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2F4 - TREVINO HAIDEN

Africa requires a new agricultural transformation that is appropriate for Africa, that recognizes the continent's diverse environments and climates, and that takes into account its histories and cultures while benefiting rural smallholder farmers and their families. In this boldly optimistic book, Sir Gordon Conway, Ousmane Badiane, and Katrin Glatzel describe the key challenges faced by Africa's smallholder farmers and present the concepts and practices of Sustainable Intensification (SI) as opportunities to sustainably transform Africa's agriculture sector and the livelihoods of millions of smallholders. The way forward, they write, will be an agriculture sector deeply rooted within SI: producing more with less, using fertilizers and pesticides more prudently, adapting to climate change, improving natural capital, adopting new technologies, and building resilience at every stage of the agriculture value chain. Food for All in Africa envisions a virtuous circle generated through agricultural development rooted in SI that results in greater yields, healthier diets, improved livelihoods for farmers, and sustainable economic opportunities for the rural poor that in turn generate further investment. It describes the benefits of digital technologies for farmers and the challenges of transforming African agricultural policies and creating effective and inspiring leadership. Food for All in Africa demonstrates why we should take on the challenge and provides ideas and methods through which it can be met.

This book constitutes the thoroughly refereed proceedings of the 11th International Conference on Collaborative Computing: Networking, Applications, and Worksharing, CollaborateCom 2015, held in Wuhan, China, in November 2015. The 24 full papers and 8 short papers presented were carefully reviewed and selected from numerous submissions. They address topics around networking, technology and systems, including but not limited to collaborative cloud computing, architecture and evaluation, collaborative applications, sensors and Internet of Things (IoT), security.

Environmental issues are of fundamental importance, and a broad approach to understanding the relationship of the human economy and the natural world is essential. In a rapidly changing policy and scientific context, this new edition of Environmental and Natural Resource Economics reflects an updated perspective on modern environmental topics. Now in its fourth edition, this book includes new material on climate change, the cost-competitiveness of renewable energy, global environmental trends, and sustainable economies. The text provides a balanced treatment of both standard environmental economics and ecological economics, based on the belief that these two approaches are complementary. Several chapters focus on the core concepts of environmental economics, including the theory of externalities, the management of public goods, the allocation of resources across time, environmental valuation, and cost-benefit analysis. Material on ecological economics includes such topics as macroeconomic scale, entropy, and "green" national accounting. Topical chapters focus on: energy; climate change; water resources; international trade; forests; fisheries; and agriculture, with an emphasis on designing effective policies to promote sustainability and a "green" economy. Harris and Roach's premise is that a pluralistic approach is essential to understand the complex nexus between the economy and the environment. This perspective, combined with its emphasis on real-world policies, is particularly appealing to both instructors and students. This is the ideal text for classes on environmental, natural resource, and ecological economics. The book's companion website is available at: <http://www.bu.edu/eci/education-materials/textbooks/environmental-and-natural-resource-economics/>

The standard incandescent light bulb, which still works mainly as Thomas Edison invented it, converts more than 90% of the consumed electricity into heat. Given the availability of newer lighting technologies that convert a greater percentage of electricity into useful light, there is potential to decrease the amount of energy used for lighting in both commercial and residential applications. Although technologies such as compact fluorescent lamps (CFLs) have emerged in the past few decades and will help achieve the goal of increased energy efficiency, solid-state lighting (SSL) stands to play a large role in dramatically decreasing U.S. energy consumption for lighting. Since the publication of the 2013 National Research Council report Assessment of Advanced Solid-State Lighting, the penetration of SSL has increased dramatically, with a resulting savings in energy and costs that were foreshadowed by that study. What was not anticipated then is the dramatic dislocation and restructuring of the SSL marketplace, as cost reductions for light-emitting diode (LED) components reduced profitability for LED manufacturers. At the same time, there has been the emergence of new applications for SSL, which have the potential to create new markets and commercial opportunities for the SSL industry. Assessment of Solid-State Lighting, Phase Two discusses these aspects of change—highlighting the progress of commercialization and acceptance of SSL and reviewing the technical advances and challenges in achieving higher efficacy for LEDs and organic light-emitting diodes. This report will also discuss the recent trends in SSL manufacturing and opportunities for new applications and describe the role played by the Department of Energy (DOE) Lighting Program in the development of SSL.

This book explores the importance of strategy and how to make it work in an environment characterised by constant change. With a specific focus on the Asia Pacific region, anticipated to become the epicentre of global economic activity, it offers insights into the optimisation of economic potential and social cohesion enabled by leaders, which is crucial to the global economy and living standards. It highlights sound foresight, strategic thinking and innovation as the critical underpinnings of successful business and provides a comprehensive guide to combining practice and theory to ensure successful strategies, from formulation to execution. The book also builds on the concepts of change, the purpose of business, foresight, strategic thinking, strategic planning and innovation to present a holistic view of how these essential elements can be integrated in practice. Combined with a special contribution by Chaly Mah, the CEO of Deloitte Asia Pacific, the book carefully balances professional and academic insights to optimally benefit

its readers and will be of interest to industry practitioners, researchers and students alike.

New astronomical facilities, such as the under-construction Large Synoptic Survey Telescope and planned 30-meter-class telescopes, and new instrumentation on existing optical and infrared (OIR) telescopes, hold the promise of groundbreaking research and discovery. How can we extract the best science from these and other astronomical facilities in an era of potentially flat federal budgets for both the facilities and the research grants? Optimizing the U.S. Ground-Based Optical and Infrared Astronomy System provides guidance for these new programs that align with the scientific priorities and the conclusions and recommendations of two National Research Council (NRC) decadal surveys, New Worlds, New Horizons for Astronomy and Astrophysics and Vision and Voyages for Planetary Sciences in the Decade 2013-2022, as well as other NRC reports. This report describes a vision for a U.S. OIR System that includes a telescope time exchange designed to enhance science return by broadening access to capabilities for a diverse community, an ongoing planning process to identify and construct next generation capabilities to realize decadal science priorities, and near-term critical coordination, planning, and instrumentation needed to usher in the era of LSST and giant telescopes.

Electricity, supplied reliably and affordably, is foundational to the U.S. economy and is utterly indispensable to modern society. However, emissions resulting from many forms of electricity generation create environmental risks that could have significant negative economic, security, and human health consequences. Large-scale installation of cleaner power generation has been generally hampered because greener technologies are more expensive than the technologies that currently produce most of our power. Rather than trade affordability and reliability for low emissions, is there a way to balance all three? The Power of Change: Innovation for Development and Deployment of Increasingly Clean Energy Technologies considers how to speed up innovations that would dramatically improve the performance and lower the cost of currently available technologies while also developing new advanced cleaner energy technologies. According to this report, there is an opportunity for the United States to continue to lead in the pursuit of increasingly clean, more efficient electricity through innovation in advanced technologies. The Power of Change: Innovation for Development and Deployment of Increasingly Clean Energy Technologies makes the case that America's advantages—world-class universities and national laboratories, a vibrant private sector, and innovative states, cities, and regions that are free to experiment with a variety of public policy approaches—position the United States to create and lead a new clean energy revolution. This study focuses on five paths to accelerate the market adoption of increasing clean energy and efficiency technologies: (1) expanding the portfolio of cleaner energy technology options; (2) leveraging the advantages of energy efficiency; (3) facilitating the development of increasing clean technologies, including renewables, nuclear, and cleaner fossil; (4) improving the existing technologies, systems, and infrastructure; and (5) leveling the playing field for cleaner energy technologies. The Power of Change: Innovation for Development and Deployment of Increasingly Clean Energy Technologies is a call for leadership to transform the United States energy sector in order to both mitigate the risks of greenhouse gas and other pollutants and to spur future economic growth. This study's focus on science, technology, and economic policy makes it a valuable resource to guide support that produces innovation to meet energy challenges now and for the future.

Environmental Systems Science: Theory and Practical Applications looks at pollution and environmental quality from a systems perspective. Credible human and ecological risk estimation and prediction methods are described, including life cycle assessment, feasibility studies, pollution control decision tools, and approaches to determine adverse outcome pathways, fate and transport, sampling and analysis, and cost-effectiveness. The book brings translational science to environmental quality, applying groundbreaking methodologies like informatics, data mining, and applications of secondary data systems. Multiple human and ecological variables are introduced and integrated to support calculations that aid environmental and public health decision making. The book bridges the perspectives of scientists, engineers, and other professionals working in numerous environmental and public health fields addressing problems like toxic substances, deforestation, climate change, and loss of biological diversity, recommending sustainable solutions to these and other seemingly intractable environmental problems. The causal agents discussed include physical, chemical, and biological agents, such as per- and polyfluoroalkyl substances (PFAS), SARS-CoV-2 (the COVID-19 virus), and other emerging contaminants. Provides an optimistic and interdisciplinary approach, underpinned by scientific first principles and theory to evaluate pollutant sources and sinks, applying biochemodynamic methods, measurements and models Deconstructs prior initiatives in environmental assessment and management using an interdisciplinary approach to evaluate what has worked and why Lays out a holistic understanding of the real impact of human activities on the current state of pollution, linking the physical sciences and engineering with socioeconomic, cultural perspectives, and environmental justice Takes a life cycle view of human and ecological systems, from the molecular to the planetary scale, integrating theories and tools from various disciplines to assess the current and projected states of environmental quality Explains the elements of risk, reliability and resilience of built and natural systems, including discussions of toxicology, sustainability, and human-pollutant interactions based on spatial, biological, and human activity information, i.e. the exposome

Martha Boyne, Emily Clements and Ben Wright's Thrive: In your first three years in teaching equips trainee secondary school teachers with the know-how to lay the foundations for a successful career in teaching, long after the challenging first few years are over. Martha, Emily and Ben are thriving teachers. In Thrive they share their personal experiences and demonstrate how you too can thrive during the tricky training year, the daunting NQT year and the crucial RQT year. Using their collective insights, and plenty of evidence-informed strategies and advice, they detail how you can get to grips with the classroom basics from behaviour management and lesson planning to differentiation and providing for SEND and effectively continue your professional development. This book is not just a survival manual to help teachers get through their first three years in teaching. Nor is it an academic text that has been written by authors who have only a distant memory of what it takes to stand in front of a class of teenagers for the first

time. Thrive is something very different. It gives both the aspiring and the newly qualified the support and guidance to become a thriving teacher, and has been co-authored by three recently qualified teachers who in this book invest their passion and practical knowledge to inspire and inform others who want to pursue enjoyable and rewarding careers in teaching. Thrive is divided into three parts specifically detailing what can be expected in the training year, NQT year and RQT year respectively with the authors' commentary threaded throughout to demonstrate how the ideas discussed can be successfully put into practice. Their accounts are also complemented by expert advice from two people who are at the very top of their profession, Lianne Allison and Dr Simon Thompson, who provide wider perspectives drawn from a wealth of teaching experience. Forty of the book's forty-six chapters begin with a checklist outlining what a developing teacher is expected to do, and each chapter ends with a to-do list that can be used as a quick reference point to structure the strategies implemented. These to-do lists are also followed by lists of suggested further reading so that readers can delve deeper into topics and fields of research that they find particularly interesting or relevant. Furthermore, the book offers helpful counsel on choosing the best training route as well as an in-depth analysis of the change in priorities for busy teachers as they progress: encouraging constant reflection, outlining potential pathways and emphasising the importance of evidence-based practice and how new teachers can, and should, incorporate this into their teaching. Rooted in practical strategies and innovative ideas, Thrive is the essential guide for trainee secondary school teachers and teacher trainers.

The American economy faces two deep problems: expanding innovation and raising the rate of quality job creation. Both have roots in a neglected problem: the resistance of Legacy economic sectors to innovation. While the U.S. has focused its policies on breakthrough innovations to create new economic frontiers like information technology and biotechnology, most of its economy is locked into Legacy sectors defended by technological/ economic/ political/ social paradigms that block competition from disruptive innovations that could challenge their models. Americans like to build technology "covered wagons" and take them "out west" to open new innovation frontiers; we don't head our wagons "back east" to bring innovation to our Legacy sectors. By failing to do so, the economy misses a major opportunity for innovation, which is the bedrock of U.S. competitiveness and its standard of living. Technological Innovation in Legacy Sectors uses a new, unifying conceptual framework to identify the shared features underlying structural obstacles to innovation in major Legacy sectors: energy, air and auto transport, the electric power grid, buildings, manufacturing, agriculture, health care delivery and higher education, and develops approaches to understand and transform them. It finds both strengths and obstacles to innovation in the national innovation environments - a new concept that combines the innovation system and the broader innovation context - for a group of Asian and European economies. Manufacturing is a major Legacy sector that presents a particular challenge because it is a critical stage in the innovation process. By increasingly offshoring production, the U.S. is losing important parts of its innovation capacity. "Innovate here, produce here," where the U.S. took all the gains of its strong innovation system at every stage, is being replaced by "innovate here, produce there," which threatens to lead to "produce there, innovate there." To bring innovation to Legacy sectors, authors William Bonvillian and Charles Weiss recommend that policymakers focus on all stages of innovation from research through implementation. They should fill institutional gaps in the innovation system and take measures to address structural obstacles to needed disruptive innovations. In the specific case of advanced manufacturing, the production ecosystem can be recreated to reverse "jobless innovation" and add manufacturing-led innovation to the U.S.'s still-strong, research-oriented innovation system. In this paper, we define two new type of operators of fuzzy matrices denoted by the symbol \otimes and \cdot . Using these operators of fuzzy matrices we define row-maxaverage norm, column-max-average norm. Here instead of addition of fuzzy matrices we use the operator \otimes and instead of multiplication of fuzzy matrices we use the operator \cdot . We also define Pseudo norm of fuzzy matrices and max-min norm.

Carbon Pricing reflects upon and further develops the ongoing and worthwhile global debate into how to design carbon pricing, as well as how to utilize the financial proceeds in the best possible way for society. É The world has recently witness

2014 International Conference on Education and Management Science (ICEMS2014) will be held in Beijing, China on August 19–20, 2014. The main purpose of this conference is to provide a common forum for researchers, scientists, and students from all over the world to present their recent findings, ideas, developments and application in the border areas of Education and Management Science. It will also report progress and development of methodologies, technologies, planning and implementation, tools and standards in information systems. Education is an internal topic. It is a process of delivering knowledge in a basic meaning. Humans are hard to define the actual definition of education. But it is the key point for our society to step forward. Management science is the discipline that adapts the scientific approach for problem solving to help managers making informed decisions. The goal of management science is to recommend the course of action that is expected to yield the best outcome with what is available.

This volume contains a selection of papers presented at the 13th International Conference on Marina Navigation and Safety of Sea Transport and is addressed to scientists and professionals in order to share their expert knowledge, experience and research results concerning all aspects of navigation, safety of navigation and sea transportation. The Thirteen Edition of the most innovative World conference on maritime transport research is designed to find solutions to challenges in waterborne transport, navigation and shipping, mobility of people and goods with respect to energy, infrastructure, environment, safety and security as well as to economic issues.

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

Energy drives the economy, economics informs policy, and policy affects social outcomes. Since the oil crises of the 1970s, pundits have debated the validity of this sequence, but most economists and politicians still ignore it. Thus, they delude the public about the underlying influence of energy

costs and constraints on economic policies that address such pressing contemporary issues as income inequality, growth, debt, and climate change. To understand why, Carey King explores the scientific and rhetorical basis of the competing narratives both within and between energy technology and economics. Energy and economic discourse seems to mirror Newton's 3rd Law of Motion: For every narrative there is an equal and opposite counter-narrative. The competing energy narratives pit "drill, baby, drill!" against renewable technologies such as wind and solar. Both claim to provide secure, reliable, clean, and affordable energy to support economic growth with the most benefit to society, but how? To answer this question, we need to understand the competing economic narratives, techno-optimism and techno-realism. Techno-optimism claims that innovation overcomes any physical resource constraints and enables the social outcomes and economic growth we desire. Techno-realism, in contrast, states that no matter what energy technologies we use, feedbacks from physical growth on a finite planet constrain economic growth and create an uneven distribution of social impacts. In *The Economic Superorganism*, you will discover stories, data, science, and philosophy to guide you through the arguments from competing narratives on energy, growth, and policy. You will be able to distinguish the technically possible from the socially viable, and understand how our future depends on this distinction.

The volume LNCS 8866 constitutes the refereed proceedings of the 11th International Symposium on Neural Networks, ISNN 2014, held in Hong Kong and Macao, China on November/ December 2014. The 71 revised full papers presented were carefully reviewed and selected from 119 submissions. These papers cover all major topics of the theoretical research, empirical study and applications of neural networks research as follows. The focus is on following topics such as analysis, modeling, and applications.

These papers present advancements in all aspects of high temperature electrochemistry, from the fundamental to the empirical and from the theoretical to the applied. Topics involving the application of electrochemistry to the nuclear fuel cycle, chemical sensors, energy storage, materials synthesis, refractory metals and their alloys, and alkali and alkaline earth metals are included. Also included are papers that discuss various technical, economic, and environmental issues associated with plant operations and industrial practices.

Automation Engineering (MDMAE2014) is to provide a platform for all researchers in the field of Mechanical, Manufacture, Automation and Material Engineering to share the most advanced knowledge from both academic and industrial world, and to communicate with each other about their experiences and the most up-to-date research achievements, discussing forward issues and future prospects, seeking a better way to solve practical problems in this fields. As the first international conference on MDMAE, consisting of five main topics: Mechanical Engineering, Automation Engineering, Manufacturing Systems, Materials Engineering and Measurement and Test, which offer attendees free space to present their inspiring works and academic achievements mixed with the atmosphere of industry and academia, it has attracted many scholars, researchers and practitioners in these fields from various countries to get together in this conference, sharing their latest research achievements with each other, enriching their professional knowledge and broadening their horizons as well.

Physics Teaching and Learning: Challenging the Paradigm, RISE Volume 8, focuses on research contributions challenging the basic assumptions, ways of thinking, and practices commonly accepted in physics education. Teaching physics involves multifaceted, research-based, value added strategies designed to improve academic engagement and depth of learning. In this volume, researchers, teaching and curriculum reformers, and reform implementers discuss a range of important issues. The volume should be considered as a first step in thinking through what physics teaching and physics learning might address in teacher preparation programs, in-service professional development programs, and in classrooms. To facilitate thinking about research-based physics teaching and learning each chapter in the volume was organized around five common elements: 1. A significant review of research in the issue or problem area. 2. Themes addressed are relevant for the teaching and learning of K-16 science 3. Discussion of original research by the author(s) addressing the major theme of the chapter. 4. Bridge gaps between theory and practice and/or research and practice. 5. Concerns and needs are addressed of school/community context stakeholders including students, teachers, parents, administrators, and community members.

The present book offers an overall up-to-date overview of the biological diversity, comprising many interesting chapters focussing on the different aspects of biodiversity. Most of the chapters include findings of investigations and observations on biodiversity, whilst a few are based on statistically and theoretically derived information. The book produced sufficient information on the occurrence and distribution of many plant and animal species or groups of organisms with environmental estimates from a wide variety of interesting terrestrial and aquatic habitats. With 18 interesting and elaborately prepared chapters, the present book would definitely be an ideal source of scientific information to the advanced students, junior researchers, scientists and a portion of the public involved in ecology and other research areas involving biodiversity studies. It will also help to the development of the growing awareness of the close linkage between the conversation of biodiversity and economic development.

Food Industry Wastes: Assessment and Recuperation of Commodities, Second Edition presents a multidisciplinary view of the latest scientific and economic approaches to food waste management, novel technologies and treatment, their evaluation and assessment. It evaluates and synthesizes knowledge in the areas of food waste management, processing technologies, environmental assessment, and wastewater cleaning. Containing numerous case studies, this book presents food waste valorization via emerging chemical, physical, and biological methods developed for treatment and product recovery. This new edition addresses not only recycling trends but also innovative strategies for food waste prevention. The economic assessments of food waste prevention efforts in different countries are also explored. This book illustrates the emerging environmental technologies that are suitable for the development of both sustainability of the food systems and a sustainable economy. So, this volume is a valuable resource for students and professionals including food scientists, bio/process engineers, waste managers, environmental scientists, policymakers, and food chain supervisors. Provides guidance on current regulations for food process waste and disposal practices Highlights novel developments needed in policy making for the reduction of food waste Raises awareness of the sustainable food waste management techniques and their appraisal through Life Cycle Assessment Explores options for reducing food loss and waste along the entire food supply chain.

The web of geological sciences, Special papers 500 and 523, written in celebration of the 125th anniversary of the Geological Society of America.

A comprehensive political analysis of the rapid growth in renewable wind and solar power, mapping an energy transition through theory, case studies,

and policy. Wind and solar are the most dynamic components of the global power sector. How did this happen? After the 1973 oil crisis, the limitations of an energy system based on fossil fuels created an urgent need to experiment with alternatives, and some pioneering governments reaped political gains by investing heavily in alternative energy such as wind or solar power. Public policy enabled growth over time, and economies of scale brought down costs dramatically. In this book, Michaël Aklin and Johannes Urpelainen offer a comprehensive political analysis of the rapid growth in renewable wind and solar power, mapping an energy transition through theory, case studies, and policy analysis. Aklin and Urpelainen argue that, because the fossil fuel energy system and political support for it are so entrenched, only an external shock—an abrupt rise in oil prices, or a nuclear power accident, for example—allows renewable energy to grow. They analyze the key factors that enable renewable energy to withstand political backlash, and they draw on this analysis to explain and predict the development of renewable energy in different countries over time. They examine the pioneering efforts in the United States, Germany, and Denmark after the 1973 oil crisis and other shocks; explain why the United States surrendered its leadership role in renewable energy; and trace the recent rapid growth of modern renewables in electricity generation, describing, among other things, the return of wind and solar to the United States. Finally, they apply the lessons of their analysis to contemporary energy policy issues.

This book showcases strategic policies for and processes of societal transformation, which are required to address the challenge of sustainability. Based on the latest thinking at the interface of social innovation, sustainable consumption and the transformation of society, the book provides: in-depth discussions at the nexus of sustainable consumption, social innovation and social transformation, highlighting their significance to sustainability-related policy and practice; detailed case studies of social innovation in energy, food, housing and policy which illustrate emerging practice and promising policy, business and civil society interventions; and critical reflections and commentaries on the contribution of social innovation to societal transformation. Bringing together aspiring scholars and leading thinkers on this topic, this book leads to compelling new insights for an international audience into the potential of social innovation for sustainable consumption and the transformation of society. It will be of great interest to students and scholars of sustainable consumption, sustainable development, (social) innovation studies and environmental sociology.

South Asia has developed from a group of newly independent post-Colonial states of at most secondary importance to the wider world to its current position as a region of central strategic importance to both global economic development and world peace and stability. This Atlas highlights the global significance of South Asia in relation to economic, geopolitical and strategic interests. It provides a coherent descriptive and analytical account of the key elements of the complex societies that make up the region and its component countries. Illustrated with more than 100 original maps and offering concise entries on key issues, the book is structured thematically in these sections: Global Context Geographical Environments Historical Evolution of South Asia Key Issues in modern South Asia Economy and Security Designed for use in teaching undergraduate and graduate classes and seminars in geography, history, economics, anthropology, international relations, political science and the environment as well as regional courses on the South Asia, this book is also a comprehensive reference source for libraries and decision makers focusing on South Asia.

This book is an intellectual journey into epistemology, pedagogy, physics, architecture, medicine and metallurgy. The focus is on various dimensions of African Indigenous Knowledge (AIK) with an emphasis on the sciences, an area that has been neglected in AIK discourse. The authors provide diverse views and perspectives on African indigenous scientific and technological knowledge that can benefit a wide spectrum of academics, scholars, students, development agents, and policy makers, in both governmental and non-governmental organizations, and enable critical and alternative analyses and possibilities for understanding science and technology in an African historical and contemporary context.

This conference promises to be both informative and stimulating with a wonderful program. Delegates will have a wide range of sessions to choose from and will have a difficult to choose which session to attend. The program consists of invited session, technical workshop and discussions covering a wide range of topics in social science including communication, culture, economics, education, finance, law, management, politics, psychology and society. This rich program provides all attendees with the opportunities to meet and interact with one another. We hope that your experience with SSEP2014 is a fruitful and long lasting one.

Hypothetical Spacecraft and Interstellar Travel collects information about the latest and greatest hypothetical spacecraft.

Future Communication Technology and Engineering is a collection of papers presented at the 2014 International Conference on Future Communication Technology and Engineering (Shenzhen, China 16-17 November 2014). Covering a wide range of topics (communication systems, automation and control engineering, electrical engineering), the book includes the

The updated and expanded third edition of this book focuses on the multi-disciplinary coupling between flight-vehicle hardware alternatives and enabling propulsion systems. It discusses how to match near-term and far-term aerospace vehicles to missions and provides a comprehensive overview of the subject, directly contributing to the next-generation space infrastructure, from space tourism to space exploration. This holistic treatment defines a mission portfolio addressing near-term to long-term space transportation needs covering sub-orbital, orbital and escape flight profiles. In this context, a vehicle configuration classification is introduced covering alternatives starting from the dawn of space access. A best-practice paramet-

ric sizing approach is introduced to correctly design the flight vehicle for the mission. This technique balances required mission with the available vehicle solution space and is an essential capability sought after by technology forecasters and strategic planners alike.

This authoritative Research Handbook presents, for the first time, a comprehensive overview of the most important research and latest trends in EU energy law and policy. It offers high-quality original contributions that provide state-of-the-art research in this rapidly evolving area, situated in the broader context of international economic law and governance.

This book offers a concrete contribution towards a better understanding of climate change communication. It ultimately helps to catalyse the sort of cross-sectoral action needed to address the phenomenon of climate change and its many consequences. There is a perceived need to foster a better understanding of what climate change is, and to identify approaches, processes, methods and tools which may help to better communicate it. There is also a need for successful examples showing how communication can take place across society and stakeholders. Addressing the challenges in communicating to various audiences and providing a platform for reflections, it showcases lessons learnt from research, field projects and best practices in various settings in various different countries. The acquired knowledge can be adapted and applied to other situations.

The TMS 2016 Annual Meeting Supplemental Proceedings is a collection of papers from the TMS 2016 Annual Meeting & Exhibition, held February 14-18 in Nashville, Tennessee, USA. The papers in this volume represent 21 symposia from the meeting. This volume, along with the other proceedings volumes published for the meeting, and archival journals, such as Metallurgical and Materials Transactions and Journal of Electronic Materials, represents the available written record of the 67 symposia held at TMS2016. This proceedings volume contains both edited and unedited papers; the unedited papers have not necessarily been reviewed by the symposium organizers and are presented "as is." The opinions and statements expressed within the papers are those of the individual authors only, and no confirmations or endorsements are intended or implied.

Published to coincide with the Fourth United Nations Environmental Assembly, UN Environment's sixth Global Environment Outlook calls on decision makers to take bold and urgent action to address pressing environmental issues in order to protect the planet and human health. By bringing together hundreds of scientists, peer reviewers and collaborating institutions and partners, the GEO reports build on sound scientific knowledge to provide governments, local authorities, businesses and individual citizens with the information needed to guide societies to a truly sustainable world by 2050. GEO-6 outlines the current state of the environment, illustrates possible future environmental trends and analyses the effectiveness of policies. This flagship report shows how governments can put us on the path to a truly sustainable future - emphasising that urgent and inclusive action is needed to achieve a healthy planet with healthy people. This title is also available as Open Access on Cambridge Core.

This book discusses ways to deepen the debate on the linkages between global risks and human and environmental security. The approach put forward in this book is one of questioning the ability of existing concepts, regulatory frameworks, technologies and decision-making mechanisms to accurately deal with emerging risks to human and environmental security, and to act in the direction of effectively managing their impacts and fostering the resilience of concerned systems and resources. Empirical research findings from Africa, Asia and the Pacific Islands are provided. During the last decades the links between emerging risks and the security of humans and nature have been the object of considerable research and deliberations. However, it is only recently becoming an important focus of policy making and advocacy. In this contributed volume, it is presumed that the ability - or lack thereof - to make innovative conceptual frameworks, institutional and policy arrangements, and technological advances for managing the current emerging risks, will foster or undermine the environmental security, and consequently determine the future human security. Moreover, taking into account the links between environmental/climate security, human security and sustainability will help frame a new research agenda and potentially develop a broad range of responses to many delicate questions.

Medium- and heavy-duty trucks, motor coaches, and transit buses - collectively, "medium- and heavy-duty vehicles", or MHDVs - are used in every sector of the economy. The fuel consumption and greenhouse gas emissions of MHDVs have become a focus of legislative and regulatory action in the past few years. This study is a follow-on to the National Research Council's 2010 report, Technologies and Approaches to Reducing the Fuel Consumption of Medium-and Heavy-Duty Vehicles. That report provided a series of findings and recommendations on the development of regulations for reducing fuel consumption of MHDVs. On September 15, 2011, NHTSA and EPA finalized joint Phase I rules to establish a comprehensive Heavy-Duty National Program to reduce greenhouse gas emissions and fuel consumption for on-road medium- and heavy-duty vehicles. As NHTSA and EPA began working on a second round of standards, the National Academies issued another report, Reducing the Fuel Consumption and Greenhouse Gas Emissions of Medium- and Heavy-Duty Vehicles, Phase Two: First Report, providing recommendations for the Phase II standards. This third and final report focuses on a possible third phase of regulations to be promulgated by these agencies in the next decade.

This new edition of our 2016 book provides insight into designing intelligent materials and structures for special application in engineering. Literature is updated throughout and a new chapter on optics fibers has been added. The book discusses simulation and experimental determination of physical material properties, such as piezoelectric effects, shape memory, electro-rheology, and distributed control for vibrations minimization.