electrophysiology and then describes areas that require further investigation and includes tables that list specific questions that remain to be answered. In a similar manner, Reiser and Janssen (chapter 9) summarize some of the advancements made in striated muscle physiology during the last decade and then discuss likely trends for future research; to name a few examples, the contribution of gender differences in striated muscle function, the mechanisms responsible of age-related declines in muscle mass, and role of exosome-released extracellular vesicles in pathophysiology. Meininger and Hill describe the recent advances in vascular physiology (chapter 10) and highlight approaches that should facilitate our

understanding of the vascular processes that maintain health (our old friend homeostasis) and how disruptions in these regulatory mechanisms lead to disease. They also stress the need for investigators to exercise ethical vigilance when they select journals to publish in and meetings to attend. They note that the proliferation of profit driven journals of dubious quality threatens the integrity of not only physiology but science in general. The pathophysiological consequences of diabetes mellitus are discussed in chapters 11 and 12. In chapter 11, Ecelbarger addresses the problem of diabetic nephropathy and indicates several areas that require additional research. In chapter 12, Sharma evaluates the role of oxidative damage in diabetic retinopathy, and then proposes that the interleukin-6-transsignaling pathway is a promising therapeutic target for the prevention of blindness in diabetic patients. Bernardi, in chapter 13, after briefly reviewing the considerable progress that has been achieved in understanding mitochondrial function, lists the many questions that remain to be answered. In particular, he notes several areas for future investigation including (but not limited to) a more complete understanding of inner membrane permeability changes, the physiology of various cation channels, and the role of mitochondrial DNA in disease. In chapter 14, using Douglas Adams's "The Hitchhiker's Guide to the Universe" as a model, Bogdanova and Kaestner address the question why a young person should study red blood cell physiology and provide advice for early career scientists as they establish independent laboratories. They then describe a few areas that merit further attention, not only related to red blood cell function, but also to understanding the basis for blood related disease, and the ways to increase blood supplies that are not dependent on blood donors. Finally, the last two chapters specifically focus on non-mammalian physiology. In chapter 15, Scanes asks the question, are birds simply feathered mammals, and then reviews several of the significant differences between birds and mammals, placing particular emphasis on differences in gastrointestinal, immune, and female reproductive systems. In the final chapter (chapter 16) Anton and co-workers stress that since some 95% of living animal species are invertebrates, invertebrate physiology can provide insights into the basic principles of animal physiology as well as how bodily function adapts to environmental changes. The future of Physiology is bright; there are many important and interesting unanswered questions that will require further investigation. All that is lacking is sufficient funding and a cadre of young scientists trained to integrate function from molecules to the intact organism. George E. Billman, Ph.D, FAHA, FHRS, FTSPS
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The performance of the International Food Policy Research Institute's (IFPRI's) research program that focuses on water resource issues is reviewed for the period 1994–2010 around the three themes that constitute the program: global modeling, river basin modeling, and institutions. The IFPRI water team has been involved in leading-edge research in a number of dimensions: it has focused on analysis at varying geographic scales; the work has been truly interdisciplinary by engaging economics with biophysical science and other social sciences; and research outputs have been innovative in advancing institutional analysis and water pricing and in policy measures addressing the complexities of water supply management. In the research tasks, IFPRI's water team actively collaborated with a wide range of researchers from within the CGIAR network, national research institutes, and universities. Within the team, a largely stable group of leaders has been responsible for the professional development of a substantial cohort of junior staff who have moved onto successful careers elsewhere. The output of the program has been prolific and prominent in academic, policy, and development communities. The approach taken is to review selected publications from the themes; assess the quality of the journals in which papers have been published; and evaluate the performance, on average, of researchers in the program. In addition, surveys of stakeholders were carried out, and three specific projects were subjected to detailed review. The assessment demonstrated the high regard in which the program research outputs and researchers are held. The IFPRI water team has been remarkably productive throughout the 16 years considered, working on issues that are of high relevance to policy and producing work that has largely been cutting edge. However, impacts generated by individual projects were not consistently or readily identifiable. To maximize the benefits of this performance and to overcome challenges associated with securing more outcomes, this report recommends that a more coordinated approach be taken to develop the research project portfolio. This would involve better targeting of projects to policy objectives through a more systematic review of research demand forces and improved integration of research work with policy development processes. The latter in particular requires the development of a sense of research project "ownership" within the policy circles the research is designed to influence. More effort in the development of in-country research partnerships can aid this process as local researchers can act as "champions" within local policy circles. Where government agencies have a research function, their integration into the partnerships is recommended. Avoidance of completing research projects in a "policy vacuum" is critical but requires both advanced planning of each research project as well as constant adaptation of the work plan to (often rapidly) evolving policy contexts. To achieve project impacts beyond the immediacy of the specific case study context, a more targeted and coordinated publication strategy should be developed in light of changing publication technology. Project webpages within the IFPRI website, with readily downloadable reports, are useful during the implementation of each project and more formal papers should be targeted for publication in high-impact factor technical journals with parallel papers prepared for more policy-oriented journals that have high circulations. An up-to-date and comprehensive handbook written by experienced professionals, covering all aspects of journal publishing, both online and in print.

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