

## Egyptian Code And Practice For Soil Mechanics

This book reviews the distribution of soils across Egypt, their history, genesis, pollution and management. The conservation of Egyptian soils, soils and their connections to human activities, as well as some future soil issues are also highlighted. It is well known that soil is the main source for food, feed, fuel and fiber production. Accordingly, the study of soils is not only a crucial issue but also an urgent task for all nations worldwide. Due to their important roles in agroecosystems as well as many aspects of our lives, soils have direct and indirect functions in the agricultural, industrial and medicinal sectors. Therefore, understanding the physical, chemical and biological properties of soils, as well as soil security, have now become emerging issues. Climate change has a very dangerous dimension in Egypt concerning the rising sea level. Many coastal zones are already threatened by this sea level rise, and may ultimately disappear. At the same time, water shortages and soil pollution represent the main challenges for the Egyptian nation. Generally speaking, the environmental challenges that Egypt now faces include improving and sustaining soil health, soil carbon sequestration, wastewater treatment, and avoiding the overuse of fertilizers and pesticides. Therefore, this book examines in detail the soils of Egypt from various perspectives including their genesis, history, classification, pollution and degradation, soil security, soil fertility and land uses.

The ongoing population growth is resulting in rapid urbanization, new infrastructure development and increasing demand for the Earth's natural resources (e.g., water, oil/gas, minerals). This, together with the current climate change and increasing impact of natural hazards, imply that the engineering geology profession is called upon to respond to new challenges. It is recognized that these challenges are particularly relevant in the developing and newly industrialized regions. The idea beyond this volume is to highlight the role of engineering geology and geological engineering in fostering sustainable use of the Earth's resources, smart urbanization and infrastructure protection from geohazards. We selected 19 contributions from across the globe (16 countries, five continents), which cover a wide spectrum of applied interdisciplinary and multidisciplinary research, from geology to engineering. By illustrating a series of practical case studies, the volume offers a rather unique opportunity to share the experiences of engineering geologists and geological engineers who tackle complex problems working in different environmental and social settings. The specific topics addressed by the authors of chapters included in the volume are the following: pre-design site investigations; physical and mechanical properties of engineering soils; novel, affordable sensing technologies for long-term geotechnical monitoring of engineering structures; slope stability assessments and monitoring in active open-cast mines; control of environmental impacts and hazards posed by abandoned coal mines; assessment of and protection from geohazards (landslides, ground fracturing, coastal erosion); applications of geophysical surveying to investigate active faults and ground instability; numerical modeling of seabed deformations related to active faulting; deep geological repositories and waste disposal; aquifer assessment based on the integrated hydrogeological and geophysical investigation; use of remote sensing and GIS tools for the detection of environmental hazards and mapping of surface geology. This volume is part of the proceedings of the 1st GeoMEast International Congress and Exhibition on Sustainable Civil Infrastructures, Egypt 2017.

The commercial aquaculture feed industry in Egypt is growing at a rapid rate. As a result, the number of fish feed mills has increased from just 5 mills producing about 20,000 t per year in 1999, to over 60 mills with a current production estimate of 800,000–1,000,000 t/year. The performance of the aquafeed industry in Egypt is not well understood, as the value chain structure has not yet been mapped. This study aims to assess the status of the fish feed sector in Egypt, with an emphasis on: mapping and understanding fish feed value chains, describing the main actors and stakeholders within the chain, assessing value chain performance, identifying major strengths and weakness of the sector, and suggesting appropriate actions, management and development strategies.

Richard A. Debs analyzes the classical Islamic law of property based on the Shari'ah, traces its historic development in Egypt, and describes its integration as a source of law within the modern format of a civil code. He focuses specifically on Egypt, a country in the Islamic world that drew upon its society's own vigorous legal system as it formed its modern laws. He also touches on issues that are common to all such societies that have adopted, either by choice or by necessity, Western legal systems. Egypt's unique synthesis of Western and traditional elements is the outcome of an effort to respond to national goals and requirements. Its traditional law, the Shari'ah, is the fundamental law of all Islamic societies, and Debs's analysis of Egypt's experience demonstrates how Islamic jurisprudence can be sophisticated, coherent, rational, and effective, developed over centuries to serve the needs of societies that flourished under the rule of law.

This volume comprises a set of high-quality, refereed papers that address the different aspects related to the geotechnical and structural design and construction of deep excavations, tunnels and underground space facilities as well as the effect of their construction on the surroundings. The papers cover planning, design, modeling, monitoring and construction aspects of these essential structures. The utilization of underground space using tunneling and deep excavations has become much needed to support the increasing needs of urban environments and to allow for functional extensions and sustainable developments in heavily congested areas. Recently, more utilities and transportation transit systems have been relocated underground because of scarcity of surface space. The growing interest in the use of underground space has necessitated commensurate advancements in related fields (geotechnical engineering, engineering geology and structural engineering), design tools, construction techniques and analytical and interpretation methods. The volume is based on the best contributions to the 2nd GeoMEast International Congress and Exhibition on Sustainable Civil Infrastructures, Egypt 2018 – The official international congress of the Soil-Structure Interaction Group in Egypt (SSIGE).

Starting with the receipt of materials and continuing all the way through to the final completion of the construction phase, Concrete and Steel Construction: Quality Control and Assurance examines all the quality control and assurance methods involving reinforced concrete and steel structures. This book explores the proper ways to achieve high-quality construction projects, and also provides a strong theoretical and practical background. It introduces information on quality techniques and quality management, and covers the principles of quality control. The book presents all of the quality control and assurance protocols and non-destructive test methods necessary for concrete and steel construction projects, including steel materials, welding and mixing, and testing. It covers welding terminology and procedures, and discusses welding standards and procedures during the fabrication process, as well as the welding codes. It also considers the total quality management system based on ISO 9001, and utilizes numerous international and industry building standards and codes. Covers AISC, ACI, BS, and AWS codes Examines methods for concrete quality control in hot and cold weather applications, as well as material properties Illustrates methods for non-destructive testing of concrete and for steel welding—radiographic, ultrasonic, and penetration and other methods. Addresses ISO 9001 standards—designed to provide organizations better quality control systems Includes a checklist to be considered as a QA template Developed as a handbook for industry professionals, this book also serves as a resource for anyone who is working in construction and on non-destructive inspection testing for concrete and steel structures.

Most mission studies have focused on the work of Western missionaries going to Majority World countries, with few examining indigenous churches and their relationship with Western mission agencies in practicing mission. This book is a historical study of the relationship between the Evangelical Church in Egypt and the American Presbyterian Mission. Wahba covers from when the missionary work began in 1854 until after the departure of the Mission from Egypt in 1967, and the transfer of all the work to the Egyptian Evangelical Church. Tracing the mission work of Egyptians within Egypt and neighbouring

Sudan, Wahba analyses the impact that the relationship with the American Mission had and how it determined the indigenous Church's practice and perspective of mission.

This edited volume brings together findings and case studies on fundamental and applied aspects of structural engineering, applied to buildings, bridges and infrastructures in general. It focuses on the application of advanced experimental and numerical techniques and new technologies to the built environment. This volume is part of the proceedings of the 1st GeoMEast International Congress and Exhibition on Sustainable Civil Infrastructures, Egypt 2017.

The International Conference on Waste Management and the Environment is organised every two years by the Wessex Institute of Technology in collaboration with other institutions. This fifth conference follows the success of previous meetings held in C diz (2002), Rhodes (2004), Malta (2006) and Granada (2008). Waste Management is becoming one of the key problems of the modern world, an international issue that is intensified by the volume and complexity of domestic and industrial waste discarded by society. Unfortunately, many of the practices adopted in the past were aimed at short-term solutions without sufficient regard or knowledge for long-term implications on health, the environment or sustainability and this, in many cases, is leading to the need to take difficult and expensive remedial action. With our growing awareness of the detrimental environmental effects of current waste disposal, there is a significant onus of accountability for effective waste management. Better practice and safer solutions are required. Not only is there a need for more research on current disposal methods such as landfill, incineration, chemical and effluent treatment, but also on recycling, waste minimisation, clean technologies, waste monitoring, public and corporate awareness, and general education.

An authoritative and multidisciplinary Companion to Egypt during the Greco-Roman and Late Antique period With contributions from noted authorities in the field, A Companion to Greco-Roman and Late Antique Egypt offers a comprehensive resource that covers almost 1000 years of Egyptian history, starting with the liberation of Egypt from Persian rule by Alexander the Great in 332 BC and ending in AD 642, when Arab rule started in the Nile country. The Companion takes a largely sociological perspective and includes a section on life portraits at the end of each part. The theme of identity in a multicultural environment and a chapter on the quality of life of Egypt's inhabitants clearly illustrate this objective. The authors put the emphasis on the changes that occurred in the Greco-Roman and Late Antique periods, as illustrated by such topics as: Traditional religious life challenged; Governing a country with a past: between tradition and innovation; and Creative minds in theory and praxis. This important resource: Discusses how Egypt became part of a globalizing world in Hellenistic, Roman and Byzantine times Explores notable innovations by the Ptolemies and Romans Puts the focus on the *longue durée* development Offers a thematic and multidisciplinary approach to the subject, bringing together scholars of different disciplines Contains life portraits in which various aspects and themes of people's daily life in Egypt are discussed Written for academics and students of the Greco-Roman and Late Antique Egypt period, this Companion offers a guide that is useful for students in the areas of Hellenistic, Roman, Byzantine and New Testament studies.

An overview of social work and the theories and values which support it in particular areas and countries around the world.

A book of wisdom teachings and rituals that invoke ancient Egyptian deities to awaken human consciousness • Provides guided shamanic visualizations to invoke 26 of the most significant gods • Takes the reader through shamanic portals of death, rebirth, and illumination • Reconciles internal conflict through a sacred marriage of heart and mind In *Shamanic Mysteries of Egypt*, Nicki Scully and Linda Star Wolf renew humanity's connection to the ancient gods of Egypt, the *neteru*. Voices from these divine ancestors remind us of the healing power of the heart, and call us to bring their consciousness into the present to help us remember our true nature as divine humans with sacred purpose. The authors provide rituals, meditations, and rites of passage to help us meet our personal and planetary challenges with grace, wisdom, and love. The shamanic initiations provided are invoked, directly experienced, and transformed into embodied wisdom that awakens consciousness and illumines the intelligence of the heart. Scully and Star Wolf focus their rituals on 26 of the primary divine entities that preside over the ancient mysteries whose roots are in Old Kingdom and pre-historic Egypt. This fresh interpretation of ancient mysteries unites the energies of Thoth and Anubis to guide us through the current cycle of Earth changes and to help us remember who we really are at heart. Through these passages, Anubis lives up to his ancient title as the Opener of the Way, and Thoth as the Architect of Higher Learning. Together they evoke their power to unite heart and mind in the sacred marriage that brings transformation, renewal, and the awakening of consciousness.

This volume compares the courtroom oaths of both Islamic and modern Egyptian legal systems, blending elements of legal history, comparative law, theology, philosophy and culture.

For more than forty years the series of International Colloquia on Stability and Ductility of Steel Structures has been supported by the Structural Stability Research Council (SSRC). Its objective is to present the latest results in theoretical, numerical and experimental research in the area of stability and ductility of steel and steel-concrete composite structures. In *Stability and Ductility of Steel Structures 2019*, the focus is on new concepts and procedures concerning the analysis and design of steel structures and on the background, development and application of rules and recommendations either appearing in recently published Codes or Specifications and in emerging versions, all in anticipation of the new edition of Eurocodes. The series of International Colloquia on Stability and Ductility of Steel Structures started in Paris in 1972, the last five being held in: Timisoara, Romania (1999), Budapest, Hungary (2002), Lisbon, Portugal (2006), Rio de Janeiro, Brazil (2010) and Timisoara, Romania (2016). The 2019 edition of SDSS is organized by the Czech Technical University in Prague.

A Practical Guide to Maintenance Carrying a billion-dollar price tag, corrosion of reinforced concrete is the enemy of every country's investment in real estate. The widespread and long-term use of reinforced concrete makes its correct and proper examination, maintenance, and repair paramount. *Steel-Reinforced Concrete Structur*

*Handbook of Advanced Approaches towards Pollution Prevention and Control, Volume Two: Legislative Measures and Sustainability for Pollution Prevention and Control* condenses all relevant information on pollution prevention and control in a single source. This handbook (Volume Two of Two) covers the principals of pollution prevention and control technologies, recent advances in pollution prevention, control technologies and their sustainability, modernization in pollution prevention and control technologies for future and next generation of pollution prevention and control technologies. The book is an indispensable resource for researchers and academic staff in chemical and process engineering, safety engineering, environmental engineering, biotechnology, and materials engineering. Provides in-depth information on the principles and advances in pollution prevention and control practices Discusses emerging technologies and processes for advanced pollution prevention and control Presents developments on the use of the assessment models as tools to support the research and applications of different technologies and processes Provides history, fundamentals, state-of-the-art, and future trends Edited by expert team of world-class editors

"The ancient Egyptians were firmly convinced of the importance of magic, which was both a source of supernatural wisdom and a means of affecting one's own fate. The gods themselves used it for creating the world, granting mankind magical powers as an aid to the struggle for existence. Magic formed a link between human beings, gods, and the dead. Magicians were the indispensable guardians of the god-given cosmic order, learned scholars who were always searching for the Magic Book of Thoth, which could explain the wonders of nature. *Egyptian Magic*,

illustrated with wonderful and mysterious objects from European museum collections, describes how Egyptian sorcerers used their craft to protect the weakest members of society, to support the gods in their fight against evil, and to imbue the dead with immortality, and explores the arcane systems and traditions of the occult that governed this well-organized universe of ancient Egypt."--Publisher's website.

The study of ancient law has blossomed in recent years. In English alone there have been dozens of studies devoted to classical Greek and Roman law, to the Roman legal codes, and to the legal traditions of the ancient Near East among many other topics. Legal documents written on papyrus began to be published in some abundance by the end of the nineteenth century; but even after substantial publication history, legal papyri have not received due attention from legal historians. This book blends the two usually distinct juristic scholarly traditions, classical and Egyptological, into a coherent presentation of the legal documents from Egypt from the Ptolemaic to the late Byzantine periods, all translated and accompanied by expert commentary. The volume will serve as an introduction to the rich legal sources from Egypt in the later phases of its ancient history as well as a tool to compare legal documents from other cultures.

Civil engineers must assure that buildings have long and durable lives, and therefore structural assessment and repair are routinely required and must be performed with the utmost accuracy and professionalism. Assessment, Evaluation, and Repair of Concrete, Steel, and Offshore Structures presents the typical causes of structural failure and their mechanisms, discusses the most up-to-date methods for evaluation and structural assessment, and explains the best project management strategies from the feasibility stage through operations and maintenance.

Numerous types of structures are examined and are further illustrated by relevant case studies. Features: Examines the probability of several types of structural failure and includes reliability analysis. Presents best practices for predicting the structural lifetime for both onshore and offshore structures and reviews the most advanced methods for repair. Includes numerous practical case studies of structural failure and offers mitigation strategies depending of type of structure.

Lectures given at a symposium held in 1987, sponsored by Fordham University.

Discover the cosmic roots of Egyptian musical, vocal, and dancing rhythmic forms. Learn the fundamentals (theory and practice) of music in the typical Egyptian way: simple, coherent, and comprehensive. Review a detailed description of the major Egyptian musical instruments, playing techniques, functions, etc. Discover the Egyptian rhythmic practices in all aspects of their lives. This book will make your heart sing. This Expanded Version of the book: The Enduring Ancient Egyptian Musical System is divided into seven parts containing a total of 22 chapters. Part I: Prelude consists of one chapter: Chapter 1: The Egyptian Musical System will cover a quick background overview of the Egyptian musical system as evident in its archaeological findings. Part II: The Harmony of The Spheres consists of four chapters—2 through 5: Chapter 2: The Archetypal Cosmic Musical System will cover the basis and role of the harmony of the spheres in adopting the diatonic musical scale as the archetypal musical system. Chapter 3: Music All the Time (24 hours, 7 days) will cover and explain the correlations between the hours of the days of the week and their corresponding musical notes. Chapter 4: Energizing the Diatonic Week will cover the natural musical scale, its two energy Centers, and the Egyptian Dorian D-scale. Chapter 5: The Harmonic Three Components will cover the primary basics of the Egyptian harmonic canon, the three primary quantal vowels/sounds, and the triadic musical/linguistic core. Part III: The Musical Notes consists of two chapters—6 and 7: Chapter 6: The Derivatives of The Perfect Fifth will cover how the Perfect Fifth progression creates all harmonic musical notes; and how the natural progression of the Perfect Fifth leads to the determination of the Egyptian musical measuring units. Chapter 7: The Musical Measuring Unit will cover how the Egyptian musical measuring units is the only measuring unit for all natural harmonic tones—east and west; its application to the twin-scale [authentic and plagal]; and its application to both the cyclic and divisive methods of instrument tuning. Part IV: The Egyptian Musical Composition Code consists of six chapters—8 through 13: Chapter 8: The Musical Framework Varieties will cover the overall tone system, an example of a scale based on the cyclic framework and another based on the divisive framework. Chapter 9: Modes and Musical Structural Forms will cover the musical ethos—moods and modes and the overall basic design characteristics of modes. Chapter 10: The Musical Lyrics will cover the Egyptian vocal musical themes; and the major parts of human's generating (vocal) sounds and its equivalent in the musical instruments. Chapter 11: The Seamless Language of/and Music will cover the intimate relationship between the Egyptian alphabetical language and the musical system; significance of musicality in Ancient Egyptian literature; utilization of letters as musical notes; the modulation of individual sound values; and the intimate relationships between music pulsation and the rhythmic flow of syllables stream. Chapter 12: The Musical Performance will cover the significance and roles of the fingers and their knuckles in producing and directing musical performances; as well as the varied methods for maintaining the rhythmic timing/tempo—including the use of syllables. Chapter 13: The Egyptian Tonal Writing System will cover the preeminence of Ancient Egyptian tonal writings; as well as the primary writing components of lyrical/musical texts. Part V: The Egyptian Musical Instruments consists of four chapters—14 through 17: Chapter 14: The Wealth of Instruments will cover the general characteristics of Egyptian instruments as well the major components of the musical orchestra Chapter 15: Stringed Instruments will cover various Ancient Egyptian stringed instruments such as lyres, tri-gonon (zither), Harps including playing techniques: Harps—Playing Techniques; The All-Encompassing Capacities of Ancient; string instruments with neck—such as short-neck Lute; the long-neck Egyptian guitars; and Bowed Instruments [Kamanga, Rababa]. Chapter 16: Wind Instruments will cover The end blown flute; transverse flute; pan flute; single reed pipe (clarinet); double Pipe; double clarinet; double oboe; arghool; others (bagpipe and organ); and horns/trumpets. Chapter 17: Percussion Instruments will cover the membrano-phone instruments such as drums and tambourines; and the non-membrano-phone (idiophone) instruments such as percussion sticks, clappers, sistrums/sistra, cymbals, castanets, bells (chimes), xylophone and glockenspiel and human parts (hands, fingers, thighs, feet, etc.). Part VI: Maintaining The Heavenly Rhythms consists of four chapters—18 through 21: Chapter 18: The Universal Harmony will cover the role of music in maintaining the universal balance; the significance of alternating performance theme of balanced polarity; and the Dor-ian musical suites. Chapter 19: Rhythmic Dancing will cover the significance of dancing as well as dancing types and formations. Chapter 20: The Harmonic Practices will cover the profession of musicians in Ancient (and present-day) Egypt; the temple musical activities; the applications of music in the various public activities. Chapter 21: The Harmonic Sound Man will cover the application of music in the various stages of human lives—from cradle to grave. Part VII: Postlude consists of one chapter—22: Chapter 22: And the Beat Goes On will cover the endurance of the Ancient Egyptian musical traditions into present times. Appendices A through E provide expansions on some topics that were discussed in the various chapters.

"As gripping as a good thriller." --The Washington Post Unpack the science of secrecy and discover the methods behind cryptography--the encoding and decoding of information--in this clear and easy-to-understand young adult adaptation of the national bestseller that's perfect for this age of WikiLeaks, the Sony hack, and other events that reveal the extent to which our technology is never quite as secure as we want to believe. Coders and codebreakers alike will be fascinated by history's most mesmerizing stories of intrigue and cunning--from Julius Caesar and his Caesar cipher to the Allies' use of the Enigma machine to decode German messages during World War II. Accessible, compelling, and timely, The Code Book is sure to make readers see the past--and the future--in a whole new way. "Singh's power of explaining complex ideas is as dazzling as ever." --The Guardian

The book examines the drafting of the Egyptian Civil Code of 1949, exposing its unknown sociological strata, under the leadership of Dr. 'Abd al-Razz?q al-Sanh?r?, one of the most prominent jurist to emerge to date in the Arab world.

Technical and vocational education and training at technical schools are major contributing factors in combating poverty, unemployment, and inequality. The primary purpose of technical and vocational education and training is to prepare students and learners for the world of work and for a smooth transition from education institutions into the workplace. As the Fourth Industrial Revolution continues to create more radical changes in the labor market, experts are calling for a reform of education, including vocational education and training and adult and professional education. New Models for Technical and Vocational Education and Training is an essential scholarly research book that examines TVET and CET colleges and programs that provide intermediate skills to enhance students' chances of employability and entrepreneurship in Industry 4.0. The book explores knowledge in respect to workforce preparation, digital skills development, teaching and learning of TVET, flexibility and articulation of TVET to respond to work-integrated learning, and reskilling and upskilling to avoid skill mismatches. It is ideal for TVET schools, academicians, curriculum designers, managers, training officers, administrators, vocational professionals, researchers, and students.

Why did the ancients align their monuments so precisely with the stars? What were the practical and symbolic reasons behind these mysterious configurations? From the author of The Orion Mystery, the best-selling book that introduced the revolutionary star-correlation theory about the Giza pyramids, The Egypt Code reveals an amazing Grand Unified Plan behind the legendary temples of upper Egypt. Robert Bauval, one of the world's most prominent and controversial Egyptologists, completes his groundbreaking investigation of astronomy as related to Egyptian monuments and related religious texts. The Egypt Code revisits the Pyramid Age and the Old Kingdom, proposing a vast sky-ground correlation for the Memphite-Heliopolis region, and presenting the possibility of a grand plan spanning three thousand years of Pharaonic civilization and involving pyramids and major temple sites along the Nile. The central idea of the book is that the cosmic order, which the ancients referred to as "Maat," was comprised of the observable cycles of the sun and stars, in particular the star Sirius, and that the changes that took place due to the precession of the equinoxes and the so-called Sothic Cycle are reflected in the orientation and location of religious sites.

Steel-Reinforced Concrete Structures Assessment and Repair of Corrosion CRC Press

Tools to powerfully write about and manifest your life using the power found in the sacred sites of ancient Egypt • Reveals how to create meaning from one's life experiences and manifest new destinies through spiritual writing • Contains meditations and creative writing exercises exploring sacred themes in the Egyptian Book of the Dead and other hieroglyphic texts of ancient Egypt • Shares transformative and inspiring pieces written by those who've attended the authors' Egyptian sacred tours Within each of us is a story, a sacred story that needs to be told, of our heroic efforts and of our losses. The scribes of ancient Egypt devoted their lives to the writing of sacred stories. These technicians of the sacred were masters of hieroglyphic thinking, or heka--the proper words, in the proper sequence, with the proper intonation and the proper intent. Learning heka provided scribes with the power to invoke and create worlds through their words and thoughts. To the writer, heka is a magical way to create meaning from experience. Through heka we manifest new visions and new relationships to ourselves and to others. We can make new art filled with beauty and light. Revealing the spiritually transformative power of writing, the authors take us on a journey of self-discovery through the sacred sites of Egypt, from the Temple of Isis to the Great Pyramid of Giza. Through meditations and creative writing exercises exploring the powerful themes found in the hieroglyphic texts of ancient Egypt and the Egyptian Book of the Dead, they show how, through writing, we can live beyond the ordinary, give our dreams form, and discover who we really are and what our lives really mean. Sharing transformative and inspiring pieces written by those who've attended their Egyptian sacred tours, the authors reveal how writing your spiritual biography allows you to reconnect to the creativity and divine within, face your fears, offer gratitude for what you have, manifest new destinies, and recognize your life as part of the sacred story of Earth.

This book of the GeoMEast 2019 proceedings includes a collection of research and practical papers from an international research and technology activities on recent developments in pavement design, modeling and performance, and effects on infrastructure, green energy, technology, and integration. Sustainability is increasingly a key priority in engineering practices. With the aging transportation infrastructure and renewed emphasis on infrastructure renovation by transportation agencies, innovations are urgently needed to develop materials, designs, and practices to ensure the sustainability of transportation infrastructure.

Increase the Durability and Performance of Concrete during Its Lifetime While reinforced concrete is a durable material used for a wide range of construction projects in civil engineering, certain factors must be considered during its design, construction, and maintenance. This includes a variety of conditions impacting strength and performance relevant to specific structural systems, and the application of numerous codes. Advanced Materials and Techniques for Reinforced Concrete Structures, Second Edition discusses both traditional and new systems in concrete structures, outlines the advantages and disadvantages of each system and its importance to construction durability and reliability, and presents the latest advanced materials and construction techniques currently used in reinforced concrete structures. New Edition Now Includes Eurocode, Egyptian Code, British Standard, and American Specifications (ACI) In addition to highlighting new materials that can be used to enhance concrete strength and performance, the book describes the traditional and newest materials used in concrete technology; and presents new approaches to utilizing an integrity management system. It provides a comparison of concrete strength utilizing ACI, BS, Eurocode, and Egyptian codes of practice, and also highlights different loads that affect buildings from the application of the different international codes. By using this book, readers will learn how to: Choose the most reasonable structural system, materials, method of construction, and maintenance plan Determine the optimum system to meet stability, reliability, and architectural requirements Understand the statistical parameters that govern quality control in concrete construction projects Analyze and meet concrete construction quality control criteria Implement a maintenance plan incorporating modern construction techniques Advanced Materials and Techniques for Reinforced Concrete Structures, Second Edition serves as a practical guide on advanced materials, design, and construction techniques in concrete structures under different environmental conditions. Designed for practicing civil and structural engineers/engineering consultants, this revised version also appeals to senior undergraduate/graduate students in civil engineering - construction materials, and reinforced concrete (RC) construction.

At a moment when many countries of the MENA region are looking to accelerate economic growth and build more stable, open societies, this report argues that greater women's economic empowerment holds one of the keys. It asserts that despite challenges some countries are facing in guaranteeing women equal access to economic opportunity, progress is underway and can be further nurtured through targeted, inclusive and coordinated policy actions.

Concrete repair continues to be a subject of major interest to engineers and technologists worldwide. The concrete repair budget for the UK alone currently runs at some UKP 220 per annum. Some estimates have indicated that, worldwide, in 2010 the expenditure for maintenance and repair work will represent about 85% of the total expenditure in the construction field. It has been forecast that, in the same year in the USA, 50 billion dollars will be spent just for the restoration of deteriorated bridges and viaducts. An understanding of the latest techniques in repair and testing and inspection is thus crucial to the international construction industry. This book, with contributions from 34 countries, brings together the best in research, practical application, strategy and theory relating to concrete repair, testing and inspection, fire damage, composites and electro-chemical repair.

Information technology continues to evolve and remains central to all aspects of geo-engineering. Key issues are the effective use and re-use of data, particularly within Building Information Modelling (BIM) frameworks; the use of smart monitoring; artificial intelligence and data processing techniques. All these contribute to improvements in design processes, greater construction efficiency and more cost-effective maintenance. This book presents the proceedings of the 2nd International Conference on Information Technology in Geo-Engineering (ICITG 2014), held in Durham, United Kingdom, in July 2014. Topics of the conference cover the full range of information technology applications in geotechnical and geo-environmental engineering, as well as engineering geology. The focus of the papers in this book is on geotechnical data, specifically dealing with issues related to data standards and data exchange. The wider issues of managing data and data sharing through global web portals are also addressed. Also included are papers on artificial intelligence applications, and the use of expert (knowledge-based) systems, artificial neural networks and data mining techniques, particularly as applied to the identification of properties of geo-materials. The use of web-based materials for education, data processing techniques, and the numerical modeling of tunnels, piles and anchors are also discussed. This book will be of interest to the geo-engineering community and is the second in a series of proceedings designed to keep practitioners and researchers abreast of the developments in information technology which relate to their work.

A collection of research originating from WIT Conferences on Computational Methods and Earthquake Resistant Engineering Structures. In its 19th year the CMEM conference continues to provide highest quality research which forms part 1 of this book. Part 2 includes leading research as presented at the 12th edition of the ERES conference.

This book provides a comprehensive overview of the law surrounding PPPs in the Middle East and North African region. The significance of liberalised and integrated Public Private Partnership Contracts as an essential component of the world legal and policy order is well documented. The regulation of PPPs is justified economically to allow for competition in the relevant public service and to achieve price transparency, thus resulting in significant savings for the public sector. In parallel to the economic justifications, legal imperatives have also called for the regulation of PPPs in order to allow free movement of goods and services and to prohibit discrimination on grounds of nationality. The need for competitiveness and transparency in delivering public services through PPPs is considered a safeguard to achieve international standards in delivering public utility services. First, it assesses the compatibility of the current PPPs legislation and regulation in the MENA region with the international standards of legislation and regulation prevalent in many other countries, including the UK, France and Brazil. Secondly, it compares the practices in the MENA region with those of international bodies such as the OECD and World Bank. Comparisons are then made between the MENA countries and those in Europe and Asia with regard to the influence of culture, policy and legal globalization. The book will be of interest to scholars and students in the field of international contract law, public law and state contracts, finance law and private law.

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