

Zimsec Integrated Science Past Exam Paper

Mapping research and innovation in the Republic of Zimbabwe
Water for the Environment
Handbook of Research on STEM Education
Integrated Biorefineries
Goat Science
A New Zimbabwe? Experimental Inorganic/Physical Chemistry
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Proceedings of a National Workshop on Women, Science, and Technology in Zimbabwe
Lean Project Delivery and Integrated Practices in Modern Construction

Mapping research and innovation in the Republic of Zimbabwe

Water for the Environment

Goat science covers quite a wide range and varieties of topics, from genetics and breeding, via nutrition, production systems, reproduction, milk and meat production, animal health and parasitism, etc., up to the effects of goat products on human health. In this book, several parts of them are presented within 18 different chapters. Molecular genetics and genetic improvement of goats are the new approaches of goat development. Several factors affect the passage rate of digesta in goats, but for diet properties, goats are similar to other ruminants. Iodine deficiency in goats could be dangerous. Assisted reproduction techniques have similar importance in goats like in other ruminants. Milk and meat production traits of goats are almost equally important and have significant positive impacts on human health. Many factors affect the health of goats, heat stress being of increasing importance. Production systems could modify all of the abovementioned characteristics of goats.

Handbook of Research on STEM Education

Named one of the best books of 2019 by The Economist and a New York Times Book Review Editors' Choice. A National Jewish Book Award finalist. "A superb and touching book about the frailty of ties that hold together places and people." --The New York Times Book Review An award-winning historian shares the true story of a frayed and diasporic Sephardic Jewish family preserved in thousands of letters For centuries, the bustling port city of Salonica was home to the sprawling Levy family. As leading publishers and editors, they helped chronicle modernity as it was experienced by Sephardic Jews across the Ottoman Empire. The wars of the twentieth century, however, redrew the borders around them, in the process transforming the Levys from Ottomans to Greeks. Family members soon moved across boundaries and hemispheres, stretching the familial diaspora from Greece to Western Europe, Israel, Brazil, and India. In time, the Holocaust nearly eviscerated the clan, eradicating whole branches of the family tree. In Family Papers, the prizewinning Sephardic historian Sarah Abrevaya Stein uses the family's correspondence to tell the story of their journey across the arc of a century and the breadth of the globe. They wrote to share grief and to reveal secrets, to propose marriage and to plan for divorce, to maintain connection. They wrote because they were family. And years after they frayed, Stein discovers, what remains solid is the fragile tissue that once held them together: neither blood nor belief, but papers. With meticulous research and care, Stein uses the Levys' letters to tell not only their history, but the history of Sephardic Jews in the twentieth century.

Integrated Biorefineries

Integrated Biorefineries: Design, Analysis, and Optimization examines how to create a competitive edge in biorefinery innovation through integration into existing processes and infrastructure. Leading experts from around the world working in design, synthesis, and optimization of integrated biorefineries present the various aspects of this complex

Goat Science

Paper Based Sensors, Volume 89, the latest release in this comprehensive series that gathers the most important issues relating to the design and application of these cost-effective devices used in many industries, including health and environment diagnostics, safety and security, chemistry, optics, electrochemistry, nanoscience and nanotechnologies, presents the latest updates in the field. Chapters in this new release include Exploring paper as a substrate for electrochemical micro-devices, Paper-based sensors for application in biological compound detection, Printed paper-based (bio)sensors: design, fabrication and applications, Paper-based electrochemical sensing devices, Multifarious aspects of electrochemical paper-based (bio)sensors, Paper Based Biosensors for Clinical and Biomedical Applications, and more. Provides updates on the latest design in paper-based sensors using various nano and micromaterials Includes

optical/electrical-based detection modes integrated within paper-based platforms Covers applications of paper-based platforms in diagnostics and other industries

A New Zimbabwe?

Water quality and management are of great significance globally, as the demand for clean, potable water far exceeds the availability. Water science research brings together the natural and applied sciences, engineering, chemistry, law and policy, and economics, and the Treatise on Water Science seeks to unite these areas through contributions from a global team of author-experts. The 4-volume set examines topics in depth, with an emphasis on innovative research and technologies for those working in applied areas. Published in partnership with and endorsed by the International Water Association (IWA), demonstrating the authority of the content Editor-in-Chief Peter Wilderer, a Stockholm Water Prize recipient, has assembled a world-class team of volume editors and contributing authors Topics related to water resource management, water quality and supply, and handling of wastewater are treated in depth

Experimental Inorganic/Physical Chemistry

Spatial Modeling in GIS and R for Earth and Environmental Sciences offers an integrated approach to spatial modelling using both GIS and R. Given the importance of Geographical Information Systems and geostatistics across a variety of applications in Earth and Environmental Science, a clear link between GIS and open source software is essential for the study of spatial objects or phenomena that occur in the real world and facilitate problem-solving. Organized into clear sections on applications and using case studies, the book helps researchers to more quickly understand GIS data and formulate more complex conclusions. The book is the first reference to provide methods and applications for combining the use of R and GIS in modeling spatial processes. It is an essential tool for students and researchers in earth and environmental science, especially those looking to better utilize GIS and spatial modeling. Offers a clear, interdisciplinary guide to serve researchers in a variety of fields, including hazards, land surveying, remote sensing, cartography, geophysics, geology, natural resources, environment and geography Provides an overview, methods and case studies for each application Expresses concepts and methods at an appropriate level for both students and new users to learn by example

Zimbabwe Books in Print, 1993

Water for the Environment: From Policy and Science to Implementation and Management provides a holistic view of environmental water management, offering clear links across disciplines that allow water managers to face mounting

challenges. The book highlights current challenges and potential solutions, helping define the future direction for environmental water management. In addition, it includes a significant review of current literature and state of knowledge, providing a one-stop resource for environmental water managers. Presents a multidisciplinary approach that allows water managers to make connections across related disciplines, such as hydrology, ecology, law, and economics Links science to practice for environmental flow researchers and those that implement and manage environmental water on a daily basis Includes case studies to demonstrate key points and address implementation issues

Cyber-Physical Systems

Food insecurity is a fundamental challenge to human welfare and economic growth in Africa. Low agricultural production leads to low incomes, poor nutrition, vulnerability to risk and threat and lack of empowerment. This book offers a comprehensive synthesis of agricultural research and development experiences from sub-Saharan Africa. The text highlights practical lessons from the sub-Saharan Africa region.

Integrating Disaster Science and Management

OECD Series on Testing and Assessment Guidance Document on an Integrated Approach on Testing and Assessment (IATA) for Skin Corrosion and Irritation

Lean Project Delivery and Integrated Practices in Modern Construction is the new and enhanced edition of the pioneering book Modern Construction by Lincoln H. Forbes and Syed M. Ahmed. This book provides a multi-faceted approach for applying lean methodologies to improve design and construction processes. Recognizing the wide diversity in the landscape of projects, and encompassing private and public sector activity, buildings and infrastructure, the book expands upon the detailed coverage of integrated project delivery and new lean tools and techniques to include: Greater emphasis on the importance of creating a lean culture and the initiatives required to transform the industry; Expanded discussions of the foundational writings in lean construction theory; Exploration of the synergies between "lean" and "green" initiatives; Specific procedures for modifying planning and scheduling activities to improve the performance of the project team; Expanded sections on quality, and topics that have become a part of the lean lexicon, such as Choosing by Advantages, "line of balance"/location-based scheduling, virtual design teams, takt time planning and set-based design; Discussion questions for beginners and advanced lean practitioners; and Improved cross-referencing within the text to help the reader navigate the frameworks, techniques and tools to support the application of lean principles. The techniques described here enhance the use of resources, reducing waste, minimizing delays, increasing quality and reducing overall costs. They

enable practitioners to improve the quality of the built environment, secure higher levels of customer/owner satisfaction, and simultaneously improve their profitability. This book is essential reading for all those wanting to be at the forefront of construction management and lean thinking.

Integrated Energy Systems for Multigeneration

Core Analysis: A Best Practice Guide is a practical guide to the design of core analysis programs. Written to address the need for an updated set of recommended practices covering special core analysis and geomechanics tests, the book also provides unique insights into data quality control diagnosis and data utilization in reservoir models. The book's best practices and procedures benefit petrophysicists, geoscientists, reservoir engineers, and production engineers, who will find useful information on core data in reservoir static and dynamic models. It provides a solid understanding of the core analysis procedures and methods used by commercial laboratories, the details of lab data reporting required to create quality control tests, and the diagnostic plots and protocols that can be used to identify suspect or erroneous data. Provides a practical overview of core analysis, from coring at the well site to laboratory data acquisition and interpretation Defines current best practice in core analysis preparation and test procedures, and the diagnostic tools used to quality control core data Provides essential information on design of core analysis programs and to judge the quality and reliability of core analysis data ultimately used in reservoir evaluation Of specific interest to those working in core analysis, porosity, relative permeability, and geomechanics

Paper Based Sensors

Spatial Modeling in GIS and R for Earth and Environmental Sciences

This comprehensive work shows how to design and develop innovative, optimal and sustainable chemical processes by applying the principles of process systems engineering, leading to integrated sustainable processes with 'green' attributes. Generic systematic methods are employed, supported by intensive use of computer simulation as a powerful tool for mastering the complexity of physical models. New to the second edition are chapters on product design and batch processes with applications in specialty chemicals, process intensification methods for designing compact equipment with high energetic efficiency, plantwide control for managing the key factors affecting the plant dynamics and operation, health, safety and environment issues, as well as sustainability analysis for achieving high environmental performance. All chapters are completely rewritten or have been revised. This new edition is suitable as teaching material for Chemical Process and Product Design courses for graduate MSc students, being compatible with academic requirements world-wide.

The inclusion of the newest design methods will be of great value to professional chemical engineers. Systematic approach to developing innovative and sustainable chemical processes Presents generic principles of process simulation for analysis, creation and assessment Emphasis on sustainable development for the future of process industries

Treatise on Water Science

This volume is concerned with inequalities in access to science and technology education and with the quality of the education provided. It is particularly focused on the effect of gender in all aspects of science and technology education, with a special emphasis in Africa. The book is intended for science educators in universities and colleges, especially those involved in teacher training and curriculum planning. Ministry of Education officials and science and technology teachers.

The Zimbabwe Science News

Handbook of Algal Science, Technology and Medicine

The Handbook of Research on STEM Education represents a groundbreaking and comprehensive synthesis of research and presentation of policy within the realm of science, technology, engineering, and mathematics (STEM) education. What distinguishes this Handbook from others is the nature of integration of the disciplines that is the founding premise for the work – all chapters in this book speak directly to the integration of STEM, rather than discussion of research within the individual content areas. The Handbook of Research on STEM Education explores the most pressing areas of STEM within an international context. Divided into six sections, the authors cover topics including: the nature of STEM, STEM learning, STEM pedagogy, curriculum and assessment, critical issues in STEM, STEM teacher education, and STEM policy and reform. The Handbook utilizes the lens of equity and access by focusing on STEM literacy, early childhood STEM, learners with disabilities, informal STEM, socio-scientific issues, race-related factors, gender equity, cultural-relevancy, and parental involvement. Additionally, discussion of STEM education policy in a variety of countries is included, as well as a focus on engaging business/industry and teachers in advocacy for STEM education. The Handbook's 37 chapters provide a deep and meaningful landscape of the implementation of STEM over the past two decades. As such, the findings that are presented within provide the reader with clear directions for future research into effective practice and supports for integrated STEM, which are grounded in the literature to date.

A Blue Carbon Primer

This report presents Zimbabwe's political and economic reform efforts since President Robert Mugabe's overthrow and offers recommendations for how to help the country recover.

Validating Technological Innovation

Much attention in late-developing countries is given to providing access to studies which allow school leavers to enter science and technology-related careers. This book reviews research related to the crucial dimension of epistemological access to the disciplines of import, which students need as much as institutional access in order to improve their chances of success. A significant feature of this collection's research studies is that their empirical bases are highly localised, covering areas such as research methods, access, curriculum, instruction and assessment, and the relevance of science and mathematics education in Zimbabwe, Uganda, Swaziland, South Africa, Namibia, Malawi, Ghana and Lesotho. It is the outcome of a doctoral research capacity-development project, the Graduate Studies in Science, Mathematics and Technology Education (GRASSMATE).

Advances in Integrated Soil Fertility Management in sub-Saharan Africa: Challenges and Opportunities

Integrated Energy Systems for Multigeneration looks at how measures implemented to limit greenhouse gas emissions must consider smart utilization of available limited resources and employ renewable resources through integrated energy systems and the utilization of waste energy streams. This reference considers the main concepts of thermal and conventional energy systems through detailed systems description, analyses of methodologies, performance assessment and optimization, and illustrative examples and case studies. The book examines producing power and heat with cooling, freshwater, green fuels and other useful commodities designed to tackle rising greenhouse gas emissions in the atmosphere. With worldwide energy demand increasing, and the consequences of meeting supply with current dependency on fossil fuels, investigating and developing sustainable alternatives to the conventional energy systems is a growing concern for global stakeholders. Analyzes the links between clean energy technologies and achieving sustainable development Illustrates several examples of design and analysis of integrated energy systems Discusses performance assessment and optimization Uses illustrative examples and global case studies to explain methodologies and concepts

Some Developments in Research in Science and Mathematics in Sub-Saharan Africa

Here is a rich resource on recent research innovations in the field of food processing and food engineering. Chapters are written by eminent researchers in the field of food science and provide in-depth knowledge on the application of

engineering aspects in food processing, food packaging, food quality, and food safety. The book looks at the latest nanotechnology aspects for the detection of foodborne pathogens to ensure safety with respect to these pathogens. It provides detailed kinetics of quality and safety aspects of food and goes on to discuss the characteristics of edible films prepared from plasticized guar gum. Other topics include the production of novel biomolecules and their characterization, the microstructural properties of arabionoxylan aerogels, the antioxidant activity of oats harvested from draught areas, the effect of quercetin isolated from *Enicostemma littorale* against cancer targets, the latest trends in production of ethanol and fructo-oligosachharides, and much more.

Innovations in Science and Technology Education

Developing Science, Mathematics and ICT (SMICT) in Secondary Education is based on country studies from ten Sub-Saharan African countries: Botswana, Burkina Faso, Ghana, Namibia, Nigeria, Senegal, South Africa, Uganda, Tanzania and Zimbabwe, and a literature review. It reveals a number of huge challenges in SMICT education in sub-Saharan Africa: poorly-resourced schools; large classes; a curriculum hardly relevant to the daily lives of students; a lack of qualified teachers; and inadequate teacher education programs. Through examining country case studies, this paper discusses the lessons for improvement of SMICT in secondary education in Africa.

Developing Science, Mathematics, and ICT Education in Sub-Saharan Africa

Key features: Captures the historic context and recent developments in science and policy arenas that address the potential for coastal wetlands to be considered as significant contributors to carbon sequestration Links multiple levels of science (biogeochemistry, geomorphology, paleoclimate, etc.) with blue carbon concepts (science, policy, mapping, operationalization, economics) in a single compendium Concludes with a discussion of future directions which covers integrated scientific approaches, impending threats and specific gaps in current knowledge Includes 7 case studies from across the globe that demonstrate the benefits and challenges of blue carbon accounting Written by over 100 leading global blue carbon experts in science and policy. Blue Carbon has emerged as a term that represents the distinctive carbon stocks and fluxes into or out of coastal wetlands such as marshes, mangroves, and seagrasses. The Blue Carbon concept has rapidly developed in science literature and is highly relevant politically, as nations and markets are developing blue carbon monitoring and management tools and policies. This book is a comprehensive and current compendium of the state of the science, the state of maps and mapping protocols, and the state of policy incentives (including economic valuation of blue carbon), with additional sections on operationalizing blue carbon projects and 7 case studies with global relevance.

The Integrated Nervous System

Sport's "concussion crisis" has been characterized by controversial scientific discoveries, athlete suicides, and high-profile lawsuits involving professional sports leagues, while provoking widespread media coverage, changes to game rules, and debate about the future of many popular sports. *Sociocultural Examinations of Sports Concussion* is the first edited collection to bring together multiple sociocultural perspectives on sports concussion that interrogate the social, economic, political, and historical forces shaping the cultural impacts of these injuries. Each of the ten chapters moves beyond biomedical or neuroscientific paradigms to critically examine a specific intersection of sociocultural factors influencing public perceptions about concussion or athlete experiences of brain injury. These include analyses of media and advertising, medical treatment and diagnostic protocols, gender and masculinity, developments in equipment and scientific models, economics and labor politics, understandings of trauma and recovery, public health philosophies, and disciplinary differences in framing the ontologies of concussion. Drawing from a wide range of theoretical and methodological approaches, *Sociocultural Examinations of Sports Concussion* offers a diverse set of analyses examining brain injuries as cultural and embodied phenomena affecting more than just athletes' brains, but also embedded within and (re)shaping meanings, identities, and social contexts. It is valuable reading for graduate students and researchers interested in the experience and treatment of sports concussion, sports sociology, and sports technology.

Core Analysis

This Guidance Document proposes an integrated approach on testing and assessment (IATA) for skin corrosion and irritation. It also provides consistent information on key characteristics of each of the individual information sources of the IATA, and relevant guidance on how to integrate

Family Papers

Integrated Disaster Science and Management: Global Case Studies in Mitigation and Recovery bridges the gap between scientific research on natural disasters and the practice of disaster management. It examines natural hazards, including earthquakes, landslides and tsunamis, and uses integrated disaster management techniques, quantitative methods and big data analytics to create early warning models to mitigate impacts of these hazards and reduce the risk of disaster. It also looks at mitigation as part of the recovery process after a disaster, as in the case of the Nepal earthquake. Edited by global experts in disaster management and engineering, the book offers case studies that focus on the critical phases of disaster management. Identifies advanced techniques and models based on natural disaster science for forecasting disasters and analyzing risk Offers a holistic approach to the problem of disaster management, including preparation, recovery, and resilience Includes coverage of social, economic, and environmental impacts on disasters

Research Methodology in Food Sciences

This is the second edition of a textbook covering the Zimbabwe O-level Science examination. In line with the syllabus, the five major sections have been retained, while activities have been integrated into the relevant topics. Examples in the book relate to Zimbabwe.;At the end of the book there are questions taken from past GCE O level examination papers of the University of Cambridge Local Examinations Syndicate (UCLES). These have been updated to reflect recent changes to the syllabus and styles of question. There is a comprehensive glossary of terms which provide support for study and revision.

The World of Science Education

This book discusses Hong Kong's use of onscreen marking (OSM) in public examinations. Given that Hong Kong leads the way in OSM innovation, this book has arisen from a recognised need to provide a comprehensive, coherent account of the findings of various separate but linked validation studies of onscreen public examinations in Hong Kong. The authors discuss their experience of the validation process, demonstrating how high-stakes innovation should be fully validated by a series of research studies in order to satisfy key stakeholders.

Nanophotonics and Plasmonics

Science, technology, engineering, and mathematics (STEM) are cultural achievements that reflect our humanity, power our economy, and constitute fundamental aspects of our lives as citizens, consumers, parents, and members of the workforce. Providing all students with access to quality education in the STEM disciplines is important to our nation's competitiveness. However, it is challenging to identify the most successful schools and approaches in the STEM disciplines because success is defined in many ways and can occur in many different types of schools and settings. In addition, it is difficult to determine whether the success of a school's students is caused by actions the school takes or simply related to the population of students in the school. Successful K-12 STEM Education defines a framework for understanding "success" in K-12 STEM education. The book focuses its analysis on the science and mathematics parts of STEM and outlines criteria for identifying effective STEM schools and programs. Because a school's success should be defined by and measured relative to its goals, the book identifies three important goals that share certain elements, including learning STEM content and practices, developing positive dispositions toward STEM, and preparing students to be lifelong learners. A successful STEM program would increase the number of students who ultimately pursue advanced degrees and careers in STEM fields, enhance the STEM-capable workforce, and boost STEM literacy for all students. It is also critical to broaden the participation of women and minorities in STEM fields. Successful K-12 STEM Education examines the vast landscape of K-12 STEM education by considering different school models, highlighting research on effective STEM education practices, and

identifying some conditions that promote and limit school- and student-level success in STEM. The book also looks at where further work is needed to develop appropriate data sources. The book will serve as a guide to policy makers; decision makers at the school and district levels; local, state, and federal government agencies; curriculum developers; educators; and parent and education advocacy groups.

Science in Zimbabwe

PISA Take the Test Sample Questions from OECD's PISA Assessments

Plate tectonics - Earthquakes and volcanoes - Weathering and slopes - Glaciation - Coasts - Deserts - Weather and climate - Soils - Biogeography - Population - Urbanisation - Farming and food supply - Rural land use - Energy resources - Manufacturing industries - Transport and interdependence - World development.

Integrated Design and Simulation of Chemical Processes

Cyber-physical systems (CPSs) have quickly become one of the hottest computer applications today. With their tight integration of cyber and physical objects, it is believed CPSs will transform how we interact with the physical world, just like the Internet transformed how we interact with one another. A CPS could be a system at multiple scales, from large smart bridges with fluctuation detection and responding functions, to autonomous cars and tiny implanted medical devices. Cyber-Physical Systems: Integrated Computing and Engineering Design supplies comprehensive coverage of the principles and design of CPSs. It addresses the many challenges that must be overcome and outlines a roadmap of how to get there. Emphasizes the integration of cyber computing and physical objects control Covers important CPS theory foundations and models Includes interesting case studies of several important civilian and health care applications that illustrate the CPS design process Addresses the collaboration of the sensing and controlling of a physical system with robust software architecture Explains how to account for random failure events that can occur in a real CPS environment Presented in a systematic manner, the book begins by discussing the basic concept underlying CPSs and examining some challenging design issues. It then covers the most important design theories and modeling methods for a practical CPS. Next, it moves on to sensor-based CPSs, which use embedded sensors and actuators to interact with the physical world. The text presents concrete CPS designs for popular civilian applications, including building and energy management. Reflecting the importance of human health care in society, it includes CPS examples of rehabilitation applications such as virtual reality-based disability recovery platforms.

Zimbabwe Journal of Educational Research

Successful K-12 STEM Education

This extensive overview combines both instrumental and radiochemical techniques with qualitative and quantitative (volumetric and gravimetric) analyses, and also with preparation of compounds, thereby strengthening analytical and preparative skills. All the main elements and groups of the periodic table are covered, with emphasis on the transition metals. It is intended as a laboratory manual for undergraduate, Higher National Diploma and Certificate students and their tutors. Covers all the main elements and groups of the periodic table, with emphasis on the transition metals Combines instrumental and radiochemical techniques with qualitative and quantitative (volumetric and gravimetric) analyses Intended as a laboratory manual for undergraduate, Higher National Diploma and Certificate students and their tutors

Zimbabwe Books in Print

This innovative textbook is modelled on problem-based learning. It bridges the gap between academic neuroanatomy and clinical neurology and effectively takes the reader from the classroom to the clinic, so that learning can be applied in practice. This second edition has been updated and expanded to include many more clinical cases within both the book and the accompanying Wweb site. This book and the associated Web site will be of practical value to all the professionals who deal with people who have neurological conditions, as well as being invaluable to medical students and residents. This includes psychiatrists (rehabilitation medicine specialists), physiotherapists, occupational therapists and speech therapists, and nurses who specialize in the care of neurological patients. We think that this text will also be of value for family physicians and specialists in internal medicine and pediatrics, all of whom must differentiate between organic pathology of the nervous system and other conditions.

Zimbabwe National Bibliography

Each volume in the 7-volume series The World of Science Education reviews research in a key region of the world. These regions include North America, South and Latin America, Asia, Australia and New Zealand, Europe and Israel, North Africa and the Middle East, and Sub-Saharan Africa. The focus of this Handbook is on research in science education in mostly former British colonies in Sub-Saharan Africa and the scholarship that most closely support this program. The reviews of the research situate what has been accomplished within a given field in Sub-Saharan Africa rather than an international context. The purpose therefore is to articulate and exhibit regional networks and trends that produced specific forms of

science education. The thrust lies in identifying the roots of research programs and sketching trajectories – focusing the changing façade of problems and solutions within regional contexts. The approach allows readers to review what has been done and accomplished, what is missing and what might be done next.

Geography

This book presents all the publicly available questions from the PISA surveys. Some of these questions were used in the PISA 2000, 2003 and 2006 surveys and others were used in developing and trying out the assessment.

Sociocultural Examinations of Sports Concussions

Handbook of Algal Science, Microbiology, Technology and Medicine provides a concise introduction to the science, biology, technology and medical use of algae that is structured on the major research fronts of the last four decades, such as algal structures and properties, algal biomedicine, algal genomics, algal toxicology, and algal bioremediation, algal photosystems, algal ecology, algal bioenergy and biofuels. It also covers algal production for biomedicine, algal biomaterials, and algal medicinal foods within these primary sections. All chapters are authored by the leading researchers in their respective research fields. Our society currently faces insurmountable challenges in the areas of biomedicine and energy in the face of increasing global population and diminishing natural resources as well as the growing environmental and economic concerns, such as global warming, greenhouse gas emissions and climate change. Algae offer a way to deal with these challenges and concerns for both sustainable and environment friendly bioenergy production and in biomedicine through the development of crucial biotechnology. Provides an essential interdisciplinary introduction and handbook for all the stakeholders engaged in science, technology and medicine of algae Covers the major research streams of the last four decades, ranging from algal structures, to algal biomedicine and algal bioremediation Fills a significant market opening for an interdisciplinary handbook on algal science, technology and medicine

Proceedings of a National Workshop on Women, Science, and Technology in Zimbabwe

This book provides a first integrated view of nanophotonics and plasmonics, covering the use of dielectric, semiconductor, and metal nanostructures to manipulate light at the nanometer scale. The presentation highlights similarities and advantages, and shows the common underlying physics, targets, and methodologies used for different materials (optically transparent materials for nanophotonics, vs opaque materials for plasmonics). Ultimately, the goal is to provide a basis for developing a unified platform for both fields. In addition to the fundamentals and detailed theoretical background, the book showcases the main device applications. Ching Eng (Jason) Png is Director of the Electronics and Photonics Department at

the Institute of High Performance Computing, Agency for Science Technology and Research, Singapore. Yuriy A. Akimov is a scientist in the Electronics and Photonics Department at the Institute of High Performance Computing, Agency for Science Technology and Research, Singapore.

Lean Project Delivery and Integrated Practices in Modern Construction

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