

Physical Science Paper 10 Caps 2013

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Air Pollution, Clean Energy and Climate Change Anilla Cherian
2022-04-04 AIR POLLUTION, CLEAN ENERGY AND CLIMATE CHANGE
Anthropogenic climate change is a globally recognized threat multiplier. Yet, decades of intergovernmental negotiations have failed to curb toxic levels of fossil fuel energy-related air pollution which the World Health Organization (WHO) has identified as the world's largest, single environmental health risk. Lying in plain view are the troubling truths about the morbidity and ill-health burdens associated with anthropogenic climate change that are borne by those who have done the least to contribute to per capita emissions of greenhouse gas emissions. Ignoring the nexus between air pollution, lack of access to clean energy and climate adversities represents a collective failure of the UN's ambitious, universally agreed upon 2030 Sustainable Development Agenda (SDA) which pledged 'to leave no one behind'. This book highlights the air pollution crisis that emanates from the heavy reliance on polluting forms of energy and the urbanization of poverty in developing countries. It provides a framework for understanding why the broader sustainable development community needs to address the more neglected intersection between adverse climatic impacts and energy-related air pollution which devastates the lives of the poorest and most vulnerable amongst us, especially young children, women and the elderly. It focuses on the importance of breaking down persistent global silos and goals on

sustainable energy for all, and climate change reflected in the UN's 2030 SDA, and the 2015 Paris Agreement. Integrating clean air and climate mitigation measures that specifically include curbing short lived climate pollutants such as black carbon via innovative partnerships/modalities are seen as vital to clean energy and climate responsive action. This book argues that linked actions by non-nation state actors aimed at reducing air pollution and ameliorating short term climate pollutants in the most populous cities, particularly in countries like India where annual average particulate matter pollution levels consistently exceed WHO guidelines are essential in reducing grave health costs and disease burdens. *Air Pollution, Clean Energy and Climate Change* will be of particular interest to policy makers, researchers, environmental advocates, civil society stakeholders and practitioners who want to understand the urgency of addressing linkages between climate change, fossil fuel energy, air pollution and public health risks. The cover image is an oil painting by Anilla Cherian, which incorporates tree bark and twigs, and serves as a reminder of the daily energy sources used by millions who lack access to clean energy and are exposed to high levels of household air pollution. It is the second-part of a series, with the first one serving as the cover image to *Energy and Global Climate Change* (Cherian, 2015). Photograph of painting by Alison Sheehy Photography.

Sustainability Assessments of Buildings Umberto Berardi 2018-07-06
This book is a printed edition of the Special Issue "Sustainability

the body response called sepsis can be associated with fatal outcome. Increased knowledge of the cellular and molecular mechanisms taking part in the different types of inflammation is a central requirement to develop more effective and safer treatments. This is a necessary step to prevent potential severe consequences, i.e., organ failure associated with tissue fibrosis. The mission of Inflammation Pharmacology (section of Frontiers in Pharmacology) is to publish scientifically sound studies that advance our knowledge on different aspects of inflammation and contribute to the development of more effective and safer anti-inflammatory agents. Within the present eBook are collected the top articles published in the Inflammation Pharmacology section in the last 10 years. Some articles explored the roles played by different lipid mediators generated from arachidonic acid, including leukotrienes and prostanoids [such as prostacyclin and prostaglandin(PG)F_{2a}], in inflammatory conditions. Moreover, the protectin (PD) family of specialized pro-resolving mediators biosynthesized from the two omega-3 polyunsaturated fatty acids docosahexaenoic acid (DHA) and n-3 docosapentaenoic acid (n-3 DPA) were described for their biological effects, the G-coupled protein receptors pharmacology, biosynthesis, and medicinal chemistry. Some other articles focused on the development of novel strategies to counteract inflammation or to induce its resolution. The current concepts and controversies on classification, pathogenesis, and clinical management of cutaneous adverse events induced by biologic agents used in the treatment of rheumatologic conditions were discussed in another article. The whole-exome and whole-genome sequencing data identifying new and old loci associated with atherosclerosis will lead to discovering new molecular targets for blocking atherosclerosis even in its early stages. This critical issue was reviewed in another paper. Numerous information on an individual clinical condition is held in their platelet-derived microparticles (MPs); the assessment of their number and size together with their content can represent the signature to acquire diagnostic information and to monitor the efficacy of therapeutic agents. Some other articles discussed the role of fibroblasts in the development of fibrosis and potential therapies

under investigation. It was enlightened the role of the activation and transdifferentiation of hepatic stellate cells (HSCs) into contractile, matrix-producing myofibroblasts (MFBs) as central events in hepatic fibrogenesis, and summarized the current strategies for targeted delivery of drugs to pro-fibrogenic liver cells, including the development of therapeutics specifically targeting HSCs. (Continued in eBook)

An Introduction to the Green Economy Adrian C. Newton 2014-08-13

The green economy is widely seen as a potential solution to current global economic and environmental crises, and a potential mechanism by which sustainable development might be achieved in practice.

Considerable investments are now being made into the development of green technology, renewable energy, biodiversity conservation, resource efficiency, recycling of materials and green infrastructure. This textbook provides a comprehensive introduction to the green economy, using a strongly interdisciplinary approach based on environmental science, rather than treating it as a sub-set of economics. The scientific principles of sustainability are presented, which provide the foundations of the green economy, with a particular focus on systems-based approaches. Examples of real-world case studies are used to illustrate how the green economy can be achieved in practice. In this way, the authors provide a thorough overview of both the principles and practice of the green economy, drawing from a wide range of disciplines including ecology, geography, social science, psychology, sustainability science, environmental science, law and economics. The emphasis is on presenting results of the latest research, derived from leading scientific journals. Rather than focusing on a single definition of what constitutes a 'green economy', the book introduces readers to the diversity of opinion that exists, and engages them in what is an active, on-going debate. This reflects the fact that many aspects of the green economy, and sustainable development more generally, are currently contested. In particular, the book will help readers to strengthen their ability to critically evaluate the evidence for and against the views presented, and to actively contribute to the future development of the green economy.

Postcapitalismo Paul Mason 2016-03-17 L'agonia del capitalismo è

irreversibile. Il prezzo della sua sopravvivenza è un futuro di caos, oligarchia e nuovi conflitti. La crisi economica scoppiata nel 2008 si è trasformata in una crisi sociale e infine in un autentico sconvolgimento dell'ordine mondiale: oggi, questo capitalismo malato e segnato dal predominio della finanza scarica i costi della recessione sui più deboli; si dimostra incapace di far fronte alle minacce del riscaldamento globale, dell'invecchiamento della popolazione e dell'incontrollato boom demografico nel Sud del mondo; e mette a rischio la democrazia e la pace. Ma superare il capitalismo è possibile. E mentre fra la popolazione serpeggia un senso di paura e rassegnazione, dalle tecnologie informatiche emerge la possibilità di una svolta radicale. La nuova economia di rete, fondata sulla conoscenza, mina infatti i presupposti stessi del capitalismo - riducendo la necessità del lavoro e abbassando sempre più i costi di produzione -, e i beni d'informazione erodono la capacità del mercato di formare correttamente i prezzi, perché se il mercato si basa sulla scarsità, l'informazione è invece abbondante. Nel frattempo, si sta affermando un nuovo modo di produzione collaborativo, che non risponde ai dettami del profitto e della gerarchia manageriale, ma ai principi della condivisione, della responsabilità reciproca e della gratuità. In questo libro subito protagonista del dibattito internazionale, Paul Mason ripercorre la storia del capitalismo e dei suoi critici - da Marx in avanti - e traccia una mappa delle sue attuali contraddizioni, in particolare fra l'abbondanza di informazioni gratuite e un sistema di monopoli, banche e governi che cerca di mantenere ogni bene scarso e commercializzabile. La sua analisi mostra come dalle ceneri del fallimento economico dell'Occidente sia nata la possibilità di costruire una società più umana, equa e sostenibile. Ma il capitalismo non può essere abbattuto dall'alto, a tappe forzate. Spetta a noi farci agente collettivo del cambiamento storico; abbiamo gli strumenti per riappropriarci del futuro: il postcapitalismo non è un'utopia.

Observational Assessments of Glacier Mass Changes at Regional and Global Level Michael Zemp 2021-03-26

The Canadian Environment in Political Context, Second Edition Andrea Olive 2019-08-20 The Canadian Environment in Political Context uses a

non-technical approach to introduce environmental politics to undergraduate readers. First published in 2015, this revised edition features expanded chapters on wildlife, water, pollution, land, and energy. Beginning with a brief synopsis of environmental quality across Canada, this text moves on to examine political institutions and policymaking, the history of environmentalism in Canada, and other crucial issues including Indigenous peoples and the environment, as well as Canada's North. Enhanced with case studies at the end of each chapter, key words, and a comprehensive glossary, this text addresses the major environmental concerns and challenges that Canada faces in the twenty-first century.

Parallel Computational Fluid Dynamics Kenli Li 2014-03-08 This book constitutes the refereed proceedings of the 25th International Conference on Parallel Computational Fluid Dynamics, ParCFD 2013, held in Changsha, China, in May 2013. The 35 revised full papers presented were carefully reviewed and selected from more than 240 submissions. The papers address issues such as parallel algorithms, developments in software tools and environments, unstructured adaptive mesh applications, industrial applications, atmospheric and oceanic global simulation, interdisciplinary applications and evaluation of computer architectures and software environments.

Sustainable Development Goal 14 - Life Below Water: Towards a Sustainable Ocean Emanuele Di Lorenzo 2022-03-15

Advances in Cryptology - CRYPTO 2017 Jonathan Katz 2017-08-08 The three volume-set, LNCS 10401, LNCS 10402, and LNCS 10403, constitutes the refereed proceedings of the 37th Annual International Cryptology Conference, CRYPTO 2017, held in Santa Barbara, CA, USA, in August 2017. The 72 revised full papers presented were carefully reviewed and selected from 311 submissions. The papers are organized in the following topical sections: functional encryption; foundations; two-party computation; bitcoin; multiparty computation; award papers; obfuscation; conditional disclosure of secrets; OT and ORAM; quantum; hash functions; lattices; signatures; block ciphers; authenticated encryption; public-key encryption, stream ciphers, lattice crypto; leakage

and subversion; symmetric-key crypto, and real-world crypto.

Tax Policy Challenges in the 21st Century Karoline Spies 2014-10-07 The Major Developments in Tax Policy Steadily increasing globalization as well as the financial and economic crisis have brought major challenges for states in ensuring budgetary consolidation while maintaining sustainable economic growth. These developments have not only influenced political and economic discussions in the 21st century, but also raise new questions on the role of taxation in the economic policy environment. National taxation systems worldwide are subject to significant changes and it is assumed that they will develop in a more co-operative way in the near future. This book aims at identifying the major developments in tax policy in the 21st century on a national as well as on an international level and gives an in-depth analysis of the challenges and risks, but also of the opportunities connected to these developments. It covers numerous and discrete issues ranging from challenges in the VAT/GST area, the taxation of the financial sector, the fight against aggressive tax planning, tax abuse and tax evasion, tax integration within the EU, the development of transfer pricing rules, the increasing role of co-operative compliance and good governance and the changing tax policies of developing and newly industrialized countries. The contributions in this book build upon a legal comparison of the national tax systems in the relevant fields, propose tax policy solutions where required and give ideas on how to go forward.

U.S. Geological Survey Professional Paper 1972

Integrated Reporting Cristiano Busco 2013-11-27 This book focuses on Integrated Reporting as a contemporary social and managerial innovation where a number of initiatives, organizations and individuals began to converge in response to the need for a consistent, collaborative and internationally accepted approach to redesign corporate reporting. Integrated Reporting is a process that results in communication of the annual "integrated report" which describes value creation over time. An integrated report is a concise communication about how an organization's strategy, governance, performance and prospects lead to the creation of value over the short, medium and long term. This book

offers a fresh perspective with expert contributions focusing on both the theoretical underpinnings and the practical challenges for the future of corporate reporting.

Carbon Governance, Climate Change and Business

Transformation Adam Bumpus 2014-07-17 Transformation to a low carbon economy is a central tenet to any discussion on the solutions to the complex challenges of climate change and energy security. Despite advances in policy, carbon management and continuing development of clean technology, fundamental business transformation has not occurred because of multiple political, economic, social and organisational issues. Carbon Governance, Climate Change and Business Transformation is based on leading academic and industry input, and three international workshops focused on low carbon transformation in leading climate policy jurisdictions (Canada, USA and the UK) under the international Carbon Governance Project (CGP) banner. The book pulls insights from this innovative collaborative network to identify the policy combinations needed to create transformative change. It explores fundamental questions about how governments and the private sector conceptualize the problem of climate change, the conditions under which business transformation can genuinely take place and key policy and business innovations needed. Broadly, the book is based on emerging theories of multi-levelled, multi-actor carbon governance, and applies these ideas to the real world implications for tackling climate change through business transformation. Conceptually and empirically, this book stimulates both academic discussion and practical business models for low carbon transformation.

Handbook of Research on Emerging Pedagogies for the Future of Education: Trauma-Informed, Care, and Pandemic Pedagogy

Bozkurt, Aras 2021-06-04 The COVID-19 pandemic caused educational institutions to close for the safety of students and staff and to aid in prevention measures around the world to slow the spread of the outbreak. Closures of schools and the interruption of education affected billions of enrolled students of all ages, leading to nearly the entire student population to be impacted by these measures. Consequently, this

changed the educational landscape. Emergency remote education (ERE) was put into practice to ensure the continuity of education and caused the need to reinterpret pedagogical approaches. The crisis revealed flaws within our education systems and exemplified how unprepared schools were for the educational crisis both in K-12 and higher education contexts. These shortcomings require further research on education and emerging pedagogies for the future. The Handbook of Research on Emerging Pedagogies for the Future of Education: Trauma-Informed, Care, and Pandemic Pedagogy evaluates the interruption of education, reports best-practices, identifies the strengths and weaknesses of educational systems, and provides a base for emerging pedagogies. The book provides an overview of education in the new normal by distilling lessons learned and extracting the knowledge and experience gained through the COVID-19 global crisis to better envision the emerging pedagogies for the future of education. The chapters cover various subjects that include mathematics, English, science, and medical education, and span all schooling levels from preschool to higher education. The target audience of this book will be composed of professionals, researchers, instructional designers, decision-makers, institutions, and most importantly, main-actors from the educational landscape interested in interpreting the emerging pedagogies and future of education due to the pandemic.

Mechanics of Structures and Materials XXIV Hong Hao 2016-11-30 Mechanics of Structures and Materials: Advancements and Challenges is a collection of peer-reviewed papers presented at the 24th Australasian Conference on the Mechanics of Structures and Materials (ACMSM24, Curtin University, Perth, Western Australia, 6-9 December 2016). The contributions from academics, researchers and practising engineers from Australasian, Asia-pacific region and around the world, cover a wide range of topics, including: • Structural mechanics • Computational mechanics • Reinforced and prestressed concrete structures • Steel structures • Composite structures • Civil engineering materials • Fire engineering • Coastal and offshore structures • Dynamic analysis of structures • Structural health monitoring and damage identification •

Structural reliability analysis and design • Structural optimization • Fracture and damage mechanics • Soil mechanics and foundation engineering • Pavement materials and technology • Shock and impact loading • Earthquake loading • Traffic and other man-made loadings • Wave and wind loading • Thermal effects • Design codes Mechanics of Structures and Materials: Advancements and Challenges will be of interest to academics and professionals involved in Structural Engineering and Materials Science.

Renewable and Alternative Energy: Concepts, Methodologies, Tools, and Applications Management Association, Information Resources 2016-10-19 As the human population expands and natural resources become depleted, it becomes necessary to explore other sources for energy consumption and usage. Renewable and Alternative Energy: Concepts, Methodologies, Tools, and Applications provides a comprehensive overview of emerging perspectives and innovations for alternative energy sources. Highlighting relevant concepts on energy efficiency, current technologies, and ongoing industry trends, this is an ideal reference source for academics, practitioners, professionals, and upper-level students interested in the latest research on renewable energy.

Sustainable Nanosystems Development, Properties, and Applications Putz, Mihai V. 2016-08-01 Global economic demands and population surges have led to dwindling resources and problematic environmental issues. As the climate and its natural resources continue to struggle, it has become necessary to research and employ new forms of sustainable technology to help meet the growing demand. Sustainable Nanosystems Development, Properties, and Applications features emergent research and theoretical concepts in the areas of nanotechnology, photovoltaics, electrochemistry, and materials science, as well as within the physical and environmental sciences. Highlighting progressive approaches and utilization techniques, this publication is a critical reference source for researchers, engineers, students, scientists, and academicians interested in the application of sustainable nanotechnology.

Ethics and climate change 2015-07-27 Climate change is the most

significant moral and environmental issue of our time. This project seeks to help deepen explicit ethical reflection around the world on national responses to climate change by developing a publicly available record on national compliance with ethical obligations for climate change similar to the reports that are now available on national compliance with human rights obligations.

Research Handbook on Climate Governance Karin Bäckstrand
2015-11-27 The 2009 United Nations climate conference in Copenhagen is often represented as a watershed in global climate politics, when the diplomatic efforts to negotiate a successor agreement to the Kyoto Protocol failed and was replaced by a fragmented and decentralized climate governance order. In the post-Copenhagen landscape the top-down universal approach to climate governance has gradually given way to a more complex, hybrid and dispersed political landscape involving multiple actors, arenas and sites. The Handbook contains contributions from more than 50 internationally leading scholars and explores the latest trends and theoretical developments of the climate governance scholarship.

Handbook on Cohesion Policy in the EU Simona Piattoni 2016-08-26 This Handbook covers all major aspects of EU Cohesion policy, one of the most significant areas of intervention of the European Union. Over five parts, It discusses this policy's history and governing principles; the theoretical approaches from which it can be assessed; the inter-institutional and multi-level dynamics that it tends to elicit; its practical implementation and impact on EU member states; its interactions with other EU policies and strategies; and the cognitive maps and narratives with which it can be associated. An absolute must for all students of the EU.

Handbook of the Politics of the Arctic Leif Christian Jensen
2015-09-25 The Arctic has again become one of the leading issues on the international foreign policy agenda, in a manner unseen since the Cold War. Drawing on the perspectives of geo-politics and international law, this Handbook offers fresh insights and perspectives on the most pressing issues, grouped under the headings of political ascendancy,

climate and environmental issues, resources and energy, and the response and policies of affected countries.

The EU, the US and Global Climate Governance Christine Bakker
2016-02-17 This volume presents a critical analysis of transatlantic relations in the field of environmental governance and climate change. The work focuses on understanding the possible trends in the evolution of global environmental governance and the prospects for breaking the current impasse on climate action. Drawing on research involving experts from eleven different universities and institutes, the authors provide innovative analyses on policy measures taken by the EU and the US, the world's largest economic and commercial blocs, in a number of fields, ranging from general attitudes on environmental leadership with regard to climate change, to energy policies, new technologies for hydrocarbons extraction and carbon capture, as well as the effects of extreme weather events on climate-related political attitudes. The book examines the way in which the current attitudes of the EU and the US with regard to climate change will affect international cooperation and the building of consensus on possible climate policies, and looks to the future for international environmental governance, arguably one of the most pressing concerns of civilisation today. This book, which is based on research carried out in the context of the EU-financed FP7 research project TRANSWORLD, will appeal to academics, policy makers and practitioners seeking a deeper understanding of the challenges resulting from climate change.

Global Developments in Literacy Research for Science Education Kok-Sing Tang 2018-01-19 This book highlights recent developments in literacy research in science teaching and learning from countries such as Australia, Brazil, China, Finland, Germany, Hong Kong, New Zealand, Norway, Singapore, Spain, South Africa, Sweden, Taiwan, and the United States. It includes multiple topics and perspectives on the role of literacy in enhancing science teaching and learning, such as the struggles faced by students in science literacy learning, case studies and evaluations of classroom-based interventions, and the challenges encountered in the science classrooms. It offers a critical and comprehensive investigation

on numerous emerging themes in the area of literacy and science education, including disciplinary literacy, scientific literacy, classroom discourse, multimodality, language and representations of science, and content and language integrated learning (CLIL). The diversity of views and research contexts in this volume presents a useful introductory handbook for academics, researchers, and graduate students working in this specialized niche area. With a wealth of instructional ideas and innovations, it is also highly relevant for teachers and teacher educators seeking to improve science teaching and learning through the use of literacy.

The Emissions Gap Report 2013 United Nations Environment Programme 2015-02-20 This report confirms and strengthens the conclusions of previous analyses that current pledges and commitments fall short of set goals. It further says that, as emissions of greenhouse gases continue to rise rather than decline, it becomes less likely that emissions will be low enough by 2020 to be on a least-cost pathway towards meeting the 2° C target. As a result, after 2020, the world will have to rely on more difficult, costlier and riskier means of meeting the target. The further from the least-cost level in 2020, the higher these costs and the greater the risks will be. If the gap is not closed or significantly narrowed by 2020, the door to many options to limit temperature increase to 1.5° C at the end of this century will be closed, further increasing the need to rely on accelerated energy-efficiency increases and biomass with carbon capture and storage for reaching the target.

Science and the Global Environment Alan McIntosh 2016-09-03 Case Studies for Integrating Science and the Global Environment is designed to help students of the environment and natural resources make the connections between their training in science and math and today's complex environmental issues. The book provides an opportunity for students to apply important skills, knowledge, and analytical tools to understand, evaluate, and propose solutions to today's critical environmental issues. The heart of the book includes four major content areas: water resources; the atmosphere and air quality; ecosystem

alteration; and global resources and human needs. Each of these sections features in-depth case studies covering a range of issues for each resource, offering rich opportunities to teach how various scientific disciplines help inform the issue at hand. Case studies provide readers with experience in interpreting real data sets and considering alternate explanations for trends shown by the data. This book helps prepare students for careers that require collaboration with stakeholders and co-workers from various disciplines. Includes global case studies using real data sets that allow readers to practice interpreting data and evaluating alternative explanations Focuses on critical skills and knowledge, encouraging readers to apply science and math to real world problems Employs a system-based approach, linking air, water, and land resources to help readers understand that cause-effect may be complex and solutions to environmental problems require multiple perspectives Includes special features such as links to video clips of scientists at work, boxed information, a solutions section at the end of each case study, and practice exercises

Geo-Spatial Knowledge and Intelligence Hanning Yuan 2018-06-11 This two-volume set (CCIS 848 and CCIS 849) constitutes the thoroughly refereed proceedings of the 5th International Conference Geo-Spatial Knowledge and Intelligence, GSKI 2017, held in Chiang Mai, Thailand, in December 2018. The 142 full papers presented were carefully reviewed and selected from 579 submissions. They are organized in topical sections on smart city in resource management and sustainable ecosystem; spatial data acquisition through RS and GIS in resource management and sustainable ecosystem; ecological and environmental data processing and management; advanced geospatial model and analysis for understanding ecological and environmental process; applications of geo-informatics in resource management and sustainable ecosystem.

Can We Price Carbon? Barry G. Rabe 2018-04-06 A political science analysis of the feasibility and sustainability of carbon pricing, drawing from North American, European, and Asian case studies. Climate change, economists generally agree, is best addressed by putting a price on the

carbon content of fossil fuels—by taxing carbon, by cap-and-trade systems, or other methods. But what about the politics of carbon pricing? Do political realities render carbon pricing impracticable? In this book, Barry Rabe offers the first major political science analysis of the feasibility and sustainability of carbon pricing, drawing upon a series of real-world attempts to price carbon over the last two decades in North America, Europe, and Asia. Rabe asks whether these policies have proven politically viable and, if adopted, whether they survive political shifts and managerial challenges over time. The entire policy life cycle is examined, from adoption through advanced implementation, on a range of pricing policies including not only carbon taxes and cap-and-trade but also such alternative methods as taxing fossil fuel extraction. These case studies, Rabe argues, show that despite the considerable political difficulties, carbon pricing can be both feasible and durable.

Climate Change, Extreme Events and Disaster Risk Reduction

Suraj Mal 2017-12-05 This book discusses the science, causes, impacts and risk reduction strategies for climate change and disasters. It focuses on the use of traditional knowledge, new innovation and education to build a culture of safety and resilience at all levels in order to promote sustainable development goals in general and disaster risk reduction in particular. The global climate has changed substantially over the last century. There is strong evidence of global climate change in the form of increase in air and sea surface temperature, recession of glaciers, changes and shifting of climate regimes, increasing number of extreme events and sea levels changes. The increasing frequency of climate change induced disasters in particular is posing a threat to resilience, lives and livelihoods at global, regional and local levels. Major ecosystems of the world have experienced several climate induced disaster events in recent past. This book provides new insights into the occurrence and impacts of climatic extremes and strategies for disaster risk reduction. It includes studies on rainfall and temperature trends, floods and drought disasters, weather and climatic related disasters in mountains, changes in plant activities, risk assessment and responses in different ecosystems of the world. The book is particularly useful for

environmental and disaster managers, researchers and graduate students, as well as policy makers.

Federal Register 2012-09

Achieving Science with CubeSats National Academies of Sciences, Engineering, and Medicine 2016-11-06 Space-based observations have transformed our understanding of Earth, its environment, the solar system and the universe at large. During past decades, driven by increasingly advanced science questions, space observatories have become more sophisticated and more complex, with costs often growing to billions of dollars. Although these kinds of ever-more-sophisticated missions will continue into the future, small satellites, ranging in mass between 500 kg to 0.1 kg, are gaining momentum as an additional means to address targeted science questions in a rapid, and possibly more affordable, manner. Within the category of small satellites, CubeSats have emerged as a space-platform defined in terms of (10 cm x 10 cm x 10 cm)- sized cubic units of approximately 1.3 kg each called "U's." Historically, CubeSats were developed as training projects to expose students to the challenges of real-world engineering practices and system design. Yet, their use has rapidly spread within academia, industry, and government agencies both nationally and internationally. In particular, CubeSats have caught the attention of parts of the U.S. space science community, which sees this platform, despite its inherent constraints, as a way to affordably access space and perform unique measurements of scientific value. The first science results from such CubeSats have only recently become available; however, questions remain regarding the scientific potential and technological promise of CubeSats in the future. *Achieving Science with CubeSats* reviews the current state of the scientific potential and technological promise of CubeSats. This report focuses on the platform's promise to obtain high-priority science data, as defined in recent decadal surveys in astronomy and astrophysics, Earth science and applications from space, planetary science, and solar and space physics (heliophysics); the science priorities identified in the 2014 NASA Science Plan; and the potential for CubeSats to advance biology and microgravity research. It provides a list of sample

science goals for CubeSats, many of which address targeted science, often in coordination with other spacecraft, or use "sacrificial," or high-risk, orbits that lead to the demise of the satellite after critical data have been collected. Other goals relate to the use of CubeSats as constellations or swarms deploying tens to hundreds of CubeSats that function as one distributed array of measurements.

Invited Lectures from the 13th International Congress on Mathematical Education Gabriele Kaiser 2018-02-05 The book presents the Invited Lectures given at 13th International Congress on Mathematical Education (ICME-13). ICME-13 took place from 24th- 31st July 2016 at the University of Hamburg in Hamburg (Germany). The congress was hosted by the Society of Didactics of Mathematics (Gesellschaft für Didaktik der Mathematik - GDM) and took place under the auspices of the International Commission on Mathematical Instruction (ICMI). ICME-13 - the biggest ICME so far - brought together about 3500 mathematics educators from 105 countries, additionally 250 teachers from German speaking countries met for specific activities. The scholars came together to share their work on the improvement of mathematics education at all educational levels.. The papers present the work of prominent mathematics educators from all over the globe and give insight into the current discussion in mathematics education. The Invited Lectures cover a wide spectrum of topics, themes and issues and aim to give direction to future research towards educational improvement in the teaching and learning of mathematics education. This book is of particular interest to researchers, teachers and curriculum developers in mathematics education.

Cloud Computing Victor C.M. Leung 2015-03-07 This book constitutes the thoroughly refereed post conference proceedings of the 5th International Conference on Cloud Computing, CloudComp 2014, held in Guilin, China, in October 2014. The 25 revised full papers were carefully reviewed and selected from 72 submissions and cover topics such as mobile cloud computing, services, applications, IoT on cloud, architectures and big data, cloud-assisted pervasive computing and services, management and virtualization for cloud, cloud security.

Proceedings of 2013 4th International Asia Conference on Industrial Engineering and Management Innovation (IEMI2013)

Ershi Qi 2014-01-16 The purpose of the 4th International Asia Conference on Industrial Engineering and Management Innovation (IEMI 2013) is to bring together researchers, engineers and practitioners interested in the application of informatics to usher in new advances in the industrial engineering and management fields.

Evidence-Based Inquiries in Ethno-STEM Research Iman C Chahine 2021-01-01 The purpose of the edited volume is to provide an international lens to examine evidence-based investigations in Ethno-STEM research: Ethno-science, Ethno-technology, Ethno-engineering, and Ethno-mathematics. These themes grew out of multi-national, multi-institutional and multi-disciplinary efforts to preserve as well as epitomize the role that Indigenous Knowledge Systems (IKS) play in cognitive development and its vital contributions to successful and meaningful learning in conventional and non-conventional contexts. Principled by the Embodied, Situated, and Distributed Cognition (ESDC), this innovative book will provide evidence supporting the embeddedness of a thinking-in-acting model as a fundamental framework that explains and supports students' acquisition of scientific knowledge. So often 'western' science curricula are experienced as irrelevant, since it does not take cognizance of the daily experiences and world in which the learner finds himself. This book takes a socio-cultural look at IKS and applies research in neuroscience to make a case its incorporation in the STEM (Science, Technology, Engineering and Mathematics) classroom. We use the Embodied Situated Distributed Cognition (ESDC) Model as conceptual framework in this book. Although the value of IKS is often acknowledged in curriculum policy documents, teachers are most often not trained in incorporating IK in the classroom. Teachers' lack of the necessary pedagogical content knowledge (PCK) in effectively incorporating IK in their classrooms is a tremendous problem internationally. Another problem is that IK is often perceived as "pseudoscience", and scholars advocating for the incorporation of IK in the school curriculum often do not contextualize their arguments within a

convincing theoretical and conceptual framework.